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Playing by the Rules: How Social Play Can Explain the Evolution and Development of Normative Agency

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Lay Summary

Compared with other animals, humans have been thought to be unique due to the role norms and rules play in guiding and governing our way of life. Much of our thoughts and actions are shaped and guided by norms of language, culture, morality, and many other social practices. We are not just passively influenced and determined by these norm-governed practices; these practices make possible the kinds of (linguistic, cultural, moral, etc.) agents that we are. We inherit these practices not because the norms and rules have a function of controlling or limiting our action, but because these norms and rules allow us to act on, contribute, and commit to distinctively human projects and ways of life (though they may also, at times, feel like limitations). These norms and rules are thus fundamentally what enables us to become full-fledged human agents that can think and act in distinctively human ways.

This thesis attempts to provide a plausible story of how we humans came to be rule-following, norm-guided agents. A common evolutionary story told by many scholars across various fields is that norms and rules were created by early humans because their survival depended on how well they cooperated to achieve goals like obtaining food. My position is that norms and rules likely came from a different source: they emerged from social play interactions.

The existing cooperation story does not work mainly because cooperative activity on its own is purely instrumental. It is unclear how a motivation to be guided by norms and rules can emerge from an activity with an essentially instrumental dynamic at its core. I suggest that we need to look at an activity with a different dynamic. I think social play fits the bill here.

Social play is a suitable candidate for the emergence of norms and rules because it does not rely on instrumental motivations. Social play is usually conducted within a context where individuals are not concerned with meeting bare survival needs. Individuals are thus more spontaneous and can act more voluntarily in social play. But for social play to proceed, play partners need to commit to and agree on ground rules for fair and proper playful engagement. These ground rules and expectations of fair and proper engagement are created and negotiated through interaction. Cheaters and rule breakers spoil the playful activity and are not tolerated. Play partners thus focus on how the interactive activity is conducted and how they treat each other rather than on any external outcome or benefit the activity may have.

Many non-human animals also engage in social play, so I argue that they can also grasp and be guided by rules and norms. However, humans may have had the unique opportunity, perhaps due to a prolonged period of childhood and immaturity, to incorporate and weave elements of the way social play is structured (specifically its participatory structure) deep into the very fabric of daily life. I venture that this is how humans became robust rule-following and norm-guided agents. We commit to shared activities and practices that matter beyond mere survival.

Abstract

This thesis aims to make a contribution to a long-standing philosophical puzzle about how normativity fits within a naturalistic ontological view of the world. One specific arena in which this debate plays out, and which this thesis is devoted to, are evolutionary accounts of the emergence of norm-governed (or rule-following) agency. Recent proposals about the evolutionary origins of normativity have converged around the idea that norm-governed action and cognition emerged as an adaptive solution to problems of social cooperation in early human communities. I raise doubts about this view and argue that its general explanatory approach is misguided.

I first discuss how action in this view has an underlying teleological structure that answers “Why?” explanatory questions, particularly questions of function (what it is for). I contend that any action explained in terms of an overall teleological structure/function cannot account for its normative features, if any. I contrast this with a participatory structure which ties normative agency to a shared practice that highlights elements like shared commitment (instead of shared goals), interpersonal (versus predictive or evidential) expectations, and co-regulation (not cooperation) as the basic relation between agents that shapes thought and action. I unpack norm-governed/rule-following agency as involving participatory commitment to a shared activity/practice that is mutually co-regulated amongst co-recognising participants through the giving and taking of interpersonally-mediated (i.e., communicable) reasons, intentional expressions, and expectations. In slogan form: normative guidance involves the co-regulated interactive dynamics amongst committed, co-recognising participants.

Based on this account, I propose an alternative origin story which I label the Social Play Hypothesis (SPH) where I claim that the expression of social play (in human and non-human animals) within a developmental niche is the key evolutionary moment in the advent of normative agency. A central part of the SPH is a non-adaptationist, by-product-based evolutionary explanation of play that appeals to structural and developmental explanatory resources in accounting for its expression and fitness benefits. I argue that contexts of relaxed selection set the conditions for the animal to be in a state of “negative natural freedom” which results in the expression of spontaneously-attuned activities like play. With social play however, the structure and regulation of action shifts from individual evaluative states and biases to interpersonally-mediated constraints where co-regulated “rules of engagement” and especially the use of play-signals, which communicate commitment and expectations of “appropriate” moves, become behaviourally relevant. This is where I suggest behaviour starts to be cultivated by a participatory structure and instantiates a unique condition of “positive freedom.”

I end by giving an account of the unique playful ontogenetic environment that is distinctive in the human socio-cognitive niche where a prolonged period of immaturity becomes salient in the overall development of the human normative agent. As a case study, I analyse the co-regulated structure of peekaboo play. I argue that peekaboo represents a game of “recognitional tag” in which a capacity for robust mutual recognition is cultivated and arguably provides a base-level scaffold for developing a thoroughgoing normative agent embedded in a highly co-regulated socio-cognitive developmental niche.

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Part 1:

On the Origin of Oughts: Against the Cooperation View

Chapter 1

The Cooperation View of the Evolution of Normative Agency and Its Underlying Teleological Structure

1. Introduction: Normativity and Its Place in Nature

One pervasive, ubiquitous feature that figures in much of human life is that we are guided by and responsive to all sorts of norms and rules. We make normative judgements all the time – of what is right or wrong, appropriate or inappropriate, permissible or impermissible, reasonable or unreasonable, correct or incorrect, justified or unjustified, fair or unfair, praiseworthy or blameworthy, etc. – in practically all of our activities and dealings.¹ We have expectations and make claims and demands on each other in relation to these normative judgments, holding each other to certain standards about how one should (and shouldn't) act and think. This is usually thought to apply in our moral as well as intellectual/epistemic lives, but norms and rules govern many of our other activities and practices be they linguistic, aesthetic, political, legal, economic, social-cultural, and so on. Importantly, norms and rules thought of in this way are not mere restrictions placed upon us; they make possible and intelligible many of these activities and practices.

However, this pervasive, ubiquitous feature of human life sits uncomfortably with a picture of the world that science gives us. The world that science paints for us is a naturalistic world articulated in terms of facts about what is the case and explained by all manner of causal structures, regularities, and natural laws. We humans also reside within this world and so much like the rest of the things that are found in this world,

¹ Contrast this with judgements of what is successful or unsuccessful, reliable or unreliable, efficient or inefficient, functional or dysfunctional, optimal or suboptimal, and even prudent and imprudent. For reasons that will be explained in the next chapter, these evaluations are not to be considered, at least on face value, normative. It is possible for these to be given a normative gloss depending on the normative domain this evaluation is applied. For now, one can make the contrast by thinking of how these evaluations are perfectly applicable to machines and other mechanical processes whereas the evaluations listed in the main text are not. Prudential judgments are an example of a domain of evaluation that may be attributed a normative reading.

much of who we are and what we do (and think) should in equal measure be just as articulable in terms of facts about what is the case and explainable by causal structures, regularities, and natural laws. This is where a tension starts to arise.

One might begin to puzzle over where we humans (and other possible normatively-guided agents) fit within this naturalistic picture. How can we make sense of ourselves as creatures who make claims and demands about how we should act and think if we belong to a world that is only articulable in terms of what is the case? How is that we can come to have normative expectations about ourselves and others if we are part of a world that can be exhaustively understood and explained by causal structures, regularities, and natural laws?

A complete naturalistic picture of the world determined by causal structures, regularities, and natural laws does not seem to capture important salient features of human action and judgment. Our actions and judgments – so our experience tells us – arise from some form of practical reasoning and understanding which consists of us making considered judgments which we can assert, commit to, assess, endorse, question, contemplate, reflect on, deliberate over, respond to, reject, and so on. Importantly, we engage in these considered judgements not only by ourselves, but with others.² Many of these considered judgments are understood to “make claims on us; they command, oblige, recommend, or guide” (Korsgaard, 1996, p. 8) in the sense that they go beyond a mere description of our behaviours and mental activity. Statements about how one should or ought to act and think are statements akin to recommendation or guidance (or more forcefully of obligation) than a causal description of a state of affairs in the world. And often these actions and judgments

² It is important to point out that our actions and judgments need not emerge solely out of being able first to contemplate and reflect on an action or judgment before acting and believing and endorsing it though in many cases this seems to be the ideal thing to do. Many of our bases for action can also emerge from our practical everyday engagements and commitments which do not necessarily emerge from a kind of detached mentalistic or explicit, transparent contemplative understanding but from a more practical embodied and engaged mode of understanding in the same sense of, say, how a highly skilled football or basketball player makes quick but considered judgments and decisions on the pitch or the court respectively or perhaps how a native language speaker employs grammatical rules in their everyday speech without ever being consciously aware of such rules. Such kind of fluent action and judgment hardly need explicit linguistic or reflective articulation so long as their expression is practically understood and appreciated within a community with shared practices and commitments.

merit forms of responses and evaluations about their correctness, permissibility, propriety, and so on.

Unlike the way we usually understand how, say, planets orbit the sun or how sodium chloride dissolves in water-based solutions through an explanation of causal regularities and natural laws, our actions and judgments place constraints on us not on the mere basis of causal factors and law-like naturalistic descriptions of what is the case but more significantly from normative considerations and constraints towards which we are responsive and which serve as the bases for the sense of commitment, obligation, or guidance that ultimately directs the course of our actions and judgments. So it is not so much causal forces and natural laws that determine our actions and judgments as the force or obligation or guidance of a certain “ought.” The fact that one can choose to flout certain norms or mistakenly think one is following a norm in the correct way, or even cases of weakness of the will, suggest that our actions and judgments are not just ingredients or states of affairs in an overall causal-naturalistic story. Rather, they operate within a so-called “space of reasons” within which shared normative discourse and attitudes of making each other accountable for our actions and judgments take place. As such, the dynamics of our ways of acting is one in which we are responsive to norms, rules, and reasons and not in terms of articulating causal structures or law-like regularities or brute states of affairs.

The normative puzzle that then arises – which can be traced all the way back to David Hume – is how one can accommodate this normative manifest picture of human action and judgment from within the highly successful, productive, and reliable ontological picture of the world provided by the scientific naturalist point of view. Although this problem emerged from the Enlightenment when the modern scientific image of the world firmly took hold, the question remains highly philosophically fraught with contemporary philosophers divided along various lines one end of which endorses a restrictive or reductive scientific naturalism and the other end a more liberal or expansive form of naturalism (McDowell, 2004; Stroud, 2004).

A thoroughgoing scientific reductionist might question the project of accounting for norm-governed intentional agency’s place within nature and perhaps suggest a hard reduction of this manifest phenomenon into causal-mechanistic properties,

regularities, and natural laws. This view is perhaps most vividly expressed in the eliminative materialism of Paul and Patricia Churchland (1981, 1986) who suggested that our normatively-inflected common sense psychology would eventually be fully “eliminated” or subsumed under reductive neuroscientific descriptions. That is, when it comes down to the brute facts of nature, an entity that *prima facie* acts in virtue of its being responsive to norms can be exhaustively understood and explained by subpersonal causal mechanisms instantiated in the brain’s neurochemistry in tandem with other relevant causal and law-like explanatory factors.

More liberal naturalists would reject this reductionist view and argue that, while it may be imprudent to dismiss the causal role that brain-based mechanisms play, these subpersonal reductive accounts may not fully capture the apparent contribution played by personal-level common sense folk psychology in determining and accounting for how we act and think. At a personal level of description – one that we are most intimately acquainted with – understanding the actions and judgments of a norm-responsive creature purely in terms of underlying causal mechanisms does not seem to fully appreciate the rich mental life that governs, guides, and informs the creature’s actions and engagements with the world. Why does the agent do this instead of that? Why did they choose the salad bowl over the burger and chips? Why did they quit their job and pursue their hobby full time? Why did they decide to put their life on the line to serve their country? The way we answer these questions help illuminate the types of norm-governed actions humans *qua* intentional agents engage in. Understanding such actions may require one to look beyond causal and natural law-based explanations, including mere facts about one’s neurochemistry. Instead, one must enter into a “space of reasons” relevant for such agents; that is, using Wilfrid Sellars’ terms, one must shift one’s viewpoint or stance from the scientific image to the manifest image which picks out our common interpretive and folk-psychological practices. McDowell (2004) is an example that firmly represents the liberal naturalist view, carrying the mantle in defence of the relative independence and irreducibility of the manifest image contending the *sui generis* character of normative phenomena.³

³ See Chirumuuta, 2022 for an interesting defence of this view

But it is not necessary to treat these images as a stark either-or choice. One can straddle the scientific/manifest divide but also exhibit fidelity to both images by acknowledging that both have something important to contribute to the overall picture of ourselves in the world. The psychologist Jerome Bruner may be a good example of someone who sees the tension but also seeks to strike a balance between the two images:

The dilemma in the study of man is to grasp not only the causal principles of his biology and his evolution, but to understand these in light of the interpretive processes involved in meaning making. To brush aside the biological constraints on human functioning is to commit hubris. To sneer at the power of culture to shape man's mind and to abandon our efforts to bring this power under human control is to commit moral suicide. A well-wrought psychology can help us avoid both these disasters. (Bruner, 1996, p. 184–5)

In many ways, this thesis aims to walk this tightrope. On the one hand, I aim to acknowledge the fact that we are firmly rooted in the natural world and that much of who we are and what we do stems from facts about our biological nature. On the other, I also aim to affirm our nature as free, responsible, reasons-responsive agents who are apt to expect and hold one another to certain normative standards.

But I will not be addressing this philosophical puzzle head-on, via engaging with the many-layered ontological and methodological issues it entails (see De Caro & Macarthur, 2004; 2010). Instead, this thesis will concentrate on a specific arena in which this philosophical tension plays out, if mostly implicitly.⁴ That is, I will consider evolutionary accounts of the emergence of norm-governed agency. Although some of these accounts are sensitive to this philosophical tension, I think that many are not; and those that are do not quite capture the crucial features and dimensions that mark our nature as normative creatures. My discussion of these extant views will not be exhaustive and will instead be used mainly as a jumping off point to motivate my

⁴ I will however return to this philosophical issue a bit in chapter 4 where I discuss the background philosophical motivations for my positive proposal.

alternative proposal. The first part of the thesis as such will serve as stage setting towards this alternative view.

The second part of my thesis is where I launch into my positive alternative view, what I call the Social Play Hypothesis (or the SPH). This proposal aims to provide an alternative evolutionary origin story that is largely animated and motivated by this broader philosophical backdrop of navigating a delicate balance between, on one approximation, our undeniable nature as beings bound by biological processes and natural laws, and, on another approximation, our understanding of ourselves as agents that can act and think in ways that give us warrant to hold one another to norms and rules that make claims on us and recognise us as free, responsible, reasons-responsive agents.

For the rest of this introductory chapter, I lay out the most commonly-held view on the evolutionary roots of normative agency, with a particular focus on what I think provokes the most philosophical interest in light of the tensions just discussed about our nature as normative beings.

2. The Cooperation View of the Evolution of Normative Agency

The past decade or so has seen much scholarly interest in explaining our seemingly unique capacity to bind ourselves to norms and rules. This, on the face of it, seems to be a peculiar fact about us humans, especially when compared with other living beings.⁵ Much of the inquiry has produced a variety of proposals about our normative capacity's evolutionary origins (all of them with their own implicit assumptions about what makes something normative), but there is some convergence and general consensus around the idea that norm-governed action and cognition emerged as an adaptive biological and cultural solution to problems of social cooperation in early

⁵ I set aside here views suggesting the applicability of normative attribution towards all autonomous, self-organising living systems/organisms. This set of views, while interesting in its own right, deserves separate treatment. The appropriateness of normative attribution has also been suggested for many non-human social animals. I mention some proposals related to this in the next few chapters. Although I am sympathetic to this view, I have worries, similar to the view I lay out in this chapter, that these explanatory accounts may not quite capture crucial features and dimensions that make an agent a norm-governed agent.

human populations (Joyce, 2006; Kitcher, 2011; Henrich, 2015; Tomasello, 2016; Boyd, 2018; Stanford, 2018; Sterelny, 2019; Curry et al. 2019; Thompson, 2022). Although these accounts have differences in detail, they all gravitate towards an evolutionary origin story of the capacity to be guided by norms rooted in how early humans have banded together to tackle adaptive problems as a cooperative unit. One of the more detailed accounts comes from Michael Tomasello who has written about this across a number of books and articles (2016; 2018; 2020; 2022a,b).

Like many of the other accounts, Tomasello concentrates on how humans evolved to have a grasp of moral norms. Consider this account of the emergence of the moral “ought”:

[I]ndividual decision making is characterized by a kind of pressure, an instrumental rational pressure, to act in a certain way... The proposal is that in adapting to obligate collaborative foraging with partner choice early humans created a new set of social circumstances... in which it made sense to act morally. They thus developed a kind of second-personal responsibility to their collaborative partners — the original “ought” — that was not just a blind emotion or preference, but rather a sense of cooperative rational pressure that innervated their decision making. (Tomasello, 2016 , p. 82)

By “obligate collaborative foraging,” Tomasello here means that early humans (i.e., before the emergence of modern humans qua *Homo sapiens sapiens* some 150,000 years ago) had no other viable alternative by which to function or survive – given changes in ecological conditions at that time – except by engaging in highly cooperative forms of hunting and gathering. Given such demands, humans are put in a situation whereby they have to work together to procure needed resources. This puts pressure on everyone to choose the right cooperative partner/s and, relatedly, to strive to be a reliable cooperative partner. So this obligate cooperative context places certain constraints on the sorts of relationships fostered in early human communities. On Tomasello’s account, normative agency, which starts with second-personal relations and eventually leading to more institutionalised and more generalised moral norms applied to a wider cultural group, emerged as a result of circumstances surrounding the general adaptive demands of cooperation and collaborative activity in early human

communities. “Instrumental rational pressures” in the form of “cooperative rationality” thus paved a path from action that is largely motivated by an individual pursuit of adaptive goals to a joint or collective rational demand to act and treat existing or potential collaborative partners through a moral normative lens.

Tomasello’s talk of normative guidance here refers mostly to the moral domain, which is the most salient domain in which normative or “ought” talk is applied. The literature on naturalistic approaches to normativity at times tends to conflate normative action and moral action as if they are coextensive, especially with Tomasello (2020; 2022a). Most others do not always explicitly discuss moral action, but the way they talk about social norms and their role in human forms of cooperation through notions like fairness, behavioural expectations, and social sanctions often inevitably implicate moral considerations (Sterelny, 2019). I am aware of the worries that this conflation may provoke. Norms and rule-following also apply to other robustly non-moral domains such as the linguistic domain and the linguistic norms and rules that apply there, and even norms of convention such as etiquette or club-based norms. However, even if the normative considerations that apply to each domain have fairly specific concerns and assumptions, and may look very different from one domain to the other, my own concern is the general structure of any action (or thought) that purports or is supposed to count as being norm-governed or as following a rule. The general (one might say formal) structure of norm-governance or rule-following I am concerned with should apply to any ostensibly normative or rule-governed domain or practice, moral or not, and should be independent of the specific considerations concerning the authority, force, or bindingness of norms in these specific domains and practices.⁶

I will continue to unpack the details of Tomasello’s account in the next two chapters when they become relevant to the discussion. For the rest of the chapter, I aim to provide what I think are the explanatory assumptions that underpin Tomasello’s account of norm-governed action. I think that this explanatory assumption

⁶ As such, talk of moral norms here does not have a direct bearing on first-order debates in normative ethics (i.e., debates between Kantianism, utilitarianism, virtue ethics, etc.). Instead, it is more in line with contemporary debates on rule-following as well as related questions in moral and philosophical psychology; specifically, questions about the relevant psychology implicated in rule-following or a normatively-guided thought and action. That said, an answer to these psychological questions can also contribute to debates in normative ethics so there is no clear dividing line here, but this is not the concern of this project.

compromises Tomasello's account for reasons that will be discussed in the next chapter.

2.1. "Why?" Questions and Teleological Explanations

One way of understanding some underlying assumptions behind the cooperation view is that it tends to treat action – particularly joint action or, to use Tomasello's (2016) terms, joint and collective intentionality – as having a determinate teleological structure. To have a determinate teleological structure is to say that the action can be made fully intelligible through an underlying unity and determinability of purpose. Moreover, for this teleological structure to be fully intelligible, this purpose must also have some form of finality or ultimacy to it; that is, to make sense of the action is to identify some ultimate end or goal towards which other means and ends lead to or make a contribution towards. Unity of purpose does not mean that there cannot be any conflicting interests or dispositions in the agent performing the action. There can be and oftentimes are desires and dispositions that conflict with an agent's goals. To say that there is a unity and determinability of purpose is just to emphasise that there is an identifiable end-point towards which an action that an agent takes (or tries to take) is directed towards. The agent's actions in other words must show some form of means-ends coherence (Bratman, 1987).

This means-ends coherence should be able to accommodate conflict and should give room for facts and situations where an agent acts in ways that fall far below optimal ideals demanded by means-ends rationality (such as instances of weakness of will). Instances of failure, even constant failure, also very much fall within this teleological structure. The only sense in which a failure can be evaluated as such is if the action has this teleological structure. You cannot fail at something when you do not have it as an aim in the first place. By contrast, an entity that simply moves about randomly or arbitrarily changes course from one moment to the next lacks the robust consistency, directionality, or means-ends coherence to be credited with anything like a teleological structure. There can certainly be grey areas and boundary cases, so having a teleological structure need not be an "on-or-off" thing. This is to be expected given the blind process and gradualism of natural selection where the survival of less

clearly goal-directed organisms may be attributed to some lucky beneficial mutation and/or favourable environmental conditions.

In general, a potential teleological structure underlying an action or activity can be unpacked and explained by asking whether it can be fully determined or exhausted by an explanatory “Why?” question. The most straightforward and intuitive way to exhaust or give a definitive answer to the explanatory “Why?” question is to account for its function; that is, by giving an account of *what it is for*, its *raison d’être*. For its own part, an answer to the question “What is it for?” is usually explained by pointing to its intended design or some etiological explanation of how its use persisted or produced some desired or beneficial outcome over time. Human artifacts are the most obvious examples of the former while the latter, the etiological explanation, is exemplified by the notion of biological adaptation or “design” of adaptive traits by natural selection. A satisfying account of *what a thing is for* usually also helps set functional standards for making intelligible evaluations of the performance of the thing. Evaluations of this functional kind tend to take the form of success, reliability, and similar kinds of judgments.

To give an example, one might ask why an artifact like a ladder should have rungs. Answering what a ladder is for – that it is built and used by humans to climb up or down on – should definitively resolve the relevant “Why?” question.⁷ This answer sets the standards for what functionally counts as a good ladder and against which things that are designed or built to function as ladders are going to be assessed. This account of what a ladder and its rungs are for, its *raison d’être*, should exhaust inquiry about ladders and any of its constituent parts. Further inquiring *why a ladder should be built for climbing up or down on* just betrays a lack of understanding or comprehension of what ladders are supposed to do and why they are built that way. One might simply elaborate on the question of what the ladder is for by, say, giving examples of situations where a ladder is useful.

Giving an account of the teleological structure of artifacts like ladders might be straightforward. Etiological explanations of teleological structure on the other hand can

⁷ Here I bracket possible further questions from someone applying the principle of sufficient reason.

be a bit more complicated. In etiological explanations, there is no need to identify an entity or agent with a specific purpose or design in mind for something to have a function or exhibit some form of goal-directedness (Neander, 1991). Take the example of complex and design-like morphological, physiological, and behavioural traits exhibited by various organisms. Blind natural, mechanical processes such as natural selection are sufficient in explaining the existence of such evolved traits, including their purported function. The process of natural selection (in conjunction with other evolutionary factors) just is “responsible” for these design-like adaptive and functional features of organisms.⁸

As such, in the evolutionary literature, the functional question “What is it for?” is often asked in relation to inquiries about the adaptive significance of an evolved trait (Tinbergen, 1963; Bateson & Laland, 2013) even when no conscious or intentional purpose or designer can be identified. Nevertheless, a determinate teleological structure can still be produced and explained by such a blind natural process. There need be no purposive element shaping the function of a trait. Instead, one can just observe an intergenerational process of selection amongst individual organisms in a population based on a variation of heritable traits that make a difference in survival and reproductive outcomes.

Whether by intentional design or blind historical processes, the primary anchor or orientation with which a teleological explanation depends is whether the explanandum reliably produces or brings about some desired or beneficial outcome or state of affairs. This desired or beneficial outcome or state of affairs plays a crucial role in a teleological explanation in that this state of affairs provides us with an end point or answer to the functional question “*What is it for?*” and sets the standards for what counts as an adequate or satisfying account that can settle the question. A given action (or set of actions or activity) can then be made fully intelligible by providing an account of how it succeeds in bringing about this desired state of affairs (identified as an answer to the question “*what it is for?*”). Once one sets the standard by answering

⁸ Function in this more biologically specific sense refers to an adaptation, a trait expressed in an organism that has an adaptive or fitness-enhancing function. The trait’s “design” and functionality is acquired as a result of selective pressures that shaped and modified it in its evolutionary history precisely because its previous expression in the organism’s ancestors had been reliable in producing outcomes with survival and reproductive advantages.

what it is for, one can then start evaluating all sorts of actions and activities (especially those that purport to make a contribution to satisfying this standard) with regards to how they actually perform in achieving this standard.

In principle, any phenomenon that is assumed or purported to have a teleological structure should be amenable to the kind of analysis and explanation given above. So, for any explanandum *x* that is said to have a teleological structure, an adequate analysis can be provided by answering the function question; *what it is for*. If the explanandum does indeed exhibit a teleological structure as its only or perhaps primary constraint in determining what it is, its *raison d'être*, then it should be able to definitively and exhaustively answer the “Why?” question.

2.2. The Teleological Structure of Cooperation

Going back to our target explanandum, norm-governed action; what cooperation-based accounts are essentially doing is subsuming or incorporating norm-governed action as having a functional role within the broader teleological structure of cooperative action. These accounts would thus tend to highlight problems associated with living in groups such as how each member in the group can collectively contribute to obtaining a sufficient amount of food for everyone. These problems set adaptive goals that then motivate certain cooperative behavioural strategies. These goals also set standards for assessing which sorts of behavioural strategies can count as contributing or providing a solution towards achieving those goals.

Now the substantive explanatory component of the consensus view argues that the means devised by early humans towards which these shared goals can be achieved is through collaborative activity between its members and that, for the collaborative activity to be successful, the group needs to establish norms of cooperation where, following Tomasello, it made sense for each member treat each other as responsible agents. This normative treatment of members is a way of exerting “rational pressure” for all members to cooperate to achieve the group’s shared goals. In the same way that a ladder’s rungs contribute to satisfying standards for what ladders are for, so goes with an understanding of norms under a cooperation-based account as contributing to satisfying standards for what cooperative action is for. This is the

general teleological structure that undergirds cooperation-based explanations of normative action.

So far, I have detailed how teleological explanations can be adequately covered by asking “What is it for?” questions. However, sometimes (usually often) an answer to “Why?” questions may not be exhausted by answering *what it is for* while still maintaining and exhibiting a teleological structure. For instance, one might find other uses for the ladder such as for drying clothes or holding blankets and towels and so on. This answers not what a ladder is *for* but what a ladder is – or can be – *good for*. In this case, pointing to a design-based or etiological explanation would not provide an answer. An adequate answer to *what something is good for* can be provided by being explicit in identifying specific goals towards which the explanandum in question can be considered as a means. This can usually be unpacked by explicitly identifying an individual (or even a joint/collective) agent’s goals or any related cognate states such as desires, preferences, or dispositions. Direct reference to any of these purposive states and how the explanandum contributes towards fulfilling the aim of the purposive state should exhaust and give a definitive answer to what the explanandum is *good for*. This is in contrast to answering *what something is for* which need not refer to any specific agent’s purposive state but only either to an intended design or the history of its application.

To go back to the ladder example, after washing one’s clothes, an agent might want to dry them out; but lacking a drying rack, the agent might find the ladder with its multiple rungs to function just as well as a drying rack. The rungs of the ladder were not exactly designed to dry clothes on but they are also *good for* that purpose, which is the agent’s current goal. For the purposes of this thesis, I will call accounts of *what something is for* the “primary function” while “secondary function” will be reserved for accounts of *what something is good for*.⁹ It is worth discussing this distinction in a bit more detail.

⁹ Of course, there need not be only one identifiable primary function, there can be multiple answers to *what something is for*. What is important is that these multiple functions are also part of their intended design. Smartphones for instance are designed for making calls, sending messages, taking photos, going on the internet, as well as holding multiple apps with various uses and functions. All of these are what smartphones were designed *for*. Makers of smartphones consciously designed them for these multiple uses and functions (and can add more functions in future designs allowing for further addition

Despite differences in outlooks and explanatory approaches to answering the “Why?” question, what is crucially preserved in both *what it is for* and *what it is good for* is the determinate (or determinable) and inquiry-ending nature of any explanation that has an underlying teleological structure. This should apply to any action that purports to have this structure. For any teleologically-structured action, the goal (and related cognates) is the ground and focal point with which any action can be made intelligible. This need not be transparent nor clear to the agent themselves – this teleological structure only needs to be determinable in principle from an objective or observer’s standpoint. That is, the agent need not have any conscious awareness nor rational mastery or authority over the underlying motives or goals or dispositions underlying their actions. So long as an action exhibits a unity and determinability of purpose that could be specified objectively and in principle, then it can be fully and exhaustively explained by offering an account of its teleological structure.

Various forms of action with their own unique goals, aims, and desired outcomes can be explained through this formal teleological structure. These various forms of action are usually depicted in general terms as having an instrumental or means-ends character.¹⁰ Whatever the domain, what is crucial is being able to identify an end-point or state of affairs that grounds the rational instrumental analysis of the action.

For instance, one’s interest in prudential action picks out the motive of pursuing one’s well-being as the end-goal. Rational choice theorists are interested in the goal of maximising an individual agent’s set of preferences or expected utility. Classical utilitarians are concerned with bringing about a state of affairs that maximises the greatest happiness or pleasure for the greatest number of people. Behavioural ecologists analyse an animal’s behaviour in terms of its contribution to the individual, kin, or group’s overall fitness.

of functions). However, smartphones can also be *good for* other unintended functions such as using as paperweights, which can be considered unintended “secondary functions” of a smartphone.

¹⁰ Even when one characterises one’s end or goal as having intrinsic value, that is, good for its own sake, the instrumental or means-ends character of the action is retained. We are not concerned here with an analysis of the end or goal in itself, of whether or not they are worth pursuing for their own sake. The concern here is with the action itself and how and why it is conducted in that way, even if the end-goal is itself worthwhile or considered intrinsically valuable.

One might place all of these under a general rubric of a teleologically-structured, means-ends instrumental (or hypothetical) rationality that is ultimately grounded on some identified end-point or state of affairs. In all of these domains, inquiry more or less concludes once the state of affairs of interest is reached and is fully accounted for. Moreover, critical here is that the goal is specified and accounted for independent of the action or activity, that is, the means. This important feature of being able to detach the goal from the activity is a defining feature of instrumental rational action that motivates the teleological structure of action discussed so far.

Explaining all sorts of action through this formal general structure has been enormously productive so it is no wonder then that this same approach is used to investigate the roots of normative agency. Cooperation-based accounts are, at their very core, fundamentally an explanatory strategy that employs this general teleological structure. They offer us an elegant answer to the primary functional question – *what it (norm-governed action) is for* – by giving us an account of its emergence and the role that it plays in sustaining human communities. In asking “Why do norms exist in human communities?”, cooperation-based accounts offer us a story of the function of norms in these communities: that they serve to promote shared cooperative goals. This simple and elegant account exhausts the “What is it for?” question in terms of the contribution it makes to solving cooperation problems in human groups. Norms and normative agency thus emerged in human evolutionary history as a solution to cooperative contexts present in early human societies contributing to the achievement of shared adaptive goals.

Chapter 2

Is There Something a Normative Action Is for?: The Limits of Teleological Explanation and the Primacy of Practice

1. Introduction

In this chapter, I argue that the cooperation view explaining the origins of normative agency, represented by Tomasello's account, is misguided in large part because it relies on a teleological explanatory strategy that I outlined in the first chapter. In section 2, I argue that any action explained in terms of its teleological structure cannot account for its normative features, if any. That is, normativity does not follow from any teleological account. I consider a range of possible responses a defender of the cooperation view may take and argue that they all fall short. One response, which foregrounds the interactive context of cooperative activity, has promise but is ultimately compromised by its teleological framing.

In section 3, I motivate the primacy of a shared practice and the notion of participation as a key consideration in explaining normative agency. I introduce the notions of a participatory structure and argue that it can better capture deontic elements like duties, obligations, and commitments in action that a teleological structure cannot.

2. Can a Teleological Explanation Account for Normative Agency?

2.1. Teleology Does Not Entail Normativity

A worry with relying on a teleological structure in explaining normativity is that in incorporating normative action within a teleological framework, one can account for norms only through its teleological significance. But one might ask, is normative action

what it is in virtue of its teleological significance or teleological role? One can question how deferring to a goal full-stop or some desired state of affairs can be used as the ground with which a norm-governed action or activity is analysed and explained without further stipulating a norm or rule/principle or reason about how one ought to pursue that goal or achieve that desired outcome. This is a familiar critique of teleology-based approaches in metaethics. Matthew Silverstein (2016) sums up the challenge thus, “[a]bsent some normative principle linking functions or aims on the one hand and norms or reasons on the other, normative conclusions do not follow merely from the teleological structure of agency.”

Goal-oriented behaviours, even with clearly defined functions and success conditions that are also transparent to the agent, need not defer to a norm or rule. The action here can be evaluated exclusively in terms of how it contributes to attaining the goal. What is explaining the action is the goal and not some norm or rule. In other words, hypothetical or means-ends reasoning are relevant rendering rule-following as unnecessary — a further reason needs to be provided to explain why an agent ought to pursue a certain (rule-based) course of action let alone why the goal or end state should be pursued in the first place.

Here are a few examples to drive home the worry: Humans have canine teeth that (presumably) have an evolved adaptive function for efficiently tearing down animal flesh. But the fact that our teeth have this evolved function does not mean that we *ought* to eat meat. Also, just because breaking one’s promise will improve one’s personal well-being does not mean that one *ought* to break that promise even despite being primarily motivated by the pursuit of one’s own well-being. So even if the function/goal can be fully accounted for, what one ought to do is still open for discussion. An account of what a course of action/behaviour is *for* or *good for* does not give us a prescription or recommendation of what the correct course of action is.

Another way of motivating this worry is in terms of an open question for teleological explanations. The previous chapter should make us think that “Why?” questions can be exhausted by teleological explanations that offer a robust account of a thing’s primary or even secondary function. Now it is one thing to say that an account of a thing’s function gives us a full explanation of its *raison d’être* or current use thereby

stopping the regress of “Why?” questions. It is another thing to say that this functional account, even given a full teleological explanatory treatment, can also definitively prescribe for us or give a full normative endorsement about the right way to act. In other words, just because something was *designed for* this particular function or is *good for* a number of possible functions and uses, it does not follow nor entail that we know what we ought to be doing even given the goals and ends relevant for that function.¹

For Stephen Darwall, this open question leaves a wide conceptual gap between teleology and genuine normativity: “[F]or any goal we can characterize nonnormatively, it is logically open whether we should pursue it. [...] [W]e can sensibly ask whether there is any reason to choose or pursue it, or deny without contradiction or conceptual confusion that there is any reason to do so” (Darwall, 2003). Given a desired goal, outcome, or state of affairs, even if the functional or teleological “Why?” can be determinately closed off, the normative “Why?” can still be left untouched and unanswered.

The normative “Why?” does not in its most straightforward formulation admit a functional or teleological question (i.e., what it is for). Instead of asking about an action’s end goal or function, the normative “Why?” is instead more directly interested in asking about recommendations or prescriptions of what the right course of action one should take. A fuller articulation of the normative “Why?” would look something like “Why *ought* we engage in so and so course of action?” If this is the case, then the teleological “Why?”, fully accounted for by a functional story, would be a different and separate question from the still open normative “Why?”

2.2. Can the Cooperation View Fill the Normative Gap?

The defender of the cooperation-based account might concede the point about the gap between functions, ends, and purposes on one side and norms, rules, and (non-hypothetical) reasons on the other. But they might opt to simply fill that gap by

¹ This criticism should also apply to teleosemantic accounts of normativity that also similarly point to etiological accounts of proper function to ground normative assessments.

stipulating some norm or rule that can plausibly be associated or linked with the goal as a further way of reinforcing or strengthening the motivation or imperative to engage in the teleologically-structured action. Tomasello for instance argues that for the goals of cooperation via obligate collaborative foraging to be more reliably achieved by humans, not only do certain psychological capacities (like shared intentionality) need to evolve, these psychological capacities should also facilitate the move to establish norms with regards certain cooperative roles. According to Tomasello (2018), “in the concrete instrumental contexts of collaborative foraging (e.g., hunting for antelopes, gathering honey), ideal role standards that simultaneously benefit us both arise quite naturally for individuals with a psychology built for collaboration.” On this account, norms – in the form of ideal standards about various roles that govern collaborative partners – are infused into the general teleological structure of cooperative activity.

In addition, Tomasello argues that the structure of shared intentionality (that is, the emergence of “we”-mode thought) enables humans to think not solely from self-interested or desire- or preference-based reasons, but in terms of a recognition and judgment of others as equals (Tomasello, 2018, p. 338). So action and judgment that is facilitated by shared intentionality is motivated not by hypothetical reasons but by reasons that are sensitive to norms of equality, respect, and fair treatment of others. In this way, the psychology of shared intentionality paves the way for partners to make joint commitments to engage in collaborative activity which in turn facilitates and warrants mutual self-regulation and second-personal reactive engagement (Tomasello, 2018, p. 340).

Nevertheless, all these norms and normative relations are integrated into a story of human cooperation where cooperative success sets the ultimate functional standard that determines and shapes what sorts of norms are established and sustained in these communities. For Tomasello, behind these norms is an underlying “cooperative infrastructure” and that “cooperative success, sustained over time, is intimately related to how partners view and treat one another and how they expect to be viewed and treated in return” (Tomasello, 2018, p. 344).

From an evolutionary perspective, this cooperative infrastructure makes Tomasello’s account explanatorily tractable as it offers an adaptive context from which norms can

be said to originate. However, I think that it is precisely this adaptive structural framing and the way in which the account is anchored on “cooperative success” that makes Tomasello’s account problematic. The trouble is that this adaptive framing lends itself to a teleological reading of how the supposed “norms” are structured. The explanatory benefit is that it appears to give a neat account of the “Why?” question by offering us a plausible function norms serve in facilitating collaborative foraging. But this comes at the potential expense of leaving the normative “Why?” question open.

I think that the problem is rooted in treating norm-governed behaviour as just another kind of behaviour that can be explained by means of the explanatory strategies that are available to other kinds of behaviour. Although Tomasello is keen to deny the dependence of morally normative behaviour on any brute desire or preference or selfish motive, his adaptive explanatory framing does not exculpate him from the same philosophical predicament. Situating behavioural norms as a product of a psychological disposition (i.e., shared intentionality) that is itself an adaptation resulting from the pressures of obligate collaborative foraging treats the resulting behaviour as of a piece with other teleologically-structured adaptive behaviours. This account thus still limits the supposed “norms” within the scope of a functional or means-ends rational analysis. Structuring an explanation of behaviour around the goal of cooperative success does not on its own give us recommendations or prescriptions of what course of action to take.

To be fair to Tomasello, he does go in a promising direction when he starts to discuss the importance of ideal role standards, second-personal relations, and joint commitments to engage in a shared (collaborative) activity in his account. But insofar as Tomasello continues to “foreground” and “highlight” cooperation as the “foundational infrastructure of human moral psychology” that gives actions their “moral significance” (Tomasello, 2018, p. 334), then he is, in my view, inadvertently confounding his account with explanatory details that compromises any of its normative credentials despite ticking the right boxes for what makes for a good evolutionary explanation.²

² In succeeding chapters, I elaborate on my positive account where recognition of roles, second-personal relations, and shared commitments are important features, but crucial in my account is

One lesson that can be drawn here might be that any account of behaviour that purports to be norm-governed cannot simply be derived from just any non-normative source or context. There is always the worry of reading-in and over-interpreting the behaviour from our familiar normatively-inflected human perspective. A familiar distinction to be made here – something that philosophers from Kant to Wittgenstein have pointed out – is between, on the one hand, action that aligns or is in accordance with a norm, and on the other hand, action that is guided by a norm. Any course of action can be made to conform to or accord with some specified norm (Wittgenstein, 2009; Kripke, 1982). One can easily interpret some behaviour, including and perhaps especially social behaviour, as having a basis in some norm when perhaps some other causal factor or mechanism is more likely involved or more salient in explaining the behaviour.

An applicable methodological principle in comparative psychology called Morgan's canon is also helpful here. Morgan's canon basically forbids the attribution and interpretation of animal behaviour using more complex or "higher psychological processes", if lower-level psychological mechanisms can do the job just as well (Morgan, 1903, p. 59). Although it has received a fair bit of criticism for being rather inflexible and severe in its attribution of mental life in other animals (since even complex behaviours can be interpreted in behaviourist, stimulus-response terms), I think it is a fair heuristic device to have on hand, especially in trying to guard oneself against making indulgent judgements about the mental life of other species. This includes early humans, since we are after all concerned with the beginnings of normative agency.

2.3. A Reductionist Response: All Normativity Is Teleological

At this point, the advocate of the consensus view might push back and contend that there is no reason not to accept a reductive teleological explanation of the emergence of norms, at least the first few instances of norms. There should be some space for

downplaying and setting to one side the role of any teleological infrastructure, if any, while hopefully also satisfying the requirements of a robustly evolutionary explanation.

entertaining a manner of explaining our norm-governed practices in this explanatorily reductive way, grounding it on an instrumental, functional, or hypothetical rational structure.

Some may even argue that whatever it is we call norm-governed agency are all instrumental, functional, and hypothetically rational all the way up, including human moral behaviour! This is not exactly an unfair objection. Philippa Foot (1972) famously argues that morality can only make sense as a system of hypothetical imperatives. One can perhaps say the same with the origins of norm-governed agency. Not a few of the advocates of the cooperation-based accounts do seem to endorse implicitly, if not explicitly, a notion of rational agency from a purely instrumental rational perspective (cf. Sterelny, 2019).

If one's view of norm-governed agency is restricted to this instrumental perspective, then one's work is already cut out for them. All one needs is to provide some plausible adaptive story backed up by empirical findings not unlike the cooperation view. This reductive move may be the easiest route to explaining the roots of normativity. But it comes at a huge cost.

Part of what makes normative action and judgment philosophically puzzling (and therefore interesting) is this supposed gap between having a view of how the world *is* and having a view of how the world *ought to be*. I opened the thesis with this tension and this is what the open question about teleological explanations is essentially asking us to consider. The teleological explanation detailed above, reduce action to facts about an agent's aims and goals on the one hand and the functional behavioural mechanisms that facilitate reaching these aims and goals on the other. Taking this open question to heart should make us question the move from a teleologically-motivated account of how the world is (based on facts about a thing's function or about considerations of an agent's goals, desires, and preferences) to making a further inference or extrapolation about how the world ought to be. This should hold true even when we consider the agent's own perspective and whether they are able to act or entertain thoughts about how things ought to be (since the teleological framing can only provide the agent with at most considerations and dispositions about achieving

some end). To push ahead with the reductive move is to deny the relevance of this open question.

Another cost associated with pursuing the reductive move and not appreciating the philosophical puzzle of normativity is that it sells short other philosophical goods such as freedom, autonomy, responsibility, and other related cognates that a robust notion of normative agency is supposed to capture. This is why some philosophers are drawn to non-naturalist positions despite inherent problems that come with them.

More dogged reductive naturalists would perhaps be content to deny or eliminate such goods and accept concomitant costs. I suspect that many reductionists may reject the relevance of the philosophical puzzle of normativity and the open question within a purely scientific naturalistic framework. For my part, I want to give these philosophical issues their due recognition but at the same time find a plausible way in which this more robust sense of “ought” can fit within the natural world. A commitment to naturalism need not take an austere reductive path and giving up on these richer philosophical goods. My commitment is towards a naturalism that exhibits fidelity to both the manifest and scientific images and that both images need not compete. They may even, in my view, complement one another. This non-reductive path might be a bit trickier to navigate, but the potential dividends should be attractive enough to merit exploring options within this space.

Tomasello’s own explanatory account is a view that tries to chart this non-reductive path in that he wants to distinguish between a purely instrumental agency and a social-normative one suggesting that humans are the only species that have evolved the latter. In the next section I offer what I take to be a promising way of understanding Tomasello’s account even if I argue that it still falls short.

2.4. Can Normativity Emerge from the Context of Cooperative Activity?

One charitable way to read Tomasello’s account is to locate the emergence of normative agency as an inherent feature of the social context of cooperative activity. The strategy here is to offload normativity not (at least primarily) as a feature of the

agent's individual psychology, but to embed it as an inherent feature of the social context that inevitably arises in collaborative foraging.

Tomasello seems to be suggesting that if one looks carefully at the details and mechanics of how the activity of collaborative foraging with partner choice is to be effectively achieved and refined, one will need to acquire or develop capacities apt for normative agents. The interactive context so to speak specifically calls for a norm-governed agent. Adapting to this inherent interactive feature in collaborative foraging entails the eventual acquisition of behavioural and psychological capacities (such as joint and collective intentionality) in agents engaged in this activity. Here is how Tomasello describes the collaborative context and the way in which it bootstraps the need for partners to act and interact in normative terms:

[I]ndividuals must develop especially cooperative ways of relating to others because without a cooperative attitude others will reject them as collaborative partners, and, indeed, they will lose their own sense of cooperative and moral identity. Thus, if you and I are collaborating to catch fish, with you chasing them toward the shore and I netting them, then to be a good collaborative partner each of us must play our role in the way that we mutually understand is needed for us to be successful in reaching our joint goal. We thus have in our personal common ground the ideal way in which each role must be played for collaborative success, these role ideals constituting the most basic and concrete form of socially shared normative standard. (Tomasello, 2022b, p. 16)

This strategy of locating normativity in the interactive context is a promising approach. Moreover, Tomasello also asserts that this interactive context goes beyond success-based instrumental rationality and into more full-fledged normative territory:

Importantly, the standards are not just instrumental – based on success – but also normative, or even moral, as each partner comes to view the other as equally deserving of respect and resources. The basis for this respect is the sense of equality that develops between collaborative partners: we are both equal causal forces in producing the result and the ideal role standards apply impartially to whoever fulfills the role, even if we were to switch roles. This sense

of self-other equivalence underlies a basic sense of recognition respect (Darwall, 2006) that generates a sense of responsibility to one's partner as equally deserving, and thus a sense of fairness in dividing the spoils of any collaborative efforts. If a partner violates the mutual sense of respect and fairness, the other will object and both will see the objection as legitimate... Internalizing this interactive nexus, individuals form a sense of responsibility to their (potential) collaborative partners. (Tomasello, 2022b, p. 16)

It is important to note that the cooperative partners need not start out as normative agents. It is in the requirements of the obligate collaborative context they are embedded in that pushes the partners to develop and adapt to ways of behaving that is sensitive to the normative demands of the situation. In adapting to the normative demands of the situation the agents are expected to either acquire or evolve capacities and/or psychological dispositions such as shared intentionality that facilitates normative interactive engagement. The social context created by the need to engage in collaborative foraging is already situationally normative or at least conducive to developing normative behavioural and psychological tendencies, and so the adaptations are just a matter of the cooperative partners playing catch up to the normative demands of the cooperative context.

Although I have highlighted how normative constraints and competencies emerge from the contextual and interactive elements of collaborative foraging, Tomasello grounds normative competence as emerging empirically as a *sui generis* psychological disposition. In the second part of my thesis, I will point to research that eschews the focus on individual psychological dispositions and foregrounds the role of interactive processes in the instantiation of shared intentionality (Racine & Carpendale, 2007; Heesen et al., 2017; Genty et al., 2020). I think this more thoroughly interactional or intersubjective approach is more promising. Although Tomasello may also be read in this way, ultimately, his explanatory emphasis is on the individual psychological disposition. For Tomasello, early humans evolved to acquire a psychological disposition to think in terms of a joint or collective “we” and it is only by way of that individual disposition they were able to formulate thoughts about ideal interchangeable roles and mutual and equally respectful treatment of chosen collaborative partners.

Just as in my earlier complaints, what is ultimately doing the explanatory work is the adaptive function of the psychological disposition that has been selected for because of its contribution to problems that arise in contexts of collaborative foraging. This very framing gives us behaviour that can perfectly answer the teleological “Why?”. The normative “Why?” is again left open and unanswered. We have evolved a disposition for thinking in the we-mode that is particularly reliable in achieving adaptive outcomes in a cooperative context. But the fact that we have this individual disposition to engage with others a certain way while cooperating does not in any way warrant that we *ought* to engage with others in this way.³

Even when one picks out the normative constraints from the interactive processes of cooperative activity, the same worry should arise. The worry is that the adaptive thing to do in a cooperative situation is not necessarily the same as the normative thing to do. Take for instance this characterisation of the cooperative context (lifted from Hieronymi, 2014):

Moral demands ... are the demands placed upon us by our need to live peacefully with others. But they are not merely this. One might imagine a “society” where peaceful coexistence is secured simply through the reliable exercise of power: in such a society, individuals regulate their behavior in a peace-preserving way by strategic, rather than moral, reasoning. Violations of the peace-preserving expectations and demands, in such a society, would be seen not as disrespectful, but simply as imprudent (and perhaps a cause for anger). They would not ground reactions such as resentment or indignation. (Hieronymi, 2014)

One can say that this is a more straightforwardly adaptive (and at most prudential) way of grasping the cooperative context. The moral gloss that Tomasello uses to interpret the cooperative scenario seems gratuitous in comparison. It is unclear why this more morally-inflected interpretation is favoured over the less normative alternative reading of the cooperative context.

³ Recall Kripke’s (1982) Wittgensteinian argument against dispositionalist accounts of rule-following.

The problem starts I think in the very choice of interactive context with which to ground normativity. Tomasello grounds his account on an essentially teleologically-structured instrumental activity which ultimately compromises his narrative. This makes his account vulnerable to the fundamental worry for any teleologically-structured account of normative agency: any analysis that falls squarely within a teleological rational framework ultimately falls short of being a genuinely normative account. The interactive context matters for normativity, yes, but it cannot conceivably take off from the adaptive collaborative context as Tomasello envisages.

I will not deny the possibility that this collaborative context can have normative features and that these features can facilitate better, more reliable collaboration. However, it is one thing to say that normative attitudes can benefit collaboration and another to further assert that the collaborative context in itself is what generates the demand to act and think in normative ways. The fundamental mistake here is that Tomasello may have chosen the wrong interactive context to buttress his story of the emergence of normativity.

While Tomasello does agree that there is a need to go beyond instrumental considerations such as that of cooperative success, the fact that the interactive context is situated within this cooperative infrastructure makes it questionable whether the teleologically-framed infrastructure of cooperative activity can on its own give rise to genuine normative demands. The rational demands of any activity that is at its core teleologically-framed –even when these are also social and interactive – puts it firmly within the evaluative lens of an instrumental or hypothetical rational imperative.

3. Deontic Considerations and the Primacy of Shared Practice

Another way to cash out the inadequacy of the cooperative context is to contrast the teleological structure and hypothetical reasons that undergird it with those contexts that more clearly exhibit something like a deontic structure and categorical reasons, or those demands on action that arise out of duty, obligation, or commitment. Setting aside philosophical issues with regards their binding force, one can look at contexts of legal obligation where considerations of what one is obliged to do is hardly made on

the basis of an individual (or even a specific group's) preferences and goals. Or consider the act of promising. The promise institutes a commitment made by the promisor to keep the promise independent of their inclinations, dispositions, and goals. A lot of human institutions are said to have this deontic rational structure (Searle, 2010; Huemer, 2021). Normative demands as such seem to require a shared practice as a prerequisite. The binding force with which an obligation, duty, or commitment that arises from a shared practice is importantly different from hypothetical rationality not because it seems to have a stronger pull on us as Foot (1972) would argue but because its binding force is supposed to apply to those bound to the practice independent of any individual goal, end-point, or desired state of affairs an agent may have.

Emphasising these deontic considerations do not entail undermining the teleological framing which characterises many of our day-to-day activities. The claim here is that a teleological framework, effective as it is at driving action, on its own cannot pick out normative constraints on action, which point to a different, more deontic and categorical set of considerations. Both teleological and deontic considerations could refer to the same action but would point to a different set of evaluations: teleological considerations are more goal or success-based while deontic (or more decidedly normative) considerations are more duty- or commitment-based.⁴ Teleology is more about success, reliability, and the like; normativity concerns correctness, reasonableness, permissibility, and similar cognates.

One important thing to note here is that these deontic considerations on action and thought tend to arise within a communal or interpersonal context structured around some social institution or shared practice. However, deontic considerations do not simply apply to any socially-framed action or activity since, like cooperation, these can also still be teleologically-framed. Nor do commitments and duties extend to any

⁴ Another thing to note is that although there is a tendency to think of deontic considerations as applying mostly to moral contexts, the examples above show that obligations and duties can also arise in other shared practices. One can talk about one's obligations and duties within the context of laws, rituals, traditions and customs, games and sports, clubs and societies, linguistic practices, familial and civic relations, trade/craft and professional communities, and so on. The way in which obligations and duties are instituted, taken up, and enforced will of course look different depending on the context, but they all should share some basic deontic structural elements. These basic structural elements which all normative practices share will be the topic of the next chapter.

communicative contexts such as in the alarm and mating calls found in many animals. Much of animal signalling are largely teleologically-framed based on such calls' survival and reproductive functional values. Neither do obligations and duties automatically apply to prosocial behavioural contexts such as when other animals engage in *prima facie* altruistic or helping behaviour. These can also be readily explained from a teleological and functional context as dispositions that may have evolved through kin or group selection. These social and communicative contexts do not, given their apparent teleological framing, pick out normative practices.

One way to pick out social contexts that are potentially structured by normative considerations is to identify a practice or activity whose constitutive actions can be made intelligible independent of any desired effects or outcomes that are external (or not intrinsic) to the practice. That is, the shared practice and the actions made within it can still make sense even when removed from a functional or instrumental teleological context. This is because, I contend, that these activities are structured differently.

The notion of participation, I suggest, best captures how these activities are structured and framed. Framing an action from within this participatory rational structure sets the conditions for making one liable and subject to normative assessment. I will now unpack this participatory structure in the next chapter.

Chapter 3

The Participatory Structure of Normative Practices

1. Introduction

In this chapter I want to motivate the idea that the practice-based normative considerations hinted at in the previous chapter are underwritten by a participatory structure. This participatory structure is distinct from but does not necessarily oppose teleological structures. It is offered as a positive descriptive account for understanding norm-governed action. That is, it should offer a set of constraints and considerations underlying action that purports to be guided by norms. The most basic claim here is that activities or practices that have a participatory structure can be understood or made intelligible independent of any teleological considerations. One thus cannot explain these practices through a teleological explanation, that is, they cannot be explained by deferring to an individual or even a group's external goals, preferences, or desired outcomes. The participatory structure should instead be explained in a way that captures the descriptive features laid out in this chapter.

One upshot of thinking of norm-governed agency in terms of its participatory structure is that the various normative domains and categories are to be understood in terms of their own distinct normative practices with their own unique activities, modes of normative assessment, scope of application, and so on. Many familiar norm-governed practices should fall under this rubric of participatory activity including linguistic practices, cultural practices, moral practices, legal practices, and so on.

In section 2, I explain how, despite being distinct, a teleological structure and a participatory structure are not mutually exclusive; goals and motivations can still figure within practices with a participatory structure. In section 3, I discuss how participatory practices can, insofar as they can also be understood in terms of their possible functions, outcomes, and other external instrumental uses, need to remain

teleologically indeterminate. This is so they can retain their autonomy as a normative practice.

Section 4 introduces the notion of participatory commitment/s as a key feature of participatory practices. Participatory commitments serve as crucial anchors for warranting normative claims and demands. Moreover, part of what it means to commit to and participate in a practice is the notion of recognition, that is, to be recognised and treated as an autonomous, reasons-responsive participant. Section 5 details the kind of rationality at play in participatory practices – one that is based on interpersonal commitments and expectations rather than on evidential or predictive reasons and expectations. Here I want to establish a sense of categorical reason grounded on participant-based interpersonal constraints, which, if it is to retain any normative force on the agents involved, should not be encroached on by any hypothetical reason represented by instrumental or external functional considerations. In section 6, I entertain a possible defence of Tomasello's cooperation account that it also incorporates these interpersonal rational constraints and expectations. I argue that his move that starts from a "cooperative rationality" to build on claims about acquiring normative capacities constitutes a kind of bait-and-switch with unwarranted normative interpretations of the cooperative context.

Section 7 emphasises the centrality of "How?" over "Why?" questions as well as the role of learning and initiation in making actions and thoughts intelligible and normatively assessable from within a participatory framework. In section 8, I elaborate on the kind of interactive and communicative context required for rule-following to obtain within a participatory practice. Here I explain how co-regulation, as opposed to cooperation, can better capture what it takes for an action to be norm-governed.

Before proceeding to section 2, a couple more points should be noted. This participatory scaffolding should give one an idea of the basic formal or structural features for any action to count as an instance of normative guidance. It does not provide an account of the underlying cognitive mechanisms or architecture that enable or help bring this about. It is possible that there are multiple cognitive pathways and mechanisms that can help instantiate this structure in the same way that there are multiple possible cognitive pathways and mechanisms to instantiate a teleologically-

structured action. An important enabling question with regards to the participatory structure is whether having a linguistic capacity is necessary for the structure to obtain. I do not think a linguistic capacity is required. This will be clarified later in the chapter. In my view, at its bare minimum, some robust two-way communicative capacity is needed.

Another thing that should be pointed out is the relation of the teleological and participatory structures to practical reasoning. Practical reasoning may in the end require a mix of teleologically-framed and participatory modes of rational deliberation. It should go without saying that our goals, desires, and interests also figure widely in practical deliberation. This aspect of practical deliberation is not my concern. My primary concern is its normative aspect, that aspect of rational deliberation that gives attention to normative considerations and constraints.¹ This distinction should be kept in mind throughout the rest of the discussion.

2. Intrinsic Motivation and Practice-Internal Goals

Activities with a participatory structure can also have goals. But the way in which the goal is related to the activity is different. Unlike activities with an instrumental teleological structure, the goals taken up in activities with a participatory structure are usually internal or intrinsic to the activity; that is, they only make sense within the context of the activity itself. Instrumental goals on the other hand are neutral or indifferent to the sort of activity one takes on so long as the desired end point or state of affairs is reached. The goal of scoring the most points by putting a ball through a hoop, or of successfully defending one's case before a court, or of becoming an established academic by publishing papers and giving talks at conferences, are all goals that are internal to their respective practices. What makes them a special kind of teleological action is that actions taken in pursuit of the goal are, at least on some reading, not purely instrumental despite having a teleological structure. The actions, usually, are not taken up only for the sake of achieving the goal. This is because part

¹ I also recognise here the possibility that teleological considerations can also be given a normative reading. This is to be considered on a practice-by-practice basis. Economic decisions for instance can, on a certain reading, give individual preferences a normative interpretation.

of the meaning and value of this kind of intrinsic goal is intimately tied to the very activity one is engaging in.

Nevertheless, activities with intrinsic goals can also figure within an instrumental teleological structure. For instance, the goal of running quickly to outpace and catch prey is intrinsic to the activity of obligate hunting or predation for certain types of terrestrial mammals. In these cases, the proximate goal of catching prey can also be exhaustively teleologically explained by its ultimate adaptive significance. But one can bracket this ultimate adaptive significance and just focus on the activity itself and how it is structured without referring to any external ultimate aim, goal, or motivation. This kind of bracketing from any external outcome or effect should often be more apparent in activities with a participatory structure, but there is no reason to think that instrumentally-structured activities can also have intrinsic goals structuring those activities independent of the overall instrumental goal.

That said, the intrinsic goals in instrumental activities are still ultimately tied to the external instrumental goal. This is true for instance with predation which is ultimately tied to the adaptive outcome it produces. This is because the activity itself, hunting, and its overall structure is fully intelligible on a purely instrumental teleological framework.² On this framework, the very structure of the activity (including its intrinsic goals) is itself shaped, modified, and selected for by evolutionary outcomes. In this sense, even if the activity has intrinsic goals, they are not tied to norms internal to the practice as they are still regulated by how effectively they produce the desired outcome. The actions are thus shaped teleologically rather than normatively. It can easily answer the teleological “Why?” but the normative “Why?” remains open. The tight link between the activity with intrinsic goals and its ultimate functional value – its answer to the teleological “Why?” – makes the activity intelligible from within a purely teleological framework.

For activities with a participatory structure on the other hand, the activity is not to be exhaustively understood in terms of any external aim, goal, or motivation for pursuing

² One might think of this as a series of nested means and ends similar to Anscombe’s (2000, pp. 46-7) analysis of intentional action.

it. The activity on its own can be intelligible and can be pursued independent of those. Of course, one can still press further and ask why the activity itself is pursued in the first place. One might offer an instrumental answer here but the participatory activity can still be fully understood without this instrumental gloss. One can be motivated to play basketball only for instrumental reasons, like fame and fortune, but these reasons have nothing to do with how one plays or ought to play the game.

I argue that an activity with a participatory structure should be understood to be teleologically indeterminate. What I mean by teleological indeterminacy is that no exhaustive teleological “Why?” is required for the action to be fully intelligible. However, I suggest that even if a participatory activity may not give a determinate answer to the teleological “Why?”, it can still offer a determinate answer to the normative “Why?”

By circumscribing a goal within a participatory practice, one would need to identify specific roles that agents need to occupy and appropriate moves relevant to that role. In other words, the participatory practice would need to prescribe and recommend rules for appropriate action relevant to a role. The lawyer trying to win a case needs to abide by rules of admissible evidence. The academic writing a paper should subscribe to a certain writing style and engage with the relevant literature. These practice-based roles offer recommendations that are not necessarily exhausted or ultimately explained by whatever external goal or motive any individual occupying that role may have. It is the practice itself that makes the recommendations, not the goal. So this practice-based participatory structure can offer an answer to the normative “Why?” by recommending a course of action even if it remains indeterminate or ambiguous on the ultimate teleological “Why?” question. That is, there are certain ways of acting and behaving as a lawyer or academic that individuals inhabiting these roles should adhere to such as abiding by rules of evidence, citing relevant literature, and so on. Whether or not they engage in the practice to make a living, or to make a name for themselves, or even pursue it just for its own sake will not change how and why they ought to act and behave a certain way. Inhabiting these roles put constraints, rule and role-based constraints, on how they should act.

Pursuing a goal that is intrinsic to a participatory practice, not only by acquiring the relevant skills but also by inhabiting, embodying, and identifying with specific relevant roles – such as a lawyer or academic – is one way of thinking about how the participatory structure and the teleological structure can complement and not conflict with one another. However, this particular way of pursuing a goal differs from the more instrumental characterisation discussed in previous sections. It differs because the activity is pursued not for the sake of something external to it, but for its own sake. That is, insofar as the goal/s intrinsic to the activity is valued for its own sake (shooting hoops, making a solid case, writing papers, etc.), the activity can be said to be self-motivating.³

One may read this kind of intrinsic motivation as a blurring of the lines between means and ends, where the very means, i.e., the activity, is considered an end in itself. Although one may also pursue and perceive the relevant role as valuable for its own sake without taking the activity (or parts of the activity) involved to be self-motivating.⁴ One might value for instance the role of being an athlete without thinking of training sessions as self-motivating. Nevertheless, the role is still valued for its own sake and one can understand the value of training due to its connection to the role despite the activity not being self-motivating. So even if this activity possesses a practice-internal teleological/functional structure, it is significantly different by virtue of having this intrinsic rather than instrumental motivation.

³ One might question that there is a further value pursued by professions like being a lawyer or academic that is external (though related in some way) to the practice, namely pursuit of justice and truth/understanding respectively. This may be true in many cases and these may even be the ideal values that these professions should aspire to reach. However, one might read this in two ways: (1) these values are normatively inscribed into the very roles themselves such that the correct way of identifying as a lawyer or academic is to hold these respective values (the external values are in a sense internalised in the role and its associated practice); or (2) there is no necessary inscription of the values when one inhabits these professional roles (that one can pursue these roles without having these values). (1) is not a serious problem to the current discussion. With (2) however, one might simply bite the bullet and accept that while others pursue these roles for their own sake, others may also pursue these roles for these more lofty values and ideals. It is possible to have people practicing the same activity even if they have very different reasons and motivations for pursuing it. This is a crucial feature of the participatory structure which will be discussed later.

⁴ It is possible that the ultimate value here may be the prestige and reputational status that comes with the role and not necessarily the role itself. It is hard to think of someone valuing a role for its own sake without also valuing the practice or activity associated with that role. Even though one may have complaints about how one's own practice is conducted (say how peer-review is practiced) or one may not value some other activities that come attached to a role (say the bureaucratic paperwork), these come from a place where at the very least some core activity attached to the role is valued for its own sake. The fact that the role and its activities are still pursued despite these concerns speaks to the value with which the role is held to have.

Importantly, because of this intrinsic motivation, an answer to the primary functional question, *what it is for*, may sound circular and unsatisfying. In a way, both primary and secondary functional questions require some desired outcome or state of affairs external to the activity. An activity having as its function the practice of the activity itself does not dispel further questions about why the activity is pursued. One can give means-ends-based explanations within a practice, but ultimately they are circumscribed and intelligible only within the goals intrinsic to the practice, not to some external outcome. One can thus still answer “Why?” questions under a participatory structure, but one should not expect to end this inquiry with an exhaustive external functional account. One might end the inquiry as Wittgenstein (2009) would by saying: “Once I have exhausted the justifications, I have reached bedrock, and my spade is turned. Then I am inclined to say: ‘*This is simply what I do.*’” This seems to be just another way of saying that one has embodied or identified with a role and that it is self-motivating. But I also take this abrupt and seemingly unsatisfying answer to mean that the teleological “Why?” is not exhausted for these kinds of self-motivating participatory activities. From an objective teleological explanatory standpoint, it does not offer a satisfying answer to the “Why?” question. At best, teleological inquiry on intrinsically-motivating activities ends on an ambiguous note.

3. Teleological Indeterminacy of Participatory Practices

I argued in the previous section that action within a participatory practice is not to be exhaustively understood in terms of any external aim, goal, or motivation. It is possible of course to re-appropriate the activity for certain external ends and outcomes; the activity can also be *good for* other purposes. But activities with a participatory structure can exist and be fully intelligible independent of these secondary functions. The participatory activity, in other words, is underdetermined by any purported function it may have and may not need any function at all (or as earlier considered, may be intrinsically motivating which makes it teleologically ambiguous).⁵ A participatory

⁵ The participatory activity might however eventually acquire a function, perhaps even a primary function, in which case it has the potential to either lose its participatory features altogether and so become completely intelligible from a teleological framework or it might eventually acquire a hybrid

activity's not requiring a function points to its teleological indeterminacy and ambiguity without compromising intelligibility. It is teleologically indeterminate not because it cannot have an instrumental use, but because the articulation of its possible instrumental uses does not necessarily inform nor fully determine the intelligibility of the activity. The many possible motivations for engaging in the practice of law (whether it is pursued for some instrumental end, or for its own sake, etc.) do not primarily explain how lawyers ought to conduct themselves in that shared practice. Purely teleologically-structured activities, by contrast, require that they be anchored on an external function of some kind, whether primary or secondary, to be fully intelligible.

This teleological indeterminacy and ambiguity, I argue, turns out to be critical because an activity with a participatory structure is essentially something that is done with others, i.e., with fellow participants. That other people figure prominently in the shared activity is a critical factor in shaping action within this framework in a way that action within a purely teleological framework is not. The teleological indeterminacy and ambiguity of participatory activities means that these activities can be structured and understood independent of any individual participant's goals and interests. Each participant may have their own unique and personal answer to the teleological "Why?" (they may also not even have any and just pursue the practice as a matter of course) and yet they can intelligibly engage with one another in the same shared activity. Unlike entirely teleologically-structured joint activities, no unity nor even clarity of purpose need arise for participants engaging in activities with a participatory structure.

The participatory activity in other words is not necessarily structured around some instrumental function (even if other participants may engage in it in that way). The activity can still be good for something, and so have an instrumental secondary function, but this function cannot be the defining feature of the activity. The activity can persist without a function and without the need to have a function or any other external motivation. If so, it should have this feature of having an intelligible structure that does not provide a determinable answer to the teleological or functional "Why?" question.

structure of having a principally functional framework with some participatory structural constraints regulating action at the background. More on hybrid structures later.

A lawyer engaged in law practice may pursue it for its earnings potential, or perhaps because they belong to a family of lawyers, or for the social prestige and status the profession brings, or maybe out of a sense of duty and justice. Any or none of these may play into the motivational economy of any individual lawyer engaging in the practice of law but how they conduct themselves within that shared practice is not assessable on these motivational grounds. The mere fact of their being or becoming a practicing lawyer is enough to place practice-related normative constraints on their actions.⁶

This is a very different mode of understanding and evaluating action from one that is entirely teleologically-structured. Any teleologically-structured action cannot but be made intelligible by identifying the ultimate goal, motivation, or outcome it aims to bring about. A teleological action's purposive character is integral to its intelligibility, while a participatory activity does not require it.

As such, not knowing about any ultimate and practice-external teleological features that figure in any agent engaged in participatory activity will not necessarily compromise the action's intelligibility even if they are very much present in the agent's motivational economy. These teleological features may still play a role within the psychology of any individual agent engaged in the shared activity, but these are not the main considerations with which their actions are to be understood and normatively assessed from within the participatory framework. So any shared activity can take on multiple functions and uses for any individual agent engaged in it but this lack of unity or jointness in the agents' purposes will not necessarily jeopardise how the shared activity is conducted.⁷

⁶ Of course, information on the lawyer's motivational economy can give a fuller picture of the person's psychology, but they generally do not provide a reason or justification for how they are to conduct themselves in the practice. Any lawyer, whatever their motivation in taking up the practice, needs to follow rules of admissible evidence when presenting their case in court. A lawyer caught tampering evidence for money would be liable for violating evidentiary rules even if their ultimate purpose for becoming a lawyer is personal enrichment.

⁷ It may also be possible to have teleologically-structured activities that eventually acquire a participatory structure; that is, normative considerations start to constrain goal-oriented behaviour. This works like a hybrid case, as mentioned in the previous footnote, where normative participatory constraints places certain limits on one's goal-directed action. In these cases, even if what makes the action or activity intelligible is dependent on the goal or outcome, the participatory embedding places limits on how the goal-directed activity is conducted. This seems to line up with Tomasello's account of cooperation. This will be explored more later on.

This is unlike the case of collaborative foraging as Tomasello describes it (see previous chapters). The external outcome (i.e., cooperative success) is the main consideration with respect to which collaborative partners' actions are to be understood and assessed. The cooperative roles themselves are made intelligible based on their functional contribution to this external outcome. There is also a strong requirement to mesh one another's intentions and plans in order to achieve the goals of cooperation, which leads Tomasello to postulate the need to acquire a psychological disposition to think in terms of a joint or collective "we." There may be internal, activity-dependent goals in the practice of collaborative foraging, but like in the example of the obligate predation given above, these are still tightly linked up with the external instrumental goal, that is, the adaptive value these practices provide.

I have so far discussed how a participatory structure can relate with a teleological framing of action. For the rest of the chapter, I provide what I think are key distinctive elements that make a participatory practice what it is.

4. Participatory Commitment and Recognition as a Scaffold for Normative Assessment

Perhaps the most critical necessary condition for a participatory structure to obtain and hence for normative assessment to be warranted is the notion of commitment. One way of understanding commitment is in terms of committing to certain goals (including joint/collective goals) which still places this commitment within a firmly teleological framework. The type of commitment relevant for a participatory activity is not commitment to a goal but commitment to the shared practice or activity itself. I will call this type of commitment "participatory commitment" to distinguish it from a teleologically-structured commitment.

I borrow the term "participatory commitment" from Abraham Roth (2014), but I use the term differently here. Going into the details of this difference would be a separate tangent that I will not get into here. On my account, an expression of one's participatory commitment (to engage in a shared activity) serves as a scaffold for warranting

normative assessment of an agent based on the practice's normative standards.⁸ But it also does not entail agreement nor consensus about how (and why) the activity ought to be conducted, much less about how normative assessments are to be made. My view of participatory commitment also does not entail that the agent has to have an intention to cooperate with other participants in the practice or even intend to comply with the practice's extant rules and policies. One can, in my view, be a committed participant without being a cooperative participant or a participant that intends to follow a practice's existing rules. This is because I want to admit instances of a committed participant's principled non-conformity and non-cooperation. These participants may not see the practice as it is being currently conducted as living up to certain normative standards or ideals. More especially, I want to admit cases of warranted accountability for those who are recognised to be committed participants even if they flagrantly violate a practice's existing rules and normative standards.

For instance, someone who expressly makes a promise but intends to break that promise has committed to the shared practice of making promises and all the duties and obligations that the practice entails. But the fact that they intend to break that promise means that – despite expressing a commitment by engaging in the speech act of promising – they never really meant to abide by or conform to the rules of promise-making. Nevertheless, the promise breaker can still be held accountable for breaking their promise despite intending to break it from the outset. This accountability arose from that base-level commitment to the practice of promising, by engaging with the relevant kind of speech acts with other recognised “participants” of the practice. Even if they engage with the practice for entirely instrumental purposes, the fact of their engagement is enough of a signal to be considered and treated as a committed participant. In this specific case, one may question whether this agent is really using the correct rational framework in committing to the practice of promising; i.e., seeing other people merely as means to get to one's goal. This point will be discussed further in the next section.

⁸ What it takes to express commitment can take many forms and may vary depending on the practice. Some expressions of commitment can be very explicit such as the Apostles' Creed or any pledge of allegiance to a flag and country. Most expressions of commitment, I reckon, are implicit and are simply behaviourally transparent, given by the fact that the person is already embedded in the practice and engaging with other mutually recognising participants. Anyone who speaks fluent English can automatically be considered a committed participant of the English language-speaking practice and community.

This example shows us that there need be no sharing nor meshing of intentions, goals, and motivations to engage in the same activity nor even having any intention to abide by its rules. The initial act of commitment to the shared practice is enough to warrant attributions and assessments befitting a recognised participant engaged in that practice.

Even in cases where there is no deception involved, there is still no need for robust agreement or a meshing of plans and intentions to count as a committed participant of a practice. An example here is when there is no intention to break the promise but nevertheless breaks it eventually because of moral considerations (such as Socrates' example of not returning a borrowed knife to a man that has gone mad in the *Republic*). Participants may have principled disagreements about legitimate excusing conditions for breaking promises. Some may also reluctantly choose to go along with, and hence commit to, how a practice is currently being conducted without giving it full normative endorsement. Here we have examples of commitment that do not imply robust agreement. In fact, having disagreement in these cases is only made possible from the fact that the participants recognise themselves to be engaged in the shared practice. The disagreement comes not from an external observer questioning the value or use of the practice, but from someone inside the practice and their concerns about how the practice *ought* to be conducted.

I want to contrast this focus on participatory commitment and recognition in normative attribution and assessment with recent discussions on the social and cognitive science of normative behaviour. One tendency here is to unpack normativity in terms of tracking some statistical regularity such as, say, a majority preference or some other form of socially-maintained behavioural regularity in or conformity to a group such as through reward and punishment mechanisms (Westra & Andrews, 2022). Although identifying these regularities may serve as useful heuristics for what counts as normative, I do not think these are sufficient enough to helpfully distinguish between strictly teleologically-structured social regularities from those regularities that proceed

from shared practices with a participatory structure.⁹ Socially-maintained behavioural regularities can obtain in both but the processes behind such maintenance would look very different and would be structured in a way that will have very different qualitative features and rational considerations. Unlike a teleologically-structured social mechanism, a shared practice with a participatory structure has an essential intersubjective element (that is, it is not reducible to any one individual's subjective perspective) and has an interpersonal rational structure. I elaborate on this interpersonal (and intersubjective) rational structure in the next section.

The larger point I am making here is that our current concern is with what makes something count as normative. There is always a temptation to reduce the normative to some form of agreement, consensus, or conformity. But we can always in principle think of cases where agreement, consensus, and conformity do not meet normative standards. These cases require disagreement from at least some or perhaps just one participant in order to get the practice to at least have a chance of correcting itself to meet that normative standard. In other words, full agreement, conformity, nor any meshing of plans and intentions is not necessarily a virtue for normative practices. The fact that mistakes can be made and that many can be led astray and fall below some normative standard means that normative practices need to have some space for disagreement amongst participants.

⁹ A fundamental disagreement and question here that needs addressing is whether behavioural regularity that is socially-maintained but structured only teleologically can ever count as normative. I think contributing to the problem here are ambiguous cases where we can have appeals to authority and popularity that can be structured either teleologically or from a participatory orientation. Another source of ambiguity are cases where there may be a participatory structure but an agent pursues it from a strictly teleological rational framework; i.e., they might make a commitment only for purely instrumental or goal-oriented purposes and not because they think of themselves as a participant (and yet the commitment alone should make them subject to accountability). In a more concessive spirit, I think there can be a space for thinking of normativity that distinguishes between a kind of weak (or perhaps liberal) norm-governance where there is a community-wide regularity or conformity but lacks participatory commitment or endorsement and other deontic features (and as such is still ultimately teleologically-structured and so leaves the normative "Why?" question open) and a strong norm-governance where this participatory commitment is firmly in place and agents recognise and engage each other as co-participants. An important thing to note here is that the weaker or more liberal notion of normative regularity noticeably lacks an account of how an agent can be taken to be accountable or reasons-responsive for their actions given the strictly instrumental motivation for engaging in the practice. Moreover, "following" a norm in this weaker sense sounds more like an instance of acting in accordance with a norm than actually being guided by it. Given this distinction and the stark differences between supposedly weaker and stronger notions of normativity, I leave it to readers to determine whether they would count weak (or liberal) normativity as an instance of normative action. My concern in this thesis is relegated to how we get to social practices that exhibit this strong sense of normativity.

Of course, it cannot be disagreement all the way down. There must come a point where some consensus is reached and participants can proceed. But the point about disagreement is in some sense motivated by the sceptical paradox in rule-following – that is, *any claim or judgment about what it takes for something to be guided by a rule is underdetermined by any course of action one is taking* (Wittgenstein, 2009; Kripke, 1982). Any (novel or future or even past) course of action can thus be made to be consistent with a rule. But, of course, not all of these actions can be correct and normatively warranted. This means that any instance of following a rule has an ambiguity and openness to interpretation and contestation inherent in it. Any stated rule, in other words, cannot on its own contain a full clear and transparent understanding about how it ought to be applied in all instances of its application.

This seeming ambiguity and openness to interpretation and contestation about how one applies or ought to proceed with a rule does seem to be a constant feature and possibility in many norm-governed practices. Think for instance of practices of legal interpretation and debate. Any single legal case can be considered as a battleground for how the law is applied. It thus seems that any normative practice should have some built-in process that can navigate this constant possibility of ambiguity and contestation.

To have in a practice a means for negotiating and discussing cases between participants, especially ambiguous and contestable ones, is, I think, a crucial ingredient for any normative practice worth its salt.¹⁰ I would venture that a community where members operate on almost complete consensus would have questionable and suspicious normative credentials. One might think that this community operates like a hive mind similar to eusocial insect colonies where individual members tend to operate and function with other members as if they form a single unit, a kind of superorganism.¹¹ Thus, even if some form of consensus about the right course of

¹⁰ This is not necessarily a solution to the sceptical paradox, but my account – in accommodating processes for navigating disagreement, contestations, and ambiguities – is at least cognizant of the sceptical issues that can be raised about any account of rule-following. Perhaps a recognition that there is no inherent clarity or certainty about how to proceed with a rule fares better in accommodating insights from the sceptical paradox compared with other treatments of rule-following that treat it as a form of enforcement, conformity, or agreement.

¹¹ Some would go to the extent that eusocial insects do have social norms (Powell, 2023). I set this controversial thesis to one side here.

action should obtain for any shared activity to proceed, any rule-governed practice should also accommodate disagreements, even substantive ones that question the practice as a whole (though this more global disagreement may be a borderline case). Commitment to a shared activity as such does not entail full unquestioning agreement and conformity between participants; and this latter may even be considered as a detrimental feature in a normative practice.

A practice that merely relies on or slides into brute appeals to authority or to bandwagon effects or even brute force would lack the kind of rational normative endorsement that would make participants stay committed to a practice.¹² Part of what it means to belong to a practice with a participatory structure is the capacity of the participants to make claims and demands on each other about their commitments, duties, obligations, and entitlements. It is not just that they merely submit themselves to some authority or popular demand, which can be accommodated by a purely teleologically-structured social structure such as, for instance, agents that merely conform to the interests and desires of individuals in positions of authority or dominance in order to enjoy the prudential benefits of staying in the group. For the activity to be truly participatory in nature and not merely teleological and instrumental, there must be some form of recognition and endorsement of authorities and/or popular behavioural trends as legitimate guides for how to act or think.

A wider point that can be made here is that part of what it means to commit to and participate in a practice is the kind of recognition one gets as an agent that possesses some form of autonomy and reason-responsiveness. To be recognised and treated as an autonomous, reasons-responsive agent is to place a different set of considerations on oneself and others qua fellow agents. To ask of other autonomous agents to conform to some norm through brute appeals to authority, popularity, or force (that is,

¹² It would be a completely different picture if there is some endorsement and recognition of the sanctioning authority or the popular trend by the participants as can be seen in many human practices. These are not brute appeals to authority or popularity where a behaviour can be explained from a strictly dispositional and instrumental standpoint. Critical here is the endorsement and recognition of the authority or of what is popular. This means that there must be something else going on within the interpersonal dynamics of the participants which I suggest starts from some form of shared participatory commitment to the practice. Even merely conventional norms may have this form of commitment and endorsement by participants. These convention-based practices thus can have that deontic structure of commitments and obligations (not perhaps quite as strong as moral obligations but the basic participatory and interpersonal structure should still be there nonetheless).

without any endorsement) is to undermine that autonomy and agency. What I want to suggest here is that the dynamics of individual participants and how they relate with one another in normative communities with a participatory structure are more complex and complicated than is regularly appreciated, especially in the more empirically-minded literature on social norms. Disagreements, debates, challenges, and even creative deviations are just as part of a normative practice of determining correct action just as much as agreement, conformity, cooperation, and majority preference. Relatedly, I will argue later in section 8 that instead of thinking of one's being a committed participant in a shared practice as involving some kind of cooperation or conformity, the base-level relation between participants in a shared practice is one of co-regulation.

What seems to be the most minimal form of agreement, if any, that arises from an expression of commitment is a kind of "agreement" to be recognised, treated, and engaged as a participant of the practice. However, I do not think the notion of agreement need be present in this shared commitment between participants to recognise one another as participants of the practice. That is, it is not clear whether this recognition is something that can only be established by an agreement, even tacit agreement, between agents to recognise each other as co-participants.

For instance, one's being a language user does not entail that one agreed, even tacitly, to be a language user. One just becomes a language user through one's upbringing, learning, and initiation into the community of language users.¹³ The language learner does not need to agree to anything to become a competent language user; they just need to learn what it takes to be a full-fledged member of the linguistic community.

At most, some kind of *continuing implicit assent* is going on here and is implied from one's continuing engagement and participation with others in the shared practice. What this implicit assent seems to amount to is assenting to being recognised, treated, and engaged with as a participant with role-based commitments and entitlements

¹³ This point about learning and initiation into a normative practice is another important feature that will be discussed further in section 7.

rooted in their continued participation in the practice.¹⁴ This implicit assent stemming from one's continued participation and assent to being recognised and treated as a participant can of course be construed as some form of base-level agreement, but as a form of agreement, it is very thin and can accommodate more substantive disagreements about the practice between co-participants. No semblance of having shared goals or meshing of plans and intentions can be read off from this minimal implicit assent or agreement. This kind of implicit assent allows for deep disagreements about the practice that come from participants themselves who recognise one another as participants and not as outsiders.

5. Interpersonal Reasons and Normative (Versus Predictive) Expectations

Practices with a participatory structure admit a very different set of rational considerations for understanding action. Perhaps the most apt label for this distinctive form of reason is *interpersonal reason*. From the name alone, one is directed to considerations and contributions of other people in one's reasoning. But this form of reasoning is not exactly about occupying an other-regarding stance. The more relevant stance here is a participant stance (Strawson, 1962; Helm, 2014; Marušić, 2017).¹⁵ As such, what prominently figures into the reasoning process here is the fact that one is recognised and treated as a participant that co-exists with other fellow participants in a community or shared practice.

There is an important intersubjective element in interpersonal reasoning that would be missed if one takes on an exclusively third-personal and objectivising orientation in reasoning through one's action. As mentioned earlier, a teleologically-structured

¹⁴ Relatedly, this may also involve what Hegel and subsequent commentators would call a "struggle for recognition" particularly with regards participants whose demands to be recognised as such are not fully nor fairly appreciated. So it seems that even at this level of basic recognition of other participants, there can be room for contestation and disagreement. But this contestation and disagreement is about who can count as a participant and not a disagreement amongst recognised participants. This issue is another layer of complication that will again, for the moment, be set aside.

¹⁵ Insightfully, a closely related stance would be what Pettit and Smith (1996) calls the "conversational stance." The conversational stance is related due to its connection with the notion of recognition and who we consider to be a participant: "Conversation is the means whereby we recognize others and seek recognition from them" (Pettit & Smith, 1996, p. 430). This theme of conversation will resurface in the last chapter as a model for thinking of ourselves and others as self-conscious subjects, and as a model for understanding human cultural inheritance.

action tends to be concerned with producing a certain outcome or state of affairs. A hypothetical rational structure can cash this out by recommending a course of action based on how successfully or reliably it can reach certain purposive states. This is easily intelligible from a third-personal point of view as an observer can just look at how the agent is able to bring about some desired outcome and come up with an instrumental-functional explanation as the rational basis of the action.

One can point out here an objective evidential relation between a behaviour and its consequences or outcomes. This evidential relation between a behaviour and its consequences gives us a picture of the kind of rational evaluation involved in a teleologically-structured action. It offers us a third-personal rational framework for evaluating how reliably a certain course of action can produce a desired outcome; i.e., the action's success conditions in relation to the goal. This is at bottom the kind of reasoning – a means-ends form of reasoning – that a teleologically-structured action amounts to.

In contrast to this teleologically-framed instrumental reasoning, reason understood in an interpersonal manner has a different rational structure. It is not, at least primarily and fundamentally, concerned with producing a certain outcome or desired state of affairs. Its primary concern is more relational and role-dependent; that is, it is dependent on the sorts of roles the participants commit to and occupy within the practice independent of any goals or motivations they may have for committing to those roles. Occupying/committing to these roles would confer upon them certain duties, obligations, and entitlements which would form the basis for evaluating their actions. These duties, obligations, and entitlements can also include the pursuit of certain goals, but this is not necessary.

For instance, in the practice of promising, we have two relevant roles, the promisor and the promisee, each with their respective duties, obligations, and entitlements. How either of the parties act in relation to the promise made would affect their standing and status as a participant in the practice. A promisor who does not fulfill their promise will have violated their duty and obligation *qua* promisor and the promisee is entitled to some form of explanation or redress to compensate for the broken promise. This kind of evaluation is dependent on the interpersonal structural relations created by the act

of promising between participants. The practice creates this structure of relations between participants which forms the basis of the kinds of duties, obligations, and entitlements they can have and be evaluated on.

As one may notice, a different set of rational considerations are in play here. The kind of relation here is not an evidential relation between an agent's action and some desired outcome but a relation between co-participants occupying recognised roles that give rise to issues and considerations such as role-based commitments, duties, and trust. Trust-based reasoning, for instance, is a uniquely important feature of interpersonal reasons as it is a belief that is only possible in light of another person's commitments within a shared practice. That is, to trust someone is to believe that they will follow through on their commitment and not merely to predict or explain how they will behave, the latter being more a matter of reliance and empirical evidence rather than normative trust (Marušić, 2017).

In trusting someone based on a duty or obligation, say as a promisor, the very speech act of promising is what is supposed to establish a normative relation and expectation between the parties. This relation and expectation is not grounded on some empirical evidence based on a person's psychology or past behaviour. As Berislav Marušić notes:

[W]hen someone gives us her word, we can regard her commitment as an assurance or as an invitation to trust, rather than as evidence. [...] This makes sense of commitment and trust as ways of relating to other people: We make commitments to someone or other and, in so doing, we provide him or her (and perhaps others) with a characteristically interpersonal reason to trust us. (Marušić 2017)

Similarly, a system of laws and legal obligations are in place not necessarily for predicting, managing, or controlling people's behaviour (though of course some people may feel this and argue that the law is overreaching into people's lives) or even in facilitating cooperation but to establish a kind of civic trust between members of a society or a state. Breaking this civic trust is a violation of one's duty and obligation as a citizen and not a prediction error. Trust is thus rooted in a normative relation and

expectation rather than in a predictive or causal explanation. Resorting to prediction or control and management is seen as paternalistic and disrespectful of people's agency and autonomy.

One reason why predictive reasoning is potentially paternalistic and disrespectful to other people is that treating a fellow participant as a thing one tries to predict, even when this does not violate any moral code, is to not recognise them as a genuine participant (Roth, 2014). More importantly, resorting to predictive reasoning undercuts interpersonal practical reasoning. According to Roth, predicting someone's behaviour interferes and renders moot genuine deliberation:

The mental activity of recognizing, assessing, and weighing reasons cannot count as deliberation or practical reasoning if one doesn't regard the activity and the decision/intention that is its outcome as something that will settle what one will do. If on the basis of evidence or theoretical considerations one already regards it as settled that one will A, it's hard not to regard the consideration of reasons for or against A-ing as idle, and not genuine deliberation. (Roth, 2014)

Roth is not denying that practical deliberation can coexist with making predictions, nor that we should not make predictions based on what has been settled by practical deliberation. Rather, it is the use of prediction to settle a deliberative practical issue that will serve to undermine a deliberative or participant perspective. To predict an action within a participatory framework is to rob it of its normative force as prediction turns the expectation into an empirical expectation involving what facts would obtain rather than a robust normative expectation where one can hold another to account. One cannot hold a person responsible for an action if one based their expectations of the person's behaviour on a prediction.

Roger Scruton shows us the tension between prediction and evidence on the one hand, and decision, deliberation, and responsibility on the other:

Intending is not predicting. I predict that I shall drink too much at the party tonight; but maybe I shall find the strength to go home sober. When making such a prediction I am seeing myself from outside, as it were, assessing the

evidence, extrapolating from past observations, and drawing conclusions as I would draw them from observing another. [...] When I *decide* to go home sober I “make up my mind,” and this means being certain, on no evidence, that that is what I shall do. In such a case I answer the question “Why?” not by presenting evidence based on past behavior but by offering *reasons for action*. I am *taking responsibility* for my future... (Scruton, 2017)

Deliberating and making a decision affords one an agent-relevant reason to act in a certain way (see also Chang, 2023). If one is merely making predictions on how oneself or others will act, one is effectively encroaching on these agent-relevant reasons and undermining them. Predicting one’s own or others’ behaviour is to remove it from an agential and participatory deliberative framework. The point Roth makes is that in settling a practical deliberative issue by making it a matter of prediction, one undermines practical deliberation. To commit and make a decision is to set a normative expectation, but if one settles this by predicting one’s future behaviour there seems to be no point in committing or making a decision. In this sense, making a prediction is incompatible with making a decision or commitment.

Similarly, a person who has a past reputation of untoward behaviour can resolve and make a commitment to change and become a better person. The available past evidence may lead one to predict that the person will continue with their bad behaviour, but the resolution and commitment establishes a normative relation and expectation which invites others to trust them, that is, believe that they will do better moving forward. Breaking that trust is a breach not of a predictive expectation but of the normative expectation established by their making a commitment to be a better person.

To be fair, evidence can also play a role in making a decision or commitment. For instance, it is usually considered part of one’s due diligence to collect evidence in deciding whether or not one should pursue some important deal or contract with another party. In a way, evidence can still play a role in decision and commitment making. But if we imagine all of our interpersonal transactions are conducted and fully settled in this evidential manner, one might wonder what normative standards we are entitled to hold oneself and others to.

Taking on an exclusively predictive and evidential stance may render the force of interpersonal transactions and commitments moot since the question of whether any practice-based standard is upheld is reasoned through on the basis of empirical expectations instead of normative expectations demanded by the practice. Although one can of course use this evidence before committing to a promise, once the promise is made, the expectation should not be predicated on the evidence collected but on the act of promising along with the duties, obligations, and entitlements that such an act binds an agent to. As such, a commitment made in making a promise has a kind of force, a normative force, which establishes these duties, obligations, and entitlements which cannot be buttressed if one only takes a predictive and evidential stance. One cannot demand or ask an individual to follow through on a commitment or obligation if one's basis for understanding their behaviour is predicated on a prediction of how they will act or tend to act.

Another reason to think that evidential reasoning is independent of, or at least not the most salient feature in, interpersonal reasoning is that evidential reasoning comes from an impersonal standpoint where interpersonal considerations are withheld or suspended. A teleologically-structured action is where we can begin to see a subject come into the picture. But the kind of relation in a teleologically-structured action is between a subject and an object; that is, an agent with goals, desires, and preferences on the subject side and the desired outcome or state of affairs on the object side. Interpersonal reasoning takes a different rational approach to action.

Instead of a mere subject-object relation, interpersonal reasons give us subject-to-subject or second-personal relations that deal with interpersonal attitudes like praise, blame, betrayal, gratitude, etc. and a subject's being able to communicate and/or respond to these attitudes (Darwall, 2006). Second-personal exchanges involve what Stephen Darwall (2006, p. 145) calls an "implicit RSVP," a kind of reasons-responsive uptake from other agents that facilitates the responsive communication of one's commitments and being able to justify them or demand the same from others. Reasons-responsiveness here involves capacities to communicate and mutually address one another through the making of demands, claims, and commitments on one another *qua* co-recognising participants of a participatory practice.

The standards for rational evaluation that lie within the purview of interpersonal reasons is also not dependent on any individual perspective or mental state the agent is in. It is also not based merely on objective success conditions of bringing about a certain outcome or effect. The evaluation is instead interpersonally-constituted, founded on relations between agents created by the interconnected structure of roles with corresponding duties, obligations, and entitlements relevant to the shared activity. There is a standard here then that is independent of any individual perspective, but this standard is not fixed by an evidential relation that links action with goals and outcomes. *The standard is fixed by the interlocking structure of role-based relations between committed and co-recognising participants in a practice.* And these interpersonally-constituted standards give shape to the ways in which participants are able to hold each other accountable.

The distinction I am making here between teleological, means-ends, and outcomes-based reasoning on the one hand and interpersonal reasoning on the other hand is a theme familiar to readers and commentators of P. F. Strawson's essay *Freedom and Resentment*. There Strawson directs our attention to our highly interpersonal, affective, and dynamic shared practices of holding responsible that is manifest in our capacity to engage in reasons-responsive "reactive" exchanges as opposed to objective-attitude-type exchanges where one is engaged in controlling or managing another's behaviour (Strawson, 1962). What Strawson calls the "participant reactive attitudes," like interpersonal reasons, concern how responsible agents recognise and relate with one another while the objective attitude, much like reasoning from a teleological perspective, is mostly concerned with producing some desired behavioural effect or outcome. Much of the view laid out here owes a massive debt to Strawson's influential essay.¹⁶

¹⁶ Strawson (and Darwall) are mostly concerned with the moral domain, but one might be able to generalise these views to extend to other practices with a participatory structure.

6. Interpersonal Reasons and Normative Expectations in the Cooperation View?

One crucial aspect that makes Tomasello's account unique from other cooperation-based views is that he also attempts to accommodate this interpersonal rational dimension in his story. Tomasello for instance takes up Darwall's notion of second-personal address as an important consideration in establishing normative relations between agents. Nevertheless, in backgrounding his story of the origins of this second-personal relation in the interactive context of collaborative foraging, he is relying on an activity that essentially involves a teleologically-directed desire-state, albeit a more complicated one in that it requires a meshing and sharing of cooperative partners' plans and goals. Still, the activity is strongly teleologically-oriented and so is also largely motivated and explained by instrumental adaptive incentives and as such is still informed by a logic of hypothetical reason.

For Tomasello and others, this may be enough to get normative guidance off the ground. But this account is hampered by this heteronomous rational explanatory framing. The account applies the same instrumental rationality in a more cooperative or collaborative format — it maintains the same instrumental motivational/functional structure but elevated from an individual to the collective (i.e., joint/collective action towards a shared goal). I suggest that it is precisely this underlying rational framework for understanding the action and its interactive context – not merely the surface interactive demands of collaboration – that needs to be given attention.

Tomasello's normative reading of the cooperative scenario thus seems to add nothing more than an added rhetorical gloss on what is at essence an instrumentally rational cooperative activity responding to adaptive problems. One can say that what Tomasello has given us is an elaborate "just-so" story that baits us with a carefully constructed narrative of the cooperative scenario and how this can be facilitated by normative considerations. Then he turns on an evolutionary explanatory switch and argues that this cooperative scenario is the site where adaptations for norm-governed action came to be selected for because it is what the situation calls for. Take this passage for instance:

For us to harvest those apples together cooperatively, and to maintain our cooperative relationship over time, we must each play our mutually known roles up to standard, while at the same time respecting one another by living up to our commitments, by asking permission to break our commitment, and by sharing the spoils fairly. (Tomasello, 2020)

Notice how he sets up the situation starting with a teleological rational framework of cooperative harvesting and then quickly switches to describing the situation in more normative terms involving features of interpersonal, second-personal reasoning. Tomasello would of course assert that the normative description is warranted given the adaptive advantages of adopting a normative mode of relational engagement. I will not deny that a normative interpersonal rationality can have adaptive advantages in certain contexts including the context of collaborative foraging. But to say that that is the context from which normative action emerged is another story.

I think what is ultimately going on in this narrative is that the seamless move from the instrumental rational demands of cooperation to a normative interpersonal rational framing of the cooperative scenario is made possible because a normative participatory framework can also be transposed to a functional, teleologically-framed activity. That is, the irreducibly normative demands of interpersonal reasoning, though primarily not concerned with producing a desired outcome, can also be *good for* cooperation and producing the instrumental benefits of cooperation (see for instance Van Long, 2020). But as the passage above suggests, if the supposed origin of the normative demand is structured in this instrumental, teleological manner, it still remains mysterious how and why a completely different rational structure of interpersonal reasons comes out of these instrumental considerations.

The main plot hole in Tomasello's story is that there is no real motivation or plot device that licenses interpersonal rational constraints to come into the picture save for their supposed role in facilitating cooperation and furthering the shared goals of the group. But if the purported normative structure only comes about as a result of fulfilling a function to promote cooperative ends, then this structure seems to be nothing but an instrumental placeholder for what is essentially a teleologically-structured activity. As such, whatever "normative force" can be read off such a structure can only at best be

understood teleologically and can confidently answer the teleological “Why?” while leaving the normative “Why?” open.

There is thus a glaring normative gap that remains unexplained in Tomasello’s account. In his comments on Tomasello’s account, Darwall notes:

[T]here is a moral presumption of equal treatment that is presupposed in the phenomenon of cooperation itself... But why suppose that this is generally true *de facto*? The relevant equivalence is irreducibly normative and moral, not empirical. (Darwall, 2020)

What Darwall seems to be suggesting here is that Tomasello’s origin story has a gap that was filled in by making an unmotivated assumption about cooperative activity: that cooperation presupposes a requirement to recognise other agents in the group as equal, willing, and autonomous partners. This seems to put the cart before the horse and ends up sounding rather circular – that is, normative notions are conveniently introduced in the explanation in an *ad hoc* or contrived manner to support the overall claim about its origins. For Darwall,

[V]oluntarily agreeing to something can obligate one only if a would-be partner’s forcing you to do as they wish without your agreement would be wrong and would wrong you. This background moral fact is presupposed. The wrongness of forced “cooperation” cannot completely derive from the demands of any *de facto* group, obviously not from a not-yet-constituted group, and not from any more encompassing *de facto* group, either. (Darwall, 2020)

As mentioned in the previous chapter (recall the passage from Hieronymi), there are available non-normative alternative readings of the cooperative scenario that can be just as adaptive as the moral one (see also Pettit, 2018). The underlying structure motivating the joint activity could be based on strategic or prudential considerations and need not have a moral-normative basis.

Strict command or dominance hierarchies can also be effective in facilitating the goal of cooperative success. But the cooperation here would be grounded on prudential or

self-preservation considerations. Dominance hierarchy-based social structures also have their adaptive advantages. Their presence in many social species is a clear indication of their adaptive value. To add an extra layer of normative considerations in these cases are superfluous and get in the way of the ultimate goal of cooperation. As mentioned previously, the adaptive thing to do in a cooperative situation is not necessarily the normative thing to do.

Even if we presuppose that moral-normative considerations are indeed among the available options for how early humans structured their collaborative activity, and presupposing further that these normative considerations may be more reliably adaptive, the fact that they are an available consideration for the early humans is *the* plot hole that needs to be addressed. The cooperative context, with its essentially teleological structure, would be a questionable starting point here. The moral-normative considerations that are thus introduced into this adaptive cooperative scenario work like a *deus ex machina*. It remains unexplained how this crucial ingredient in the story emerged into the picture. That is, it remains mysterious how it is that early humans came to recognise members of their group as equals.

As an account of the origin and emergence of norm-governed action, Tomasello's story remains unconvincing. Telling the story of the emergence of norms that starts with a functional story where the normative "Why?" remains unanswered seem to be missing a number of steps. A fully functional-teleological story can at most offer a functional-teleological story no matter how one tries to dress it up in normative language. The problem here, as with many supposed accounts of normative action, is that one can "read-in" a normative interpretation of the action by identifying a presumably favourable norm that the action accords with.

The main takeaway here is that interpersonal reasons and normative expectations are to be understood as firmly rooted within an activity with a participatory structure and as such cannot be sourced from another kind of activity, particularly one with a teleological rational framing. One seeming defect that may turn out to be an advantage of having a participatory structure is that the activity or practice is not compromised or does not become unintelligible if it turns out that the participants engaging in it do not

have clear (i.e., indeterminate or ambiguous) motives or that their individual motivations and goals do not converge at all.

7. On Having a “How?” Without a “Why?” and Learning to Be a Participant

We can push this last point about indeterminacy and ambiguity of motives and argue that most action and thought that is framed and scaffolded by shared normative practices largely and perhaps actually do not involve nor need to have clear and determinate motives to back up these actions. Against a pervasive assumption in much of philosophical thinking about action, Avner Baz (2020) argues that a phenomenological observation of our active engagement with the world shows how most of our actions and thoughts are not always motivationally clear nor determinable; that is, our motives are often ambiguous or indeterminate. We often just “find ourselves” engaging in some action before coming to some determinate motive, if at all (Baz, 2020).

Of course, when asked about why we pursued a certain course of action, we often explain it in terms of some personal motive. In the background here is the pull of the teleological mode of thinking about action. It could be true that there might be some underlying motivation explaining the action that the agent may not be consciously aware of. But it is also possible that this kind of action need not have even an underlying motivation of which we are unaware.

In any case, the pull of the teleological mode of thinking about action may push us to engage in some form of post hoc rationalisation where we may look back and construct some coherent narrative to make sense of our actions and decisions. Alternatively, we may identify a motive or have some plan but then lose sight of it or change it while one is in the middle of engaging in the shared practice. In other words, there need not be any unity or clarity of purpose nor a consistent narrative for one to engage in a shared practice. One can go on with the activity in the same way and, more importantly, will continue to be assessed in the same way whatever one’s motivational state is. Indeterminacy or ambiguity or inconsistency of purpose over time does not compromise one’s engagement in a normative practice.

This might be one way of making sense of Wittgenstein's remark when he says that in following a rule (or engaging in a shared practice), one does not engage in explicit or premeditated choice or decision-making (Wittgenstein, 2009, §219). One would instead tend to "follow the rule blindly" (Wittgenstein, 2009, §219) especially after one has learned "how to go on" and proceed as a participant of a practice.¹⁷

There is of course the sense of proximate goal-oriented decision-making one makes that is intrinsic and essential to taking part in a practice. This can sufficiently answer normative "Why?" questions on the right course of action to take. But ultimate reasons and motivations, those that are external to the practice and whose role is to provide a definitive teleological "Why?", may not be decided on in advance.¹⁸ Learning a practice does not necessarily provide the practitioner with ultimate reasons *why* a certain course of action is taken (which is again different from proximate and practice-internal goals and reasons). Instead of knowing *why*, the learning of a practice and subsequent participation in it seems to be more about learning *how* to take a course of action and in what circumstances it is permitted or appropriate.

Anton Ford argues that a focus on "How?" over "Why?" questions has significant implications for thinking about agency. Asking "How?" is mostly relevant for the participant or agent committed to a practice whereas "Why?" is more a question an external observer of a practice would pose (Ford, 2017). Moreover, I also add that asking "How?" in a participatory activity/practice is independent and may not necessarily offer an answer to the "Why?" question.

A teleologically-structured activity by contrast requires a correlational interdependence between "How?" and "Why?" questions. In a teleologically-structured activity, asking *how* an action is pursued is made intelligible by asking *why* it is pursued. Conversely, asking *why* (by identifying some motive, goal, or outcome) can offer guidance into useful and relevant answers and constraints on *how* that goal or outcome can be

¹⁷ This should however not preclude the possibility of disagreement and contestation.

¹⁸ This account of learning how to go on in a practice seems to be consistent with intrinsic motivation (i.e., pursuing an activity for its own sake). The fact that intrinsic or self-motivated action seems circular, that is, it does not provide a satisfying answer to the teleological "Why?", does not conflict with notions of motivational ambiguity and indeterminacy.

achieved. This correlational interdependence between “How?” and “Why?” is critical for understanding and explaining adaptive traits. How a predator hunts is explained and made intelligible by the ultimate adaptive benefits of the activity. And the adaptive benefits (i.e., the “Why”) should also inform how the activity is performed by the predator if it is to be considered an adaptation.

This correlational interdependence between “How?” and “Why?” questions is not present in activities with a participatory structure. The learning of skills or abilities can obtain even when there is no external goal or function towards which these skills are framed. In a participatory activity/practice, the learning of the relevant skills and abilities, that is, learning *how* to engage in the practice, is itself constitutive of becoming a participating agent of the practice. By learning how to engage in the practice as a participant, one’s agency and way of acting is shaped by the relevant normative considerations and rational constraints on action applicable to the practice irrespective of any external goal or motive an agent may have. In other words, an answer to the “How?” question does not concern inquiring about an agent’s motives and goals. The “How?” question is primarily concerned with questions of learning and getting oneself involved as a participant of the practice.

This is not to say that asking teleological “Why?” questions is irrelevant in a participatory activity. There might be some motives and goals that can be incompatible with the participatory activity and knowing about them may also help us understand how it is an agent acts a certain way. It could also be the case that asking teleological “Why?” questions is itself part of the normative considerations of the shared practice. However, asking “Why?” questions in these cases become internal to the activity and part of the practice such that it will not give one any external teleological justification for the practice. Thus, one should not expect this type of inquiry to have a satisfying or exhaustive teleological/functional account that justifies engaging in that activity.

For shared participatory activities, although one can provide an instrumental answer to the “Why?” question perhaps by thinking of what the activity can be *good for*, its intelligibility in terms of providing the participant with the right know-how (that also involves interpersonal reasons for action) would be the only justification one would need when one engages with other participants in the practice. Justifications that

resort to instrumental reasons such as saying that one makes promises *only* because that is the best way they can profit from others would and should be greeted with suspicion and some pushback. Making commitments and making sure that people follow through on them is a different mode of understanding action from treating those same commitments merely as instrumental means for pursuing one's external ends or as causal elements for predicting or ensuring a certain outcome or state of affairs.

Of course, one can also make causal instrumental inferences from interpersonal commitments, but this seems to come as a secondary mode of thinking about these commitments. Using instrumental reason as the primary way of treating interpersonal commitments seems to not have the right kind of "know-how" a committed participant would have. Instead, this instrumental reading of interpersonal commitments can make most sense from a third-personal observational perspective.

Interpersonal reasons thus cannot simply be reduced or embedded into functional explanations and instrumental reasons as they represent a different mode of understanding and reasoning about action. They offer a distinctively participatory mode and a "How?"-oriented understanding of action that has an intrinsic intelligibility in relation to a shared practice instead of a more detached and third-personal explanatory "Why?" intelligibility that one may also take in relation to the shared practice. Engaging in interpersonal reasons assumes at the background that an agent is a committed participant in the practice and not some external, non-committed observer. As no satisfying functional or teleological account can be offered without compromising the normative rationality and know-how involved in being a participant of that shared practice, one would expect further questions of justification to end up circling back to the practice to which one might be tempted to just say, as Wittgenstein would, "this is simply what I do."

To illustrate this further, we can explore where a non-committed, ultimate-function-seeking inquiry would end up when it comes up against a committed participant's perspective. Take an everyday example of finding oneself in a line of people waiting their turn to grab food at a lunch table.

The function-seeking inquirer might ask: “Why stand in line? Can’t I just go past the line of people and grab my lunch?” The committed participant’s likely response would be: “Jumping the line is inconsiderate, there are other people, not just you, who want to grab lunch.” The inquirer might retort: “Why should I be considerate of other people?” Possible response from the committed participant: “Being considerate is about waiting your turn and respecting the people who are in line.” The inquirer can insist: “Why should I respect these people?” The participant response: “Respecting other people is what a good, moral person does.”¹⁹ The inquirer, again seeking a satisfying *what is the action ultimately for (or good for)* answer, can of course continue: “Why should I be a good, moral person?” At that point the inquirer would likely have already lost the committed participant. There is no point to further engaging with the function-seeking inquirer because, if the participatory structure is correct, they have revealed themselves to be a non-committed participant, or perhaps even a non-participant, of the moral community by questioning a bedrock commitment and recognition of others as moral agents.

Of course, asking “why be moral?” or the more directly functional question “what is morality for?” invites deep philosophical reflection and debate (Korsgaard, 1996). This is not the right space to address this question but if we just suppose for a moment that moral action admits of a participatory structure, the “Why?” and “What is it for?” questions as they relate to the practice of morality may not give us an exhaustive, definitive answer without also compromising or setting aside what makes moral action intelligible or rationally meaningful to its participants. One can of course rationalise moral action as being good for all sorts of favourable outcomes, including the achievement of cooperative goals, but again this shifts the rational framework from a participant’s interpersonal perspective to a third-personal external rational standpoint.²⁰

¹⁹ Some moral philosophers might find the moral framing of this situation questionable as this is more a question of etiquette and manners than of morals. However, Karen Stohr (2012) makes a case that etiquette and manners have a central place and orienting role in our everyday moral engagements and commitments.

²⁰ One might suggest a compromise here by invoking a hybrid approach. But the same fundamental questions remain. If one subsumes instrumental reasons within a participatory interpersonal framework, one is simply imposing an interpersonal rational framework into a teleological psychology in which case interpersonal reasons take precedence and re-structures teleological psychology. If one subsumes the participatory framework within an instrumental functional framework, then it seems that the interpersonal reasons would lose their rational force and the practice would be participatory only on a

There might be qualms about how this exchange went about. The committed participant may notice the demand of the inquirer for a satisfying functional-instrumental answer. They may offer this teleologically-motivated response: “If you want the food, lining up is the best way for you and for everyone here to grab food because it will prevent the table from being overcrowded making the scene chaotic and harder for everyone to get the food they want.” In other words, one can easily give an account of what lining up is *for* or *good for* by pointing to the advantages it offers to the inquirer in relation to fulfilling their goal. It is in their personal (as well as collective) interest to wait in line in order to obtain food without any overcrowding and commotion. One might find this to be a legitimate answer that can settle the “*what it is for*” question thus satisfying the ultimate-function-seeking inquirer’s demands.

We are faced with two differing rational perspectives then. The question here would be whether the act of waiting in line should best be understood as having a teleological or a participatory rational structure. I do not think we need to settle this particular question here. The important point is to recognise that there are at work two fundamentally different rational frameworks and modes for understanding and motivating action here.²¹

Being two different rational frameworks is still consistent with the two being compatible and non-opposed. For instance, a shared activity can have a primarily participatory structure but it can also be good for producing certain favourable outcomes. It can, in other words, have a secondary function (or a number of them) without compromising its participatory structure. So it is possible to think that waiting in line primarily has a participatory structure, but it can also have multiple secondary functions (what it is good for) such as being an efficient and orderly means of supplying everyone with food.²²

very thin, surface level where other participants will not be recognised as committed, responsible agents but as mere objects to predict or control.

²¹ It is also possible to incorporate this function-seeking question as a legitimate question within a participatory practice. But for this kind of question to have normative force, it must be understood as an internal, not an external, question and as such is to be taken to be one normative consideration amongst many others that participants need to reckon with in the practice.

²² An important point here is that the secondary function does not override the action’s primarily participatory structure because in the event that it does, it can potentially lose its normative force. If so,

It is more difficult to assess whether an activity can have both a participatory structure and a primary function/s. This is where questions of teleological indeterminacy and the possible compromising of the activity's participatory rational structure may arise. It seems more intuitive to think that a participatory activity can have multiple possible uses, i.e., secondary functions, rather than give it a primary function (what it is for). Secondary functions are concerned with just the external outcomes and effects of an activity and so does not have to encroach on how the activity is conducted. Imposing a primary function to a participatory activity on the other hand risks functional or instrumental encroachment on how the activity is conducted. How one proceeds with the activity will become a question of how it fulfils this external goal or function thus leading to a deflation of its normative intelligibility in the process. Having secondary functions does not compromise the normative force and intelligibility of a participatory activity in the same way (though it may also potentially weaken it).

One may also entertain the possibility of an activity that starts out as having a primary or secondary functional structure (or even having no function at all) but is subsumed or embedded within a participatory framework. But again, what we have here is a teleologically-oriented psychology but infused with a participatory rational structure which puts interpersonally-motivated constraints on goal-oriented behaviour. It is possible that human collaborative foraging underwent this phase of being subsumed within a participatory normative framework. If this is the case, then Tomasello and others got their explanatory accounts backwards. It is not that goal-oriented cooperation facilitated the need to institute norms. It may be the case that some other shared activity with an inherent or constitutive participatory structure was already in place and cooperative activity was eventually subsumed within that participatory framework.²³

it will then be reduced to a kind of brute crowd control rather than a practice of holding people who jump the line accountable.

²³ It may turn out that the functional indeterminacy and ambiguity of a participatory structure can be a virtue rather than a defect. Being functionally indeterminate and ambiguous makes it ripe and open for co-optation and application into other activities and domains of action. Having a purely functional structure may not necessarily have this co-optability save perhaps if that action or activity or feature of the agent is complex enough to have latent potential for multiple uses.

A challenge for exploring this option is that this simply pushes the question of the origins of normativity back. What is this shared activity with an inherent or constitutive participatory structure that was already in place before cooperation was subsumed within its participatory framework? The task now seems to be one of identifying shared activities that have this participatory structure. One important element for this kind of activity to get off the ground it seems is that some kind of communicative capacity needs to be in place. I explore this communicative capacity in the next section.

8. Rule-Following Through Communicative Co-regulation

I mentioned at the beginning of this chapter that the participatory structure that I'm elaborating here is silent on the underlying cognitive architecture and enabling mechanisms that can instantiate this structure and that an important question is whether language is a necessary condition for this structure to emerge. Many philosophers seem to assume that full-blown linguistic communication is needed for normative guidance to get off the ground because the kind of structure that is implicated in making commitments and in making claims and demands and reasons-responsive justifications about one's thoughts and actions seems to require a robust discursive ability (Brandom, 2010; Hacker, 2007; Darwall, 2006). Discursivity here is often understood to require language since it is unclear how the capacity of agents to make claims and demands and be responsive to those claims and demands can obtain without any linguistic ability. However, this identification or conflation of discursive communication with linguistic capacity is an intellectualist conceit many philosophers tend to hold that I want to deflate. The notion of communicative co-regulation, as I hope to show, should give me the resources for thinking of discursiveness in non-linguistic terms.

So, what is co-regulation? Here I borrow from the psychologist Alan Fogel (1993):

Co-regulation is a social process by which individuals *dynamically alter their actions with respect to the ongoing and anticipated actions of their partners...* [A]ctions are emergent from the *constraints of the body (its shape, size and possibilities for movement), by expectations, by actions of the partner, and by*

the cultural setting. [...] As a consequence of co-regulated interaction, a consensual social frame is created and elaborated over time. Co-regulated frames are coherent and repeatable patterns in a communication system. (Fogel, 1993, p. 12, emphasis mine)

The way co-regulation is defined here does not yet implicate the kind of discursive and mutually reciprocal exchange we are looking for since this complex communicative dynamic can still apply to teleologically-structured cooperative activities just as well as participatory activities. Notice for instance that one can interpret some of the words used in the definition such as anticipation and expectation either from a predictive/objective stance or from an interpersonal/participant stance; that is, either as an empirical expectation or a normative expectation. Instrumental social encounters can also be co-regulated social processes that do not involve any recognition of co-participants.

However, this complex communicative dynamic can also readily accommodate the discursive exchange found in a shared activity with a participatory structure. For one, unlike Tomasello's account of cooperation which needs to be anchored on shared goals, there is no mention of external goals or functions or motivations that structure a co-regulated activity. Importantly, the "consensual social frame" mentioned in the definition can capture the sense in which these shared activities are structured by the co-recognising interpersonal and interactive dynamics between participants. More than just a way of making sense of goal-oriented actions, these interactive dynamics can also ground a mode of understanding action based on what each participant is able to commit or assent to. This forms the basis for shaping and making sense of one's own and others' actions. There is anticipation and expectation of certain forms of action, but these are not anchored on prediction or causal explanation. The anticipations and expectations are instead based on normative expectations created by the interactive dynamics that begin with the participants' commitment to a shared activity and recognition of participant partners.

For instance, in making a promise, certain normative expectations between co-recognising promisors and promisees need to be established. The "consensual social frame" created by such role-based interactive dynamics produces a normative order

which structures the assessable actions and second-personal interactions between the participants.

It is worth noticing again the contrast between partners engaging in co-regulated participatory action as opposed to a joint cooperative action. Co-regulated participatory actions are not necessarily framed in terms of attaining some shared goal. The actions are thus not necessarily understood from a logic of hypothetical rationality (although they can be framed in this way as well). Instead of referring to a goal or outcome, the constraints on action are understood on the basis of the interactive dynamics between the participants. Because the participants are essentially engaged in a shared activity, what performances, moves, and intentions are relevant is in important ways shaped and constituted by the co-regulated dynamics established between them regardless of any ultimate goal, outcome, or consequence the activity may have. The co-regulated dynamics structures action here instead of an external goal or outcome.

Co-regulation also need not entail full agreement on norms of appropriate action. At minimum, it requires some commitment to engage and be responsive to one's recognised partner/s. This gives room for disagreement and negotiation about what the right course of action should be. It may also give room for principled non-cooperation or non-conformity which can be counted as one form of co-regulating and negotiating with others on how the shared activity ought to be conducted. There is still a commitment here to engage and co-regulate action with others even when there is no agreement or meshing of plans and intentions between participants. Nevertheless, the lack of a requirement for full agreement can still accommodate the fact that many participatory practices do reach some form of "consensual social frame" over time.

Moreover, rather than presupposing and privileging language, it is the co-regulated contextual framing of the shared activity that serves as the communicative background for informing and shaping the intentional meaning expressed in action (Pleyer, 2017). The sustained mutual reciprocal interaction in a co-regulated encounter on its own should be able to generate a kind of bottom-up meaning creation between participants. These interactions can create looping effects that facilitate, shape, and reinforce expectations and attributions of agent intentions which can scaffold more robust forms

of social understanding and shared meaning (Andrews, 2015; Butterfill, 2013). Aside from explicit signalling and gestures, the very actions themselves can carry expressive and communicative meaning generated by the sustained co-regulated interaction.

The fact that a normative agent is shaped in this co-regulated, participatory way tells us how actions understood within this space have a public-facing expressive character. In this sense, co-regulated communication can also be understood as a kind of embodied or sensorimotor communication, a non-conventionalised mode of communication that is embedded within pragmatic action-oriented contexts and encounters and also makes flexible use of shared bodily signals or vocalisations as a means of communication between agents (Pezzulo, et al., 2019).

The consensual social frame can also generate a kind of top-down meaning where participants go through a process of co-regulated learning of an existing practice from more experienced participants. Through the scaffolding provided by the experienced participant, the learner should eventually acquire the relevant skills which they can use and apply on their own terms. By then, they should be able to exhibit some form of autonomy and take some accountability for those actions performed autonomously. This accountability and answerability of their actions is continuously negotiated and co-regulated with other competent participants.

This is not a completely top-down process though since the co-regulation of learned skills and interpersonal rational engagements can also work like a feedback loop. One may start out by obtaining top-down instruction from competent participants and also from one's immersion in the community. But once one becomes a full-fledged participant of the co-regulated practice, one will be able to make contributions of one's own to the practice. This cycle of interactive and co-regulated learning and use can account for the structure and design features of complex communicative systems including (but not limited to) linguistic systems (Smith, 2022).

These considerations motivate a non-intellectualistic understanding of rule-following (Wittgenstein, 2009; Daston, 2022), which can apply even to sophisticated and linguistically-mediated normative practices. Most rule-governed human practices do not have clearly defined boundaries (except perhaps for games and sports, but this

can also be contested; see Kukla, 2021) or even explicit propositional rules or instructions for guiding action (Huemer, 2021). A Wittgensteinian understanding of what following a rule amounts to is not anchored on a propositional articulation of a rule. Rather, it is best to think of rule-following as embedded in a system of co-regulated interactions between committed and co-recognising participants of the shared practice. This foundation of rule-following in co-regulated interactions rather than in propositions may seem counterintuitive for well-established human institutions, say in legal practices where rules are essentially codified in complex and arcane legal principles and strictures. But we should also not forget that the practice of law is also a highly social, if highly hierarchical, one where members also engage in co-regulated interactions which I suggest is more critical in establishing a rule than any line codified in a legal text. The social practice of legal interpretation and application is the site where determinations of rule-following are made.

The lack of clear boundaries in norm-governed practices is also what seems to be exploited in generating the rule-following paradox (where any rule can be said to accommodate and be consistent with any number of possible applications). Of course, it cannot be the case that anything goes in following a rule as the paradox would suggest. But this should open us to the thought that rules are often fluid and open to improvisation — as Wittgenstein (2009) remarks, “we make up the rules as we go along” (see also Bertinetto & Bertram, 2020). Although often from a synchronic perspective of current applications of a rule, many rules may indeed seem fixed and inflexible, taking a more diachronic perspective on rule-governed practices can make this flexibility and openness more transparent. The fluid and open boundaries can also be countenanced in the example of principled non-conformists and non-cooperators as they would often aim to push the boundaries of a practice beyond its current existing state.

Language use is a paradigm example of a constantly flexible and ever-evolving practice through continuous co-regulated interaction. Here we can have robust linguistic rule-following even without explicit instructions and regulating authorities. We can rely on the co-regulation between co-recognising members of the linguistic community to sufficiently generate and sustain robust communicative meaning. This

community of language users together co-regulate each other's linguistic moves and is sustained over time through a cycle of interactive learning and use.²⁴

One should also note that this co-regulation of appropriate moves in a language occurs in a largely implicit, intuitive manner and can be accounted for not in terms of the users' having propositional knowledge of grammatical rules but in terms of a practical know-how or ability to use linguistic expressions in their proper context. The norms of language are better captured by how they are embedded in and embodied by the community of co-regulating users rather than by any book of formal grammar (the latter in any case would seem to just track trends in the former). The meaning-generating feedback loops carried out by the reciprocal interaction between participants is also present in linguistic communication as in more basic forms of communicative co-regulation.

In the next chapter I unpack the sorts of explanatory resources and strategies that can be deployed to provide a plausible naturalistic account of the participatory structure that I have elaborated on in detail in this chapter. The key here is to move beyond the usual adaptationist modes of explanation and find that evolutionary space where behaviour can be shaped by other factors and considerations instead of being fully determined by ultimate selective factors.

²⁴ I want to note that I have mostly discussed moral practices (and also linguistic and legal practices to a certain extent) in this chapter. But my general structural claims should extend to all other norm-governed domains and practices. Other philosophers have also worked on participation and social practice-based accounts in various norm-governed domains that I have not discussed here. Matthew Chrisman (2022) has written on epistemic normativity in epistemic practices. Joseph Rouse (2002; 2018) similarly has worked on scientific practices. Also, Catarina Dutilh Novaes (2020) has unpacked reasoning skills and mathematical proofs as rooted and embedded in social-dialogical practices. In a later chapter, I will also cash out a notion of games as a social practice lifted from the work of Michael Ridge (2019a; 2021a).

Part 2:

An Alternative Origin Story: The Social Play Hypothesis

Chapter 4

The (Evo-Devo) Sources of Normativity: Motivating the Social Play Hypothesis (SPH)

1. Introduction

The participatory structure that I have sketched in the previous chapter has so far been articulated in broad, general terms. I have mostly used as examples typical cases of human practices whose normative credentials should be uncontentious, though the way I unpack them and the structural features and indicators that I point to may suggest a different way of explaining and understanding what constitutes a norm-governed action or practice. I have also used the participatory structure to contrast my account with the teleological structure that is apparent in Tomasello's cooperation-based account of the origins of normative agency. What I have not yet offered and what I think is owed to the reader at this point is an alternative account of the origins of normative agency that can readily accommodate the participatory structure I have roughly outlined.

In this chapter, I plan to provide an initial approximation of my own alternative proposal. My aim here is relatively modest. I do not claim to provide a full explanatory picture of the origins of normative agency. Instead, my aim is to lay the theoretical grounds and explanatory resources for exploring this alternative proposal. I want to motivate reasons for why this is worth exploring both philosophically and empirically.

The main hypothesis that I will be pursuing is the key role of play behaviour, particularly social play, in the advent of normative agency, from both an evolutionary and developmental explanatory perspective. I shall label this the Social Play Hypothesis (henceforth SPH). The main claim of the SPH is that the initial appearance of norm-governed behaviour can be traced back to the evolutionary history of animals embedded in ecological and social settings that are conducive to the expression of

social play behaviour. I make this connection between normative agency and social play by suggesting that certain crucial features and behavioural markers for social play map on quite well with the structure of co-regulated activities and participatory practices that I have laid out in the previous chapter.

The account I provide also recommends not only a different evolutionary story from other extant accounts of the origins of normativity, but one that also suggests a different methodological framework from the usual explanatory resources most evolutionary stories tend to rely on. That is, unlike the use of adaptationist explanatory resources and strategies relied on in fields and research programmes like evolutionary psychology and behavioural ecology, I will motivate and give reasons for the use of alternative non-adaptationist explanations. Evolutionary history is not merely the story of the survival and reproductive success of species. Evolution is to be broadly understood here as “descent with modification” and does not entail natural selection as the only driver of evolutionary change (Dobzhansky, 1973; Griffiths, 2009). So not all evolutionary explanations need to be tied to an adaptationist explanatory framework, even if, admittedly, it is one of the more powerful and productive explanatory frameworks for explaining a whole plethora of biological phenomena.

The SPH is thus to be understood first and foremost as a non-adaptationist hypothesis about the evolutionary origins of normative agency. But I will still offer an account of where selection pressures can still emerge within the SPH.

Moreover, although my focus is social play, my initial discussion will target play behaviour more generally and various approaches and attempts to explain it. My main non-adaptationist claim about play behaviour in general is that its expression lies within a space of relaxed selection (that is, a space where the behaviour is reliably buffered from selection pressures) and that its structural autonomy and intelligibility can only be maintained within that kind of space. This means that play is to be treated as a behavioural by-product of extant traits and capacities instead of treating it as having or even eventually acquiring an adaptive function of its own.

This leads me to another important feature of the SPH: the fundamental role of development in explaining the roots of norm-governed action. Often neglected and

even dismissed in previous evolutionary theorising, developmental processes and constraints are now being recognised as having an important role to play in evolutionary change. The rise of research programmes like Developmental Systems Theory (Griffiths & Tabery, 2013) attests to the growing recognition of the role of development in evolution. The SPH will feature several developmental explanatory resources inspired from these research programmes.

The discussion of the SPH will also not feature a single species or clade (i.e., a set of extant and extinct species with lineages traceable to a common ancestor). The discussion will instead focus on social play – and play behaviour more generally – construed as a biological behavioural character. Thus, the discussion would be somewhat phylogenetically promiscuous. The explanatory target of a biological character need not necessarily focus on particular species, but on features of the trait or capacity in question that should apply to any species that purport to possess that character (more on this in the next chapter). Certain constraints related to criteria for identifying play – and also the species where play has been recorded – necessarily limits the discussion to species within the animal kingdom.

With social play in particular, the existing literature almost exclusively focuses on mammals.¹ One perhaps contentious upshot of the SPH is that, insofar as other animals have been shown to exhibit complex social play behaviour, humans are not the only species that can engage in rule-following.

The discussion of the SPH will have its proper start in chapter 5. For the rest of this chapter, I will go over some initial conceptual clarifications as well as give a few remarks about the background philosophical motivations supporting the SPH. I also point to related strands of research in several disciplines that go in a similar direction emphasising the explanatory importance of social play.

¹ It is still an open question whether non-mammal animal lineages can also exhibit social play. It is possible that octopuses and other more social cephalopods like some species of cuttlefish or squid can engage in social play (Kuba et al., 2014).

2. An Initial Conceptual Distinction: Playing (Full-Stop) and Playing a Game

I begin by making a conceptual distinction between what Michael Ridge (2022) calls “playing full-stop” (i.e., playfulness or being playful) and “playing a game” (see also Suits, 1977). One can be playful (or play full-stop) without playing a game (i.e., one can be playful in one’s job). One can also play a game without being playful (i.e., treating “playing” a game as kind of like a job, that is, solely for the purpose of earning a living without deriving any pleasure from pursuing it).²

My interest in social play is mainly to treat it as an activity akin to playing a game. I will argue that many instances of social play even in non-human animals can count as games (cf. Mielke & Carvalho, 2022). Social play as such should be understood on my account as tied more to the notion of games and “playing a game” rather than to playfulness or “playing full-stop.” I talk more about how to understand games and why social play should be counted as a game in chapter 7 where I discuss what I take to be the structure of social play in detail. I extend this discussion in chapter 8 where I focus on uniquely human instances of social play and its distinctive contribution to human development.

Still, one of the main explanatory moves I am making with the SPH is to account for the expression of play behaviour, broadly construed. Here the more relevant concept would be playfulness or playing full-stop. Chapter 5 discusses evolutionary explanations of the expression of play(ful) behaviour (understood here as playing full-stop). Chapter 6 discusses the proximate factors that structure and regulate expressions of play behaviour. The discussion in these chapters concern both solitary and social play and largely concerns playing full-stop.

My shift from almost exclusive talk of playing full-stop in chapters 5 and 6 and playing a game in chapters 7 and 8 is not to be taken as a shift in focus. I suggest that there is a continuity from playing full-stop to playing a game. Even if there is no conceptual entailment between “playing full-stop” and “playing a game,” this is nevertheless

² More detailed clarifications on playing full-stop and playing games will be laid out in succeeding chapters as they become relevant.

consistent with saying that they are very closely related notions. For instance, the earlier example of treating a game merely as a job might strike many of us as an odd way to play a game. This should suggest some connection between playing full-stop and playing a game. Playing a game without being playful seems to be the kind of exception that reinforces the rule.

A possible explanation of the connection is to regard the experience of playfulness, specifically the mood of fun associated with it, as having a central role in regulating any playful activity, including the playing of games.³ So although one can in principle play a game without being playful, this may be considered an atypical and uncharacteristic way of playing a game. In fact, in many instances of gameplaying, part of what is being monitored is the overall mood of the players. If tensions rise and things get too heated, that is usually legitimate cause to break off engagement at least temporarily. Conversely, if the players are too bored and the game unstimulating to all involved, it seems perfectly reasonable for them to terminate the game then and there even if it is far from over. So, even in chapters 7 and 8 where the notion of playing a game is more relevant and salient, some element of playfulness and a playful mood will also be relevant.⁴

But just as a point of reference, when I talk about play behaviour generally (especially in chapters 5 and 6), it more or less refers to the notion of playfulness or “playing full-stop.” It is when I start to discuss “social play” (especially starting in chapter 7) that the notion of a game and “playing a game” becomes more relevant.

3. Philosophical Motivations Behind the SPH

Proceeding with some of the main background motivations for the SPH, I begin by noting some of the philosophical precedents recommending the close connection

³ I will talk more about the mood of fun and its regulating role in chapter 6.

⁴ I suggest that one of the ways in which playfulness and playing a game comes apart is when the game becomes more intelligible in terms of its participatory structure with its own identifiable constitutive moves and rules. The mood of fun in a game/social play becomes less of a factor in how the activity is regulated unlike in episodes of pure playing full-stop.

between our rational and linguistic capacities on the one hand and the notion of play and games on the other. This is by no means an exhaustive audit of philosophical discussions on this topic. Instead, the accounts here represent more of the background philosophical grounding and motivation for the hypothesis being proposed.

One pivotal philosophical figure here is Friedrich Schiller (1967) who, writing in the post-Kantian tradition, advances the idea of a “play drive” in his *On the Aesthetic Education of Man*. The notion of free play already has its roots in Kant, but it is in Schiller where it played a more prominent role. The play drive/impulse according to Schiller serves as an intermediate balancing disposition that bridges our “sensuous impulse” (manifested in our animal nature) and our “form impulse” (manifested in our rational nature).

Ludwig Wittgenstein (2009) is perhaps the most prominent figure who made more than a passing gesture about the philosophical significance of thinking about games. Wittgenstein is of course famous for coining the term “language game” in his *Philosophical Investigations*. Using the notion of a game as a way to understand how language works, he suggests that linguistic utterances are akin to making moves in a game. The notion of a language game is considered a central, arguably “the” central, idea that informs his mature later thought.

Robert Brandom in *Making It Explicit* also famously pursues this Wittgensteinian line of thinking arguing that our transition from sentience to sapience involves acquiring the capacity to engage in a game of giving and asking for reasons, modelled implicitly as a shared practice of deontic scorekeeping. What is going on in these accounts it seems is the use of game or gameplay as a model and framework for productively thinking about the underlying structure of norm-governed (paradigmatically linguistic and discursive) practices (cf. Wanderer, 2008).

Within the phenomenological tradition, Hans-Georg Gadamer (1976) similarly asserts that, much like how games are played, linguistic meaning is not something that can be grounded or determined from the “consciousness of the individual” (Gadamer, 1976). Gadamer emphasises instead the “to-and-fro movement” between the players of a

game. This focus on intersubjectivity through the back-and-forth interplay between individual agents gives it a structure that cannot be reductively explained on the basis of facts that pertain to any individual agent.

All these thinkers seem to converge around the idea of using the notion of games (and play to a certain extent) as a model for understanding and gaining some insight into our nature as rational and language using agents.⁵ I think that this convergence is quite telling and deserves further exploration.

Apart from Schiller, these thinkers have also used the model of gameplaying as a way to think of human understanding not as a reductive mentalistic individual-level phenomenon, but as having a robustly public and intersubjective structure.⁶ I have unpacked this intersubjective structure in the previous chapter as a norm-governed phenomenon with a participatory structure grounded in interpersonal commitments and co-regulated interactions. I would make a conjecture that the reason why the model of games and gameplaying is deployed in many of these philosophical accounts is that the idea of games is a more basic intuitively graspable phenomenon (not to say anything about a conceptual-definitional or theoretical understanding of it). This should give some motivation for taking the SPH seriously. Given how social play is widely observed in many social animals and insofar as it can be understood as a kind of gameplaying with a participatory structure, then one might be tempted to think it may have an important key role in originating our rational, normative nature.

Moreover, I think that this model of games and gameplaying (not to be confused with game-theoretic models) can offer us an alternative explanatory framework to more functional and teleologically-structured explanatory accounts of normative agency. I think that the space for understanding and explaining normativity from a thoroughgoing naturalistic perspective can be enriched by incorporating the philosophical insights from these philosophers that use games as a model.

⁵ As it turns out, the use of games as a model for thinking about a broad range of topics in analytic philosophy at least is a surprisingly common strategy (Ridge, 2021a).

⁶ Schiller is talking more about play as a basic impulse and individual disposition that I think is still relevant but ultimately needs to be complemented by these other more intersubjective accounts.

One aim of the SPH is precisely to attempt to make this connection between the model of gameplaying and normative guidance more explanatorily robust, and in doing so hopefully offer a convincing naturalistic account of the origins of norm-governed action. However, these philosophical accounts on their own may not have the conceptual resources sufficient to give us an adequate explanatory account. Much as these philosophers have had a massive influence in their respective traditions, the notion of games, and gameplaying, by itself (and also perhaps as a model for philosophical thinking) is a curiously underexplored and neglected topic beyond cursory platitudes and surface-level scrutiny (Ridge, 2019b).⁷ So the SPH will also necessarily go beyond these philosophical accounts.

A correlated aim of this project is to extend and develop these philosophical accounts by providing some explanatory legs on which they can stand. This should make these philosophical views more accessible to other more scientific and empirically-oriented disciplines. This might strike some of those familiar with the views above as surprising. Some of these views tend to sit uncomfortably with natural-scientific types of explanations. The post-Kantian tradition for instance is known for highlighting a dichotomy between a causal-empirical realm of natural laws and the realm of freedom where a kind of discursive rationality is operative. This tradition would thus go on to impose a fundamental split between the natural/physical sciences which is concerned with explanation based on causes and natural laws and the human sciences which is concerned with discursive reasoning and normative understanding. Gadamer himself is an excellent representative of this tradition. One of the central themes of *Truth and Method* is Gadamer's suspicion of natural scientific method understood as the archetypal, if not the sole, means towards gaining an understanding of the world. Wittgenstein is also known for his resistance to explanation, preferring instead description as a way of illuminating philosophical problems.⁸

One way to defuse this tension with natural-scientific explanations is to argue that what figures like Gadamer and Wittgenstein are really against are reductionistic and scientistic forms of explanation, that is, those explanations that unnecessarily impose

⁷ A notable exception here would be Bernard Suits (2005).

⁸ See however Moral-Sharrock (2017) for a more nuanced view.

some form of explanatory hierarchy that subsumes higher-level or more complex domains (such as phenomena explained by the social sciences) to lower-level ones. John Dupré (2001) for instance points to the reductionistic tendencies in fields like evolutionary psychology and rational choice theory as exemplars of this hierarchical imperialistic approach applied to human nature. Scientific explanations need not be reductionistic to be explanatory and indeed non-reductive scientific research programmes are available.

Embracing a non-reductive and a more “pluralistic” explanatory approach that can also accommodate (and not merely explain away) insights from humanistic disciplines is not only compatible with a naturalistic point of view, it also embraces more authentically the call for a truly interdisciplinary approach in understanding all sorts of complex emergent phenomena, especially human social phenomena (Dupré, 2010). The Social Play Hypothesis aims to embrace this pluralism by integrating the philosophical perspectives mentioned above with broadly compatible explanatory approaches in evolutionary theory, developmental psychology, and the cognitive and social sciences more generally. For what it is worth, the hypothesis I am offering can also be taken as a vindication and defence of these philosophical accounts by connecting them with the right kind of research programmes, methodological frameworks, and explanatory resources.

4. Complexity Beyond Function: Interdisciplinary Precursors and Research Programmes Related to the SPH

Although the SPH is meant to provide a novel account of the evolutionary and developmental origins of normative agency, I also want to point out that there have been important precursors and related strands of research that likewise serve as inspiration and lend further support for my proposal.

Here I offer a quick, non-exhaustive overview of research in the social, cognitive, and behavioural sciences that explore the theme of play and games and their explanatory connection to various norm-governed phenomena. In particular, the research I refer to emphasises the role of social play as a fundamental phenomenon and framework that

can help explain the emergence of human culture and language.⁹ Given the evolutionary focus of the current proposal, I also hint at some comparative work that ties what are thought to be exclusively human capacities like shared intentionality and morality to non-human animals by virtue of the competencies engendered by social play.

One of the more well-known accounts highlighting social play as an explanatory framework is the work of social historian Johan Huizinga who in his book *Homo Ludens* emphasises the role of social play as a central feature of human nature *qua* cultural creatures. Huizinga's (1938) proposal – subsequently expanded upon by the sociologist Roger Caillois in *Man, Play and Games* – is an anthropological thesis suggesting that human culture and civilisation exhibit a deeply rooted “play-element” which finds formal precursors in primitive forms of social play.

This is supported by more recent research that closely link forms of play as a precursor to and indeed a kind of ritual behaviour in itself as well as its role in social and cultural learning in hunter-gatherer communities and other early human societies (Gray, 2009; 2012; Boyette, 2016a,b; Lewis, 2016; Hamayon, 2016; Renfrew et al., 2017; Knight & Lewis, 2017; Salali et al., 2019; Lew-Levy, 2020; Sterelny, 2022). One way in which play and ritual can be linked is that both take a peculiar stance where the agent is attuned to act not towards a goal (i.e., they are not concerned with what the behaviour is for), but towards forms of performances and action that are functionally opaque (Whitehouse, 2012). Both play and ritual eschew an instrumental stance in favour of a “ritual stance” where a less functional and a more other-oriented and participatory attitude is taken up (Jagiello et al., 2022).¹⁰

Even compared with our closest hominin relatives (such as the Neanderthals), modern humans, with our distinctive life history pattern of prolonged childhood and

⁹ The accounts featured here have a more phylogenetic and historical explanatory orientation. There is a vast amount of research in developmental psychology connecting play with the attainment of various higher mental functions that will not be covered here. I will discuss some of the developmental literature in succeeding chapters as they become relevant. This is especially the case in chapter 8 where I discuss social play's role in human development.

¹⁰ Recall the distinction between teleological and participatory structures argued for in chapter 3 which closely lines up with the instrumental and ritual stances respectively.

adolescence, are said to have benefitted from the developmental impact of play and are able to incorporate playful, game-like behaviour well into adulthood more than any other species (Nowell, 2016). This capacity to engage in complex playful activity and incorporating it into adulthood, and even into other domains of life, is what motivates thinking about that the characteristic uniqueness of the human phenotype compared with the rest of the animal world. This idea will be explored more in chapter 8.

Another well-explored line of scientific investigation is to link playful and game-like activity with the evolutionary emergence of language. The most recent account of this is by cognitive scientists Morten Christiansen and Nick Chater (2022) in their book *The Language Game* where they unpack linguistic structure and practice as having a basis not in a hardwired universal grammar but in something like an improvisational activity akin to a game of charades. From an anthropological perspective, the work of Chris Knight and Jerome Lewis argue that the enaction of a “shared virtual world” through ritualised forms of playful activity is the kind of space where language can be said to emerge:

[S]uch [playful] activities are necessary to conjure up that world of shared imagination in which alone language can thrive. In an evolving hominin species, language will not even begin to evolve unless and until intensified levels of community-wide trust and a shared virtual domain have already been put in place. (Knight & Lewis, 2017)

The structure provided by ritualised playful interaction is here argued to be a critical precursor in the emergence of phonology and syntactical rules and structures required for linguistic capacity (Knight, 2000).

One of the appeals of this framework exploring the emergence of linguistic structure and practice from the lens of playful and game-like activity is that it again directs us towards non-functional, non-instrumental alternatives to erstwhile cognitivist accounts that treat language as having a function of communicating and transmitting cognitive information. The linguist Morris Halle contrasts the functionalist framework with the model of language as gameplay in the following way:

The theme of language as play suggests inquiries into non-cognitive uses of language such as that found in riddles, jingles, or tongue twisters – and beyond this into the poetic and ritual function of language, as well as into parallels between language and ritual, language and music, and language and dance. It also provides an explanation for the obvious fact that so much in language is non-optimal for purposes of communicating cognitive information. Since language is not, in its essence, a means for transmitting such information – though no one denies that we constantly use language for this very purpose – then it is hardly surprising to find in languages much ambiguity and redundancy, as well as other properties that are obviously undesirable in a good communication code. (Halle, 1975)

Of course, it is not just humans that engage in social play. Complex forms of social play can also be found in other social animals. Some recent comparative accounts by Raphaela Heesen and colleagues (2017) have noted this fact and proposed the use of social play as an alternative evolutionary framework for exploring the possibility that the phylogenetic scope of shared intentionality might extend beyond the hominin lineage. Their approach shares my sentiment that Tomasello's account of shared intentionality is overly restrictive and that a closer look at the interactive behavioural markers for social play in different species suggests an alternative story of the evolution of this complex mode of sociality (Heesen et al., 2017; 2020; Genty et al., 2020; Heesen et al., 2021a,b; Bangerter et al., 2022; Heesen et al., 2023). This will be discussed further in chapter 7 where I discuss social play.

Moreover, in the same way that Tomasello argues for the origins of moral behaviour as an extension of his evolutionary account of shared intentionality, a lot of non-human animal play researchers have also asserted the central role of social play in various animal species as a critical evolutionary precursor to human moral behaviour and that perhaps they may even be considered as signs of morality in non-human species (Bekoff & Pierce, 2009; Allen & Bekoff, 2005; Palagi et al., 2016b; Bekoff, 2001a,b; 2004; Behdadi, 2021; Palagi, 2023). The SPH has strong affinities and overlap with these views and can be regarded as a further extension and development of these with an emphasis on highlighting the fundamental normative structure that underlie these behaviours.

The main takeaway here is that social play shows some promise not just as a phenomenon worth studying on its own but as a framework and model for thinking and explaining complex social, behavioural, and cognitive phenomena such as culture, language, and even morality. Despite pretensions to being mysterious and undefinable or taken as trivial or unserious to be worth studying, there is much that the phenomenon of social play can potentially contribute to scientific inquiry. Just because it is often perceived as an anomalous behaviour that seems to resist standard reductive explanation within dominant research paradigms (as will be discussed in the next chapter) is not a reason to dismiss it as an unworthy topic of serious investigation. The interdisciplinary convergence covered here with different academics from different scholarly backgrounds seeing fertile explanatory connections between play and complex forms of behaviour and cognition attests to the potential insights that can be gained from exploring this connection.

One crucial insight that can be gleaned from many (though not all) of the research cited above is that play and gameplay behaviour has the potential to open up alternative lines of inquiry on complex behavioural and cognitive phenomena that go beyond functionalist or instrumentalist explanatory frameworks. The focus on playful, game-like activity and the kind of unique structure and mode of complexity it provides seems to offer a natural alternative perspective and framework for investigating patterns of behavioural and cognitive complexity, especially those with a normative structure. This is precisely the kind of explanatory perspective and framework that the SPH will pursue in the next few chapters. The non-functional or non-instrumental way play behaviour will be accounted for in the next few chapters gives us a baseline framework for going beyond a teleologically-structured analysis of behaviour and towards one that has a recognisably participatory structure.

From an evolutionary perspective, non-functional (i.e., non-adaptive) traits are often taken to be spandrels, that is, observable traits that have no adaptive function and are instead expressed as by-products or further generalisations of some other biological mechanism or process that may themselves be functional (Gould & Lewontin, 1979). The term spandrel was borrowed by Stephen Jay Gould and Richard Lewontin from architecture, which is the curved space between arches found in churches and

basilicas. The curved space is an architectural by-product and is regularly used as a canvas for all sorts of ornaments and other artistic expressions.

Similarly, play may well be a kind of behavioural spandrel; that is, it is likely expressed within a phenotypic space where functional or adaptive considerations on behaviour do not apply. This is one of the central ideas behind the SPH that I will discuss in the next chapter.

Chapter 5

How to Think About the Evolution of Play: Towards a Non-Adaptationist Structuralist Account

1. Introduction

In this chapter I will discuss play as a behavioural category construed in its broadest, most general construal, which includes but is not limited to social play. Using more technical terms, my concern here is with play taken as a behavioural character as opposed to its specific phenotypic expression in various forms in a variety of species. Play is usually treated as a heterogeneous behavioural category which exhibits a lot of variation not only in form but also in frequency of expression across and even within species as well as between sexes and life history stages in any one species.

The specific participatory elements characteristic of norm-governed agency discussed in chapter 3 will not yet feature prominently here. Instead, the discussion in this section will concentrate on general features of play behaviour in whatever form it takes across species. Nevertheless, the discussion here should be taken as the first steps in articulating the theoretical and methodological commitments behind the Social Play Hypothesis (SPH) spelled out in the previous chapter.

The SPH will thus begin with an analysis of play behaviour (construed here as play full-stop). I ultimately argue that it is through the evolutionary conditions for the expression of play when applied in a social context amongst social species where normative behaviour begins to find its footing. My contention is that there are certain conditions for and features of the expression of play behaviour, broadly construed, that matters but is not sufficient for obtaining norm-governed agency.¹ As such, a discussion of the characteristics or markers of play behaviour (including solitary and

¹ I am also not arguing that these conditions and features are necessary in a strict conceptual sense. My concern here is an explanatory account of the origins of normative agency, so the account here is more genetic/historical and genealogical than conceptual or definitional.

social play) as well as a general-purpose explanation of its expression can offer us important clues and considerations for understanding the role of social play specifically in explaining the emergence of norm-governed action. The explanation of the expression of play articulated here constitutes what I take to be critical enabling conditions, including behavioural and psychological features, that may need to obtain for scaffolding norm-governed agency. I will discuss further distinctive features that apply to social play specifically in chapter 7.

I also do not aim to provide a full, exhaustive account of how play behaviour is expressed. My aim is to provide just enough detail that unpacks the core explanatory features that lend support for the SPH. Especially with regards motivating the SPH, the explanatory features that I will present is not a simple summary of the theoretical and empirical findings on the play character. Here I offer my own interpretation of the findings with a different set of theoretical considerations. Specifically, I will rely on non-adaptationist explanatory resources and approaches including the role of body plans, phylogenetic and developmental constraints, niche construction and ecological inheritance, self-domestication, resource explanations, and other non-adaptationist approaches to evolutionary explanation. Many existing accounts of play behaviour have already gone in this explanatory direction or at least hint towards this direction. Nevertheless, most accounts maintain a strongly functional and adaptationist approach to explaining play. I think there is room here for pluralist methodological approaches and research programmes and that there is no reason why adaptationist and non-adaptationist approaches cannot co-exist (Garson, 2022). Indeed, more empirical and theoretical work needs to be done before any clear assessment can be made about which methodological framework best fits and explains play behaviour. My role here is to contribute to the theoretical side of a non-adaptationist methodological framework (Lloyd, 2015).

In the following sections, I will offer some reasons for motivating this non-adaptationist methodological framework on which the SPH is based. I want to stress here that the SPH is not merely a fallback hypothesis, a so-called “null hypothesis,” that is adopted once adaptive hypotheses have been exhausted and correlations with fitness benefits are not found. The SPH is not simply an alternative inference stemming from a lack of correlation with fitness, although it will also be shown later that the evidence does

suggest this noncorrelation. The non-adaptationist account should instead be treated as an independent hypothesis treated on its own right with its own unique set of evolutionary factors and considerations that I think offer a better explanatory fit than extant adaptationist hypotheses. It should go without saying that evolution here is to be understood as descent with modification (Darwin, 1859; Dobzhansky, 1973; Griffiths, 2009) broadly naturalistically construed rather than merely adaptation or natural selection.

2. Play as a Biological Character: Behavioural Markers and Criteria for Identification

I start by introducing play behaviour as a biological character. This is to categorise the behaviour with a sufficient level of generality without going into the details with which it is expressed in different species. The character concept is usually deployed in biology to denote comparatively similar organismal traits and features across different taxa to determine evolutionary relationships and relevant constraints in the expression and development of these traits and features (Wagner, 2000; Figdor, 2022). Play as a behavioural character can individuate and mark out the behaviour from other behavioural categories while at the same time accommodate the wide variety of form in its phenotypic expression (i.e., the observable traits expressed in organisms). Criteria for individuating a character need not refer to sameness of form or function. Characters are individuated not on the basis of organism-level or species-typical phenotypic expressions; they are instead “individuated across species and are needed to explain stable patterns of traits across species (often despite vast adaptive differences) and limits to phenotypic variation within species that arise from their evolutionary heritage” (Figdor, 2022). More than merely a study about possible adaptive functions a behavioural trait may have, a focus on characters is more concerned with the broader question of the phylogenetic distribution of the behavioural trait and explanations for the expression of that character across that distribution. This distribution need not only be traced based on homology, that is, characters that have a shared ancestry, but it can also be based on convergent evolution, that is, similar

phylogenetic trajectories of characters in different lineages (sometimes also referred to as analogy or homoplasy).²

Play behaviour being our target character, it is worth noting the general recognition amongst scholars in various disciplines that play is a notoriously elusive phenomenon as an object of study. It is not uncommon to find a scholar introducing the subject of play by complaining how difficult it is to define or make sense of. Famously, the biologist E. O. Wilson remarked, “no behavioral concept has proven more ill-defined, elusive, controversial, and even unfashionable than play” (Wilson, 1975, p. 164).

In my view, what makes it definitionally elusive is not that it is difficult to identify. Ordinary folk do not need to have a fully articulated conceptual definition or theory of play to grasp that a child observed frolicking in the field is playing. Instead, its difficulty lies in the fact that a theoretical or intellectual stance towards the behaviour introduces the mystery and difficulty. Recall from chapter 3 a recurrent theme of distinguishing a third-personal point of view from a participant or a second-personal perspective. What is readily accessible from a participant stance may not necessarily be evident from an observational or external standpoint. We humans identify ourselves in a practical sense as linguistic and moral agents and can readily recognise others who act and behave and therefore belong to the linguistic and moral community. Taking a detached, impersonal, or non-participant stance would make these participant behaviours look strange, curious, and maybe even ridiculous.

The same can perhaps be said of play behaviour. We can readily recognise instances of play from the fact that we also engage in playful activity. So, despite its definitional and theoretical difficulty, a pre-theoretical access and familiarity with the target phenomenon is readily available and can serve as a preliminary input or a ground-level foothold before going into a more systematic explanatory and theoretical inquiry into the phenomenon. There is nothing wrong or illicit, in my view, about introducing what is available to one’s practical understanding into theoretical and explanatory consideration. Our practical understanding can aid our theorising and explaining,

² Unlike morphological characters, there is a tendency to think of behavioural characters as homoplastic, that is, based on convergent evolution and therefore not homologous. See however Rendall and Di Fiore (2007) for a different view.

though how they do this depends on the explanatory goals and targets of the researcher.³ And of course, there may be a need to go beyond a mere reliance on these practical descriptive inputs. Other existing methodological and empirical considerations may also be taken into account to make the definition/theory more systematic and to integrate it with the rest of the available and ongoing lines of scientific research. One can thus start with a practical understanding of a phenomenon, but it needs to be integrated (and perhaps sometimes modified) with our best empirical and theoretical knowledge.

Luckily, a relatively successful attempt not so much at offering a rigorous conceptual definition, but an operational one for identifying and studying play across species is available. This is Gordon Burghardt's (2005) five criteria for identifying play behaviour articulated in his *The Genesis of Animal Play*, a book-length treatment of play behaviour which provides perhaps the most comprehensive evolutionary account of the play character.

The five criteria Burghardt offers identify play behaviour as:

1. "not fully functional in the form or context in which it is expressed" (i.e., no obvious adaptive significance);
2. "spontaneous, voluntary, pleasurable, or autotelic" (i.e., self-motivating);⁴
3. "[differing] from serious performance of ethotypic behaviour... structurally or temporally" (i.e., shows restraint and/or lack of "focus" compared with goal-oriented adaptive moves such as in actual fights);

³ Ridge's (2022) account of play (where an agent is "*engaged in unscripted activity for the fun of it*") seems to be a good example of a bridge that is able to cross the divide between pre-theoretical accessibility on the one hand and definitional rigour and clarity on the other.

⁴ See Ridge (2022) for a criticism of the notion of autotelicity or "doing something for its own sake" as necessary or sufficient for playfulness to obtain. But as a clarification, Ridge's criticism is towards unqualified accounts of autotelicity. The account of autotelicity I discuss here is more phenomenologically robust and can be integrated into his definition of play (see previous footnote). I suggest that a non-propositional, phenomenologically thick understanding of autotelicity can be read into the motivational component of Ridge's definition; that is "for the fun of it" can be read as closely, almost intrinsically, tied to engaging in the very activity itself and none other activity. In other words, the positive mood is itself an immanent component of the activity and has a constitutive role in sustaining it. One further way of unpacking this autotelic reading of "for the fun of it" is to understand "it" in a *de re* sense where the fun is tied to the specific unscripted activity being performed and not to any other potentially fun activity. This is discussed in detail in the next chapter.

4. “repeated but not stereotyped” (i.e., indicative of sustained activity that is not abnormal or maladjusted repetitive behaviour; e.g. repetitive pacing); and
5. “[occurring]... in a relaxed state (e.g. well fed, safe, healthy)” (i.e., buffered from the necessities of survival; physiological/safety needs are adequately met) (Burghardt, 2005).

The five criteria can be summarised as follows: “Play is repeated, seemingly non-functional behavior differing from more adaptive versions structurally, contextually, or developmentally, and initiated when the animal is in a relaxed, unstimulating, or low stress setting” (Burghardt, 2014). These criteria are broad and inclusive enough to cover all three major categories of animal play behaviour: object play, locomotor-rotational play, and social play (Burghardt, 2005).⁵

Burghardt’s five behavioural parameters has been highly influential in the field. They have fruitfully contributed to the empirical identification and study of animal play behaviour, including documentation of play in octopuses (Kuba et al., 2006); in fishes, frogs, and reptiles (Burghardt, 2015); insects, particularly in wasps and bumblebees (Dapporto et al., 2006; Dona et al., 2022); a great variety of bird species (O’Hara & Auersperg, 2017; Osvath et al., 2014; Osvath & Sima, 2014), and significantly in cetaceans such as dolphins.

3. Explaining Play: Tensions with Adaptationism

Much is worth unpacking and discussing with these five criteria. What should be especially striking for an evolutionary biologist is the first criterion of play being “not fully functional” as it seems to rule out play having a fully-fledged adaptive function. This seems to close off questions about a behaviour’s adaptive or survival value, one of the four key questions in Tinbergen’s (1963) framework for explaining animal behaviour, which has been an enduring and influential approach for explaining animal

⁵ What Burghardt is offering with his operational definition are criterial considerations that can be reliably used for empirical inquiry into play which can apply across species. What seems to be sufficient for this inquiry-based purpose and what Burghardt brings to the table is a way to operationally identify and disambiguate playful behaviour from other possible behaviours such as exploration or tool use or copulatory behaviour.

behaviour (Bateson & Laland, 2013; Davies et al., 2012).⁶ Burghardt however is still keen on keeping this question open: “not fully functional” does not mean lacking an adaptive function or not having an immediate or delayed benefit accruing to play (Burghardt, 2005, p. 71). He does not want to preclude the possibility that play behaviour can indeed evolve via natural selection and acquire an adaptive function/s due to potential benefits it may have, immediate or delayed. This seems intuitive considering that any playful activity may – incidentally or otherwise – lead to some selective advantage. Play behaviour for instance often requires some amount of physical activity which has obvious advantages for maintaining cardiovascular functions and overall physical fitness of the organism.

Nevertheless, the way in which play behaviour is demarcated and characterised should itself give us some clues and indicators into the sorts of explanations it can appeal to. If what marks play out from other behavioural forms and categories is this seeming lack of function, then this should motivate at least entertaining a different set of explanatory resources and strategies to account for the behaviour. This approach however seems anathema to many trained in an adaptationist methodological framework. Within this explanatory framework, the tendency is to approach any behaviour from a functional selectionist perspective. But the problem with play behaviour is that it seems to be exceedingly resistant to being integrated into this adaptationist explanatory mould.

For instance, here is a commentary from the behavioural ecologist Lynda Sharpe who, in a blog post on *Scientific American*, writes:

Scientists figured that once they understood the mechanics of play, in a whole array of beasties, its function would become obvious. Heck, *this approach has worked with almost every other type of animal behaviour. But not with play.* In quiet desperation, play researchers have come up with more than two dozen possible benefits of play but, in spite of four decades of effort, they’ve found conclusive evidence for none. (Sharpe, 2011, emphasis mine)

⁶ The other three questions being ontogeny (or development), proximate mechanism (or causation in Tinbergen’s terms), and phylogeny (or evolutionary history) (Tinbergen, 1963).

The moment Sharpe starts to entertain the idea that play may not have a function/s, she then quickly applies an adaptationist logic to dismiss this possibility:

So maybe play simply doesn't have a function. I mean it's obviously fun. Isn't that reason enough to do it? There's a problem: having fun is costly. [...] You see natural selection quickly weeds out any activity that reduces an individual's chances of survival or breeding... unless the behaviour also helps in some way. So play must have benefits, we just can't find them! (Sharpe, 2011)

So despite acknowledging the peculiar difficulty of integrating play within an adaptationist explanatory lens (particularly because of its potential evolutionary costs), animal play researchers are still keen on maintaining this search for possible adaptive function/s.

Keeping steadfast in the explanatory methods and strategies recommended by one's research programme is not exactly an intellectual vice. Anomalous, difficult-to-explain phenomena are to be expected and it might just take more work to eventually find a suitable account within the recommended explanatory framework. Moreover, as a research programme, methodological adaptationism has proved to be a highly productive and fruitful one.

Sharpe and other play researchers' dogged persistence in maintaining an adaptationist approach is to be expected and even encouraged. It does not make sense to eschew a methodological framework that has been extremely useful and productive in explaining all sorts of complex animal behaviour. The productivity of the adaptationist methodological framework can be found in Davies, Krebs, and West's in *An Introduction to Behavioural Ecology* which discusses in rich detail the various ultimate (i.e., focused on questions of function or adaptive/survival value) and proximate (i.e., focused on questions of mechanism) explanations behind a wide range of animal behaviour such as mating strategies, parental care, cooperation, altruistic behaviour, animal communication amongst others.

Curiously however, the authors never mention play behaviour. Game theoretic approaches are indeed widely discussed in the text, such as in the context of the adoption and evolution of stable strategic behaviour usually in scenarios involving resource competition. Game theoretic explanations of behaviour are not of course indicative of play behaviour. A game theory approach is perhaps best characterised as a framework for explaining strategic adaptive behaviour usually in the context of competition and distribution of resources.

What can we imply from the absence of a discussion of play in a highly influential textbook on animal behaviour? One way to read this absence is to look at the theoretical and methodological assumptions the authors adopt. Davies and colleagues are not secretive about their theoretical and methodological commitments:

[A] reductionist approach to consider the costs and benefits of decision making and how trade-offs are resolved by selection; a 'gene's eye' view of behaviour; and a game theoretic approach to analyse the resolution of conflicts of interest. (Davies et al., 2012, p. x).

These methodological commitments bind the authors to a strictly adaptationist research programme, which – insofar as the types of behaviours they do discuss are involved – has provided fruitful explanations of behavioural complexity.

It is not my aim here to challenge or undermine the adaptationist programme. The specific claims of the SPH can still be consistent with Davies et al.'s (2012) approach to explaining a whole range of functional animal behaviours. My aim here is instead more targeted specifically at explaining play.

My suggestion is to delineate play as a wholly separate kind of behaviour that deserves its own unique and separate explanatory treatment from other straightforwardly functional behaviours. Some of my arguments to support this view will be reminiscent of and may rehearse the usual discontent that have been voiced against the adaptationist programme, most famously by Gould and Lewontin (1979). My criticisms of adaptationism, by contrast, are directed more specifically at its explanatory value in accounting for play behaviour.

Here I want to stress how despite the seeming productivity of the adaptationist programme in offering largely plausible (though by no means indefeasible) explanations of huge swathes of animal behaviour, play behaviour has proved impervious to its explanatory resources. Despite observing play's presence in a relatively wide array of animal species, theories about its adaptive function and evolution have largely remained intractable and controversial in the same sense that evolutionary theorising about supposedly uniquely human traits such as language, culture, and moral behaviour have similarly been highly intractable and controversial.

A number of researchers, notably Gordon Burghardt, have already recognised the explanatory value of a non-adaptationist approach to play behaviour. According to Burghardt:

In addition to evaluating whether the benefits of play are immediate or delayed, it needs to be asked whether play originally evolved, or currently serves, to aid in survival at all. The null hypothesis has been strangely absent in the study of play and is rarely even proposed. Play may not have any direct role, *as play*, in aiding either individual survival or reproductive fitness. (Burghardt, 2005, p. 118)

This non-adaptationist, non-functional hypothesis seems a more natural fit since it does not try to force the issue of play having an adaptive function or benefit.⁷ This also seems more faithful to the key features of play that Burghardt proposed.

This should be clear with the first criterion where play is treated as “not fully functional” in its form or context of expression. Imposing a functional explanation on a behaviour that is in its very definition non-functional in the form or context of expression is to

⁷ It should also be noted that accounting for the behaviour's fitness benefits is different from accounting for its adaptive function, which is a stronger claim about the role of selection in shaping the behaviour. The former, i.e., the fitness benefits, need not be a product of selective modification. This distinction is often confusingly conflated in the evolutionary literature (perhaps contributing to the proliferation of “just-so” stories), but this will be crucial in my discussion of play's acknowledged fitness benefits later in the chapter.

introduce an unnecessary explanatory tension. A non-adaptationist approach makes this less of a worry.

The second criterion (i.e., play being voluntary, spontaneous, and self-motivating) also suggests that the motivational context in which it is expressed should also be understood in a more non-instrumental manner; that is, the behaviour can be made intelligible even without an external end or outcome that motivates or informs it. To be fair, intrinsic motivation has also been observed in a few adaptive behavioural expressions (Mench, 1998; Hughes & Duncan, 1988; Hughes et al., 1989). However, the behavioural context and the role of intrinsic motivation is crucially different with play. In cases of adaptive behaviour, the “intrinsic motivation” can be explained as a mere instrumental add-on perhaps with some functional role in promoting the behaviour’s reliable, if sometimes redundant and unnecessary, expression. One can still make sense of the adaptive behaviour with or without the autotelicity component because the proximate behavioural context is tightly linked to its clear adaptive-selective value. The behaviour’s adaptive value provides an external outcome that gives the proximate context of expression its intelligibility qua adaptive behaviour.

Given the first criterion, the proximate context of play does not possess this adaptive intelligibility. With play, the intrinsic motivation (in the robust phenomenological sense of it being fun for its own sake) seems to be essential to its context of expression. Remove the autotelicity component and the behaviour ceases to be intelligible as play. Play behaviour as such is not only autotelic in a contingent functional sense, the autotelicity itself is also best construed as intrinsically built into the very context of play’s expression. Unlike other adaptive behaviours, there is no clear external goal, outcome, or state of affairs that determine or structure how play is expressed. That is, there is no ultimate value or end-point that clearly informs the proximate context of the playful activity, and so its intelligibility as a self-motivating behaviour is to be understood differently.⁸ Play thus does not lend itself easily to an instrumental adaptive explanation and should compel an equally unique manner of thinking about how the behaviour is structured.

⁸ I will discuss the autotelicity/intrinsic motivation component of play in detail in the next chapter.

Moreover, the fifth criterion is also quite suggestive of a non-adaptationist approach by emphasising a state of affairs where play is most likely to be expressed: in conditions where selective pressures and survival concerns are relaxed. For Burghardt, this relaxed space where the organism is buffered from survival concerns is a critical enabling condition for play to emerge.⁹ That it largely occurs in a state where the organism's survival needs are sufficiently provided is an important difference-making marker that gives us a clue with regards determining how play is uniquely expressed and structured.

One might point to the long-term payoffs of play which are of course located outside of play's proximate context of expression. However, how and indeed whether these long-term benefits inform the expression and structure of play behaviour is something that needs to be accounted for here. The long-term benefits may just be that; beneficial external effects that may have no bearing on how play is itself expressed and structured. In these cases, no attribution of adaptive function accrues towards play. The relation of play to its purported adaptive benefits without itself acquiring an adaptive function will be discussed later in the chapter. For current purposes, we will stick with the assumption that play is expressed within a space where selection pressures are relaxed and so does not inform the expression of the behaviour.

These considerations give us *prima facie* reason to think that play does not lend itself easily to a reductive adaptive explanation and should perhaps be treated differently from other standard functional behaviours. I thus motivate the following argument in the form of a dilemma for any adaptationist account of play:

1. Either play researchers have reason to treat play similarly like other functional behaviours or not.
2. If there is reason to treat play similarly like other functional behaviours, then applying an adaptationist explanatory framework should be sufficient and epistemically warranted to account for the behaviour.

⁹ Burghardt (2005) elaborates on various factors that must obtain in order for the animal to be properly situated and embedded within a relaxed space in what he calls surplus resource theory or SRT. I elaborate on this in the next section.

3. If there is reason to treat play as quite different and dissimilar to other functional behaviours, then this should epistemically warrant an appeal to a wider set of evolutionary explanatory resources than those available within an adaptationist framework.

The discussion above gives us *prima facie* reason to accept the second horn of the dilemma. As such, we can continue the argument:

4. There is reason to treat play as quite different and dissimilar to other functional behaviours.
5. So an appeal to a wider set of evolutionary explanatory resources than those available within an adaptationist framework is epistemically warranted.

Sharpe and other play researchers who endorse adaptationist hypotheses are likely to choose the first horn of the dilemma. If so, then the argumentative move the play researcher must make here is to provide some motivation, reason, or justification for treating play as similar enough to other functional behaviours in a way that epistemically warrants the use of the usual explanatory resources available to the adaptationist in explaining play.

One plausible reason that can be given is already offered in Sharpe's remark quoted above: *Play should be treated similarly as other functional behaviours because natural selection does not discriminate between different behavioural phenotypes*. We can call this a *selectionist rationale* for understanding play. Natural selection should be able to act on play just as much as other behaviours. As such, natural selection as an evolutionary process acting on play should then cumulatively, through successive generations, determine the form and eventual function of, as well as the underlying mechanisms for, the expression of the behaviour by way of the survival and reproductive benefits it incurs.

The problem as recognised by Sharpe (2011) is that despite all the efforts many have devoted to assimilating play within the adaptationist framework, these efforts have yielded no clear adaptationist consensus nor any clear function for play (Martin & Caro, 1985). It is not that no correlated survival or reproductive benefit can be found. It is

that compared to other more straightforwardly functional behaviours, the evidence is not robust enough to support any strong functional claims.

Adaptive functions ought to be treated as an “onerous” explanatory notion that cannot be inferred outright from evidence of correlated benefits (Williams, 1966; Lloyd, 2021). Evidence for adaptations can come in many forms such as mapping of gene frequencies in a population, predictions of fit between optimality or selective models and real-world populations, strong evidence of (usually genetic) heritability, confirmatory support from multiple locations or habitats, as well as “model robustness” based on multiple predictions confirming novel data (Lloyd, 2021).

The empirical evidence for adaptationist hypotheses for play tend to be mixed at best with many studies showing no conclusive adaptive benefits (Martin & Caro, 1985; Sharpe, 2005a,b,c; Sharpe & Cherry, 2003; Dawson et al., 2022). The onus for showing an adaptive benefit for play is high because it is energetically costly and can even be maladaptive because of the risks the playing individual incurs compared with being more vigilant or being at a resting state.

This lack of robust or conclusive evidence for any adaptive hypothesis for play should provoke a rethink whether the selectionist rationale offered by Sharpe is applicable at all to play behaviour. Is there any good reason to think of and treat play behaviour as similarly affected by selection pressures as other behaviours? It seems that behind this selectionist rationale is a circular justification based on a commitment to an adaptationist methodology. That is, the selectionist rationale sounds most persuasive only when one assumes this adaptationist framework. This is because the adaptationist framework forces one to think of the evolution of traits from this strongly selectionist lens.

There is no question that natural selection is an important process in explaining the evolution of organismal traits. However, one can of course also point to other traditionally accepted processes of evolutionary change beyond natural selection such as mutation, drift, recombination, and gene-flow. These considerations alone motivate a shift away from a strictly adaptationist perspective (Schroeder & Ackermann, 2023). Beyond these, there are also those who emphasise the role of structural and

developmental constraints (Wake, 1991; Wagner, 2000). This constraint-based structuralist perspective is often contrasted with a more adaptationist and functionalist perspective on the evolution of organismic traits.

Nevertheless, even when these other evolutionary processes are recognised, the practice amongst researchers in fields like behavioural ecology and evolutionary psychology is to stick with adaptationist resources and hypotheses as a default explanatory strategy. From an adaptationist perspective, what matters in evolutionary explanation is not so much the extent and supply of variation, but the differential fitness of heritable traits (Wray et al. 2014).

Appeals to these other evolutionary forces play only a supporting or ancillary role to the main driver of evolutionary change and complexity, natural selection. These non-selectionist evolutionary factors can also take up space within so-called null hypotheses which is when the hypothesised or expected selected outcome or benefit has not been shown to be supported by the empirical data gathered. Daniel Dennett (1996) is one of the most vociferous defenders of this default adaptationist strategy (see also Buss et al., 1998; Andrews et al., 2002).

This default adaptationist strategy, i.e., the search for a function *qua* adaptive benefits on which natural selection can act, is what seems to be guiding the direction of empirical inquiry for Sharpe and other play researchers. This also seems to be the default methodological mindset that informs the selectionist rationale assuming that all behavioural characters, including play, are subject to natural selection. Even if it may be admitted that the extent and the degree to which these behaviours are subject to selection are not all the same, this should not matter as what is important is the fact that selection does play a significant role at some point in the evolutionary history of the elaboration of the behavioural trait. As such, play can, like all other manner of adaptive behaviours, be similarly assimilated into an analogous explanatory pattern of adaptive-functional modification. A standard adaptationist explanation should then suffice.

That said, I think that we have reason to resist this default adaptationist strategy and the selectionist rationale that it encourages in explaining the expression of play. As

mentioned above, Burghardt's five criteria, particularly the fifth criterion (i.e., occurring in a relaxed state), give us *prima facie* motivation to think that play should not be treated similarly or analogously as other standard functional behaviours shaped by natural selection.

This is not a decisive argument against the use of adaptationist hypotheses, but what a serious consideration of the five criteria should encourage is at least some interest in entertaining and considering the merits of non-adaptationist or non-functional explanations. Burghardt himself, in the earlier quote provided, felt the need to appeal to a non-functional explanation at least for the initial emergence of play. He however integrates this non-functional explanation within a broader adaptationist framework by distinguishing between different hierarchically structured processes in which play can be expressed. A critical distinction here is to distinguish between play's origins (where the non-functional explanation is relevant) and its further elaboration into having a current function (Pellis et al., 2015).

This account by Burghardt is perhaps the most sophisticated and comprehensive theory of the evolution of play. I take a closer look at Burghardt's account in the next section. I argue that even if there is much to recommend about the account, I offer what I think is a more plausible reinterpretation of Burghardt's claims using a more thoroughgoing non-functional or non-adaptationist framework.

4. The Phenotypic Space for the Expression of Play: Surplus Resources and Complex Active Bodies as Enabling Conditions

So far, documentation of play behaviour has been shown to obtain in at least three animal phyla (out of around 35). Play is most widely observed in vertebrates (or the chordate phylum) such as in humans and other mammals, birds, fish, reptiles, and amphibians. Play tends to be far less common and has a very spotty distribution in the latter three groups compared with mammals and birds, but even amongst mammal and bird species, play is not universally observed. Amongst invertebrate species, play can be observed very sporadically in only two phyla: arthropods (e.g., certain insects

and spiders) and mollusks, restricted within the cephalopod lineage (e.g., octopuses) (Burghardt, 2005).

One might chalk up this rather sparse and spotty taxonomic distribution to unsystematic or inconsistent or biased research priorities. Although this may be true in part, the available record seems sufficient to merit the claim that play is a rather rare behavioural phenotype. This should provoke some serious reflection on the precise conditions that facilitate the emergence and expression of play. As indicated earlier, play, unlike other functional behaviours, shows no signs of any clear or consistent adaptive benefits in its proximate context of expression. So asking about what functional or adaptive contexts and conditions give rise to the expression of play may be a potentially misleading approach.

Moreover, even in contexts where adaptive benefits can be observed in play, explaining the emergence and expression of play in terms of those benefits seems to put the cart before the horse. If play is initially expressed because of its clear fitness advantages expressed in an adaptive context, then this advantage and its further selective modification should have been clearly evident from the behavioural data gathered. As we have seen, despite efforts to find such clear adaptive advantages, the evidence does not warrant any such definitive adaptive claim.

One can of course point to the later adaptive benefits that play behaviour may confer on the individual or the group, but this is not an explanation for how the behaviour emerged in the first place. To credit a later adaptive benefit as a cause of evolutionary change is to commit what Michael Trestman calls a teleological fallacy where one accounts for evolutionary change on the basis of “adaptive benefits that that change would later make possible after further modification” (Trestman, 2013a, p. 49). An example of downstream adaptive benefits accruing are structural changes and developmental constraints which can open up phylogenetic space for what is evolvable, facilitating the direction of phenotypic variation into reliably viable and adaptive phenotypes (cf. Barron et al., 2023; Riedl, 1977; 1978). Body plans are good examples of heavily burdened or conserved characters that provide a developmental framework for channelling and producing viable phenotypic variations (Willmore, 2012; Wagner & Laubichler, 2004).

Of course, not all behaviours display their survival or reproductive value at some later stage. Some behavioural capacities clearly wear their adaptive benefits on their sleeve. Any behaviour with a clear adaptive function (i.e., predatory or mating behaviour) shows this in the very form and context of its expression. Here, the beneficial adaptive effects can be relied on as a cause for the expression of the behaviour in large part because of the clear adaptive context in which it arises. In this case, natural selection can take care of the way the behavioural capacity is designed and optimised.

However, not all beneficial effects and outcomes come prefigured in any given behavioural capacity or context of its expression. These straightforwardly functional behaviours can clearly answer the “What is it for?” question. The fact that play, as Burghardt’s first criteria puts it, is “not fully functional in the form or context in which it is expressed,” is an indication that any benefits or adaptive outcomes the behaviour may have is not necessarily the cause of its expression. That the context of its expression does not shed light on any clear adaptive significance or function for the behaviour is also indicative that this is not a simple case of adaptive functional behaviour that a straightforward process of natural selection can act on.

One might then ask in what context play is expressed if it is not expressed within a clearly functional or adaptive context. Play exhibits a complex behavioural pattern which, through Burghardt’s five criteria, can be operationally delineated from other behavioural forms. Despite the heterogeneity in the forms in which play can be expressed, the five criteria pick out very specific constraints that not only clearly demarcate play from other behaviours, but also are specific enough to limit its attribution to a very select group of species. The fact that play appears only sporadically in select lineages in the animal kingdom can perhaps be partly explained by this behavioural complexity. This should make play all the more puzzling since increasing complexity is usually explained through natural selective processes.

However, this selectionist view of behavioural complexity should be resisted in at least two ways. First is that complexity can be the result of adaptive plastic change without undergoing natural selection. The traditional adaptationist way of relating behavioural

traits to adaptive outcomes is through a strong connection or feedback loop between a proximate behavioural capacity/mechanism and its established adaptive function “engineered” or “optimised” through natural selection. However, adaptive benefits can be accounted for without the need to appeal to natural selection and having the behaviour acquire a function. One can have adaptive plasticity and accommodation of that adaptive plastic change at the phenotypic or organismic level with corresponding neutral stochastic (or random) genetic change, that is, without the natural selection process taking effect (West-Eberhard, 2003; Kull, 2014). Genetic accommodation of stochastic change at that level can occur through the process of genetic drift.

Given that an adaptive function is to be taken strictly as a product of the process of natural selection, the possibility of adaptive epigenetic change (i.e., through plasticity, learning, or some other behavioural accommodation) can occur without the need for the given phenotypic trait/s expressed to undergo natural selection and acquisition of a function. There are a number of ways in which this change can be inherited. Phenotypic plasticity, where evolutionary change begins with an organism’s plastic response to its environment and is only later accounted for, accommodated, and inherited at the genetic level (West-Eberhard, 2003), is one way to accommodate this adaptive change without recourse to natural selection. Moreover, beyond the genetic heritability of many adaptive traits, one can also account for certain traits through stable channels of extra-genetic inheritance (Bonduriansky & Day, 2020; Jablonka & Lamb, 2020). It has been shown for instance that transmission of adaptive traits can be equally explained through exogenetic inheritance of developmental resources including management and provision of physical resources, parental care, social learning and stimulation, and so on (Stotz, 2014). This will be elaborated on in the last section.

A second way in which one can resist this selectionist view of behavioural complexity is to acknowledge that it is not just within an adaptive context where complexity can arise. That is, the possibility space of phenotypic variation and complexity can arise from non-functional or general non-instrumental contexts. One way in which non-adaptive complexity appears in evolution is through the structural and developmental constraints that was mentioned earlier. Structural constraint-based explanations are usually directed at morphological characters where examples of non-functional

biological spandrels are commonly observed.¹⁰ The human chin is often given as an example of a non-functional morphological by-product. But constraints have also been deployed to explain cognitive capacities (Fitch, 2012; Barron et al., 2023). Barron et al. (2023) for instance appeal to resource constraints to argue for an “evolutionary transitions” framework applied to cognition. These resource constraints are said to open up phylogenetic space that can be a source of evolvability in a way that does not anticipate adaptive benefits these cognitive transformations confer to further downstream lineages.

Interestingly, Burghardt and colleagues similarly appeal to resource considerations in explaining the origins and even later elaborated expressions of play behaviour, even when it is energetically costly and exhibits no direct fitness benefits (Burghardt, 2005; Auerbach et al., 2015). Burghardt’s (2005) surplus resource theory (SRT) integrates various background conditions that must obtain for the animal to be properly situated and embedded in a relaxed space where play is likely to be expressed. As Auerbach and colleagues (2015) emphasise in their paper’s title: “To play or not to play? That’s a resource abundance question.”

These “surplus resources” give space for the animal to engage in behaviour or activity that goes over and above the bare necessary requirements for survival. All the animal’s needs are adequately taken care of so they are free to pursue other activities that need not have any strict connection with adaptive or survival benefits. The evolutionary emergence of play behaviour in this sense is seen as a by-product of these multiple factors and requires no immediate (or even long-term or delayed) adaptive value.

For Burghardt (2005), four critical clusters of resources can be thematised in SRT. The first involves “energetics” which refers to physiological capacities such as ample diet, high metabolic rates, and thermoregulatory capacity (i.e., endotherms tend to show more likelihood to engage in play), as well as sensory and locomotor capacities enabled by an organism’s anatomy. Another cluster is “ecology” which includes safe

¹⁰ One might also apply this structural account to gene regulatory networks that are co-extensively explained and associated with the expression of morphological characters (cf. Davidson & Erwin, 2006; 2010).

and conducive environmental conditions and complex habitats with rich food sources. A third and critical cluster is “ontogeny” of which altriciality (or immaturity at the time of birth or hatching) and a prolonged juvenile period are critical facilitating conditions.¹¹ Other ontogenetic or developmental considerations include extensive parental provision and care as well as the role of experience and learning in development. The last cluster concerns “psychology and sociality” that crucially include a large behavioral repertoire involving not just complex motor abilities but also (for social species who engage in social play) complex social behaviours usually through peer availability. Important psychological factors include a need for stimulation, capacity for learning and habituation, as well as a diverse set of motivational and emotional resources.

What binds all these resources as assorted clusters of factors is their distinctive role in explaining play not in terms of specifying particular moves/performances or the particular regulatory constraints for engaging in play, but as background enabling conditions and constraints that limit the range of its possible expression. These resources on their own do not tell us anything about the mechanics of play behaviour, the “how’s” and “why’s” of play. What these surplus resources explain are the conditions that lay out a relaxed space and where play would thus likely be expressed. SRT thus provides details of the broad background resource conditions and considerations that open up phenotypic space for expressing behaviours, which, as noted, where selection pressures are not a determining and structuring factor. This leads us back to the second point raised earlier about how behavioural complexity can arise in a non-selective context. SRT gives us an account of precisely this “non-functional” space or context where complex but non-adaptive behaviour can be generated and cultivated. What we essentially get in SRT is a space of relaxed selection where survival concerns and selective pressures are either eliminated or dramatically reduced.

This explanatory relation Burghardt is making between surplus resource variables and the expression of play is interesting as an explanatory strategy. Resource explanations are usually tied to specific mechanisms and mechanistic explanations in the sense

¹¹ Play behaviour is frequently observed in the juveniles of species that play but play has also been recorded amongst adults in some species (Palagi, 2010).

that resources take up roles as components in these mechanisms (Klein, 2018). Most of the resources in SRT however are better understood as background conditions and constraints than as components of a play behaviour “mechanism,” especially those falling under the ecological and ontogenetic resource clusters. Of course, play will make use of certain energetic and motivational reserves as well as pre-existing behavioural repertoires, so some of these “resources” do play a role in a proximate explanation of the mechanics of play. However, the way SRT seems to work more generally is not as a kind of mechanistic explanation but more as a specification of enabling background conditions, even when some of these resources may eventually be deployed as components of an explanation of how play is structured and regulated. This is because the behavioural capacity being explained is underspecified by SRT. The structure of play behaviour, in other words, is underdetermined by the background resource considerations countenanced by SRT, although of course it provides a range of possible moves an organism can engage in.¹²

The most productive way to think of how SRT can yield play would be to think of it not primarily as a contributor to a mechanistic explanation but as a kind of structural change in the composition of resources in such a way that opens up phenotypic space for expressing and engaging in non-functional behaviour. SRT thus resembles more constraint-based structuralist explanations of behavioural complexity than standard functional-mechanistic adaptationist ones.

The structure we are looking at here is the web of interlocking factors tying the various resources together to create a space conducive for non-adaptive behaviour such as play to emerge. This non-functional space need not specify in advance the mechanics, or the “how” and “why,” regulating and structuring the behaviour. But SRT can anticipate the general possibility space of how play can be structured based on the extant social, behavioural, and psychological capacities of the organism, of course taking into account restrictions and limitations in the other clusters of resources. Reptiles for instance would encounter physiological restrictions for engaging in play because of the relatively low energetic capacity available to ectothermic or cold-blooded bodies (Burghardt, 2005). Moreover, one can compare animals living in well-

¹² The structure and regulation of play is the focus of the next two chapters.

resourced and “enriched” captive environments (where there is almost no threat of predation or resource scarcity) with their counterparts in the wild. The animals living in the wild would encounter environmental restrictions for engaging in play since their ecological conditions necessitate the activation of more adaptive responses.

Building on this structuralist theme, the constraints on morphology, specifically on the basis of certain body plans, can give us some insight into the narrow phylogenetic distribution of play. Perhaps not coincidentally, the three animal phyla where play has been documented map on conveniently to the same set of animal phyla which possess anatomical features that make up what Trestman (2013b; 2017) calls a “complex active body” (or CAB). CABs consist of attributes including:

- (1) “many degrees of freedom of controlled motion;”
- (2) “senses that can quickly gather distal information (vision, hearing);”
- (3) “anatomical capability for active, distal-sense-guided mobility (fins, legs, jet propulsion, etc.);”
- (4) “anatomical capability for active object manipulation (e.g., chelipeds, hands, tentacles, sensitive mouth-parts)” (Trestman, 2017a, p. 209).

These attributes enable the kind of complex patterns of movement we find in play. The behavioural complexity of play can be explained in this sense not because of the adaptive context with which the behaviour can be selected and modified but because it is made possible within the phenotypic space of organisms with CAB-enabled body plans.¹³

Body plans are a suite of phylogenetically entrenched and conserved anatomical characters which are shared between all members of a certain phylum (Nielsen, 2003). They are highly entrenched and conserved in large part because these body plans have proven to reliably produce adaptive phenotypes and can even channel variation towards highly viable phenotypic traits (Riedl, 1978; Wagner & Laubichler, 2004). For instance, all vertebrate animals share a basic structural body plan that classifies them

¹³ The role of capacities enabled by CABs in structuring play behaviour will be explored further in the next chapter.

under the chordate phylum. Evolutionary change for organisms within a certain phylum is restricted by the body plan associated with the phylum. Body plans as such provide phylogenetic constraints on possible morphological structures that can develop for any species within that phylum. Body plans also provide basic structural constraints on what can be evolvable through the channelling of phenotypic variation. One should also again note that the same basic structural constraints can also produce non-adaptive or adaptively neutral phenotypic expressions; and this neutral space of phenotypic expression is where, I suggest, play emerges.

Play can be taken as a behavioural expression that is made possible within the phylogenetic space opened up by CAB-enabled body plans. These body plans ensure that certain complex bodily capacities (including behavioural repertoires) are already built-in through the anatomical structures CABs support. With regards their role in explaining play behaviour, CAB-enabled body plans serve as a kind of necessary enabling constraint. *Play in this sense can be taken as a complex embodied behavioural capacity made possible by CAB-enabled body plans, which are to be taken as necessary enabling constraints on the expression of play.* The behavioural complexity here is thus explained through structural constraint-based enabling considerations rather than traditional adaptationist functional-mechanistic ones.

SRT supplements this structural account by accounting for more physiological, ecological, developmental, and motivational constraints that need to be in place for play to be expressed. The most basic enabling requirement would be the structural capacities made available for organisms with CABs. But merely having CABs is far from sufficient for facilitating play. What these other surplus resource considerations suggest is that play is more likely to be expressed from within a space of relaxed selection where these other resource considerations are in place. *The emergence of play may thus turn out to be a behavioural spandrel resulting from a confluence of structural anatomical considerations (CABs) along with various surplus conditions (SRT) that facilitate the creation of a relaxed space.*

How exactly does a behavioural spandrel work? One productive way to make sense of something like a behavioural spandrel is to think of it as an affordance, that is, a perceived possibility for action based on dispositions or capacities that obtain in the

individual. Any organism with a CAB has the dispositional potential to engage in play so long as they perceive a habitat that gives them a sense of surplus as well as a sense of safety and security (owing perhaps to parental protection or being placed in an enriched enclosure or sanctuary). This will be explored more in-depth in the next chapter.

Given the potential costs associated with play, one might think that play's potential benefits should somehow contribute to its continued expression or else it should be selected against. This however assumes that the space in which play is expressed is a selective space. SRT places the expression of play within a different space, one that is buffered from selection pressures. This buffering allows the animal to “afford” to play despite its potential maladaptive costs.

Moreover, to demand that play must have some purpose or some important underlying use or other is to demand too much of a behavioural by-product. The surplus conditions are not necessarily constructed, or selected for, with the intention of promoting the expression of play. These surplus resources are to be taken, at least in some instances, as a fortuitous convergence of favourable factors that facilitate the expression of play. That is, it is likely that play, at least initially, starts out as a genuine by-product; as an unintended effect or outcome of a happy convergence of favourable conditions.

Nevertheless, ensuring a highly stable, safe, and predictable niche requires a lot of effort to attain and maintain. This is perhaps the reason why play is mostly observed in juveniles. Juveniles can easily afford to play since their parents or group give them that safety buffer – ensuring that the animal is safe from predation and other dangers to life and limb.

The same goes with animals in captive and well-resourced environments. Human caretakers would have ensured a safe, well-maintained, and enriched environment for these animals. This rich and well-resourced environment presents ample opportunities for the captive animals to engage in playful activity (Tarou & Bashaw, 2007). This is explained by the way in which these environments easily and reliably instantiate surplus resource conditions and so play comes easier for these animals. Animals in

the wild of course also play, but less so compared with their captive counterparts. The threshold for various animals' risk assessment and perception of a safe and secure environment may differ with some tolerating some level of risk so long as this does not prove too maladaptive.

So, whether or not play is expressed is not primarily an issue of whether play is itself positively selected for because of its benefits weighed against its costs. Rather, play's continued expression as a by-product of surplus conditions may just depend on play not crossing a negative selective threshold of being too maladaptive. The safe, surplus conditions should give that buffer for animals to have that breathing space for them to afford play without its potential costs crossing that maladaptive threshold.

5. Accounting for Play's Fitness Benefits: From By-product to Adaptive Function?

I have so far argued that there is epistemic warrant for entertaining a wider set of evolutionary explanatory resources than those available within an adaptationist framework when it comes to explaining play. As earlier indicated, Burghardt is also well-aware of the explanatory value of a non-adaptationist understanding of play. However, he is also keen to emphasise that play can have an effect on fitness and therefore can be naturally selected for and modified accordingly (in other words, acquire an adaptive function). This is how he summarises his view on this:

The genesis of play lies in primary process play with few, if any, immediate adaptive consequences. Such playlike behavior may then be favored by natural selection and eventually become adaptive, even essential, and incorporated into the behavioral repertoire. (Burghardt, 2005, p. 382)

What Burghardt here calls "primary process play" is where he locates a non-adaptationist explanation accounting for the initial appearance of play behaviour. Through primary process play, Burghardt avoids a treatment of play as a behaviour that emerges from an adaptive context. In doing so, he preserves the context of relaxed selection from which play originates as explained by SRT. He accordingly

avoids committing the teleological fallacy of crediting any later adaptive benefit as the cause, or part of the cause, of the origins of play.

Instead of immediately conferring adaptive advantages in the complex behaviour being explained, the source of complexity is explained through structural (built-in through CAB-enabled body plans), ecological, and other resource-based considerations. I think this approach is correct. The rationale of this approach is articulated in the following way by Burghardt:

The tendency of most early, and even some current, writers on play to confuse proximate mechanisms and adaptive value led to much needless controversy and especially a neglect of the former in evolutionary theorizing on play (Burghardt, 1984). *We now recognize that play can be viewed as both a product and cause of evolutionary change; that is, playful activities may be a source of enhanced behavioral and mental functioning as well as a by-product or remnant of prior evolutionary events.* It is probably a mistake to think that play originally evolved in order to provide such advantages, and this mistake may have hindered a more accurate and scientifically supported analysis of play. (Burghardt, 2005, p. 121)

So on the issue of origins, I think Burghardt is correct in emphasising the non-adaptive or non-functional context from which play arises. That said, there is still the issue of how to account for the later adaptive benefits and outcomes that accrue to play. Burghardt and colleagues argue (Pellis et al., 2015; Burghardt, 2005) that a clear distinction should be made between explaining the origins of play and any subsequent functional value it may have. For them, play can eventually acquire novel adaptive functions through subsequent elaboration, transformation, and co-optation for “utilitarian” considerations (Pellis et al., 2015). To explain this, Burghardt and colleagues distinguish between three different but hierarchically structured play processes or series of transformations.

“Primary process play” emerges, as discussed above, as a by-product of a confluence of fortuitous conditions in organisms with CABs and that these conditions instantiate a space of relaxed selection where selection pressures are drastically reduced.

Inquiring about adaptive or survival value is not necessary in explaining the emergence of the behaviour at this stage (Pellis et al., 2015; Burghardt, 2005). In this sense, an adaptationist outlook asking *what the behaviour is for* in the adaptive functional sense would be the wrong kind of question to ask.

It is with “secondary process play” where Burghardt and colleagues would account for the adaptive benefits and outcomes of play. Here, Burghardt and colleagues would begin to incorporate selectionist reasoning into the analysis of play behaviour by suggesting the co-optation of play into novel uses with clear fitness advantages. Some of these benefits include obvious positive outcomes that result from vigorous movement such as sensorimotor coordination, behavioural flexibility, improved physical fitness, improved neural processing related to fluent locomotor movement, etc. (Byers & Walker, 1995). It is in secondary process play where play also begins to establish a functional connection with some fitness benefit. Play’s function at this stage works as a kind of “pre-adaptation” or as an exaptation, a behaviour that starts out as non-functional (or functional, but in a different adaptive context) but was co-opted by the organism towards a novel adaptive use. Selective processes may come into the picture here but perhaps starting with a passive role for play as a mere “product of selection.” Play at this stage has yet to be selectively modified and so has not yet undergone design-like complexification and thus cannot be said to have acquired a robust sense of adaptive function.

It is in “tertiary process play” where we obtain a more robust sense of play transforming and acquiring a clear adaptive function through being selectively shaped and modified. Here, Burghardt and colleagues argue that play at this stage has been targeted to enhance fitness and performance through the modification and refinement of relevant neural pathways and circuits (Pellis et al., 2010). Aside from honing certain physical and cognitive abilities, some forms of play would also have been co-opted as a means of managing social relationships (Pellis & Pellis, 2006) or for mate selection (Chick, 2001; Moraes et al., 2022). Especially for the latter functions, this more targeted and functional use of play is perhaps more apparent in instances of adult play (Palagi, 2010).

This three processes approach of accounting for the fitness benefits of play is successful in one sense in that it avoids committing the teleological fallacy. This is done by making the crucial distinction between the origins of play in primary process play (i.e., treating play as a by-product) and its eventual co-optation into more direct functional and adaptive uses in secondary and tertiary process play.

However, I think there is still a lingering methodological adaptationism informing this view biasing inquiry towards finding ways to re-insert talk of adaptive functions into the picture. This approach does not get to the heart of the rather tenuous connection between play and its fitness benefits. The main problem in my view is not so much about accounting for the origins of play without presupposing its fitness benefits at its inception. The main problem is when one starts to make the playful activity intelligible and assessable in terms of its fitness benefits, and especially so when one starts to attribute an adaptive function to the activity.

This is not a problem in most adaptive behaviours where the survival and reproductive benefits have a sole direct role in the context of the proximate mechanisms structuring the behaviour. Adaptive behaviours depend on the causal explanatory interplay between proximate mechanism and ultimate function (Davies et al., 2012). Selective pressures are the primary drivers behind the modification and elaboration of the proximate mechanisms for adaptive behaviour. The ultimate and proximate questions both explain and provide a rational framework for understanding how (mechanism) and why (function) the behaviour came to be shaped and structured. In these cases, an adaptive function can be clearly identified in the proximate context where the behaviour is expressed. The ultimate “Why?” question concerning survival value and the proximate “How?” question concerning mechanism inform one another in a deep way through their shared selective evolutionary history. An activity’s acquiring an adaptive function as such means that the activity has been, through a process of natural selection, cumulatively enhanced, modified, and structured as a reliable mechanism that addresses some adaptive problem/s.

An attribution of a function to play creates a tension between two ways of making sense of the context in which the playful activity is expressed and structured. There would be the immediate non-functional proximate context in which the activity is

expressed. Importantly, the playful activity is said to be expressed and shaped within contexts where selection pressures are relaxed. At the same time, if this activity is itself co-opted and is said to have acquired an adaptive function, the context should also change into an adaptive functional one; that is, one that is conducive to cumulatively shaping and modifying the activity so as to make it a more reliable mechanism in attaining its adaptive outcome.¹⁴ So, there are two conflicting contexts here: one where the activity is shaped within a context of relaxed selection and another, more functional context where the activity is supposed to be modified and engineered by selection.

One is then left with a confusing scenario of how to understand and assess the activity itself and how action within it is structured, regulated, and most importantly, evaluated. Should we make sense of the activity as an adaptation, in which case we should assess its proximate behavioural context based on how successfully and reliably it, as a functional mechanism, achieves its adaptive outcome/s? Or should we make sense of the activity as it is in its original non-adaptive, non-functional context?

One might think that both ways of understanding and assessing the activity can be accommodated and are not necessarily opposed. I agree with this, but only if we think of the fitness benefits just as benefits and not as adaptive functions. A change of orientation of the immediate proximate context matters as it is crucial to identifying how the activity within the context is structured. The problem with the imposition of an adaptive function to play is that, as an adaptation, it is beholden to the “What is it for?” function question. This indicates a strong co-optation of the activity and imposes an adaptive logic on how it is eventually shaped and modified. I am not arguing that this is not possible. Exaptation of a spandrel into something with an adaptive use is a legitimate evolutionary possibility. But the spandrel in this case ceases to be a spandrel, and becomes a proper adaptation. A trait cannot be intelligible both as a by-product and an adaptation at the same time. It is only either a by-product or an adaptation at any one point in time.¹⁵

¹⁴ Intrinsic motivation can also figure here understood as a component of the adaptive mechanism.

¹⁵ Not to say anything about possible plastic and flexible co-optive uses of a trait.

The same thing can be said with play that is co-opted and acquires an adaptive function. If play has been co-opted for adaptive use in the sense of it being modified for the purposes of some adaptive outcome/benefit, then it seems that the shift from a relaxed selective context to one of active selection and modification of behavioural variants for adaptive purposes entails a shift in how the activity itself is to be understood. Play cannot be both expressed in a relaxed adaptive context but at the same time also selectively modified for an adaptive benefit. When in the beginning, the functional question “What is it for?” is irrelevant, the shift in orientation towards making this “What is it for?” question relevant should invite questions whether we can still consider the activity before and after it acquires a function the same activity.

Let me unpack this a bit more. Bird feathers originally evolved for purposes of insulation and temperature regulation and was only later co-opted to promote flight (Gould & Vrba, 1982). One can trace here a morphological character, bird feathers, as it goes through various evolutionary changes in function. Is this feather example analogous to play? That is, is play, like bird feathers, a behavioural expression that one can trace through various evolutionary changes from lacking a function to acquiring a function?

Unlike morphological features which can be readily and easily individuated independent of how they are used, activities and behaviours are individuated more based on their use and purpose. The activity of predation is tightly linked to its adaptive benefit. Fighting skills, similarly, can have multiple analogous adaptive uses, such as to assert dominance in a group, to fight off competition for mates, and so on.¹⁶

One can co-opt some behavioural elements in one activity towards a different use in another activity, such as when some sequences related to fighting are used in play-fighting. Although real fighting and play-fighting have, on the surface, similar behavioural elements, the fact that they vastly diverge in the purpose of use (i.e., one is used for aggression while the other is for affiliative interaction) shows that context

¹⁶ What seems to be going on here is that some fight-based behavioural repertoire or system can be applied in different (adaptive) contexts. Unlike in the case of play, fighting behaviour in and of itself can be considered a general-purpose behaviour system that can be deployed in a variety of adaptive contexts. A fight-based behavioural system is also readily explainable within an adaptationist framework due to its clear adaptive uses, something that play lacks.

of use is important in individuating behavioural categories and activities. Real fighting and play-fighting, despite close similarities, are very different activities (Smith, 1997; Cordoni et al., 2023). One can have similar-looking behaviours but would be counted and individuated as completely different activities because their contexts are very different. Individuation of activities and behavioural repertoires, sequences, and systems as such critically depends on their context of use.

The same can be said with play behaviour. Play is expressed and embedded within a context of relaxed selection. Like any behavioural sequence, it can also be co-opted for other purposes beyond its original context. But once the context of use shifts, especially a dramatic shift from a relaxed selective context to a decidedly adaptive functional one that answers *what it is for*, then it is best to treat this shift as a change from a playful activity to a non-playful one.

I do not deny that there could be adaptive activities that can also be conducted in a playful way with a playful disposition. Still, the point remains that one can potentially recruit or co-opt behavioural and even dispositional elements from different activities and apply them to a different context. The context is still importantly different. The analysis of the activity and how one categorises it still relies on its context of use or at least the most salient and relevant context given the circumstances. Playful predation, for instance, is still categorised as a form of predatory behaviour but with an added playful dispositional element borrowed from a playful context.¹⁷

The main takeaway here is that *play as an activity expressed within a context of relaxed selection exhibits a structural autonomy and intelligibility understood independent of any instrumental adaptive context*. Re-orienting the context of play to serve more instrumental or other external functional purposes displaces this structural autonomy and intelligibility and thus risks losing any meaningful sense in which one can still call this instrumental re-orientation play. That said, keeping the structural autonomy and intelligibility of play intact does not mean that it cannot have any

¹⁷ One might think that playful predation is instantiated primarily in adaptive contexts but in relatively safe environments such that a relatively relaxed space is perceived and so a playful disposition is afforded. This is still different from more exclusive play context where the very activity itself is structured around the playful disposition and mood, something that is not the case with playful predation.

instrumental effect or outcome. Being independent of any instrumental adaptive context does not mean that it is also immune from producing any external effects or consequences.

One way in which one can still tie play to selective forces without any problematic attribution of an adaptive function is to say that play is still a “product of selection” in the sense of it not being selected against because it is not maladaptive enough to be deleterious for the animal. In this case, play would not strictly have an adaptive function since it was not modified or engineered to fit or solve any specific adaptive problem.

The takeaway however only furthers the puzzle of how fitness benefits can be accounted for in play. The question would now take the form of how any possible adaptive outcomes that arise from play can be explained without some form of instrumental or external functional encroachment into its autonomy and intelligibility as an activity expressed in a context of relaxed selection.

Recall the distinction between primary and secondary functions: primary functions answer *what something is for* while secondary functions answer *what something is good for*. I also argued that while a primary function risks functional or instrumental encroachment on how the non-instrumental activity is conducted (that is, the activity’s structure is transformed from a non-instrumental one to one that is concerned with reliably achieving some external outcome or function), a secondary function does not carry such a risk.

So, while co-opting and attributing a (primary) function (i.e., what play is *for*) changes the context of play into an adaptive-functional one, just accounting for external benefits and outcomes in this secondary way (i.e., what play is *good for*) does not entail a problematic shift in context. Instead of proposing a strong functional co-optation of play by subsuming it into an adaptive context, I suggest that a better way to account for play’s adaptive advantages and at the same time maintain its structural autonomy and intelligibility is to take a secondary functional approach to its fitness benefits. That way, the fitness benefits can be accounted for without carrying the risk of functional or instrumental encroachment.

This explanatory strategy in my view is a more promising way of accounting for play's fitness benefits without the need to appeal to a strong functional adaptationist explanation. My preferred explanatory approach not only avoids the teleological fallacy, but it also, unlike the three process play strategy, keeps play's structural autonomy and intelligibility intact. In the next section, I cash out this alternative non-functional explanatory strategy of accounting for play's fitness benefits.

6. Fitness Without Functions: The Role of Developmental Cascades and Pathways

One way to account for the adaptive benefits of play without the need to attribute any function is by taking a more detailed and nuanced look at the role of play in the early development of the individual. Here I highlight the notion of a developmental cascade model where advances in one domain or subsystem (i.e., play) can exert far-reaching and cumulative downstream effects in other seemingly unrelated domains in a developing individual (Oakes & Rakison, 2019; Iverson, 2021; Tamis-LeMonda & Lockman, 2023). The notion of a developmental cascade is supposed to capture crucial features about living systems with complex life histories. These complex life histories involve multiple intersecting developmental domains. What is important here is to emphasise that these developmental domains are interdependent and do not exist in isolation: milestones in one developmental subsystem can produce cumulative downstream effects and modify individual trajectories in other seemingly unrelated domains and also on the wider niche or environment (including the social environment) where development takes place (Iverson, 2021).

An example of this is the relation between two developing domains in the human infant: motor skills and the acquisition of language. An advance in motor skills tends to follow a further advance (i.e., has a cascading effect) in the child's communicative abilities. Once a child learns to manipulate objects and sit up on their own, these motor skills further enable the child to engage with social partners more, which also further facilitates attention and interaction towards objects (Iverson, 2021). Once the child starts to crawl and walk, even more diverse forms of object-oriented interaction is facilitated with a much more expanded environment made available to the child.

Walking in particular opens up affordances that puts the child in a prime position to more fully orient and situate themselves within the human niche. The way Iverson explains it emphasises how certain experiences and affordances are enabled once the child gains the ability to walk:

The emergence and development of walking once again radically alters infants' experience with and ability to explore the environment. Whereas the world view of crawling infants is dominated by the floor, walking infants have enhanced visual access to distally located and elevated objects and caregivers' faces (Kretch et al., 2014). They can explore environments more efficiently, carry objects while locomoting more frequently, and cover greater distances while doing so (Adolph & Hoch, 2019). (Iverson, 2021)

From this description of how experience is transformed once one is able to walk, Iverson argues that this triggers a developmental cascade engendering a wider range of caregiver input and facilitating more sustained interaction which leads to further refinement of motor skills and communicative abilities that ultimately leads to the learning and eventual acquisition of linguistic capacity (Iverson, 2021). Beyond language, the more sustained social experience one gains can also enable the scaffolding and acquisition of other crucial capacities like executive function (Baarendse, 2013).

I propose that a similar potentially transformative relationship can be gleaned between play as an autonomous developmental domain and other more adaptive developmental domains like those that involve sensorimotor ability, neural processing, negotiation of social relationships, and so on. The developmental cascades model is a fairly recent approach in developmental psychology and no systematic study on play behaviour using this approach seems to have been conducted thus far.

I wager that this is a fruitful way to approach the causal relation between play behaviour and its fitness benefits. The upshot of understanding play through a developmental cascades model is that the benefits and effects it brings about in other adaptive domains can still be causally traced to play behaviour, but instead of treating the fitness benefit as a direct adaptive output of a behavioural mechanism as in the

strict functional sense, the causal relation is produced through a complex and intersecting network of more or less autonomous but nonetheless interdependent and intersecting developmental domains.

In this sense, play can maintain its structural autonomy and intelligibility as play but at the same time, its effects can be accounted for through the causal cascade of consequences it influences in other more adaptive domains. The fact that multiple possible beneficial (as well as detrimental) outcomes in different domains can be observed in animals that engage in play is indicative of a cascading effect as opposed to a more narrowly defined and targeted effect that a functional mechanism is apt to produce. Of course, a functional mechanism can also produce other effects that go beyond its function, but this does not belie the fact that something with a primary function (what it is for) can also produce secondary effects or outcomes (what it is good for).

The upshot here is that causal relations/systems that yield some end point or effect, even those that reliably produce adaptive outcomes, need not take on a functional mechanistic structure. Cascades, as well as the related notion of a pathway, not only have distinctive causal structures, they also warrant different explanatory resources and strategies compared with mechanism-based explanations (Ross, 2021; 2022).

A distinctive feature of cascades as a causal system is that they start with an initial triggering cause or stimulus which then amplifies certain knock-on effects and other large-scale outcomes much like snowball or ripple effects (Ross, 2022). Causal cascades are marked in this way by the more diffused and less targeted effects they generate. Some clear examples of cascades include “trophic” ecological cascades, such as when the elimination of a predator population triggers large-scale knock-on effects to the rest of the ecosystem, and cascading disasters, such as when an earthquake triggers more disasters such as tsunamis, infrastructure collapse, and further disasters resulting from those and so on (Ross, 2022). Serving as a causal amplifier for certain effects is a different way of accounting for causal relations than is given by functional mechanistic accounts, which tend to offer a tighter and more linear input-output-oriented causal story. Cascades cast a wider and more dispersed causal net producing a loose network of effects.

One way to unpack the different manner of explanation between the two is that with a functional mechanistic explanation it is more natural to ask the primary functional question “What is it for?” For cascades on the other hand, with its amplification effect and the wider and more dispersed causal web it produces, to ask of the causal trigger or initial stimulus “What is it for?” seems inappropriate – even the secondary functional question “What is it good for?” does not seem like the right question to ask. For instance, one does not ask what an earthquake is *for* or *good for*; similarly for the extinction of a predator population. Cascades seem to account for any causal consequence be they good, bad, or neutral. Functional mechanisms are more targeted and specific about their outcomes, which are usually targeted precisely because they bring about some beneficial or desired effect. Cascades do not exhibit this functional profile.

However, one might reinsert asking “What is it good for?” in a causal cascade by focusing inquiry into its potential beneficial knock-on effects and outcomes. Knock-on effects and outcomes, beneficial or otherwise, do not exhibit the strong functional profile needed to attribute a functional mechanism at work. These kinds of effects are more indirect and secondary than an attribution of a primary function would warrant. As such, asking the secondary functional question “What is it good for?” is a more apt way of accounting for whatever beneficial outcomes may accrue from the initial cause or stimulus of a cascade.

Developmental cascades should work in the same way. The cumulative effects of a triggering cause are best treated not as an answer to the primary functional question “What is it for?” but as a diffuse set of consequences, be they beneficial, deleterious, or neutral. Within this set of consequences, one can inquire about the benefits resulting from the trigger or stimulus by asking not what it is *for* but what it can be *good for*.

Play can thus, from a developmental cascades perspective, serve as a developmental trigger that results in certain beneficial adaptive (and sometimes neutral or maladaptive) outcomes without the need to confer a function. So, within a developmental cascades perspective, one is well-positioned to ask “What is play good

for?” instead of “What is play for?” This more nuanced treatment of the role of play within development recognises the dynamic and interdependent relationship between various contexts and domains relevant to a developing system. One need not place a critical triggering causal factor (such as play) within the same context with which one locates the adaptive benefit it produces.

A specific causal trajectory within a cascade can be traced in the form of a pathway, which is more like identifying a route in a map instead of a mechanism. Lauren Ross argues that mechanisms and pathways (just like cascades) employ distinct explanatory modes and strategies:

Unlike the mechanism concept and strategy... maps do not represent a particular, discrete set of causal parts that all interact to produce a specific outcome. Instead they represent available or potential causal connections that are relevant to a variety of explanatory outcomes and causal starting points... Instead of identifying a particular explanatory target and “drilling down”, these maps involve identifying a set of entities in some domain and “expanding out” by tracing their causal connections. These connections are “available” or potential in a way that differs from the actual causal components in mechanisms—they contain information about various causal possibilities as opposed to a single, circumscribed causal process that leads to an effect. (Ross, 2021)

As opposed to a mechanism, a causal developmental pathway, much like a map, traces a route from a stimulus to the adaptive outcome to establish a causal link between separate but nevertheless entangled developmental domains. Detection of a developmental trajectory amongst causally linked but separate domains can be marked and identified as a developmental pathway instead of a clearly targeted input-output causal structure countenanced in functional mechanisms. The interdependence between subsystems facilitated by means of a broader developmental cascade establishes how the activity of one component alters the trajectory of others in the pathway. Play’s contribution to certain benefits can be accounted for in the same manner, not as part of a functional mechanism, but based on how it figures in these entangled developmental pathways.

Without necessarily reducing the individual components of these pathways to mere parts of a larger functional mechanism, one can establish the stability of such pathways through genetic accommodation of certain embodied dispositions and learning biases that predisposes the organism to follow a relatively stable and predictable developmental trajectory. The main upshot of this development-centred reading of the available evidence is that the explanation offered can account for the role of natural selection without compromising the very explanandum of concern. A more directly functional adaptationist explanation would have displaced the very features that make play what it is.

Still, appealing to the process of natural selection may be insufficient to account for the stability and transmission of developmental pathways. What a focus on developmental processes suggest is that inheritance of certain traits need not be limited to genetic heritability. A look at other evolutionary processes will give us another view of the evolutionary significance of play beyond merely looking at its contribution to what could be naturally selected for and genetically accommodated. The last two sections will focus on these other evolutionary processes.

7. Play's Latent Potential: Self-Directed Agency, Plasticity, and Exaptation

Going beyond its possible role in the process of natural selection, play is more directly recognised for facilitating the development of highly plastic behavioural repertoires (Pellegrini, 2013). Karola Stotz for instance argues that certain traits that exhibit “transgenerational developmental plasticity” (cognitive systems being a prime example) are best understood as integrated by multiple modes of heritability that not only includes genetic but also epigenetic, behavioural, ecological, social-cultural, and cognitive-symbolic channels of inheritance (Stotz, 2014). These non-genetic bases of inheritance should indicate a role for play not merely in relation to its passive selective

effects on differential fitness but also its contribution in facilitating other adaptive (and also non-adaptive) evolutionary processes beyond natural selection.¹⁸

A focus on natural selection (including genetic accommodation and inheritance) treats the organism as a passive object shaped by external selection pressures (Lewontin, 1983; Walsh, 2015; Godfrey-Smith, 2017; Ariew & Panchanathan, 2023; Jaeger, 2024). Processes such as phenotypic plasticity and niche construction emphasise the active and flexible role of the organism as a robust agent and subject in their everyday dealings with the existing environment as well as in constructing or making changes in their developmental and selective environments to create favourable adaptive conditions for themselves. These processes affect downstream lineages and other organisms impacted by their activity. They can also bypass the process of natural selection altogether through extra-genetic channels of inheritance accompanied by stochastic and irreversible genetic change.

It should not be surprising that play makes a significant contribution to phenotypic plasticity because of the way it facilitates and perhaps scaffolds the organism to express their own self-directed agency. An important sense in which play behaviour is distinct from standard adaptive behaviours, particularly “obligate” ones, is that the latter are performed out of biological necessity. Actions performed out of adaptive necessity are “heteronomous” (i.e., externally imposed) and so can be incorporated in passive, non-agentive evolutionary processes and perhaps passed on as an innate behavioural and dispositional programme. Play is more voluntary and self-directed and tends to have little, if any, role in the survival prospects of the species. One does not play in order to survive (and to think of play in this way fails to see the point of play). But an agent that is able to play might potentially be able to take advantage of this voluntary and self-directed agency for more adaptive and utilitarian purposes. It is possible that this emphasis on the active role of the organism as an agent and subject is an evolutionary contribution that play behaviour has made possible.

¹⁸ These other evolutionary processes are often appealed to by proponents of the Extended Evolutionary Synthesis (EES).

One evolutionary contribution that the agency and plasticity facilitated by play can serve as an impetus for is creative and innovative behaviour (Bateson & Martin, 2013). Given play's potential in encouraging a more self-directed and plastic form of agency, it is likely that some organisms can re-purpose or co-opt play itself or the kind of active agency it affords to improve its own fitness and reproductive prospects. If play is to have any significant and prominent role in promoting the survival and adaptability of the organism, it is likely because of the way it facilitates the expression of active, self-driven behaviour, which better enables them to engage in adaptive plastic and niche constructive processes.

A clear illustration of this co-optation of active, playful agency into more adaptive uses is the finding that object play behaviour in non-human primates can be co-opted for innovative adaptive purposes such as stone tool use (Myowa-Yamakoshi & Yamakoshi, 2011; Leca & Gunst, 2023). In the case of humans, play, including gameplay, has been recognised and used as a powerful tool for learning skills and passing down knowledge in communities (Sterelny, 2022; Zosh et al., 2018; Gray, 2017; Gee, 2008).

Moreover, there is also the direct and active co-optation of play itself (or certain behavioural elements specific to play) by the animal for adaptive purposes, perhaps using play as a secondary function or even as a primary function.¹⁹ This is likely more prevalent not in juveniles but in adults who engage in play – or use specific play elements – for navigating and negotiating social relationships amongst conspecifics (Pellis & Pellis, 2006; Cordoni et al., 2018; Palagi, 2018; Nolfo et al., 2021; 2022) or for mating purposes (Chick, 2001; Moraes et al., 2022). One interesting documented account of the co-optation of play details how a play signal like the play bow is repurposed by an outsider male wolf to gain acceptance and establish cordial relations with others as a new member of a pack (Stahler et al., 2002). This is a clear indication of the co-optation of a behavioural element unique to the context of play into a different (i.e., communicative) context. It seems that many social animals are able to recognise the utility either of particular behavioural elements or the activity of social play as a

¹⁹ I would venture, consistent with my previous argumentation, that once the organism co-opts elements of play into an entirely adaptive context, as in acquiring a primary function, then it would lose its “non-functional” character and would thus likely fall out of the behavioural category of play.

whole as a dependable mode of communication and for establishing and maintaining affiliative relations with others.

These examples show how behaviour that starts out specific to the context of play can potentially be reappropriated for more general-purpose use. More importantly, these examples also demonstrate that, despite its non-adaptive origins, play has a unique latent potential for co-optation into various proximate purposes, be they adaptive or otherwise.

I argue that play's contribution to complex adaptive behaviours such as skill learning, tool use, communication, cooperation, negotiation of social relationships, and so on is precisely because of its latent exaptive capacity. Gould expresses the same sentiment when it comes to the brain:

Natural selection built the brain; yet, by virtue of structural complexities so engendered, the same brain can perform a plethora of tasks that may later become central to culture, but that are spandrels rather than targets of the original natural selection.... Surely, for something so complex and so replete with latent capacity as the human brain, spandrels must vastly outnumber original reasons, and exaptations of the brain must greatly exceed adaptations by orders of magnitude. (Gould, 1991, p. 57)

Similar to the brain, play is also marked by the behavioural flexibility and complexity it affords. Unlike the brain, however, play is a case of a spandrel that produces other spandrels and adaptive exaptations. Inquiry into survival value in this sense is not limited to providing a selectionist functional explanation, but one in which "current use" is a separate, independent inquiry that deals with the more proximate concerns of the organism than the "original reasons" of adaptively functional traits (Bateson & Laland, 2013).

Importantly, "current use" need not just be relegated to questions about fitness and other instrumental adaptive purposes. The active plastic and niche constructing agent need not merely be an instrumental or adaptive agent. Playful behaviour on its own can be pursued by the animal independent of its survival value. And as Gould

mentions, we humans engage in a plethora of tasks and cultural activities that are better considered as spandrels than adaptations. Various forms of art and ritual practice likely emerged as evolutionary by-products (Hodgson & Verpooten, 2015).

A space of relaxed selection can enable this kind of non-instrumental or non-adaptive agency to emerge. Agents in this space of relaxed selection can be motivated to flexibly act and construct niches that are themselves spandrels which may have little to do with any adaptive advantage. The minimal condition needed for such kinds of behaviours and constructed niches to flourish is that they are not themselves maladaptive. Active and sustained maintenance of surplus resource conditions should again act as a reliable buffer against this space being maladaptive. SRT shows us how a space of relaxed selection is itself supported or scaffolded by other processes and practices that facilitate a stable maintenance and management of resources responsible for the organisms' survival needs.

8. Building a Stable Space for Affording Play: Developmental Niche Construction as Scaffold

At the end of section 4, I indicated how the initial emergence of play can be characterised as a genuine by-product, that is, purely as an unexpected and unintended effect of surplus resource conditions. The organism might have just been fortunately situated within environmental conditions that favourably facilitate the expression of play. This account does not give the individual organisms any active role in the phenotypic expression of play. In these cases, play may likely be an atypical behavioural pattern in the species.

8.1. The Role of Development in the Stable Expression of Play

However, play can also be established as a stable pattern of behaviour that is maintained as part of the animal's constructed niche. Play can still be considered a spandrel in these cases, but perhaps not merely as an unintended effect but as a reliably recognisable and species-typical component of an individual's life cycle. Play may establish itself as a critical component of a species' developmental trajectory.

Selection of developmental pathways may have strengthened and stabilised the species-typical expression of play. Alternatively, I will again explore another possibility here of a more thoroughly non-adaptationist account. Here I will emphasise the animal as an active agent that constructs a niche not merely for the niche's selective advantages but for other purposes and motivations that are either adaptively neutral or not inherently maladaptive but are nevertheless robustly sustained, supported, and enabled by surrounding resources that do support the continued survival and reproduction of the agent.

One way in which this idea can be explored is through the notion of domestication (or self-domestication in the case of humans). Burghardt (2005) thinks that there are important parallels between SRT and domestication theory in that both seem to equally promote the expression of play. The similarities for instance can be seen in the buffering of juveniles from selection pressures via parental care as well as significant changes in morphological development with domesticated animals showing signs of the retention of neonatal and juvenile features well into maturity (Burghardt, 2005, p. 177-8). Although the notion of domestication may be important, what I want to emphasise in this section – and what I think is more explanatorily central to play behaviour – is the role of developmental systems in the sustained and stable expression of play as a species-typical behavioural phenotype.

I have already noted the crucial role of developmental cascades and pathways in accounting for the fitness benefits of play without compromising the structural autonomy and intelligibility of play. But our concern now is how play can be reliably transmitted inter- generationally as a species-typical trait with some degree of fidelity and without appealing solely to genetic modes of inheritance of the behaviour. The important point to be made here is to account for play not as some modularised behavioural system or programme that is neurally ingrained and selected for.

Bell and colleagues (2015) propose that play is better treated as a by-product of an organism's embodied anatomical features and sensorimotor capacities. The distinction to be made here is whether to think of play as a behavioural programme that is specified strictly or loosely as a brain-based module or heuristic or to think of it more as a kind of affordance-based embodied skill. The latter is less about having the

behaviour pre-programmed and functionally selected for but more about the organism's proximate embodied comportment with their current environment. This is consistent with the constraint-based structuralist perspective evoked earlier emphasising CAB-enabled body plans as a crucial necessary constraint in the expression of play behaviour.

I suggest that the best way to think about how play can be inherited without invoking strong selectionist-functional explanations is by way of developmental niche construction (henceforth DNC). I rely on Karola Stotz' (2014; 2017; Griffiths & Stotz, 2000) articulation of DNC as a reliable means of transmitting certain species-typical traits through the extra-genetic inheritance of resources made available in the developmental niche. DNC provides the developing organism space in their upbringing to learn and acquire traits relevant in the reconstruction and modification of a species-typical life cycle (Stotz, 2017). This developmental niche is precisely where the organism can benefit from critical physical, ecological, and social resources such as parental care, nutrition, habitat, and social stimulation/ learning.

Perhaps no other species exemplifies DNC more than the human developmental niche:

As social mammals, humans have an intensive developmental niche for their young — soothing perinatal experience; warm responsive care; nearly constant physical touch (carrying, co-sleeping); years of breastfeeding; free play in the natural world. The human developmental niche became more intensive because of the immaturity of the neonate, adding to the social mammalian practices a positive climate of mother–infant dyad support and multiple adult carers. All these practices have known epigenetic and plasticity effects on neurobiological systems and long-term well-being of the child... *The developmental niche has powerful effects on the type of human nature one develops...* Recent empirical studies also show the developmental niche's

relation to adult mental health, sociality and morality. (Stotz, 2017, p. 5, emphasis mine)²⁰

An important point to note here is that the developmental niche is more than simply about influencing the selection pressures that affect the organisms involved. It is instead best characterised as a space for the organism to develop its own distinctive way of life (West et al., 1988; Stotz, 2017). Similar with SRT, DNC is also concerned with establishing a space of relaxed or reduced selection as well as an enriched environment (i.e., offering the individual/s a variety of stimuli) affording the organism some space to develop traits independent of or before any selection pressure can take effect (Stotz, 2017, p. 6).

Also like SRT, DNC is most relevant during the immature stages of the organism's developmental cycle. With DNC, neonates/juveniles inherit and are initiated into a way of living that is actively constructed by their parents and accordingly express developmentally-induced plastic traits (Stotz, 2017). Developmental processes are said to facilitate novel and inventive expressions of plastic behavioural traits that cannot be specified in advance by selective evolutionary factors (Kirschner & Gerhart, 2005). Play's recognised developmental role in facilitating a high degree of behavioural flexibility looks well-positioned to promote these highly plastic phenotypes.

8.2. The Developmental Niche Versus the Selective Niche

DNC is a distinctive form of niche construction that can be contrasted with more selectionist-oriented accounts of niche construction. Whereas DNC is concerned with the organism's active role in the reliable and flexible inheritance of developmental resources for the *reconstruction and modification of a species-typical life cycle*, what Stotz (2017) labels selective niche construction (SNC) refers to an organism's active role in altering their environment in a way that has a direct influence on selective pressures acting on the organism. Moreover, the role of inheritance in SNC depends

²⁰ The developmental niche in relation to the development of the human normative agent will be the subject of the last chapter.

largely on the ecological heritability of selection pressures acting on the offspring population. DNC on the other hand relies on an offspring's inherited resources, including epigenetic resources passed on through the lineage, specific to channelling the way the organism develops (Griffiths & Stotz, 2017). The role of inheritance in DNC is thus cashed out primarily through the reliable (re)construction of offspring phenotype through "the set of epigenetic, social, ecological, epistemic and symbolic legacies inherited by the organism as necessary developmental resources" (Stotz, 2010).

Herein lies where DNC is crucially relevant for the reliable expression of play behaviour. While SNC addresses questions of evolutionary significance in terms of the organism's agency in influencing its differential fitness and reproductive success, DNC's evolutionary significance lies in the active role the organism plays in constructing or channelling how the offspring develops and matures, which serves as a source of phenotypic variation (i.e., a form of "facilitated variation"; Kirschner & Gerhart, 2005). DNC as such is more interested in the shaping and moulding of the organism and its capacities as well as promoting the kinds of activities and practices the organism takes as valuable or perhaps simply as part of its mode of living. What may be taken as valuable or part of the "form of life" of the organism need not necessarily be tethered to some survival or reproductive value.

Play is again one example of this kind of non-instrumental activity or practice pursued by the animal "for the fun of it" and for no other further adaptive purpose. As mentioned earlier, DNC facilitates developmentally plastic phenotypes shaped by the learning and social environment passed on to them by their parents who themselves are products of such environments. This developmental niche that the offspring is immersed in provides the rich setting that, more than about influencing selection (the role played by SNC), is primarily about creating novel and highly plastic phenotypic variation via the transmission of extra-genetic resources passed on through the developmental niche. This is where the organism can make an active contribution about how its offspring are raised, giving room for play to be expressed as a critical component in the species-typical life trajectory of the organism. Variation and plasticity need not only serve the purposes of selection, it can also facilitate other modes of being and engaging with the world.

8.3. The Role of Experience as Engaged Activity in Development

Relatedly, DNC also gives pride of place to “experience” in directing the developmental trajectory for the organism (Stotz & Allen, 2012; Stotz, 2017). Burghardt (1997) himself stresses that the experiential lives of organisms should be considered a key pillar in the study of behaviour (indeed emphasising that it should be added as a separate fifth in Tinbergen’s four questions). Giving an important role to experience gives room for extensive exploration, social stimulation, and learning as crucial developmental processes for the organism (Brown, 2014). These early experiences act as developmental milestones that can facilitate a cascade of effects that scaffold and shape novel capacities on top of more basic capacities instantiating a ratchet effect where a cluster of capacities are acquired once certain developmental thresholds are reached.

As shown earlier, an infant’s developing sensorimotor capacities (i.e., from sitting to crawling, standing and cruising, and eventually walking) serve as critical experiential stimuli for initiating a developmental cascade opening the child to a wider environment and more robust social experiences which further lead to acquiring capacities like language, executive function, and so on (Iverson, 2021; Baarendse, 2013).

Crucially, how this developmental cascade works involves the transformation of how the child experiences their own bodies and the wider physical and social environment (Iverson, 2021). Experience here is to be understood not merely as bare Humean impressions or sense-data but rather as its older meaning as a kind of active practical experimentation or honing of one’s capacities in the world (MacIntyre, 2007). One can think of experience in this manner as a way of shaping or sharpening one’s affordances through one’s skillful engagement with the world. This is not experience *qua* private conscious episodes unpacked by the passive raw feeling of “what it is like” but experience *qua* engaged activity that facilitates an agent’s practical attunement with their environment, a notion of experience recovered by the American pragmatists (Brandom, 2013).

Acquisition of linguistic capacities for instance make available to experience certain linguistic affordances such as being able to “see” words on a page or “hear” a

conversation being had (Noë, 2012). These are affordances that would not be available to an agent absent a linguistic capacity. The experience of linguistic affordances as such is not merely a passive conscious impression but the instantiation of an acquired skill at work in a linguistic agent.

Language itself is an exceedingly capacious faculty in that it can also serve as a crucial node in facilitating a ratchet effect producing social agents that can construct novel social practices which themselves enable further abilities (Brandom, 1979). Language, much like the brain, can be counted on as a kind of exaptation engine *par excellence* with a latent potential to produce all sorts of novel uses, activities, and abilities that are distinctively shaped by the various forms of social practices that language makes possible.²¹ One need only a passing glimpse of the human niche to observe the myriad social practices (i.e., artistic, scientific, athletic, epistemic, cultural, moral, political, economic, and of course, game practices among others) humans are able to construct and the practice-specific abilities that they make possible.

Importantly, these shared practices not only enable new ways of intending, believing, and desiring, they also transform at a fundamental level how we intend, believe, and desire (Boyle, 2016; McDowell, 1994) by shaping and integrating these mental states within a shared public (i.e., linguistic and also normative) space of folk-psychological attribution (McGeer, 2015; Zawidzki, 2013).

This notion of experience as engaged activity plays well not just in the hands of linguistic agents but also of playful agents. Engaged playful activity looks well-positioned to provide the individual animal with rich transformational experiences that can help facilitate the developmental trajectories needed to acquire/scaffold certain skills and achieve developmental milestones from a DNC and developmental cascades perspective. If used and co-opted or even recognised for its pedagogical purposes, play can serve as a reliable pathway for learning and acquiring developmentally plastic skills (Zosh et al., 2018).²²

²¹ The evolution of various components of language itself is argued to have gradually emerged from a cascade of exaptations (Fitch, 2012).

²² More on how play can be treated as an educational tool through pedagogical or guided interaction in the last chapter.

The psychologist Jerome Bruner and colleagues, for instance, saw important developmental connections between the structure of ritualistic interactions observed in the mutual reciprocal play between infant and caregiver and the structures that give rise to the capacity to engage in speech acts and other linguistic practices (Bruner, 1975; Bruner et al., 1976; Bruner & Sherwood, 1976; Ratner & Bruner, 1978; Camaioni & Laicardi, 1985).²³ This will be discussed further in the last chapter.

8.4. Acquiring Novel Capacities Through External Scaffolds

Note that the expression of these developmentally-induced capacities do not result from selection processes generating instinctive and pre-programmed behavioural sequences and mental dispositions. These capacities are not pre-determined or anticipated in advance. Instead, they are actively constructed and maintained by the organism through its active engagement with its environment and by co-opting and exploiting existing capacities that have latent potential (such as play or language) for producing novel uses and variations in phenotypic expression in the process of this active engagement. These capacities are thus more of the developmentally acquired and cultivated kind rather than one that is prefigured and modified by natural selection.

These capacities in principle should not be obvious (or at the very least they should be highly indeterminate) from referencing all the bare facts relating to the individual organism at inception which include features like hardwired cognitive and behavioural programmes to highly conserved body plans going all the way down to the genetic and molecular facts pertaining to the organism. This means that DNC, taken as a process external to the organism, is taking a more prominent role here in the expression of these capacities. Of course, the relevant facts in the expression of these capacities would also have to include certain genetically inherited traits, but the most salient facts would have to come from factors and properties relating to the developmental niche.

²³ See however Rome-Flanders et al. (1995a) showing a failure of replication, however the same researchers (Rome-Flanders et al., 1995b; Rome-Flanders & Cronk, 1995) do confirm the ability of the infant to master rule structures and constraints in interactive games.

One might treat the developmental niche as an “extended phenotype” as Richard Dawkins (1982) claims. This assumes a strict selective-genetic process as the main evolutionary factor explaining these external developmental resources. While for some niches this could be the case (such as a genetic programme for nest building in birds), Kim Sterelny (2010) argues that this can at most plausibly apply only to a subset of constructed niches and that other niches may be properly characterised as a kind of ecological, rather than genetic, inheritance.

The notion of a scaffold is of particular relevance in the expression and cultivation of these novel, developmentally-induced traits – the developmental niche being an exemplary instance of a scaffold. Scaffolds are structures and environmental resources external to a developing system that facilitate the reliable reproduction, acquisition, and maintenance of a capacity, skill, or dynamic state by triggering and regulating developmental processes in the developing system which would otherwise be too costly or improbable without such external structures supporting the developmental process (Bickhard, 1992). These structures provide external guiding or limiting constraints on the potential developmental trajectory of the developing system.

These external constraints provide crucial support for acquiring or amplifying certain capacities including cognitive capacities, enabling a kind of “environmentally scaffolded intelligence” (Sterelny, 2010).²⁴ Scaffolds are also of particular importance for organisms with complex life history trajectories because they make possible the reliable and facilitated reproduction of these complex life cycles (Griesemer, 2016). DNC’s role is precisely to act as a scaffold that externally helps direct and constrain the trajectory of these complex life cycles. Play with its latent potential can contribute to DNC as a form of scaffolding that triggers developmental cascades leading to relevant life history outcomes and the acquisition of capacities. The role of interactive games between child and caregiver for instance has not gone unnoticed by some developmental researchers as an important form of social scaffolding in the human developmental niche (Hodapp et al., 1984).

²⁴ Language again also deserves mention here as a powerful external scaffold that can be said to enable a transformation of existing mental capacities embedding them within a shared normative space (Boyle, 2016; McDowell, 1994).

It is worth pointing out that absent any relevant external scaffolding or any references to it, these types of developmentally-induced traits cannot be derived or anticipated from brute facts about the individual organism particularly when one inhabits a functional-selectionist perspective. The existence and instantiation of these capacities are constitutively dependent on the fact that these external scaffolding structures are in place to trigger and channel developmental processes towards the specific acquisition of these capacities. As is well-known in cases of feral human children, any human child that is not embedded in a human community for a certain period of their infancy and childhood will not have the opportunity to acquire mature linguistic skill. The capacity for language likely depends for its expression on the robust external developmental infrastructure that humans have inherited and continuously used, revised, and built on throughout human history. This is crucial because these types of acquired skills are best understood not from a retrospective lens of what the agent *is* (or has been in the past), but more from a prospective lens of what the agent *can potentially be or can become*.

Of course, many of these developmentally-induced capacities have appeared in the evolutionary past and as such has made concrete causal contributions to the evolutionary trajectory of downstream lineages. Perhaps some of these capacities can eventually be accommodated and accounted for at the genetic level through selection. This is a plausible evolutionary possibility, but selective modification need not apply directly to these capacities. What may likely be the case is that there is genetic accommodation of instinctive biases and dispositions that channel or prejudice phenotypic expression towards the direction of acquiring these capacities in development. The point to be made here is that the distinctively non-selectionist evolutionary trajectory afforded by DNC is an alternative path where one cannot specify the phenotype in advance and independent of the external developmental structures and resources that scaffold it. That is to say that the phenotype is shaped by inheritance factors that are largely external to the organism (i.e., ecological or social-cultural inheritance).

These scaffolds are important to note also because the kinds of capacities we can presuppose and expect an organism to express may not necessarily be those that are currently or have already been expressed in its evolutionary past. A functional-

selectionist outlook tends to be backward looking in this sense and requires this historical orientation to explain a character's functional capacity. To explain an existing trait through this process is to highlight how its past instantiations have contributed to the survival prospects of the organism's ancestors. DNC need not have this orientation.

8.5. DNC's Prospective Orientation (Versus an Adaptation's Backward Orientation)

DNC's outlook can be understood as forward-looking in that it emphasises the organism as playing an active role in the evolutionary process, particularly with its emphasis on the generation of novel variations. The active construction and reconstruction of the developmental niche also depends on certain ecological and social-cultural inheritances to be sure, but the orientation is with the niche's current or potential utility (i.e., exaptations) which need not assume nor rely on how the niche (or its function, if any) was historically generated (Bateson & Laland, 2013). Adaptations are oriented towards the evolutionary past, while exaptations are concerned with current and prospective uses. Moreover, not only does DNC promote the expression of novel variations and developmentally plastic traits, it also gives the animal some latitude to construct, explore, and express latent possibilities with the extant resources, traits, and capacities it has been endowed with. The focus is what can be possible with the organism and not simply with what the organism has been able to achieve in its evolutionary past. DNC is oriented more towards potentialities rather than past actualisations and achievements.

This forward-looking orientation can be observed in language which is sustained by cycles of learning and use. While the learning depends on what has been passed down through generations, the cycle also incorporates "errors" and innovations generated by current users of the language (Smith, 2022). These errors and innovations stemming from current use cannot simply be read off from an etiological or bare functional reading of language.²⁵

²⁵ Notice how this resembles the Kripkensteinian (Kripke, 1982) critique of rule-following based on past instantiations of following a rule.

Moreover, while learning can also be understood from a kind of functional “transmissive” perspective which relies on a reliable transfer of information or skill (English, 2016; Kennedy, 2006) perhaps with an emphasis on fidelity of transmission, a more “participatory” mode of learning deals more with the formation and initiation of co-recognising agents and committed participants in a shared social practice. The latter is a better model for understanding language learning. Reliable transmission of various aspects of linguistic practice is also important, but how it has been practiced in the past has no special authority in determining how current users of the language ought to use it.

Language users are free to co-opt linguistic resources for novel uses and invent new ways of using language. This goes back to the earlier claim made about language as an exaptation engine *par excellence* with a latent potential to produce all sorts of novel uses, activities, and abilities. Exaptation again is prospective, not backward looking. Past usage of a language is a subject of historical curiosity, not a basis for current correct use.

Taking either a functionalist-selectionist perspective or this more forward-looking exaptationist orientation can reveal attitudes or expectations towards various species and what they are capable of. The emphasis on current and prospective use and the participatory mode of learning captured in evolutionary processes such as DNC are interested in developing highly plastic and forward-looking agents and in bringing about latent possibilities and potentialities than prior successes and actualisations. DNC is a model that highlights this prospective orientation.

We readily employ a form of forward-looking orientation and attitude towards human children. Even if at the beginning the human neonate shows no signs of being able to participate in various social practices, we still employ a proleptic or anticipatory attitude and expectation that they will sooner or later become full-fledged participants of these practices. There is a dimension of becoming here that is presupposed by inhabiting this proleptic attitude which has downstream consequences on how we engage with the individual and what we assume they are capable of learning (Segerdahl, 2017). Employing this attitude can be useful in exploring latent capacities in other organisms

such as what non-human great apes can potentially be capable of achieving linguistically (Segerdahl et al., 2005).

This attitude can also be used to explore what forms of play other animals are capable of. Dona and colleagues (2022) for instance, by artificially creating enriched and surplus resource conditions, were able to observe bumble bees engage in object play. This ability only becomes obvious in enriched environmental conditions that are far removed from the bumble bees' natural habitat. The niche the organism is embedded in matters to what traits and capacities are going to be expressed.

A study by Reinhold and colleagues (2019) were also able to demonstrate that, given sufficient time to learn, rats can engage in a game of hide-and-seek with a human being. Hide-and-seek is a complex form of social play that involves recognition of alternate hiding and seeking roles and the types of behaviour relevant for each role (without the need to introduce rewards to motivate such behaviours). This shows how learning via interactive scaffolding can reveal latent potential capacities that have not previously been observed or thought possible in these animals. A functionalist-adaptationist perspective alone does not give us a full picture of what organisms are capable of. A niche construction perspective, and DNC in particular, is more applicable for exploring what is possible for these species.

I want to stress that selective pressures are still, at some “ultimate” level of analysis, at work in DNC. DNC offers the organism space where selection is relaxed, but selection is nevertheless still at work at the background, albeit being less of a factor. Variants produced by DNC can still have fitness consequences contributing to selection processes.²⁶ But it should be stressed again that a developmental perspective, with a focus on developmental cascades and pathways, can account for fitness benefits not in terms of giving standard adaptive functional properties to traits enabled by DNC. We can again account for fitness benefits produced by DNC in terms

²⁶ Stotz (2017, p. 2) maintains that the developmental and the selective niche, even if distinct, can and do tend to overlap though this is not necessary. The bird's nest for instance is an example of this overlap: “The niche of a nest... may be equally important for growing up and for survival, although again, it would still need to be established if the parameters of the nest most protective against harsh environmental conditions or predation are the same as those providing the right temperature exposure for development or the best affordances for learning” (Stotz, 2017, p. 3).

of the secondary functional question “What is it good for?” Factors related to survival advantages may not necessarily figure in the proximate context and motivations underlying the expression and shaping of the trait through the developmental resources influencing the offspring.

As I have previously emphasised, other evolutionary factors such as drift may also figure here making room for phenotypic expressions and developmental trajectories that are not, strictly speaking, selected for but are genetically accommodated nonetheless through stochastic genetic change. In this sense, DNC (and developmental plasticity) can definitely contribute to an organism’s fitness, but not strictly and necessarily through the process of acquiring an adaptive function (i.e., via selective modification).

To synthesise, what we get with DNC is a picture of play not merely as a passive, unintended behavioural by-product, but as a robust behavioural trait that is actively facilitated as part of the species-typical life history of the organism. This trait is cultivated within a developmental niche where selection pressures are often relaxed — its expression is not driven or motivated by its fitness benefits, which at best can be characterised as an instrumental or heteronomous constraint on phenotypic expression. Instead, it is facilitated within a developmental niche with “surplus” resources that offer sufficient behavioural and psychological space for the juvenile to experience and express their own embodied agency in a more self-motivated and “autonomous” manner; that is, for its own sake.

It is precisely within the safe and nurturing environment provided by DNC where juveniles can engage in seemingly frivolous activities (at least from a functional adaptationist standpoint) like play. When survival is not a concern, one can afford to play. Just as in cases of domestication, the provision of care and environmental enrichment give ample room in the developmental niche for play to occur (Burghardt, 2005). This in turn should promote phenotypic variation and plasticity that can be cultivated within the niche. Juvenile play is thus well-positioned to facilitate a developmental cascade that promotes the acquisition of plastic behavioural repertoires typical in the animal’s life cycle (Pellegrini, 2013).

In my view, the deeper potential and significance of DNC is that it allows the animal to shape the kind of agency that they have that goes beyond merely being an adaptive agent. DNC gives the animal phenotypic space for a highly plastic expression of traits and capacities that have nothing to do with survival or reproduction. Play can be seen as a paradigm example of this. The developmental niche provides a ripe setting for play behaviour to be expressed not merely as a bare by-product but also as an activity that is actively cultivated and recognised as an integral component of the animal's way of life. Play thus is not just about facilitating the expression of developmentally plastic phenotypes, it is also integral because of its scaffolding role in cultivating an agent that is not merely motivated by adaptive ends. What is cultivated is an agent that can engage in activities that are ends in themselves – a mode of agency that is truly and thoroughly autonomous.

Chapter 6

The Structure and Patterns of Play, Part 1: Affordances, Attractors, and Spontaneous Attunement

1. Introduction

In the previous chapter, I provided a general evolutionary-developmental and structural account of play construed as a behavioural character. The account includes its criteria for identification, its enabling conditions (including possible evolutionary origins amongst analogous animal phyla with CAB-based body plans), how it can account for possible fitness benefits (without the attribution of an adaptive function), its exaptive potential (i.e., what it can be good for) in other adaptive or neutral domains beyond play, as well as its important role and stable expression across generations within a developmental niche. None of these explanations tell us anything about how play itself is structured and regulated. This is the subject of the next two chapters. In the current chapter, I discuss the structure and regulation of play behaviour, again, broadly construed. In the next chapter, I discuss more specific considerations in the structure and regulation of social play.

An explanation of a behaviour's evolution without giving us any information about how it is structured and regulated seems puzzling. Usually, identification of an adaptive behaviour's fitness benefits along with information on its origins and its (usually selective) evolutionary trajectory can also be highly informative of the proximate behaviour's underlying mechanisms (and vice versa). Ultimate evolutionary explanations should thus give us a sense of how the behaviour is structured and regulated. This is because the behaviour's selective history is considered to be largely responsible for the modification and "design" of the behavioural mechanism.

Consider for example animal signalling behaviour such as alarm calls or mating signals. These behaviours are typically interpreted to have clear adaptive functions so

their mechanisms can easily be explained in relation to how reliably or efficiently they achieve these functions. The animal communication literature tends to treat and explain animal signals in terms of the tangible adaptive effects and outcomes they produce. As Thom Scott-Phillips notes:

[T]he function of mating calls is to cause in others a willingness to mate, and the function of alarm calls is to alert other animals to potential predators. Under this usage, the word “meaning” describes what would trigger these effects, as if a signal were an instance of Gricean communication. Knowledge of the ultimate function of a call can be then used to guide research into the specific proximate mechanisms involved. (Scott-Phillips, 2015, p. 803)

A causal functional-mechanistic explanation is usually enough to inform one of how the behaviour is structured and regulated. The identified function or fitness benefit works as a kind of causal structuring constraint on the possible phenotypic “design” space that the behaviour can take on given the process of natural selection acting on the behavioural trait. The process of selection provides an evolutionary pathway that produces changes in the “design” or constitution of the behaviour over generations with the fitness benefit or function acting as the guiding and structuring constraint on its possible modification and design space.

Such kind of functional constraint informing a trait’s evolutionary trajectory does not seem to be available in play behaviour. Given the distinctively non-adaptationist evolutionary account of play offered here, there is no account of the behaviour’s function (or fitness benefits for that matter) that one can rely on to inform and guide inquiry into its structure (note that this still allows instrumental benefits – in terms of what the behaviour can be *good for* – to still obtain in play). The context in which play is expressed is non-adaptive – it is a context where selection pressures are relaxed.

Once play becomes a target of selection pressures, the context would have shifted to a selective one and many of the identifying markers (particularly the fifth criterion of play occurring in a relaxed state) would fall out of the picture thereby making it questionable whether the behaviour now being targeted still counts as play. The context of relaxed selection needs to be sustained for play to continue to obtain. So,

one may now wonder how play as an activity and how the playful movements themselves are structured, regulated, and constrained within this relaxed selective space without any instrumental function informing the context of its expression to serve as a useful guide.

One way to get some traction on this is to locate and identify a motivational component amongst Burghardt's five criteria for play. The second criterion of play being "spontaneous, voluntary, pleasurable, or autotelic" (Burghardt, 2005) nicely fits the bill here. It is therefore worth elaborating on these various motivational (as well as affective and experiential) aspects of play in the next few sections.

2. On the Motivation to Play: Autotelicity, Positive Evaluative States, and the Mood of Play

I begin with how play researchers operationally identify the second criterion in non-human animals. One way of doing this is through the experimental design of environments and activities that rule out possible instrumentalist interpretations of the behaviour (i.e., in terms of possible rewards or external benefits). Most experimental paradigms for the identification of certain mental capacities often involve giving the organism/s a "task" in which successful completion results in a "reward" usually in the form of food the organism prefers. Any task or activity with this kind of design would clearly involve instrumental motivation or an object-forward evaluation and so may not work for identifying play. Some researchers however are able to work out "tasks" or activities that can establish non-instrumental motivation and, even further, some positive markers of an activity-forward mood like fun.

For instance, Reinhold and colleagues (2019) in their study of hide-and-seek play in rats were keen to design the activity in a way that rules out the interpretation of the behaviour as goal-oriented or reward-seeking. Indicators of behavioural non-instrumentality in the hide-and-seek activity include comparisons with reward-seeking behaviours (showing clear behavioural differences with the playful activity), engaging in "purposeful" behavioural strategies (consistent with respective hiding and seeking roles), and attempts to prolong the activity (such as attempting to re-hide after being

found). Moreover, indicators of “fun” and “joy” were also observed through their vocalisations, locomotor movement, and in their playful interactions with the experimenter. This cluster of considerations indicate for the authors a clear contrast between instrumental and more fun-based autotelic engagement in the activity.¹

In their study of bumble bee object play, Dona and colleagues (2022) discuss in detail how Burghardt’s five criteria fit the ball rolling behaviour observed in their bee subjects. Note for instance how they established the autotelicity criterion:

[The] balls never provided any food for the bees and there was no evidence that bees viewed the balls as potential food sources or mates, yet they rolled balls repeatedly. In addition, in experiment 1, bees developed a preference for the area with mobile balls over immobile balls, supporting the idea that ball rolling is inherently attractive above and beyond other physical characteristics of the balls... In experiment 3, using a similar paradigm, we showed that bees' preference between two differently coloured chambers was shifted towards the chamber where they had experienced ball rolling. Together, these results support the notion that *ball rolling is rewarding in and of itself*. (Dona et al., 2022, emphasis mine)

The different experimental setups jointly strongly suggest that the ball rolling behaviour is intrinsically motivating – the bees have no clear purpose other than engaging in the very activity for its own sake.²

There might be a temptation to interpret the fun or pleasurable experience in a non-autotelic manner. One might say that the experience of fun just is the external reward

¹ Even though autotelicity or intrinsic motivation/reinforcement is commonly documented in play, it is not the only behaviour to have this motivational feature. Exploration and novelty-seeking (Mench, 1998), hunting (Hughes & Duncan, 1988), nest-building (Hughes et al., 1989), and stereotypic behaviours (Mason, 1991) have also been observed to be intrinsically reinforcing. Note that although these other behaviours may qualify under the second criterion of play (i.e., that they are autotelic), they still do not count as play since they may fall short of the other criteria. That said, the boundary here between these intrinsically reinforcing behaviours and play itself may be more fuzzy and blurred. Note for instance the observation that cats sometimes play with their prey before eating it.

² Even if in this example, the phenomenological component of “fun” or a “pleasurable” state is not established, the authors do infer a rudimentary form of these emotional components from other studies as well as from the non-instrumental and self-rewarding engagement with the activity (Dona et al., 2022, p. 240).

or benefit one gets from playful activity. I find this move to instrumentalise the experience of fun unpersuasive. I think there is a better and more non-instrumental way of accounting for the experience of fun in play. I unpack this non-instrumental reading of fun in the next subsection.

2.1. Fun as a Reactive and Activity-Forward Evaluative State

It should first be noted that Burghardt does not include “fun” as a motivational consideration under the second criterion for play. One reason is operational (i.e., it is difficult to measure or identify fun in nonhuman animals in a noncircular way). The other is that play for Burghardt “may be proximally controlled by a broad array of emotions, not just fun” (Burghardt, 2005, p. 140). Burghardt seems to be avoiding the inclusion of specific emotional states that could be associated with play because of the ways in which the emotional cadence of playful activity can shift during the course of playing with intense emotions like fear and anger coming in the picture (Burghardt, 2005, p. 140).

One can of course accept that playful activity can be an emotional and experiential roller coaster, but one can also at the same time think that there can be a more pervading emotional state that is associated with regulating how the activity proceeds or should proceed. Some activities and practices can be pursued only when one occupies certain specific states of mind. A person attending a funeral should carry themselves with a certain sombreness and solemnity. A lawyer in a courtroom should exhibit a certain seriousness, composure, and presence of mind regarding the case being heard. It is not that one cannot have light-hearted moments during the course of these activities. One can at appropriate times insert a bit of jest in these proceedings, but these light-hearted moments can just be acceptable digressions from the appropriate mood that regulates how the practice or activity is conducted. I suggest a similar kind of overall emotional regulation is at work with play. Sometimes one can feel more tense and serious emotions, sometimes fear or anger, during the course of play. But if these tense emotions continue to persist and even becomes the pervading mood of the proceedings, one might be hard-pressed to still call the activity play. I think one can in this sense think of fun as a pervading mood that has a central role in regulating playful activity. This should give us a picture of the role of fun not just as an

instrumental component or output of the activity, but rather as an immanent and constitutive component that is essential to understanding the playful activity itself. I will go on to unpack the mood of fun from a robustly phenomenological perspective in the next subsection.

It is also suggestive that fun is considered by Ridge as a necessary condition for play full-stop to obtain. Ridge defines fun as a homeostatic cluster of affective, motivational, and perceptual states that reinforce and motivate “experimental behaviour in safe environments” (Ridge, 2022, p. 417). Ridge however goes on to provide a functional profile for fun. The functional inputs Ridge identifies are similar to some of the enabling conditions provided by SRT such as a sense of safety and a lack of anxiety. The functional outputs of fun include “losing oneself” in the activity, positive arousal, heightened openness to one’s environment, and so on (Ridge, 2022). Although I think the characterisation on the whole seems right, the language of inputs and outputs seems a bit inappropriate. It might be better to treat fun as a non-functional or atelic state rather than a telic state that produces certain outputs or outcomes.

There is a way to read the experience or feeling of fun not in an instrumental or functional manner, that is, either as a functional component or as an external outcome or output of engaging in playful activity, but as a kind of reactive and activity-forward subjective evaluative state. Here I borrow from Mohan Matthen’s (2015) taxonomy of positive evaluative states. A first distinction to consider here is between prospective and reactive evaluative states. Prospective evaluative states are feelings or desires that *cause* an agent to take part in an activity. Hunger, thirst, and sexual desire cause an agent to want to take part in eating, drinking, or having sex (Matthen, 2015, p. 179-80).

That said, wanting and taking part in an activity is one thing, whether one takes pleasure whilst engaging in the very activity itself is not prospective, but reactive. Reactive evaluative states as such are the pleasure one derives from the experience of engaging in the activity in itself. So, while hunger may drive one to want to eat, gustatory pleasure – a reactive evaluative state – is what sustains the activity of eating (Matthen, 2015, p. 180-1). A reactive evaluative state causes the agent, by way of reinforcement, to sustain and continue the activity even if the prospective feeling

associated with engaging in the activity is satisfied. Gustatory pleasure motivates one to continue eating despite having already satisfied one's hunger.

The experience of fun during play seems to fall under a reactive evaluative state. Fun is perhaps best understood as a pleasurable reactive evaluative state that causes and reinforces continued engagement in the playful activity. One can also treat fun in a more prospective or anticipatory manner, such as wanting or deliberately seeking out activities that can potentially be fun. Still, the causal account here of where the pleasure is derived from is decidedly reactive, even if it is anticipated, due to the self-reinforcing nature of the pleasurable feeling unlike the prospective state (Matthen, 2015, p. 181). Fun, as Ridge (2022) remarks, is not something that one can force or self-consciously or intentionally bring about. One can make plans for engaging in fun activities, but it is the anticipation of the reactive evaluative state that comes from engaging in the activity that explains this and not some prospective state that one needs to satiate.

So far so good, but fun as a reactive evaluative state is not yet the full picture as one can treat the pleasurable reactive evaluation either as a goal in itself (as in gustatory pleasure) or relative to an activity.

A second distinction Matthen (2015) makes is between what he calls object-forward and activity-forward evaluative states. This distinction seems to be less directly concerned with subjective experiential evaluations as causes and is instead concerned with the motivation for pursuing actions and activities directed towards certain ends or effects. An object-forward evaluation is akin to an instrumental motivation where the activity directed at a certain object, say eating food, is evaluated not in terms of the activity itself but in terms of some further goal, end, or outcome independent of the activity, such as satisfying one's feeling of hunger.

An activity-forward evaluation is a form of motivation that is derived not to satisfy some external goal or outcome nor to maintain some pleasurable feeling that is independent of the activity. The evaluative state here is closely tied with engaging in the activity in itself. It is thus an evaluation concerned with intrinsic motivation. Matthen unpacks this in terms of the pleasure of reading a book:

[T]he value of reading... is not subordinated to some end state that reading the book brings. The book is good for no other reason than that *reading* it is pleasurable. Consequently, there is no natural satiation point here. The pleasure of drinking cold water points forward to a state of rehydration. By contrast, when you read a great novel, you may ultimately want to stop because you get bored or because other desires intervene, but there is no natural satiation point reached when some hypothetical outcome is reached. (Matthen, 2015, p. 180)³

Gustatory pleasure, while being caused by engaging in the activity in itself, is a pleasure that has a natural end or satiation point which one can evaluate independent of the activity. By contrast, Matthen (2015) argues that aesthetic sensory pleasure is a reactive and activity-forward evaluative state; there is no natural end state at which the aesthetic pleasure is satiated. Instead, aesthetic pleasure “motivates continued perceptual regard, but it is not informative with regard to any end achieved by undertaking this activity” (Matthen, 2015, p. 181). The pleasurable aesthetic experience is derived from how one takes part in the activity in itself rather than treating the activity as producing a pleasurable output.

In object-forward evaluation, the activity is “subordinated” or valued based entirely on the pleasurable experience and hence the activity can be treated as instrumental to the experience (which itself can be treated as a reward). In activity-forward evaluation however, the pleasurable aesthetic experience is valued insofar as it is a constitutive part of the activity which also likely regulates how the activity proceeds. The pleasure in other words is derived from the experience of taking part in the activity and not to some further rewarding or pleasurable experiential state. If there is any “output” or “end state” for an activity-forward evaluation, it is engaging in the activity itself.

³ One might argue that the end of the novel is a natural stopping or satiation point. However, I think the pleasurable experience Matthen is pointing to here is something akin to an ongoing appreciation of what has taken place in the activity or of what one is engaging with in the activity. Just like any work of art, one can still appreciate and take pleasure in a book or film once one finishes them.

Fun, I suggest, is akin to this activity-forward aesthetic experience. Playful activity is not something that is instrumentally subordinated to the experience of fun nor is the activity valued and based purely on this pleasurable evaluative experience. Rather, the experience of fun is constitutively derived from the playful activity itself. One way to make sense of this is through my earlier point about fun as a pervading mood or experiential evaluative state that has a central role in regulating playful activity. One's actions in playful activity are in part constitutively regulated in terms of the pleasurable experience.

My own reading is that activity-forward evaluative states are linked to the perception of affordances or opportunities for action (i.e., fun and aesthetic pleasure are somehow linked to how the agent perceives playful affordances and opportunities for aesthetically-mediated activities respectively) whereas object-forward evaluative states do not open up perception to any such opportunities for action. The latter pleasurable experiences, like gustatory pleasure, can be understood merely as effects or outputs of action and do not present further action opportunities or possibilities other than for causing sustained reinforcement of the same action (as a kind of reward). I talk more about affordances later in the chapter.

2.2. Fun as a “World-Disclosing” Mood

Another dimension of fun that can be explored in this non-instrumental and activity-forward manner is to think through the ways in which it is considered as a “state” of the agent. As earlier mentioned, Ridge characterises fun as a homeostatic cluster of affective, motivational, and perceptual states. I think that this can be expanded further by thinking of fun not just as a cluster of mental states to be achieved and maintained (as some kind of output) but more as a “state of being” with certain characteristic affective, motivational, perceptual as well as behavioural markers. Instead of focusing on the agent's subjective mental states, here I want to emphasise the sense in which fun can also be “world-involving” or even “world-disclosing.”

Some Heideggerian phenomenological notions may be helpful here. One might characterise being in a playful state as a form of “being-in-the-world” which attunes one in a particular way to certain aspects of one's environment. Fun is related to a

playful state as a kind of “mood” which for Heidegger (2008) is not just an internal or private subjective feeling (qua “what it is like”) similar to a mere pleasurable experience (such as gustatory pleasure) but is rather a relational way of not merely attuning to the world but also of “disclosing” the world (and not just any particular object in the world).⁴ Another way of stating this is that a mood is not merely *about* (i.e., an intentional directedness or relation to) specific objects or things or features in the world. A mood is rather a kind of being attuned to the world as a whole which makes possible a certain way or manner of intentionally engaging with specific things in the world.⁵

Fun, I suggest, is one such kind of world-disclosing mood that is especially salient when one is playfully attuned to the world. One can think of fun in this sense as a pervading mood or affective climate that is accompanied by what Ridge (2021b) calls a “playful stance” where an agent is poised to engage in playful activity. To occupy a playful stance is to be “animated by a playful spirit” which enables one to broaden rather than narrow their perspective (Ridge, 2021b, p. 406, 409). The playful stance according to Ridge (2021b) also facilitates the perceiving of playful affordances or possibilities for action that allows one to engage with one’s surroundings in distinctively playful and more experimental ways. Fun can be characterised as this mood that accompanies the playful stance which facilitates a broadening and expanding of horizons for action and opens one to “seeing” novel opportunities and possibilities for engaging with the world. Fun, in short, is a mood that “discloses” and sustains a playful world. Ridge is essentially making the same point with the playful stance.

What this reading of fun as a mood that discloses a playful world contributes and brings out is the robustly autotelic and world-involving role of the experience of fun in play in contrast with treating it as a functional component or instrumental output of the activity. Read in this way, one can interpret Ridge’s definition of play (as “unscripted activity for the fun of it”) as containing an implicit autotelic component – that is, fun is itself a

⁴ Karoff (2013) in a similar vein also argues for incorporating the Heideggerian notion of mood in understanding play as an alternative to functional accounts (see also Miller, 2005).

⁵ One can relate this with Jakob von Uexküll’s (2010) notion of the *Umwelt*, which is the “world” that the organism inhabits facilitated by their sensorimotor engagements with their surroundings.

constitutive piece of the unscripted activity. Fun in this sense entails autotelicity construed in this more phenomenologically robust sense.⁶

3. Relaxed Selection and the Condition of Negative Natural Freedom

Aside from being pleasurable and autotelic, play according to Burghardt's second criterion is also spontaneous and voluntary. This is not trivial as spontaneity and voluntariness indicate a space that is removed from the brute necessities of survival brought on by more adaptive contexts. Here the potential motivations, considerations, and constraints on action would crucially become qualitatively and structurally different. Freed from the necessities of survival, certain "heteronomous" imperatives dictated by survival instincts are not the defining factor informing and shaping the action. This space can potentially set the stage for what potentially looks like "autonomous" action in the sense of self-governed activity.

There is of course a Kantian sense of autonomy that involves a rational will that deliberates on, endorses, and acts in light of (rather than acts in line with) the moral law. Autonomous action in this sense can be considered a paradigm case of norm-governed and guided action. Play of course does not look anything like Kantian autonomy.⁷ I do not think we automatically get norm-governed action from just any instance of play.⁸ However, I suggest that before one even begins contemplating how one can (or should) act in this truly autonomous, self-governing manner, one needs to be in a condition where one can be said to be "free."⁹ While Kant famously locates

⁶ That said, having an autotelic component by itself, i.e., unqualified in this phenomenological sense, does not entail playing full-stop (Ridge, 2022). There are instances of intrinsic motivation (such as, say, acting out of moral duty for its own sake) that does not entail play.

⁷ My previous discussion on experiential evaluative states has some interesting affinities with Kant. Alix Cohen (2020) argues that Kant grants certain feelings and affective states (as opposed to desires) an important orientational role with regards our agency insofar as they give us affective appraisals of our activities.

⁸ As the SPH suggests, normative constraints will begin to obtain footing (at least incipiently) in certain instances of social play.

⁹ I set aside here metaphysical debates on free will. That said, the notion of freedom most broadly consistent with my account is the naturalistic, compatibilist view advocated by P.F. Strawson, famously in his "Freedom and Resentment" (see also Hieronymi, 2020). One might say that the metaphysics in the Strawsonian view of freedom is deflationary in that it does not strictly rely on an *a priori* distinction between entities that possess or have capacities that warrant the attribution of free will and those that do not. Strawson's view is instead more "anthropological" identifying aspects of interpersonal relations and social practices that warrant attributions of obligation and responsible agency.

freedom outside the empirical realm, I suggest that one can observe conditions in the natural world where an agent can be judged to be more or less free in a kind of graded way from heteronomous constraints.

The space of relaxed selection facilitated by surplus resources (and likely embedded in a developmental niche) offers us a setting where freedom can be realised and experienced by the agent (Burghardt, 2013). Within this space, action and the activities the agent pursues become more or less voluntary; that is, there are no strong external (i.e., heteronomous) constraints that compel the agent to engage in any action or activity. One can think of this as a kind of “natural” freedom that an organism can realise once external selective pressures are set to one side.

This kind of natural freedom can also be characterised as what some philosophers call “negative” freedom, which is a condition where certain restrictions and limitations are removed or reduced. Because of this easing of restrictions, a degree of self-directed discretion can be afforded by the agent on the activities they can pursue. This degree of self-directed discretion where the agent is free to act in any which way they want is at the core of negative freedom. The removal or relaxing of selective pressures is precisely the kind of easing of restrictions – a “freedom from” – that sets the condition for the expression of negative natural freedom. That is, once the organism is placed in a context where the brute necessities of survival are not a concern, a degree of self-directed discretion is afforded. Once this condition of negative natural freedom is achieved, the organism is now able to pursue more self-directed and voluntarily chosen activities.

I have talked about the context of relaxed selection (via SRT) in the previous chapter as an enabling condition for the expression of play. It is an enabling condition because the context of relaxed selection is where the condition of negative natural freedom is instantiated. I want to suggest that the expression of play (*qua* play full-stop) can be considered as the most primitive and unadulterated form of an agent acting within this condition of negative natural freedom. As an expression of this condition of negative natural freedom, an agent would tend to appreciate and value play precisely because of the way it expresses freedom in this pure, unadulterated, and unconstrained way. Jonathan Gingerich argues that the value of playing, particularly gameplaying (though

one can easily see how this can extend to playing full-stop), is found in the “experience of freedom” where the agent is free to engage in unnecessary activities and opportunities for unconstrained choice are afforded (Gingerich, 2018).

Consider for instance children and other juvenile animals moving “aimlessly” about and frolicking in an open field. This is a platitudinous example for a reason: this is as unconstrained, unstructured, and unscripted as one can possibly get with these kinds of animals with complex active bodies. This playful activity is marked by the widest degree of freedom the juvenile animal can probably afford with constraints given only by the limits of the animal’s body and psychology and the external resources available to them. The juvenile’s actions are unconstrained, unstructured, and unscripted in the sense that they are afforded a wide degree of discretion and “choice” as to what to do and what activities to pursue as an individual, given the available environment and resources therein.¹⁰ It is in this sense that we recognise, appreciate, and value play of this sort: it is an exercise and expression of negative natural freedom in its most pure and unadulterated form.

The sociologist Roger Caillois famously labels playful activity that has this almost completely unconstrained, unstructured, and unscripted form as “paidia” which he characterises as “an almost indivisible principle, common to diversion, turbulence, free improvisation, and carefree gaiety” (Caillois, 1961, p.13). Similarly, Bernard Suits (1988) calls “primitive play” this playful activity that is “not concerned primarily with the exercise and enjoyment of skills [this is what Suits calls sophisticated play] but with the introduction of new experiences that arise, usually serendipitously” (Suits, 1988, p. 2).

Primitive play however is not just random or “purposeless” behaviour for Suits. There is a pattern of repetition and self-regulated feedback generated by the pleasurable experience of engaging in the activity. This pleasurable experience is what is described earlier as a reactive and activity-forward evaluative state – not only are the actions experienced as pleasurable, the pleasure (i.e., the fun) one experiences is

¹⁰ This of course applies mostly to individual play. Social play, as will be discussed in the next chapter, needs more than just the conditions conducive for expressing negative natural freedom.

also derived from and regulates the activity itself (that is, it is not merely a rewarding experiential output).

Consider again the children frolicking in the field. They are engaged in a specific form and pattern of playful activity that is labelled by ethologists as locomotor rotational play. Their enjoyment comes from the pleasure derived from their own self-directed movements and this enjoyment regulates how a certain pattern of locomotor action is sustained.

This view of play and its connection to the exercise, expression, and experience of negative natural freedom is appealed to largely on grounds that it is descriptively phenomenologically robust. But this is also supported by the identification of concrete environmental conditions that support the likely expression of activities associated with the exercise of negative natural freedom. Specifically, contexts of relaxed selection were appealed to earlier as a condition for the instantiation of negative natural freedom. However, these robust motivational and experiential descriptions and concrete environmental conditions are not enough to explain the actions and activities pursued by the agent who has this wide degree of freedom and discretion available to them. One still has to explain why certain specific forms of action and activity are chosen and pursued.

Systems of adaptive behaviour can be readily explained by the selection pressures that act as constraints on the shaping and configuration of the behaviour. It is usually a matter of optimisation or reliability or efficiency at producing the target fitness benefit that ultimately determines how the behaviour is shaped. These adaptive-selective considerations are heteronomous constraints that are not available with play.

With play, I think the role of an agent's experience would be central in explaining why certain specific forms of action and activity are chosen and pursued. Burghardt also makes a similar claim about the importance of the way the animal experiences play (Burghardt, 2005, p. 139). I suggest that experiences (including affective states) related to spontaneity and embodied movement can help us identify biases in an agent's choice of actions and activities pursued during play (i.e., being in a state of negative natural freedom).

4. Spontaneously-Attuned Embodied Agency

I mentioned in the previous section that the easing of heteronomous adaptive constraints can set the stage for what potentially looks like “autonomous” action which led me to discussing the condition of negative natural freedom. I also suggested earlier that the experience of fun acts as a mood and a reactive activity-forward evaluative state that regulates playful activities. I also mentioned that fun as a mood also opens the agent to perceiving playful affordances. This account closely follows Ridge’s account of play full-stop as unscripted activity for the fun of it. I think that instances of solitary animal play follow this model of play full-stop. However, even if the activity must be unscripted for it to count as play, there is still a sense in which this activity would be regulated and structured such that certain patterns and regularities would be apparent. Unscripted does not mean that no intelligible structure or pattern can be discerned. I discuss possible sources of these structures and patterns in this section.

4.1. The Experience of Spontaneous Freedom and Embodied Movement

One way to identify how unscripted activity can be structured and regulated would be in the identification of playful affordances. The range of possible playful affordances that could potentially be perceived by the animal would be constrained primarily by the kind of body and psychology available to the animal. The constructed niche and surrounding ecological conditions (including the material and social environment) that the animal is embedded in would also be important factors in determining what affordances are to be perceived. The surplus resource conditions discussed in the previous chapter include various bodily, psychological, and ecological factors that jointly open up opportunities for playful affordances to be perceived by the animal.

I suggest that when an animal perceives playful affordances, what is opened up for them is a spontaneous form of attunement or comportment to the world. This spontaneous attunement is a specific way of experiencing the world such that certain affordances characteristic of play become possible and available to the agent.

Jonathan Gingerich (2022) talks about this kind of experience in terms of the “experience of spontaneous freedom” which for him contains the following features:

1. Openness: Being open to a broad and uncertain “subjective horizon” of possibilities (i.e., it is outward looking) and where one’s actions are free from scripts which can include things like drives of necessity, routines, plans, habits, even detached reflective deliberation;¹¹
2. Nonalienation: Able to identify with the experience as one’s own;
3. Nonobligatoriness: Horizon of possibility is not overdetermined by (moral and social) duties or obligations and are approached more voluntarily (i.e., self-directed);
4. Intentionality: The experience is about or directed at features of the world;
5. Approach orientation: Active pursuit of options and possibilities that makes one open to new experiences and novel associations;
6. Scalarity: The experience varies in (a) scope, (b) intensity and (c) duration (Gingerich, 2022).

Much more can be said of these features of spontaneous freedom, but I suggest that these are the features and affordances that become experientially salient for someone who is in a state of negative natural freedom. It is essentially the type of experience for anyone engage in “unplanned and unscripted” forms of activity (Gingerich, 2022). Similar to the mood of fun, this experience is linked with certain forms of activity or active ways of engaging with the world and not merely indexed to an internal bare “raw feeling.” The agent that is spontaneously attuned would likely exhibit a bias and predisposition towards action and activities that are *prima facie* least bound by barriers and limitations (like scripts, plans, habits and the like).¹²

¹¹ This is akin to Drew Hyland’s (1980) account of the “stance of play” as a kind of responsive openness.

¹² In a footnote, Gingerich (2022) states that an activity can be instinctual without being scripted which he says departs from Ridge’s account of unscripted activity. Ridge however recognises that some instincts leave room for discretion (and hence the possibility of spontaneity): “Some instincts entirely determine a response, as with the rabbit’s instinct to freeze in response to sighting a predator. Other instincts programme for multiply realizable responses, e.g., hunger is perhaps an instinct to eat but leaves open what or how much to eat. In this case, whether an action is scripted will be relative to a description. Qua eating something the action might be scripted, whereas qua rapidly eating an apple it might be unscripted” (Ridge, 2022, p. 412). More on this in the main discussion.

Moreover, a nonalienated experience provides a further bias on action. This is where the agent is able to identify or have a sense of ownership over their actions. One way to unpack this is in terms of having endogenous control over one's action. An action or activity is endogenous if it is less of an instinctive response and more of a deliberate, self-directed, and voluntary action/decision coming from the agent. The relevant bias here would be action that can readily come under the individual's voluntary endogenous control.

Endogenous does not necessarily mean having conscious and deliberate choice over one's actions (though this is also a possibility). Internal drives, feelings, and external stimuli may also influence and guide endogenous action so long as the action is not perceived as being under the "grip of alien forces" (Gingerich, 2022, p. 44). This is contrasted with exogenous actions which tend to be explained more in terms of narrow mechanistic behavioural programmes, stimulus-response reflex patterns, or operant behavioural conditioning (i.e., behaviour shaped by rewarding and/or aversive stimuli). Some researchers have linked spontaneous action, particularly in play, with this capacity for endogenous generation of patterned movements (Baerends, 1990).

Another bias on action would be its approach orientation which bias action preferences in two ways: "either from positive affective states, such as elation, or from negative ones, such as boredom" (Gingerich, 2022, p. 47). The bias towards positive affective states in play should be obvious and can be unpacked in terms of the mood of fun, but support can also be found for boredom. Stimulus-deprived (i.e., boring) environments can trigger certain animals to engage in play to relieve feelings of (sensory and response) deprivation and increase arousal (Burghardt, 2005, p. 142).

I have already discussed how the mood of fun works not as a kind of output but rather as a regulator of activity and in disclosing playful affordances. I want to emphasise here the sense in which this mood is not a detached internal feeling but is rather deeply rooted in one's sense of embodiment. Maxine Sheets-Johnstone relates how one's being as a living and animate embodied agent makes the mere experience of movement a positive affective attractor:

[M]ovement is in and of itself engaging, fun, and delightful, and it is engaging, fun, and delightful because it resonates in feelings of aliveness radiating dynamically through a kinetic/tactile-kinesthetic body. [...] It is quite unnecessary to think to oneself or say aloud, “Oh! Does this ever make me feel vibrant, lively, and spirited! How great it is to be alive!” One appreciates the feelings directly in the kinetic/tactile-kinesthetic experience itself; one savors the experience of kinetic fun – kinetic fun in being a body, kinetic fun in the flesh – without words. Nonhuman animals are thus experientially not at a loss for words but can in fact, in their bodily play, teach humans something basic and important about themselves, something that, as a nonlinguistic and in essence nonlinguistifiable experience, they may have trivialized or suppressed. (Sheets-Johnstone, 2003, p. 417)

One can perhaps say that the mood of fun for embodied beings is primordially tied to movement. Movement for embodied beings like us and other animals with CAB-enabled body plans would be positively affectively regulated and experienced as pleasurable as it brings an “elevated sense of aliveness” which finds its most vigorous expression in play (Sheets-Johnstone, 2003, p. 416).¹³

This is something that is already noted by Darwin himself (1872), but I think this elevated sense of agency in one’s experience of animate embodied movement that is exemplified in play is best articulated by the Russian polymath Peter Kropotkin. For Kropotkin, “there are [plays] which, apart from their utilitarian purposes, are, together with dancing and singing, mere manifestations of an excess of forces — ‘the joy of life’” (Kropotkin, 2022). The anthropologist (and fellow anarchist) David Graeber expounds on Kropotkin’s point in a provocative essay entitled *What’s the Point If We Can’t Have Fun?*:

¹³ Fun can, of course, extend to other experiences and activities that are strictly not movement-based. Mental activity can also be fun. Perhaps one insight from the embodied mind – and the broader 4E (embodied, embedded, enactive, extended) cognition – literature is that mental activity is also constitutively linked up with one’s embodiment and sensorimotor engagement with the world. Abstract thought can be thought of as possible only through an external scaffold of shared conceptual and linguistic resources and practices (Kiverstein & Rietveld, 2021).

Why do animals play? Well, why shouldn't they? The real question is: Why does the existence of action carried out *for the sheer pleasure of acting*, the exertion of powers *for the sheer pleasure of exerting* them, strike us as mysterious? What does it tell us about ourselves that we instinctively assume that it is? [...] [I]f what being alive actually consists of is having powers—to run, jump, fight, fly through the air—then surely the *exercise of such powers as an end in itself* does not have to be explained either. (Graeber, 2014, my emphasis)

What Graeber is getting at here is not so much that no explanation can be given for why animals play, but that there is a strong (adaptationist) impulse amongst researchers to explain all animal behaviour in terms of some instrumental survival or reproductive value (Graeber, 2014).¹⁴ Granting experience and other proximate motivational and affective states (which together can be a cluster of playful affordances) a central guiding and regulating role in determining the structure and patterns of playful activity can also be as explanatorily robust as any functional adaptationist account. Burghardt (2005) himself (informed by Jakob von Uexküll's notion of the *Umwelt*) strongly suggests elevating the experience of the animal as an explanatorily autonomous fifth aim in addition to Tinbergen's four aims/questions of ethology. This approach to explaining behaviour that highlights a central guiding and regulating role for animal experience is the kind of nonreductive approach that can help us make good sense of Graeber's claim about the animal exercising their own powers and agency for their own sake.¹⁵

I want to stress that this experiential aspect cannot be understood in isolation from other background explanatory considerations. What is experienced is also informed by the proximate context within which it is embedded as well as the broader evolutionary processes that make this experience possible. I have given a general non-adaptationist, structuralist, spandrel-based evolutionary account of play in the previous chapter where I appealed to surplus resource conditions and complex active body plans as necessary enabling constraints. The surplus resource conditions are important in setting the right ecological context where the animal is (relatively) buffered

¹⁴ The evolutionary account of play I laid out in chapter 5 should be consistent with Graeber's sentiments.

¹⁵ See Andrews (2024) for a recent defence of attributing experience and consciousness in animals.

or freed from selection pressures. The body plans that enable CABs on the other hand set up the structural-morphological possibility space for affording certain complex forms of sensorimotor movement and behaviour. CABs in other words explain the behaviour in terms of the enabling structural constitution that makes possible this kind of spontaneous experience. Together, these ecological and anatomical/embodied structural constraints open up a sensorimotor possibility space for action with a wide degree of freedom and discretion. This is the condition of negative natural freedom and spontaneous attunement that I argued earlier is instantiated in the animal within this space.

While a wide range of affordance possibilities and opportunities become accessible to the animal through the opening up of this sensorimotor space, what the animal decides or would be inclined to do within that space is not yet accounted for. This is where I think a consideration of the animal's experience will play a critical explanatory role.

4.2. Adaptive Attunement Versus Spontaneous Attunement

Although the animal with a CAB is already pre-equipped with the anatomical resources capable of many degrees of freedom for embodied movement and distal-sense-guided mobility (Trestman, 2013b; 2017), heteronomous pressures necessitated by survival and self-maintenance puts selective limits on how these CAB-based capacities are expressed. These heteronomous pressures would likely select for the expression of highly functional behaviours that can reliably and efficiently address any number of adaptive problems. These functional behaviours can be explained in a mechanistic manner where the issue would be how optimal the mechanism is in addressing the adaptive problem. This optimality-based mechanistic structure can result in something like a highly modularised and neurally pre-programmed pattern of behaviour, perhaps allowing for some degree of adaptive phenotypic plasticity, designed (that is, selected) for a certain adaptive problem and triggered when certain thresholds are met when the adaptive context requires it. This is how a CAB-based behaviour can be structured and regulated in a functional mechanistic manner.

Experience could play a role here, such as the animal being in some prospective evaluative state like hunger, thirst, or sexual desire. One can call these experiences

as facilitating different forms of adaptive attunements to the environment that trigger the relevant behavioural programme with its own set of adaptive affordances. The proximate behavioural elements (including the experiential elements) all have a functional role to play within an optimality-based adaptive mechanistic causal structure regulated by its fitness benefits.

Play's proximate behavioural elements do not depend on this adaptive attunement and are not structured by an optimality-based mechanism. This is because the space of play is a space of relaxed selection – a context where the animal is buffered from adaptive considerations. Forms of adaptive attunement and related adaptive affordances and mechanisms would be irrelevant and out-of-context here. It is through this relaxing of adaptive considerations within the context of surplus resources (and especially if coupled with an enriched environment) that we get a shift in how the animal experiences the world. This is the space where the experience of spontaneous freedom or what I call spontaneous attunement becomes especially salient for the animal. It is in this relaxed space where a spontaneous form of attunement is foregrounded in how one is experientially directed and attuned towards the world.

It is not that animals in an adaptive context cannot also be spontaneously attuned; they can. Object-forward evaluative states such as hunger, thirst, sexual desire, or gustatory pleasure (all different forms of adaptive attunement) can also make room for spontaneous attunement. Spontaneous attunement means that the regulation of behaviour would be mediated more by activity-forward evaluative experiences than object-forward evaluative pleasures. The latter are again analysed usually in a functional-mechanistic (or instrumental) manner. The former, however, is analysed in terms of the activity itself and how the evaluative experience regulates the activity and not to some further output.

A single activity can exhibit both object-forward (accounting for adaptive attunement) and activity-forward (accounting for spontaneous attunement) evaluative states.¹⁶ They answer different questions about the activity. Object-forward adaptive

¹⁶ As indicated in an earlier footnote with the quote from Ridge (2022), even instinctive behaviours with pre-programmed behavioural mechanisms can still leave room for discretion (and hence spontaneous attunement).

attunement tends to answer what an activity is for or good for. Activity-forward spontaneous attunement tends to answer how an activity is performed independent of any external considerations. So it is not that object-forward evaluations (facilitating adaptive attunement) and activity-forward evaluations (regulating spontaneous attunement) are instantiated in mutually exclusive activities. These evaluations can obtain in one and the same activity.

One should take note here that adaptive attunement (connected again with object-forward evaluative states) is closely connected to but is importantly distinct from the adaptive activities they trigger.¹⁷ (In the same way, spontaneous attunement is distinct from inherently or exclusively spontaneous activities like frolicking in the field). This is how adaptive activity can be experienced not merely on the basis of adaptive attunement. As mentioned above, adaptive activity can at the same time be spontaneously experienced, that is, the animal can also be spontaneously attuned perhaps especially if the adaptive attunement is not as strong or urgent.

It is good to be reminded here of the scalarity condition in Gingerich's account of spontaneous experience. The less intense the adaptive evaluative state is, the more room there is for a sense of spontaneity to creep into the experience of the adaptive activity (perhaps sexual desire would be an exception here where both can co-exist with the same intensity). One can also think of this in terms of the similarity between spontaneous attunement and playing full-stop (i.e., being playful). Being playful does not entail that one is playing a game. So spontaneous attunement similarly does not entail engaging in an activity that is inherently or exclusively spontaneous.

As an example, while hunger drives one to eat, what to eat and how to eat is within the animal's discretion. One can conduct an adaptive activity in an efficient, straightforwardly mechanical and functional way, but one can also engage in it in a more spontaneous and playful way. Consider a cat playing with its dinner. The cat is addressing (to a certain degree) the prospective and object-forward drive of hunger (perhaps they do not feel too famished). They might also take pleasure in how it tastes,

¹⁷ This is not to deny the functional and selection-based causal connection between adaptive attunement and its associated adaptive activity.

that is, experience gustatory pleasure from the food, which is a reactive, object-forward evaluative state. But at the same time, how they ingest the food may be done in an efficient, mechanical, functional manner (this might be especially the case when the hunger drive is strong and salient), or, if the cat is also spontaneously attuned and thus can perceive playful affordances, they can regulate the activity in a non-fully-mechanistic way by “playing around” with their food before ingesting it.

How spontaneous attunement “creeps into” these adaptive contexts depends, I think, on the “level” of the relaxation of selection. Even within strictly adaptive contexts, there can be some level of relaxation of selection pressures and therefore some measure of spontaneous attunement can be attained.

There should however be some threshold where there occurs a radical shift in the proximate context. I suggest that these are contexts (likely stably expressed within developmental niches) where an animal’s adaptive attunement recedes into the background to the point that it becomes negligible in experience thereby leaving no impetus nor drive for any adaptive activity to be expressed. What may then become more perceptible in the animal’s experiential foreground would be an almost exclusively spontaneous way of being attuned to the world. This context would be one where what is clearly salient or foregrounded in experience is not any form of adaptive attunement but a distinctively and almost exclusively spontaneous way of engaging with the world.

4.3 Forms, Patterns, and Attractors of Spontaneously-Attuned Activity

As mentioned earlier, this experience is not some mere “epiphenomenal” internal feeling but is rather a deeply embodied experience that for CAB-enabled animals is primordially expressed in embodied movement. The experience of spontaneity for CAB-enabled animals is in a sense constitutively coupled with embodied movement.

Gingerich’s criterion of intentionality in the experience of spontaneous freedom speaks to this constitutive coupling between spontaneity and embodied movement. Animals with CABs, by virtue of their uniquely complex embodiment, comport with their surroundings in a distinctively distal-sense-guided (involving vision, hearing, and to a

certain extent, olfaction) and movement-based manner. A CAB-enabled animal's world-directed spontaneous experience would likely then be expressed in terms of complex active embodied sensorimotor engagement with the world. This criterion of intentionality along with other criteria for spontaneous attunement such as openness of one's subjective horizon as well as nonobligatoriness give the animal the opportunity to explore their own sensorimotor intentionality in novel ways that are not necessarily restricted to heteronomous imperatives necessitated by mere survival and self-maintenance (including the adaptive mechanisms they tend to trigger). Within this space of negative natural freedom, there is no object nor output that fully determines or regulates how the intentional behaviour is conducted.

For a CAB-enabled animal, the broad horizon of possibilities opened by spontaneous attunement takes the form of "many degrees of freedom of controlled motion" (Trestman, 2017, p. 209), which, through spontaneous attunement, can be pursued as a kind of self-directed and open-ended endogenously-generated action rather than having it get channelled through a process of adaptive optimisation producing pre-programmed behavioural mechanisms. Still, this more self-directed and open-ended endogenous mode of structuring and regulating action in spontaneous attunement tends to gravitate (at least amongst individual animals in a non-social context) into two broadly identifiable forms or categories: "locomotor-rotational play" and "object play" (Burghardt, 2005).

One can account for these two broad categories of play through their morphological-structural enabling condition in CAB-enabled animals. One feature of CABs is the "anatomical capability for active, distal-sense-guided mobility (fins, legs, jet propulsion, etc.)" (Trestman, 2017, p. 209) which provide the foundational capacities necessary for the animal to engage in locomotor-rotational play. Another feature of CABs is the "anatomical capability for active object manipulation (e.g., chelipeds, hands, tentacles, sensitive mouth-parts)" (Trestman, 2017, p. 209) which provide the foundational capacities necessary for the animal to engage in object play. These anatomical features provide the physical and capacity-based enabling parameters for the kinds of action that can be explored in a more self-directed and open-ended endogenous manner.

CABs of course did not originate to give the animal an opportunity to engage in play. CABs also clearly have adaptive advantages. A CAB's primary function, its *raison d'être*, may likely be shaped by selection. But CABs are also *good for* other purposes. They are ripe for exaptation. The construction of a safe, stress-free, and resource-adequate niche produces an environment where the animal does not merely have to engage in activities conducive for survival. What this niche opens up for the animal then is a possibility space to afford activities for other, more self-directed purposes.¹⁸

However, CAB-based enabling parameters and constraints are not sufficient since both locomotor-rotational play and object play tend to exhibit more specific patterns of movement. Unpacking these merely as forms of embodied movement based on the animal's CAB-based morphology do not yet account for the way both of these forms of play are structured. Observe, for instance, the locomotor-rotational frolicking of the child or the way they may continuously bounce a ball off a wall. There seems to be some pattern in the playful motions observed, they are not just random and arbitrary movements of the body. Certain patterns and biases on forms of movement can be further identified.

The animal might be biased towards ethotypical behavioural patterns such as, for instance, patterns of active object manipulation related to pre-programmed predatory motor mechanisms. Alternatively, Bell et al. (2015) argued from simulation models that simple sensory "rules," which are best characterised not as "rules" in the normative sense but as causal affordance-based constraints imposed by a combination of the animal's morphology and sensory capacities applied to an environmental context, can also determine biases in patterns of movement. The latter is likely the kind of embodied comportment to the environment that one gets from spontaneous attunement as opposed to the more mechanistic and functional pre-programming of adaptive attunement. However, some patterns of ethotypic behaviour typical of an adaptive activity may also be co-opted for activity in spontaneous attunement. Object play, for instance, tends to mimic or borrow movements reminiscent of predatory behaviour.

¹⁸ For these types of spontaneous (playful) activity, we seem to get an inversion of the function question where the primary function (what it is *for*) has nothing to do with selection (it may not have any primary function at all). But a consideration of what it can be *good for*, i.e., its effects or co-opted use, can turn out to have some adaptive significance. A full-blown account of this is discussed substantially in the previous chapter.

Perhaps the most important bias that can further help identify more distinctive patterns of movement in playful action is through the identification of sensory and motion-based attractors that simply have some positive or instinctively pleasurable evaluative appeal to the animal (Matthen, 2015). For Matthen, these instinctively appealing attractors include perception of patterns like “symmetry, continuation, occlusion, enclosure, repetition..., etc.” as well as rhythmic motion such as graceful movement (Matthen, 2015, p. 6).¹⁹

The experience of these specific sensory patterns and rhythmic motion can be observed in both locomotor-rotational play – like in the graceful rotational galloping of ungulates (i.e., hoofed mammals) – and object play – like in the repeated and continuous rolling motion of colourful balls playfully maneuvered by bumble bees. Of course, biases that positively appeal to the animal would depend on the sensorimotor repertoire unique to the animal and the species where they belong (Burghardt, 2005, p. 141). Humans tend to rely on visual affordances whereas other animals like collared peccaries may depend more on olfactory-based affordances (Byers, 1985).

So far, I have given an account of how play behaviour is structured and regulated that has a broad overarching basis on an animal’s CAB-related morphological features and spontaneous attunement (which in turn is explained in terms of the condition of negative natural freedom instantiated within a space of relaxed selection) that allows the animal to perceive playful affordances. Enabling structural-morphological features identified with CABs give us a set of capacity-based parameters with the types of action animals with CABs are capable of. But it is by identifying the right ecological conditions (i.e., surplus resources) that one can get a sense of the relevant sort of experiential attunement (i.e., the experience of spontaneous freedom) which biases action in certain ways. Spontaneous attunement can be identified with different sorts of embodied movement that find their structure in sensory patterns and rhythmic

¹⁹ Although Matthen discusses these “primary” attractors to account for aesthetic appeal and appreciation, he also suggests that these are also “comprehensible in terms of play” (Matthen, 2015, p. 6). Moreover, while Matthen seems to only be concerned with an account of aesthetic appreciation and perception in humans, his extension of these primary attractors to play suggests affinities with other animals that play. Some interesting work has already been done to suggest a sense of beauty and other aesthetics-related capacities present in non-human animals (see Eibl-Eibesfeldt, 1988; Fitch, 2009; Prum, 2013; Mandoki, 2014; Westphal-Fitch & Fitch, 2018).

motion which are attractors or biases that have primitive positive evaluative appeal for the animal. The overall mood of fun, I suggested, also plays a role in regulating and sustaining the activity as an activity-forward, or intrinsically motivating, evaluative state.

The considerations here in this chapter with regards enabling conditions, the mood of fun, and spontaneous attunement should carry over to the next chapter where I discuss social play in detail. Social play is still, after all, a form of play. But I suggest that more complex interpersonal considerations become more salient in the way social play is structured and regulated. This, I argue, is where we enter normative territory.

Chapter 7

The Structure and Patterns of Play, Part 2: Co-regulated Constraints in Social Play

1. Introduction

This chapter is a continuation of the previous chapter which discussed the structure and regulation of play behaviour generally construed. This time, I will zoom in specifically on considerations that structure and regulate social play. It is here where I claim that a normative structuring of the activity emerges out of the interactive social and interpersonal context in which social play takes place.

I argue, as such, that social play instantiates a participatory structure, which should mark it as a form of norm-governed behaviour. As per the Social Play Hypothesis, social play is significant because the circumstances that surround the evolutionary emergence and expression of social play should also be regarded as the story of the initial emergence and expression of normative agency in evolutionary history.

Relatedly, I also argue in this chapter that social play is best understood as a game. I unpack the sense in which social play can be considered a game early on in this chapter. This is meant to make intuitive the idea that social play is a properly rules-based, norm-governed activity. Games are, after all, a paradigmatic case of a rules-based, norm-governed activity.

2. From Solitary to Social Play: The Emergence of Recognition and Rule-Following Activity

While individual play is marked by a loosening of adaptive constraints on behaviour thereby opening up sensorimotor space for self-directed and open-ended voluntary action, social play is marked by adding constraints on this sensorimotor space. But

these added constraints are of a different nature because they are in a sense “artificial” conditions that are voluntarily imposed but are nevertheless accepted because these make the shared activity possible.

It is worth unpacking a bit here the importance of the notion of constraints especially in relation to explaining social play. Constraint-based explanations are a distinct form of explanation which can be contrasted with mechanistic explanation (Green & Jones, 2016; Huneman, 2018; Ross, 2023). Although some constraints can be characterised as causal constraints, other constraints are non-causal by nature; there are also law-based empirical constraints and mathematical (usually topology-based) constraints (Ross, 2023). The constraints that apply specifically to social play would be a different kind of constraint from all of these in that these are primarily non-causal constraints. The relevant constraints are interpersonal and/or practice-specific and so work at a domain that is in an important sense autonomous to strictly empirical impersonal or practice-independent considerations. In other words, one cannot understand nor explain these constraints without having a robust non-reductive sense of what the practice is about or what forms of interpersonal relations are relevant. These constraints will be discussed throughout this chapter.

Constraints also do not necessarily give a “negative” effect of setting restrictions or limits on a range of possibilities, they can also channel, guide, and also make room for a larger set of possibilities (Ross, 2023).¹ As will be shown later with social play, a narrowing of constraints of a certain kind could also open up a possibility space for various complex structures and phenomena. So, adding constraints do not merely have a brute limiting or restricting effect. Added constraints can also enable and open up possibilities that would not have been available nor possible without those constraints acting as a guiding or structuring role (Ross, 2023).

Nevertheless, there is still an obvious sense in which the smaller the set of possibilities and states constraints allow, they really do act as real limitations or restrictions and

¹ Ross (2023) would often discuss constraints as producing certain outcomes. I do not think constraints explain only by virtue of the outcomes they produce. Constraints can also apply to structures and phenomena that may not have outcomes and end states as their main concern. Moral reasons (construed as constraints on action) of the non-utilitarian kind are an obvious candidate for this.

hence the more strictly causally determined these are by these constraints (Huneman, 2018; Ross, 2023). The converse of this must also be true. If one weakens or relaxes the constraints thus widening the range of possibilities and states, one gets more leegroom or more degrees of freedom.

This is precisely what the animal obtains within a relaxed space buffered from selection pressures. The animal obtains many more degrees of freedom for action when selective constraints are relaxed and given some slack due to surplus resource conditions.² Within this space, the animal is free to do whatever it pleases. The animal is given the opportunity to be more spontaneously attuned to its surroundings and can generate its own activity with a degree of endogenous, that is, self-directed control. This is the condition of negative natural freedom I articulated in the previous chapter.

This range of opportunities for action that is opened up should be fine if we are talking about a solitary animal. A complication arises when that animal is in the presence of other animals, perhaps especially if they are conspecifics, and even more so if the conspecifics are close kin living in a group. The animal is of course free to engage in any form of activity it wants to with these other animals. A non-hungry cat encountering a mouse would likely play with the mouse, but the mouse would be treated as a plaything, an object. This is still an instance of individual play, specifically object play, where the cat treats the mouse as an object.

For many social animals however, living in groups entails a different way of relating with their fellow conspecifics. Solitary forms of play may still be present but in many cases, play will take on a more social character. In social play, unlike its solitary counterparts, the activity is not merely about engaging in spontaneously-attuned sensorimotor behaviour. It is instead spontaneously-attuned sensorimotor behaviour done in reciprocal interaction with another individual that is also spontaneously-attuned. To do this, it is often pointed out that some form of cooperation (or perhaps more precisely, co-regulation) must be established between the players involved. But this specific form of cooperation or co-regulation is unique in that it is not about a joint

² These selective constraints are, as articulated at the beginning of chapter 6, causal structuring constraints that guide or channel selective processes – emphasis here on the “causal” nature of these constraints.

effort to achieve some adaptive outcome. The cooperation here is about engaging in a shared activity with no clear value or reward except that of sustaining the activity seemingly for its own sake.

Unlike solitary play, the players involved in social play seem to be engaged in a delicate interactive dance of sorts where there is an increased sensitivity to one another and their moves. They do not merely do whatever they want during the encounter. Their engagement seems to have an other-regarding quality that clearly distinguishes it with the example above of the cat treating the mouse as its plaything. In a play-fight between two domestic dogs for instance, both players look as though they treat the other party as a co-player rather than a plaything. There is thus some added layer of player recognition going on here.

Adding this layer of other-regardingness and the recognition of another individual as a co-player elevates social play to a different level of sophistication. The spontaneous sensorimotor space becomes an interpersonally-mediated spontaneous sensorimotor space. If these claims are correct, then individual positive subjective evaluations would be insufficient in regulating social play. The regulation of social play would take on more interpersonal parameters. This should invite us to think about the applicability of the participatory structure of action that I discussed in chapter 3.

This initial articulation of what is going on in social play obviously needs more spelling out. Thankfully, there is sufficient ethological literature that can be wielded to support these claims. I think that the available evidence is strongly suggestive of a participatory structure in social play. This is where we can begin to get more meat to fill the details of the Social Play Hypothesis (SPH) on what has so far been mostly a discussion of background enabling conditions for the emergence of norm-governed agency. I will unpack this participatory structure in social play for the rest of the chapter.

Social play can take on many different forms and configurations like play-chasing, social object play, socio-sexual play, even hide-and-seek play. These different configurations may vary in behavioural and psychological sophistication and may require their own individual treatment. And even within more specific forms of play, more species-specific treatment may be needed, and perhaps even separate group-

specific treatments to investigate group-level (and perhaps also individual-level) variation.

The most observed and well-studied form of animal social play however is play-fighting (sometimes also called rough-and-tumble play) particularly amongst mammals. Various iterations of play-fighting can be found in canids, rodents, pigs, bears, primates (including humans), etc. In my discussion I will concentrate on details of play-fighting behaviour applied generally across species (Pellis & Pellis, 2017; Palagi et al., 2016a) though I will occasionally cite studies of other forms of social play.

Play-fighting should immediately catch the attention of those interested in complex and elaborate modes of (non-linguistic) communication in light of its sustained interactive and performative flexibility, variability, and versatility (Palagi et al., 2016a). To an untrained eye, two animals wrestling and duking it out can look very chaotic and disorganised. But if this is an episode of play-fighting, there is more inter-player coordination going on that can go unnoticed.³

Marc Bekoff and his collaborators have painstakingly documented countless episodes of play-fighting in various canid species. One important observation is the following:

Individuals of different species seem to fine-tune on-going play sequences to maintain a play mood and to prevent play from escalating into real aggression. Detailed analyses of film show that in canids there are subtle and fleeting movements and rapid exchanges of eye contact that suggest that players are exchanging information from moment-to-moment, to make certain everything is all right, that this is still play. (Allen & Bekoff, 2005)

Soliciting and sustaining a play-fight requires constant mutual agreement and responsiveness between both parties; that is, unlike cooperative foraging, no one partner can force the other or unwillingly engage in the shared playful activity. Some kind of co-regulation, a “consensual social frame,” must ostensibly be established

³ See Cordoni et al. (2023) and Smith (1997) for studies that compare and contrast the behavioural structures of play-fighting and actual fighting/aggression.

between the interacting partners for the play-fight to proceed. For Allen & Bekoff (2005), this seems to indicate some form of “social contract” to engage in certain actions and sustain a playful interaction that is agreed to between the co-players.

Moreover, although having fun or seeking any positively-valenced experience may still play a role in regulating social play, the moves made are more crucially determined and mediated by a shared activity whose regulation can only be made intelligible not merely by reference to the internal dispositions of the participants but to behavioural constraints that are recognised by the participants involved as relevant and appropriate for engaging in the shared activity. In other words, brute descriptive causal language is insufficient in accounting for the moves made in social play. Instead, one would need to employ a vocabulary of rules, norms, and activity-based constraints in accounting for these moves.

These constraints produce qualitatively distinct sorts of activities. The relevant constraints that structure and regulate the activity do not depend on causal regularities or even on the mental dispositions or capacities of the individual players unlike in solitary play which rely on these individual characteristics. Instead, the constraints are more indexed to what is “instituted” or “established” or “committed to” between the players involved. As such, an autonomous space of constraints is considered here, one that does not reduce to any individual capacity or disposition of an agent. More than any individual characteristic, the shared activity itself and how it is negotiated between the agents involved are irreducibly foregrounded. This is where a robust sense of rules and norms become relevant in explaining how actions are structured and regulated. Even if these cannot anymore be explained by causal constraints, these can still fall under a broader non-causal constraint-based explanatory framework.⁴

⁴ A more precise articulation of the kind of non-causal constraint at work here will be pursued elsewhere. I venture that participation-based interpersonal rational constraints have an underlying “pragmatic topography” (see Kukla & Lance, 2009) analogous to (but obviously different from) non-causal topology-based mathematical constraints (Ross, 2023). Although Ross (2024) does discuss social structures as a kind of causal constraint, I think some social structures go beyond this and possess a distinctive social-structural topology where certain kinds of rules, norms, principles, laws, and the like are the primary constraints of concern.

Ethological studies often suggest that social play is guided by “rules of engagement” which guide, structure, and restrain competitive, aggressive, predatory, reproductive and other forms of ethotypic behaviour in ways that allow for mutual reciprocation and interaction within the play encounter (Pellis & Pellis, 2010, 2017).⁵ The use of the term “rule” in the ethological literature and other related disciplines tend to be more variable and liberal compared with the more circumspect (though not necessarily unanimously agreed upon) use of the term in philosophy. Although “rule” can be used as a placeholder for a behavioural regularity or a disposition, or even learned or habituated behaviour, what we are interested in are genuine cases of following or being guided by a rule. This again does not mean having a representation or conception of the rule in one’s mind nor is it any mere behavioural regularity or conformity to a group.

My suggestion in chapter 3 of what is involved in genuine rule-following (or norm-governed) behaviour can be summarised as *participatory commitment (including recognition of other participants) to a shared activity/practice of a kind that is mutually co-regulated amongst co-recognising participants through the giving and taking of interpersonally-mediated (i.e., communicable) reasons, intentional expressions, and expectations*.⁶ Nothing in this account of rule-following behaviour suggests that the rules need to be explicitly stated; they are instead implicit in the co-regulated interactive dynamics amongst committed, co-recognising participants. I suggest that this sense of following a rule through the co-regulated interactive dynamics amongst committed, co-recognising participants is how animals are able to grasp and understand the “rules of engagement” in social play.

3. Social Play as Games *qua* Token Contests

A helpful and intuitive way to unpack this robust conception of rule-following in social play is to think of social play as a game. Some researchers have already argued that certain forms of social play are indeed structured similar to games, most explicitly in

⁵ It should also be pointed out that some moves in social play are unique to the play context (Palagi et al., 2016a; Petrú et al., 2009).

⁶ Note that “reasons” here are to be construed broadly spanning the practical and the embodied to the reflective and propositional kind (see Gallagher, 2018). See also Hurley and Nudds (2006) for a collection of papers on rationality in animals.

Mielke & Carvalho (2022; see also Pika & Zuberbühler, 2008; Tanner & Byrne, 2010; Reinhold et al. 2019). These studies tend to focus on hierarchical or nested structures of moves, shared intentions through communicative gestures and vocalisations, recognition of and switching between roles and so on to unpack how social play can also be counted as instances of gameplaying. In my analysis however I mainly follow Mike Ridge's (2019a) account of what it means to play a (multiplayer) game in a paper entitled *How to Play Well with Others*.

Improving on some lapses in Bernard Suits' more canonical definition of a game, Ridge develops what he calls a "commitment-based" account.⁷ The basic gist of the account involves invoking some form of "social contract" (similar to Allen and Bekoff above) where the playing parties implicitly and jointly agree (that is, mutually commit) to abide by the rules and attain the (internal) goals of the game (Ridge, 2019a; 2021a). To make a commitment here means to engage in some form of communicative act akin to making a promise (Ridge, 2019a, p. 76). Further, Ridge also makes provisions about "showing up" or being in the designated context of play and having the shared activity progress to a point where a clear result or a natural end-point to the proceedings is attained (Ridge, 2019a, p. 78).⁸ Ridge improves upon Suits by accounting for instances of cheating and trifling as well as adding a critical interpersonal dimension that is lacking in Suits' account.

Ridge's commitment-based account closely resembles my own participatory account of rule-following and norm-governed practices where "participatory commitment" is an

⁷ The more canonical account of Suits defines a game, in crude slogan form, as the "voluntary attempt to overcome unnecessary obstacles" (2005, p. 51).

⁸ Note also that Ridge (2019a) makes a distinction in his account between "normative-role" and "rule-following" senses of playing a game. The former applies to players who are cheating or not playing properly (i.e., not following the rules) but since they have made a commitment and are present in the right context, they are counted as playing a game even if strictly speaking, they are not properly following its rules – this latter, stricter conception being the "rule-following" sense of playing a game. My participatory account of rule-following seems to apply more to the "normative-role" sense (due also to the emphasis on commitment) although one can also obtain some weaker version of the "rule-following" sense in my account stemming from how the "co-regulated interaction amongst committed, co-recognising participants" is what I believe is at the root of what it means to follow a rule. It is ambiguous whether a cheater, given their intentions, is co-regulating in the right way, but it is enough to hold them accountable given that they have undertaken a commitment to participate and thus occupy the relevant normative role. Ridge seems to be thinking in terms of the more common sense and formal view of rule-following where a conception of the rule and how it is deployed is clear and interpretively uncontroversial. My more nuanced account also wants to capture more ambiguous cases where the rules themselves and how they are applied can be contested or unclear.

important necessary condition. What my account highlights that Ridge's account seems to take as assumed or given is the more refined way of unpacking what it means to abide by or follow the rules (i.e., via the co-regulated interactive dynamics amongst committed, co-recognising participants).

If I am correct, social play should also feature the communicative act of commitment in spades. It turns out that a group of social play researchers have also recently honed in on the notion of commitment, particularly joint commitment, in analysing the complex interaction in animal social play. Joint commitment here is taken as the sense of mutual obligation that binds participants together in a shared activity (Bangerter et al., 2022). There is mounting evidence collected of joint commitment in social play as something that emerges as an interactional achievement and analysed as an interactive process; that is, not merely treated as instantiated in specific individual psychological dispositions/capacities nor as some adaptive function fixed by selective processes (Heesen et al., 2017; 2020; Genty et al., 2020; Heesen et al., 2021a,b; Bangerter et al., 2022; Heesen et al., 2023). I find this convergence on the focus on mutual commitment a welcome development especially as it helps build my case and make these connections more plausible.

There are however some scholars who would reject the structural relation equating social play and games. Palagi et al. (2016a) for instance argue that:

While rules are followed in both free play (e.g. play fighting) and structured games (e.g. rugby matches), the nature of the rules differs (Power, 2000; Burghardt, 2005). Structured games, unlike free play, are built on *a priori* rules and the participants have to follow these rules to avoid being penalized. In “free play” the rules to be followed are created by the players. Depending on the players involved (gender, rank, age, size, kin) and the kind of play performed (tickling, locomotor–rotational activities, fighting), each new play session requires the application of “flexible rules” that can be continually redefined (Pellegrini, 2009). Also, unlike structured games where the rules may be enforced by a third party (e.g. an umpire), during free play enforcement of the rules is by the players themselves. (Palagi et al., 2016a, p. 312)

There are of course important differences between the “free” social play of animals and structured games like sports. But these differences can just be a matter of degree and that the same basic underlying structure can still be discerned in both.

First off, while structured games do come with pre-determined rules, these rules are not as fixed *a priori* as we think they are. These pre-determined rules would have had been created, refined, negotiated, and agreed to at some point in its history. So, there is also flexibility in the rules even in structured games, just more drawn out and historically embedded in a shared social practice.

Also, even if a game is already well-established, any set of players casually playing the game can choose to revise those rules or create new rules on top of the more established ones. This does not automatically mean that they are playing a completely different game altogether. They are just switching up some rules of the same game to fit their circumstances. So, just as in social play, rules in structured games can also be flexible and be open to change, additions, or subtractions.⁹ This flexibility would of course not be allowed in more professional and highly-competitive settings, but even there, the rules would also change from time to time.

So just like in “free play,” structured games also have rules that at some point have to be created and negotiated and at any point they can also be flexibly redefined and altered. It is worth stressing again what has been noted in chapter 3 on the participatory structure of normative practices – that rules are often fluid and open to improvisation; that is, “we make up the rules as we go along” (Wittgenstein, 2009; Bertinetto & Bertram, 2020).

Lastly, structured games also need not have a third-party enforcer for the game to be in play. Think again of casual players getting together to play a game to have fun or pass the time. They can enforce the rules by self-regulating and co-regulating with their peers. Indeed, some games like Ultimate Frisbee reject having third party

⁹ Just how much modification in the rules would be needed for it to constitute a different game? This is a complex issue about how games are individuated which Ridge discusses in detail in his (2021a) paper *Individuating Games*. I do discuss the senses in which games are individuated shortly in the main discussion.

referees and instead rely on interpersonal policing and honour codes as part of the game's ethos (Ridge, 2021a).

One way to discriminate between social play and more structured games in a more precise way and yet maintain both as instances of games is to disambiguate different senses with which we individuate games. Ridge (2021a) argues that there are at least three ways of individuating games. One is to think of a game as a "token contest" which denotes an individual instance of a game being played. But a game can also be construed as a historically embedded "social practice" (Ridge, 2021a). This can account for any changes to the rules and configurations of a game over time while maintaining its identity as the same game. It can also account for different variations of the same game (sub-practices of sorts) co-existing at the same time (Ridge, 2021a). Structured games are more like social practices which people individuate as the same game despite many co-existing variations and changes through time. Social play on the other hand can count as games in the sense of being token contests.

It is unclear whether social play can count as a "social practice" since a more detailed account of what constitutes continuity and similarity between token social play contests may be needed. What needs to be established here is the sense in which players recognise that they are engaging in – and more importantly, committing to – the same "game" across different token contests. This is not clearly established in the extant literature on social play. A minimal game qua social practice can perhaps best be established amongst familiar partners that exhibit more routinised and ritualised social play. If transmission of familiar play sequences through learning and observation within a developmental niche is established, this may also count as a more robust game practice. Situating social play (construed as a social practice) as an inheritance within a developmental niche, in my view, is preferable and better fits the more cultural basis of transmission of social practices than the more traditional way of thinking of biological inheritance as a genetically heritable adaptive-functional trait.

A third way in which games can be individuated is to treat a game as a more general or abstract form of activity (i.e., an "abstract entity") constituted by a specification of relevant rules and goals (Ridge, 2021a). A slight change in the rules (or goals) would formally entail a different game. As such, different games qua abstract entities

construed formally as having slight differences in rules and goals can nevertheless be the same game qua social practice.

Ultimately, how one makes those abstractions may depend on the kind of abstraction, formalisation, or categorisation one needs. What constitutes a game activity with the same form in relation to its rules and internal goals would depend on the level of grain one needs in carving out and individuating different games. One can, for instance, make a very coarse-grained formal distinction between two-player games (such as singles tennis or boxing) and team sports (such as football or basketball) by just stating broad formal rules about how many people can participate, though this may not be an interesting distinction for many, as wildly varying games fall under these two broad categories. Finer-grained examples would not only make distinctions between different sports games, but also distinctions within sports games qua social practice. One can, for instance, distinguish between outdoor football and futsal or, even finer still, boxing games on different weight classes or between different tennis games based on the surface of the tennis court (grass, clay, hard, or artificial grass). What these examples show are various grains of abstraction in relation to how finely or crudely one wants to carve out the rules and constraints of the game.

Play researchers, in my view, are engaging in this sort of abstraction when they are categorising different forms of social play in animals (and children's play). Play-fighting will be instantiated differently in different species, but researchers are still able to identify some more generalisable formal elements that are more or less shared between species that do engage in play-fighting (Palagi et al., 2016a; Heesen et al., 2017; Pellis & Pellis, 2017). A sufficient level of coarse-grainedness would be necessary here to account for all the variation between species.

Similar to the individuation of a game as a social practice, it is likely that animals do not individuate games in this abstract and formal way. It is possible though that they may have a more pragmatic and embodied sense of understanding of what a play-fight constitutes and can perceive and recognise various token play-fights as the same kind of game through similar play-fight-related affordances that are activated. However, one can put to one side these issues of whether animals are able to recognise and individuate games of the same kind and proceed with a more direct

analysis of animal social play taken as token contests. Ridge's commitment-based account should still apply even in these instances. In the next subsection, I offer a more robust descriptive account of play-fighting as a case study of the participatory structure operative in social play.

4. A Case Study of the Participatory Structure in Play-Fighting

One can cash out the essentially norm-governed and game-like aspects of play-fighting in terms of their unique and, one might say, odd behavioural features. These behavioural features include role-playing, role-reversals, turn-taking, and self-handicapping.

In terms of role-playing, there are at least two complementary roles each player may take and be guided by during a play-fight: offense or defense (not unlike sports that pit two players or teams against one another). Grasping these complementary roles is what makes the kind of robust interaction in social play possible.

Just as in everyday human interactions, phases can also be identified in the play-fighting encounter. These include (1) opening, where potential partners initiate and establish mutual commitment and enter into the interaction, (2) the main body, where ongoing commitments are maintained and interaction is sustained, and (3) closing, where one or both partners take leave or take off (Heesen et al., 2017; Genty et al.; 2020).

What follows is a rough run-through of what happens during a play-fight. Again, there will inevitably be some inter-species or even inter-group variability here where some features would be absent or be present in less frequent or less sophisticated form. So, note that the picture of play-fighting here will be painted with a broad, crude brush.

A play-fight usually starts with an invitation from one individual performing either a play signal (usually in the form of an open-mouth play face or play bow) and/or an initial

move typical for the encounter.¹⁰ Either way, the move is an attempt to solicit some form of response from the potential partner to accept or deny the invitation to engage. More than an invitation for the potential partner to engage, the initial move also communicates the initiator's commitment to the playful activity. The play-fight ensues if the other responds to the invitation by mirroring the play signal or by manoeuvring reciprocally with a relevant countermove such as a defensive posture. This response establishes a mutual agreement between both parties to engage in the joint activity.

If the defender successfully brushes off the attacker or is able to mount a successful counterattack, the players then switch roles, with the initial defender posturing towards an offensive position and the initial attacker setting up a defensive stance (Pellis & Pellis, 2017, p. 357). Throughout the duration of the play bout, the players maintain the activity by rotating or switching between these offensive and defensive roles. A player can choose to temporarily (or permanently) disengage if they object to a move or they can "justify" an ambiguous move by performing a play signal. The encounter ends when one (or both) permanently disengage in protest, or "take leave" once one or both lose interest or energy (Heesen et al., 2017).

There is a robust sense in which each player must be sensitive to the roles they are playing because not only do they structure and establish constraints in the interaction, they also inform "proper conduct" between co-players (Pellis & Pellis, 2017). The roles the players embody constrain what moves they are committed or entitled to, informing them of appropriate or permissible moves in the interactive encounter. What guides appropriate behaviour during the encounter is explained not by some instrumental outcome or effect (adaptive or otherwise) but by the constraints of proper performance based on the given roles and the reciprocal feedback they receive in the interaction.

¹⁰ The play bow is often observed in canids though other signals like the "face paw" or the open-mouth play face are also deployed (Miklosi, 2007; Horowitz, 2008). The open-mouth play face is often deployed by primates. Rats on the other hand solicit playful interaction by attempting to contact a target somewhere on the defender's body (this can also be reversed, where the animal solicits play by rolling over on its back in front of the play partner) (Pellis & Pellis, 2017). The rat example is an instance where an explicit communicative signal or gesture is not necessary to express commitment. Ridge (2019a, p. 80) similarly suggests that performing a first move to a potential play partner that is indicative of a constitutive gesture in a game can be sufficient in communicating one's invitation and commitment to play. In these instances, simply performing the moves of the shared practice may be enough of a signal that the agent is committed to being guided by its rules. These seem to apply to animal social play as much as they do to human games and sports as in Ridge's example.

Constraints on proper performance as such are regulated not just by the individual performing the role but equally by the reciprocal feedback and response they get from their partner. The “rules” on how to enact or embody the roles are negotiated by both participants. So it is not just about figuring out the most efficient and effective means to attain one's ends (as in any adaptive or instrumental action), but acting and performing “in the right way”; a focus on “how” over “why” an action is done (Pellis & Pellis, 2017, pp. 357-8). In short, the role-playing informs the rule-following.

One may think that the role-reversals are no different from the “roles” played in serious aggressive behaviour. But in play-fighting, the manoeuvres and tactics employed facilitate rather than inhibit role-reversals. In other words, the actions used during a play-fight encourage taking of turns between players unlike, say, in serious aggression or in mating encounters where the individual in the advantageous position would take any means necessary to maintain that advantage. Play-fighting is highly affiliative and non-competitive and is quite the opposite of aggressive anti-social behaviour despite having superficial behavioural overlaps. The emphasis is friendly turn-taking rather than point-scoring. This again shows an emphasis on means/performance rather than outcomes.

More importantly, violations of role expectations (i.e., cheaters) might be met with surprise behaviours, abrupt termination of the interaction, and even sanctions affecting the social status of the cheater (Allen & Bekoff, 2005; Miklosi, 2007; Horowitz, 2008; Bekoff & Pierce, 2009). Adherence (or lack thereof) to the commitments conveyed in play signals during the encounter seem to determine whether the play partner is worth engaging with even outside the context of the play encounter (Allen & Bekoff, 2005).

To facilitate turn-taking and role-reversals during play-fighting, the players adopt measures and tactics that give each other opportunities to take turns and reverse roles, often in the form of some kind of self-handicapping configuration such as more relaxed and less intense offensive and defensive positions that are not observed (and can be considered counterproductive) in other adaptive contexts (Pellis & Pellis, 2017, p. 357). Here is one illustration of an offensive manoeuvre with an element of self-handicapping:

[S]ometimes during play fighting, the on-top rat does something never seen during serious fighting—it stands on top of its supine partner with all four of its paws... When standing on top with its hind paws anchored on the ground, the likelihood that an attack launched by the supine rat... will be successful is about 30%, but when the on-top rat stands on its partner with all four of its paws, the success rate increases to over 70% (Pellis, Pellis, & Foroud, 2005). (Pellis & Pellis, 2017, p. 357)

Such kind of move does not make sense if the attacker is merely interested in maintaining an advantageous position and in successfully hitting its target. But the attacker, being committed to the shared activity, needs to show some restraint and encourage turn-taking and role-reversals in order to show their commitment to playing the game. Self-handicapping as such is ineffective if the player simply has the goal of winning the contest. They need to voluntarily restrain themselves in order for the playful interaction to continue.

As such, unlike in serious aggression, taking on the role of the attacker carries certain commitments about how one is to engage with the defending play partner in a way that makes the attacker more sensitive to how they treat their partner. This grasping of roles and commitments means that each player cannot merely do whatever they want as in solitary play. In many cases, they will voluntarily restrain themselves from overpowering their opponents. More than seeking to win or dominate the other, each player would likely self-handicap in order to manage turn-taking and role-reversals. They have to thus exhibit a level other-regarding care for their actions towards the other player. If the attacker is overly aggressive in their offense which results in the defender getting hurt or seriously injured, the activity then ceases to be playful. To sustain the play encounter then, the players need to show accountability for their actions and be able to convey to their partner that they are still committed to playing. This brings us to the need to establish clear communication lines between players during a play-fight.

5. The Distinctive Communicative Force of Play Signals

Perhaps the most overt communicative feature observed in social play are play signals – the most prominent of which are the play bow and the open-mouth play face – which are not only used as an invitation but are also often deployed throughout the play encounter (Pellis, 2002). These signals are ritualised communicative performances that inform one's partner that “what follows is play” or “this is still play (and not aggression)” or even “I want to play with you”, a declarative expression of one's desire to playfully engage with the other (Bekoff, 1995; Bekoff & Allen, 1998). Play signals are also sometimes called “honest signals” that are likely deployed to co-regulate an affiliative mood as well as communicate and warrant expectations of “appropriate” moves, which builds a sense of trust amongst playing partners. While the mood of fun may still play an important regulating role for social play, for this individual subjective mood to be sustained the player must ensure that their fellow co-player is also willing to continue engaging with them and vice versa. So they must be able to convey to each other that they want to maintain a friendly, affiliative mood at certain points in their interaction. This is where the play signal can come in handy.

In performing the play signal, the animal seems to be expressing to their partner their commitment and intent to play with them. Implied in this commitment is a promise and assurance that they will not act aggressively towards the other through this overt expression of an affiliative intention. The purpose of the signal is to communicate to their partner that the player's actions are to be construed as friendly, playful jostling and not as aggressive behaviour with an intent to inflict harm and injury (Smith, 1997).¹¹

Some of the actions and manoeuvres performed during play-fighting bouts are ambiguous and can easily be misinterpreted as serious aggressive or reproductive behaviour. To prevent misinterpretations of ambiguous moves (as aggression or

¹¹ One need not presuppose a cognitively demanding intentional structure of Gricean communication here. For one, it is possible to have Gricean communication minimally instantiated in more basic, nonverbal modes of communication (Moore, 2018). More importantly, certain capacities for robust non-linguistic communication and folk-psychological attribution do not require sophisticated human-like cognitive resources (Andrews, 2015). Some of these capacities include embodied signals, gestures, eye contact, touch, acoustic signals and other nonverbal vocalisations, facial expressions, bodily postures, and pantomimes or facial/body mimicry.

reproduction), the play signals can be deployed as a way to explicitly indicate intent and their continued commitment to the playful encounter (Pellis & Pellis, 2017, p. 358). If one player gets too rough, there is a tendency for the other player to back off and terminate the encounter. But play can be re-established again when the alleged aggressor performs a play signal, reasserting their commitment to play (Bekoff & Pierce, 2009). Play signals are also more frequently employed when the play partners are not familiar with each other (Bekoff, 1974; Palagi et al., 2016a). This shows how crucial the role is for a stable developmental niche to supply the right kind of social conditions to support more cordial conduct and smoother interactions amongst play partners.

For these reasons, unlike other moves and manoeuvres during the play encounter, play signals are usually treated as clear, unambiguous, and highly stereotyped communicative expressions that show little interpretive variability and a high degree of ritualisation (Bekoff & Allen, 2002). Play signals in this sense function like signposts of constitutive norms that indicate commitment to the normative parameters of the playful context which helps in demarcating and disambiguating the player's behaviour.

One interesting line of research worth exploring here is the kind of communicative force play signals convey. It is often claimed that non-human animal communication can only at most express the communicative force of imperatives. Assertions or declaratives are harder to establish and are usually seen as a precondition for discursive meaning (Dummett, 1976; Brandom, 1994) and the standard for human-like (i.e., linguistic) communication (Tomasello, 2008). Some have criticised this narrow focus on declaratives as a condition for discursive communication (Belnap, 1990; Kukla & Lance, 2009). Nevertheless, others have recently pointed to evidence of great apes engaging in declarative gesturing akin to joint attentional engagement (Wilke et al., 2022). Something like declarative signalling of one's commitment to play might be said to be operative with the play signal (i.e., "this is still play (and not aggression)"). As Ridge surmises, commitments are essentially promises, which are a paradigm kind of declarative (Searle, 1964). The research on play signals and their respective interpretations show that there is *prima facie* warrant for thinking that play signals are overt communicative signals that convey the force of assertions or declaratives.

Play signals might of course also be read as imperatives (i.e., "You, play with me!"), but the way they are flexibly and frequently deployed throughout the play sequence strongly suggests that play signals are very flexible gestures and can change meaning depending on the context, especially as they are supposed to establish reciprocal behavioural expectations in a highly interactive, evolving context. The play signal is not just about producing some desired effect like most other animal signals. If Bekoff and Allen's analysis is correct, then play signals can be good candidates of animal communicative signals that have declarative force.

Play signals are also significant because, unlike other animal signals, they also seem to function more as a form of second-personal address between co-players rather than as a mere instrumental means to produce a certain outcome. Recall at the beginning of chapter 6 the suggestion that the proximate mechanisms in other forms of animal communication are largely correlated and determined by their ultimate adaptive function. The proximate communicative mechanisms that take place during social play however, as illustrated in the play signal, serve as a way to regulate actions conducted within the shared activity.¹² The crucial distinction here is that in other forms of animal signalling, the type of activity or action is not the main object of concern but the ultimate goal it is supposed to serve. As such, these other forms of animal communication can be treated as instrumental actions with a teleological structure whereas play signals ostensibly portray a second-personal exchange between agents that focus on committing to a shared interactive activity with a view to invite the other to take up and engage with them in (or sustain) the shared playful activity.

For any form of second-personal address, uptake and response from the other agent is critical. Play signals would usually be accompanied by a pause by the signaller to await some response or reception (Horowitz, 2008). Being specifically addressed towards a potential play partner, the addressed in turn is expected to secure uptake of the play signal by responding with an action that either signals acceptance or rejection of the signal. Play signals thus work only insofar as they communicate in this

¹² Although some signals seem involuntary (like emotional reactions and displays) and others (like play signals) more overtly intentional, they are also often interlinked (Palagi et al., 2016a) and even supposedly involuntary emotional expressions may also be intentionally reappropriated and scaffolded by the dynamic interactive feedback loops that help facilitate and sustain the playful encounter.

second-personal way a player's commitment to the playful activity and, having established this, maintain mutual reciprocal relations between committed, co-recognising participants.

This mode of communication is not just about conveying relevant information; it is, more importantly, a way to scaffold interpersonal commitment to a shared activity that also sets behavioural expectations between participants. This robust interpersonal and participatory structure is lacking in other forms of animal communication, let alone other forms of adaptive behaviour. Play signals thus, in my view, are a strong indication of the participatory structure present in social play. Their flexible deployment throughout the play bout and the accompanying expectations and statuses they convey is the kind of mutual reciprocal address that tells us that there is a participatory structure at work here.

6. Additional Biases and Enabling Conditions for Social Play

It is important to stress that the kinds of moves and actions that players tend to deploy during play-fighting are not a product of an individual or even a collective cooperative mechanism. Although there tends to be an activity-internal goal in a play-fight to target a certain part of a play partner's body, the fact that the participants are self-handicapping and taking turns shows a different form of motivation that is shaping and informing action. Since social play is still play, the animal is in a situation where they are likely spontaneously attuned and can generate their own activity with a degree of open-ended endogenous, that is, self-directed voluntary control. But unlike solitary play, reference to CAB-enabled capacities and their related attractors will not be enough to account for the moves evinced in social play. The spontaneous attunement and endogenous control are not merely directed towards any old environment, the attunement and control are also directed at an environment with other spontaneously-attuned individuals that can also exhibit open-ended voluntary control over their actions. This requires a different mode of environmental engagement, one that is directed at social partners. How the animal perceives and treats other social partners would be crucial here. Social engagement and treatment of others can still be read in

an instrumental lens. A more robustly normative treatment of others would be to perceive them as committed co-participants in a shared activity.

I suggest that additional capacities, dispositions, and attractors on top of those relevant for solitary play might be needed for this robust normative sociality to get off the ground. I propose three plausible candidates here: attunement towards intentional actions, recognising affordances in other agents, and a bias or desire for interpersonal connection.

The first capacity may be the most basic and may be shared with other non-social animals: a kind of basic capacity to perceive or be attuned to features of the world as “intentional actions of an agent” (Risjord, 2014, p. 232). This is likely a kind of evolved disposition of an animal to be attuned to and perceive certain things in the environment not just as things but as animate agents engaging in intentional action (i.e., running, biting, cooperating, and so on). One might equate this with Daniel Dennett’s (1989) intentional stance, but I prefer Quill Kukla’s (2018) amendment of this stance as an embodied stance eschewing the overly mentalistic connotations found in Dennett. For Kukla, we should understand stances as “*embodied, performed strategies for coping and coordinating* with the world and the people in it” (Kukla, 2018, p. 8, emphasis in original). This stance or disposition has obvious adaptive advantages such as spotting predators, locating cooperative partners, etc. It is not clear whether all animals with CABs have this disposition but this more embodied version seems to suggest it could be a widespread disposition.

Related to this capacity for attunement towards intentional action is the capacity to recognise affordances, or possibilities for action, that are not just one’s own, but affordances of other agents (Risjord, 2014, p. 233). This is merely the capacity to “perceive” possibilities for action in other recognised intentional agents – what they can or cannot do – which may or may not be accurate. This may also be a related evolved disposition tied to the capacity for attunement, perhaps an important capacity for cooperative pack hunting like in wolves. Mark Risjord explains the importance of the capacity the following way:

[Recognising affordances for both self and other] permits us to recognize the possibilities for actions that require the contribution of more than one person. The agents' understanding of their own and the others possibilities for action has to be a practical understanding. It is cognitively encoded in some way, of course, but that representation is closely linked to action and need not be accessible to conscious reflection or subject to deliberation... [I]t would be part of practical consciousness. Such a capacity is clearly necessary for agents to participate in practices. Without the ability to recognize another person's affordances, and see how those action possibilities fit with the agent's own, coordinated action would be impossible. (Risjord, 2014, p. 233)

Perhaps other capacities and dispositions may still be needed, but the last one I propose is a bias on top of the sensory and motion-based attractors I discussed earlier. This bias is what James Laing (2024) calls a "desire for interpersonal connection" which appeals to a primitive and irreducibly relational "desire" to connect with others. Interpersonal connection involves a mutually harmonious two-way emotional relation between individuals that is present in our experiences of "friendly, mutually-enjoyable, interactions" (Laing, 2024, p. 167). Laing argues that the structure of interpersonal connection involves an irreducible mutual transaction between relating individuals: "*I am affecting-and-being-affected by you and you are affecting-and-being-affected by me*. According to the metaphysics of interpersonal connection that I am here proposing these are two aspects of a single metaphysically primitive transaction" (Laing, 2024, p. 169, emphasis in original). Moreover, for Laing, interpersonal connection is a fundamentally relational good or evaluation because it can only be good for each individual involved only if it is good for both:

[T]o desire connection is to be neither egoistically self-interested nor selflessly altruistic: It is to desire a relational good, which makes a contribution to either person's wellbeing only if it contributes to both, and which cannot be reduced to any changes in each person's non-relational properties" (Laing, 2024, p. 171).

Once one gets all of these capacities, dispositions, and attractors in place on top of the CAB-enabled capacities and related attractors, (and of course, situate this within

a context of relaxed selection facilitating spontaneous attunement) I think we have social play. The bias towards interpersonal connection in particular is what I suggest provides the initial impetus or drive for the animal to initiate social play with a potential play partner and experiencing interpersonal connection during the interaction is one of the motivations for sustaining it.

Using Matthen's taxonomy of evaluative states, I suggest that the experience of interpersonal connection is an activity-forward evaluative state in that it is not subordinated to some end state independent of the shared activity being engaged in and that there is no natural satiation point. It may also have both prospective and reactive evaluative elements in that it can be a cause for one to seek out activities that facilitate this connection and at the same time be a cause for sustaining the very activity. If true, interpersonal connection may be a robustly multifaceted and multidimensional desire state.

The experience of interpersonal connection is perhaps one of the distinctive senses of fun that is experienced in social play. Interpersonal connection in this sense is a distinctively social mode of having fun. And this is what I think pushes many social species to engage in social play. It is not that all social play necessarily requires the animals to experience interpersonal connection, but that it is likely one of the main motivations regulating the activity. One can unpack this as the affiliative mood discussed earlier that both play partners aim to sustain (perhaps through play signals) as they engage each other. Graeber, in the same essay cited earlier, provides a succinct summary of this view: "To exercise one's capacities to their fullest extent is to take pleasure in one's own existence, and with sociable creatures, such pleasures are proportionally magnified when performed in company" (Graeber, 2014). The joy of sharing a playful activity with others is to a large degree explained by how it addresses a deep desire for interpersonal connection.

7. Interpersonal Connection and Constraints for Spontaneously-Attuned Agents

I have mentioned earlier that the actions one undertakes in social play are not explainable in terms of a mechanism. Similar to solitary play, the conditions with which

it arises does not admit a mechanistic account underlying and explaining the behaviour. Instead, the explanation is based on various constraints, the most important of which is the easing of adaptive constraints (via surplus resources) on the agent, which opens them to a wide degree of freedom for open-ended voluntary discretion. There are of course biases, attractors, and other structural morphological constraints that limit and structure the range of options informing discretionary action. But the main triggering cause creating the context with which the agent is situated during play is that of an easing of selective pressures which shifts how the agent relates to their environment from being adaptively attuned (thereby narrowing action affordances to those that produce optimally favourable outcomes hence favouring functional mechanistic behaviour) to being spontaneously attuned (where the space of action affordances is opened up for open-ended endogenous discretion).

In this way, spontaneous attunement directs agents towards non-mechanical ways of acting. There should be a bias then towards activities that tend to be less scripted and allow for action with a wide degree of discretion. However, mere talk of unscripted activity and the easing of adaptive constraints allowing for more discretionary action does not quite capture how actions are structured and regulated in social play. As mentioned above, mutual agreement must be established between the play partners and there are “rules of engagement” to follow meaning that no player is free to do whatever they individually prefer. It is not that these constraints are voluntarily accepted to limit a player’s freedom or leave them with less room for discretion. It is more that these constraints are necessary because they make possible a shared activity like social play – with social play being the kind of activity that can be engaged by spontaneously attuned individuals who desire interpersonal connection.

Notice that these constraints are self-imposed constraints rather than mere external causal constraints that either restrict or free up space for self-directed action (such as the imposition or relaxing of selection pressures). One can categorise these self-imposed constraints as a kind of non-causal constraint (Ross, 2023) on account of the way in which they are based on interpersonal rule-based commitments and expectations rather than merely predictive empirical expectations.

Although it may also be possible for adaptive social activities to make room for interpersonal connection, the fact that these activities are situated within an adaptive context means that they maintain a largely teleological or functional mode of intelligibility. As mentioned in the previous chapter, an adaptive activity can accommodate both an (object-forward) adaptive and (activity-forward) spontaneous mode of attunement.

I think that spontaneous attunement can and does play a role in facilitating, establishing, and sustaining interpersonal connection. Still, even with spontaneous attunement and interpersonal connection, an adaptive context will still produce an activity that is structured and regulated around its survival or reproductive value. Interpersonal connection does not automatically entail normative interpersonal relations. This is in part because, if my account of norm-governed agency is correct, the activity is not yet structured around features of normative activity that I articulated which include participatory commitment, mutual recognition of participants, and co-regulation amongst co-recognising participants.

It is possible that the desire for interpersonal connection is closely tied to altruistic and prosocial dispositions which are considered adaptations that were selected for through a process of kin (or group) selection. If so, then engaging in behaviour or activities that build interpersonal connection need not have a participatory structure. Establishing interpersonal connection need not require that the activity be structured around mutual commitment to the activity nor any mutual recognition between participants nor any sort of interactive co-regulation involving second-personal address. Something as primitive as eye contact or an exchange of glances is sufficient for interpersonal connection to obtain (Laing, 2024, p. 163). Or consider for instance a mother caring for their infant child. This is a relationship of utter dependence structured around an adaptive activity (with no sense of mutual commitment for the activity to proceed) and yet is nevertheless a suitable outlet for cultivating connection. The regulation in this instance is primarily an adaptive one which can be accompanied with a positive evaluative experience of connection shared by both the child and caregiver.

It is amongst almost exclusively spontaneously-attuned animals with a desire for interpersonal connection where things get more interesting as far as the SPH is

concerned. With spontaneous attunement at the foreground of experience, the social animals would have open-ended voluntary discretion over the activity they engage in. Interpersonal connection being an attractor (along with other sensory and motion-based attractors), there is a strong motivation for many social animals to engage each other in shared playful activity. It is possible for the animals to engage in a shared adaptive activity such as, say, group hunting for the fun of it, but without the right kind of adaptive attunement to trigger such behaviour, there is no clear incentive to engage in this type of effortful adaptive activity. Solitary play may also still be an option since even for social animals solitary play can still be fun. But as Kropotkin and Graeber assert, the desire to connect with other equally sociable conspecifics would be a more desirable option than to play on one's own.

The question then would be how spontaneously-attuned animals with a desire for interpersonal connection would begin to construct, structure, and regulate an activity around a desire for interpersonal connection. With solitary play, the animal only needs to "consult" their own individual subjective evaluative states. The activity would be structured around sensory and motion-based attractors and would be regulated by the enjoyment qua reactive, activity-forward mood the animal is experiencing. If galloping around the field feels fun, then that is enough to motivate more galloping. The discretion of what to do is entirely left to the individual animal.

An activity structured around interpersonal connection on the other hand would be quite unlike solitary play. How the shared activity proceeds is not up to one individual animal's discretion. Interpersonal connection being irreducibly relational, it cannot just be experienced by one individual – it is a "bipolar emotional relation: an 'experience-for-two'" (Laing, 2024, p. 167). If playful activity structured around interpersonal connection is to proceed, this needs to be an experience that is jointly shared between the play partners. One should, however, note the kind of experience that is being shared here. The shared experience must be a shared experience of spontaneous freedom. For this to be a genuine case of interpersonal connection, both players have to be spontaneously attuned. If one of the potential partners, say, is famished or is in a stressed-out state, no genuine connection can obtain. Further, the experience of spontaneous freedom also entails that the agent acts with a degree of open-ended voluntary discretion (i.e., not overly determined by scripts) and that this is also

experienced as nonalienating, nonobligatory, and (as CAB-enabled animals) closely tied to embodied movement.

All this is to say that the kind of activity that is required to establish interpersonal connection amongst spontaneously attuned agents has to be structured and regulated in a different way that relies less on individual subjective evaluative states. The structuring and regulation must be irreducibly relational. Shared adaptive activities have a ready structure (through a functional behavioural mechanism) which for the most part revolves around a shared adaptive goal or outcome. Exclusively spontaneously attuned animals situated within a relaxed space do not have the right kind of attunement to be motivated to engage in a shared adaptive activity. Nothing within this relaxed space should trigger an urge or need to hunt collaboratively or secure their shelter and so on. In any case, the fact that these behaviours can be linked to adaptive behavioural programmes (essentially, neurally pre-programmed scripts) means that, even if they leave room for discretion, they are not the kind of activity that would be relevant or interesting for a spontaneously-attuned agent.

What we have then are agents that are spontaneously-attuned and motivated to engage not only in an embodied, movement-based activity, but an activity that is also relationally-mediated in a way that allows for the promotion and cultivation of interpersonal connection with others as well as making room for nonalienated, nonobligatory, and voluntary discretion in one's action. These are the kinds of constraints and considerations that an activity within this space needs to account for.

Crucially, the most salient consideration motivating the animal here that closes off solitary forms of play as viable activity options is that the activity needs to be relationally-mediated to allow for interpersonal connection. The activity must be structured as an "experience-for-two" and so must be regulated in a way that cuts across individual subjective states. For this activity to take off, then, it must regulate experience such that it can be a shared and intersubjectively-accessible experience. More than that, this shared experience is not a passive one of harmonising internal subjective states; it must also reflect a robustly-embodied, sensorimotor-based activity that gives both subjects room for discretion in their action. This means that there must

be an other-regarding sensitivity to this kind of active agency being expressed in the activity.

This is where the need to establish “ground rules” would arise. There is no (individual nor shared) adaptive goal to guide the activity, nor are the agents guided by their own individual subjective evaluative states and/or egoistic prudential concerns. *They are instead primarily guided by how they treat and relate to their partner qua spontaneous agent taking part in the shared activity.* This is the main consideration that grounds how an inherently spontaneously-attuned activity motivated by interpersonal connection can be structured and regulated.

This interpersonal connection established from a spontaneously-attuned activity is, in important, ways, richer and more robustly substantive than other forms of connection. This is not just a connection formed out of adaptive dependence or out of the sense of achievement shared between cooperative partners – not to diminish these forms and experiences of connectedness. However important these activities are, their main point is to address an adaptive instrumental problem. Interpersonal connection is orthogonal and unnecessary to how these activities are conducted. They can conceivably be conducted reliably and efficiently without cultivating connection between the participants of the activity.¹³ Interpersonal connection can be characterised here as an extraneous effect rather than having a constitutive role in how the activity is conducted and shaped.

By contrast, a spontaneously attuned activity that is in part constitutively motivated by a bias or desire for interpersonal connection almost requires that it be structured around regulating and cultivating interpersonal connection amongst its participants. I suggest that this bias or desire is best treated not as an end or goal or functional output of the activity. Like the other sensory and motion-based attractors, it is best to think of this desire as a bias on the kind of structure and shape the activity will tend to take. This structuring and shaping would perhaps take the form of facilitating a more interpersonally robust and intersubjectively accessible expression of spontaneously-

¹³ Note also that desires for mutual attachment, interpersonal belonging, and approbation are distinct from interpersonal connection (see Laing, 2024).

attuned agency. The desire for interpersonal connection therefore takes on a more interpersonal-level structuring, guiding, and regulating role rather than viewing its role merely as a goal or end to be achieved.

It is helpful to view the experience of interpersonal connection as an activity-forward rather than an object-forward evaluative state here. In this way, one can look at interpersonal connection, like how fun and the affiliative mood was discussed earlier, as playing a regulating role that is a constitutive part of the activity rather than have it be characterised as an external goal or effect of the activity.

Once one starts to take the desire for interpersonal connection as playing an “interpersonal-level” structuring, guiding, and regulating role in the activity, the kind of activity that we then get should take on a shape that accounts for this interpersonal dimension. So it is not merely individual-oriented concerns (or even exclusively other-oriented concerns) that are guiding how the activity is conducted. What guides how the activity is conducted is in terms of how each agent treats and relates to the other spontaneous agent taking part in a shared activity.

These considered, for any kind of shared or joint activity to even proceed amongst spontaneously-attuned agents, both agents need to come to some mutual agreement and even some ground rules about how they are to engage and relate with each other and what to expect from one another. This is where the agents would be expected to begin to be motivated to regulate their behaviour in this more robustly interpersonal way. It is here where I suggest a participatory structuring of action and activity will start to take off. The most basic and incipient form this participatory structuring will take based on what I have been building up over the past few chapters should take shape in the form of social play in its various iterations.

8. Social Play, Positive Freedom, and the Scaffolding of Action Through Co-regulated Constraints

In this penultimate section, I want to further expound on and unpack the nature of the constraints involved in social play and why these constraints should be understood as

properly normative constraints. Recall again that by rule-following/norm-governed action I mean action that is structured based on the co-regulated interactive dynamics amongst committed, co-recognising participants in a shared practice.

It is in the sustained back-and-forth interaction in social play where we get a more robust sense of co-regulated interactive dynamics where meaning is built-up from the anticipations, expectations, continued adjustments, constant eye contact, and exchange of signals that is mutually conveyed and established between the co-players. A kind of shared intentionality is established here which, pace Tomasello and colleagues, is not merely an evolved psychological disposition to coordinate action and mesh plans towards attaining shared goals, but something that develops and intrinsically emerges from the process of interaction itself (Heesen et al., 2017; Genty et al., 2020). Here is how Heesen and colleagues draw out some of the unique interactive behavioural features in social play:

One aspect that has recurrently fascinated scholars is [social play's] complex, cooperative nature that requires substantial *on-the-fly coordination and improvisation* (Bekoff, 2001; Bekoff & Allen, 1998; Palagi, 2006), in comparison to other social activities like grooming or sex that involve more stereotyped activity-specific patterns. To play together, partners need to *recognize each other's playful intentions, anticipate each other's movements, adjust the timing and nature of individual acts* (Bekoff, 2001, 2004; Palagi, 2006, 2008), and *adapt their moves* to the strength and age of their partner (Fröhlich, Wittig, & Pika, 2016; Fry, 1987). (Heesen et al., 2017, emphasis mine)

The best way to understand this unique sort of interaction is to encapsulate it as a form of *co-regulation*, the term I have been pushing since chapter 3. Compare for instance Heesen and colleagues' description of social play with Fogel's definition of what co-regulation consists in. As a reminder:

Co-regulation is a social process by which individuals *dynamically alter their actions with respect to the ongoing and anticipated actions of their partners...* [A]ctions are emergent from the *constraints of the body (its shape, size and possibilities for movement), by expectations, by actions of the partner, and by*

the cultural setting. [...] As a consequence of co-regulated interaction, a consensual social frame is created and elaborated over time. Co-regulated frames are coherent and repeatable patterns in a communication system. (Fogel, 1993, p. 12)

The kind of communicative engagement one gets in social play looks to map on well to the kinds of dynamic alterations, anticipations, expectations, and various other constraints one expects to find in a co-regulated interaction. Perhaps the only questionable component of co-regulation that is missing in social play is the “cultural setting” constraint. This, however, should be fine since the kind of game in social play we are concerned with are token contests where constraints on action are always dynamically negotiated in an ongoing way. The other components of co-regulation can continue to obtain even without a cultural setting.

That said, it is not that the constraints of social play are always negotiated from scratch in every instance of playful interaction. It is possible for familiar play partners to have established and elaborated a “consensual social frame” over time as a kind of common ground of meaning and intention understanding that is established through interaction (Butterfill, 2013; Huggett et al., 2020). Perhaps this consensual social frame can also extend to a whole group, or perhaps even established within a developmental niche. Amongst humans of course, a robust developmental niche can build on that consensual social frame so that it develops into a full-blown social practice embedded in its own history and tradition that is passed on through generations. Perhaps a similar consensual social frame can to a lesser extent also be established and inherited by other animals within their own respective developmental niches.

A few further remarks are worth mentioning here. The first concerns how social cognition is to be understood within this framework of co-regulated communication. The social cognition involved here is not so much about “mindreading” (in the traditional sense of identifying the “inner” mental states of the agent) but one of “mindshaping” or “mindmaking” where the agent’s participation in shared, constraint-based or norm-governed activities scaffolds and “shapes” the kinds of intentions, actions, and other capacities agents can have in ways that are publicly expressible and recognisable to anyone engaging in the same activity (McGeer, 2015; Zawidzki,

2013). Intentional attribution via mindshaping thus forms an essential component of the capacities gained and deployed by one's participation in the shared activity.

Having an intelligible grasp of the shared activity amounts to being able to grasp the actions and intentions of participants involved. Actions within the context of play-fighting, for instance, have a public expressive quality that are manifestly transparent to other participants. An implicit practical understanding of roles involved in play-fighting means that the intentions by play partners are (or should be) transparent in their respective actions. Of course, being more explicit in signalling one's commitment and maintaining eye contact can also help with conveying agent intent. As I suggested back in chapter 3, rather than presupposing language, I suggest that a co-regulated understanding of agents' actions can also be achieved through shared signalling as they are facilitated and shaped through the interactive activity (Butterfill, 2013; Andrews, 2015).

Another important point worth stressing here is the type of communicative system formed out of co-regulation. The communicative engagement established between co-regulating partners is best construed as a learned and ritualised communication system that emerges from the process of interaction where a "consensual social frame is created and elaborated over time" rather than a purely innate communicative system. This is worth highlighting because what potentially explains the communication deployed in social play is the proximate context of learning and use rather than the ultimate adaptive context; "In a learned communication system, unlike its innate equivalent, natural selection cannot directly tune the structure of the signaling system; rather, socially learned signaling systems are *shaped by the processes through which they are learned and used*" (Spike et al., 2017, emphasis mine).

There might still be a role for natural selection here, but one need not take the whole communication system as a target for selection and genetic accommodation. Some have argued for instance, from a cultural evolution perspective, that linguistic rules are not simply accommodated as part of an innate behavioural mechanism. Instead, what are likely genetically accommodated are learning biases for picking up on those rules (Smith, 2002; White, 2014; Spike, 2017).

The same can perhaps be said of the kind of communication system developed in the process of social play where certain biases for learning and engaging in interaction (including interpersonal connection as a regulating attractor) can be hardwired, but the communication systems itself is formed out of proximate interpersonal processes. The takeaway here is that the communication in social play is best treated not as an innate mechanism but more as a learned and ritualised communication system established during the playful interaction.

A similar thing can be said about the kinds of roles occupied and moves deployed during social play. Given that the shared activity takes the form of a game qua token contest, the rules are not already established but are constantly negotiated between the players. It is again best to resist thinking of the “rules” here as explicit or propositionally expressible representations (in any case, as Wittgenstein famously notes, this invites a regress of interpretations) but rather as a co-regulated behavioural constraint that emerges from the interaction between committed and co-recognising play partners. Similar to the kinds of biases and attractors that inform the structure and patterns found in solitary play, social play can also start out from natural biases and primitive attractors for sensorimotor interaction with conspecifics. Some of the biases may be co-opted from familiar ethotypical adaptive behaviours, while other moves may be a by-product of the organism’s body morphology and sensorimotor biases and capacities enacted within an interactive context (Bell et al., 2015). The latter especially are accounted for in Fogel’s co-regulated constraints based on body “shape, size, and possibilities for movement.”¹⁴ The offensive and defensive roles in play-fighting may start out as natural biases and primitive behavioural attractors which are further adjusted and refined during the interaction.

Importantly, there are other times when the roles in social play are not necessarily sourced from natural biases and primitive attractors but are instead learned or

¹⁴ These body-based constraints on their own are similar to the CAB-based considerations adduced earlier when I was discussing the structure and patterns present in solitary play. This in a way shows a continuity in the types of biases and attractors relevant in both solitary and social play. However, this is not an indication that body-based constraints, especially if taken in isolation, can be regarded to have normative force. They arguably acquire some form of normative force only when they are integrated and embedded into a robust co-regulated behavioural structure.

scaffolded. This is most clear in the study of rats learning hiding and seeking roles before being able to play a hide-and-seek game (Reinhold et al., 2019).¹⁵ This is not the kind of game that can be found in species-typical playful interactions between rats which shows the possibility that game roles can also be learned when given the right scaffold and learning opportunity.

One however does not stop with these initial biases and attractors (and perhaps even the learned and scaffolded roles). These are just starting points that are subject to interpersonal regulation during social play. Once these have undergone co-regulation where the moves are committed to, monitored, negotiated and so on, one will begin to find a more definite and refined interpersonal structure guiding both partners in the shared activity.

This is how the structure and regulation of action shifts in social play especially in relation to solitary play. What the co-regulation between players does is that it sets up limits on an individual's action, but these constraints are not there to restrict possibilities for spontaneously-attuned action. What these constraints do is enable spontaneously-attuned action within a social, interpersonal space. By voluntarily subjecting themselves to co-regulated constraints, spontaneously-attuned agents can engage each other qua co-recognising spontaneously-attuned agents. This kind of interactive activity between co-recognising spontaneously-attuned agents is only possible when it goes through this process of co-regulation where each player has to ensure that their actions are properly negotiated, accepted, and committed to between co-recognising players.

So an animal that engages in social play is not merely in a condition of negative natural freedom where they are "freed from" the necessities and problems of survival. With social play, the animal is also navigating a social space and is motivated to engage in shared interactive activities with others in that space. But to be able to engage in these shared interactive activities, the animal also has to voluntarily accept certain limits and constraints based on what is established in the co-regulated interaction between the

¹⁵ Recall that this study was discussed in last subsection of chapter 5 (on the prospective orientation of the developmental niche in the expression of novel capacities) and in the section on autotelicity in chapter 6.

players. Thus, the kind of freedom that is instantiated in social play is not a “freedom from” but a kind of “freedom to” engage in the kinds of actions and performances that are only possible for agents that recognise each other as co-participants engaged in a shared activity. It is a kind of positive freedom as what is attained by subjecting themselves to co-regulated constraints is a freedom to engage in actions that only an interpersonally-scaffolded agent could do; that is, what is achieved is a freedom to act and perform spontaneously-attuned actions that are only possible when they are structured within a co-regulated interpersonal space.

Moreover, this also enables the individual to share their experience of spontaneous freedom with others, an experience-for-two for co-recognising spontaneously attuned agents. In short, what is experienced here is interpersonal connection between spontaneously-attuned agents.

The animal can only experience the kind of spontaneous freedom relevant to performing and becoming an accomplished “play-fighter” once they start to commit to a play-fight which involves recognising another individual as a “co-play-fighter” that they can engage by taking turns and switching roles with. The same process of commitment to participate goes with the other play-fighter to establish mutual agreement before the play-fight can proceed. For this kind of interpersonal connection and interaction to sustain itself, both will have to adjust and co-regulate their actions with each other (perhaps by self-handicapping and allowing each other to take turns) and if need be re-assure and re-affirm their commitments to the play encounter with their partner (through mutual eye contact and/or some more overt play signal).

9. A Deflationary Interpretation of Social Play?

One worry that can be raised about my account is that one can reject my interpretation of events involving the participatory structure of social play by providing a plausible non-participatory deflationary explanation, perhaps invoking Morgan’s canon as

justification.¹⁶ A deflationary interpretation can perhaps explain all the role-reversals, self-handicapping, play signalling and so on as complex patterns of reflex behaviour by an individual animal responding and adjusting appropriately to rewarding stimuli. Both interacting agents may be regulated merely by their individually spontaneously-attuned evaluative states and nothing more. They thus engage in self-regulated (as opposed to co-regulated) behaviour with another individual. No mutual commitment and recognition between subjects needed here. Perhaps both animals recognise that to sustain the activity, they need to appease the other and so they make predictive expectations of the other and respond in strategic and prudentially conducive ways by reversing roles, self-handicapping, performing the play signal and so on. This reading looks more like a version of a teleological structure where action is informed and shaped by dispositions or goals (even joint goals) rather than commitment and recognition-based participation in a shared activity.

One thing to note here is that even human social and cooperative behaviours can be and sometimes are interpreted in this more individualist and/or teleologically-structured way. So even in explaining complex human social behaviour, this problem arises. Any explanation of complex behaviour would always be hampered by its being underdetermined by its observed manifestations. Nevertheless, we can set human cases aside and focus on non-human animal social play. Morgan's canon is usually deployed as a useful heuristic for thinking about non-human animal behaviour, which boils down to relying on the simplest explanation. That said, the simplest explanation one can give may not necessarily be the best explanation.

What a deflationary reading seems to miss is the delicate and seemingly unnecessary communicative balancing act performed by both play partners. One can sustain an "interaction" with the other without the need to deploy play signals or role-reversals or self-handicapping for either the dominant or subordinate partner (though it may be more difficult for the latter to maintain this). As Allen and Bekoff (2005) assert, careful attention to the fine-grained details of what animals do during the play encounter raise familiar questions of trust, fair play, and reconciliation unique to that context. These

¹⁶ I thank Richard Moore for articulating a detailed version of this objection in a commentary response to a presentation I gave at Warwick.

issues are not raised because they can produce some optimal outcome for either party, they arise within a context of interpersonal interaction/activity for its own sake. These details seem to require a more participatory and practice-based interpretation of how play partners relate with one another (Behdadi, 2021). Add to that details like mutual gaze (a sign of agreement to engage), the close co-regulation not just of action but of affiliative mood and emotion through laughter and other vocalisations, the reciprocal give-and-take of play signalling, the signs of disengagement and protest. The restraint on display where “animals who could otherwise exploit an advantage due to their social rank, or their size, do not do so” (Allen & Bekoff, 2005) should also be telling. The range and level of emotional expressions, socially-regulated behavioural control, performative displays, frequent role-reversals, and flexible communicative signals that are all sustained within the playful interaction strongly suggests a second-personal interpersonal relation at work here.

Moreover, one can concede that social play does not quite meet the full-blown discursive capacity that we humans have. But I can agree to this while still maintaining that the participatory structure still obtains in social play. Activities and practices with a participatory structure can take on different forms and can assume various levels of complexity so long as key features (as presented in chapter 3) are present. To assume that only human forms of interaction can take on a participatory structure seems to pre-emptively block other less complex but still plausibly participatory forms of interaction. One can brand social play as “proto-participatory” or “proto-normative”; that is, something that may be on the way to being truly participatory and normative, but lacks a few key features. I will resist this temptation. The term “proto” I think is unhelpful here because it again looks at the complex human instantiation as the only legitimate and paradigm form a participatory structure can take.

One way to think of this is not through an anthropocentric interpretative lens, but through the conceptual lens of biological character individuation. Character individuation does not concentrate on features of traits that are unique or specific to a species. Characters are instead treated at a certain level of generality so that comparative studies can be made of the evolutionary relationships between these general character features across species. I do think that human participatory practices are uniquely more complex and capacious (the capacity for language

perhaps enabling this). But if one accepts this, then one will also have to accept less complex and less capacious forms of participatory practices. I have shown that there is at least some *prima facie* evidence to support that social play can exhibit these participatory features.

Just as in other complex behavioural capacities that many animals seem to exhibit, I do not think there is any clear and easy resolution to this worry. But I think the challenge moving forward would be to conduct more targeted studies and more refined and detailed observations of social play encounters in order to make more fine-grained behavioural analyses of possible participatory features that are potentially present there. The SPH should best be understood as an invitation to further interdisciplinary inquiry and is open to further refinement, revision, and even empirical refutation.

Chapter 8

An Ontogenetic Account of Uniquely Human Normative Agency: Peekaboo Play as Developmental Scaffold for Mutual Recognition

1. Introduction

I have argued in the previous chapter that animals that engage in social play (with specific attention devoted to play-fighting) engage in behaviour that has a participatory structure. This entails, given my account of the normativity inherent in participatory structures, that social play is an instance of non-human animal norm-governed behaviour. My suggestion, articulated in what I have called the Social Play Hypothesis, is that it is in the expression of social play that we find the most rudimentary forms of rule-following or norm-governed agency. This means that the evolutionary and developmental background conditions, constraints, and considerations that give rise to social play that I have articulated in the past few chapters should give us an explanatory picture of how normative agency can begin to emerge in the natural world.

I have so far devoted time to discussing the participatory and normative features of social play in detail. But the account may seem incomplete if I do not go on to explicate how other norm-governed practices can also emerge or gain traction from this evolutionary-developmental origin story. So the question that will concern us in this concluding chapter is how we get from social play to other normative practices. I suggested in chapter 6 that play behaviour generally has a unique latent potential for co-optation into various proximate purposes and that these may be adaptive or non-adaptive depending on the organism's context and circumstances.

The organism may for instance start to apply the flexibility and experimental attitude facilitated by play towards exploring more creative ways of approaching adaptive

problems. Tool use is one such creative adaptive solution that is argued to have emerged from object play (Leca & Gunst, 2023; Myowa-Yamakoshi & Yamakoshi, 2011). Social play's usefulness as a tool for communication and negotiation of social relationships has also been observed (Stahler et al., 2002; Pellis & Pellis, 2006; Palagi et al., 2016a). These are examples where the activity or practice of social play is itself used as a reliable tool for establishing and cultivating social relationships. Whether these relationships themselves are understood by the partners to have robust or binding normative force is another issue. The relevant question here is whether the co-regulated dynamics that inhere within the context of the play encounter are also understood to have the same (normative) force or bindingness outside the play encounter.

A conservative interpretation would be to say that the co-regulated interactive dynamics are only understood to have binding normative force within the confines of the shared playful activity. Whatever outcomes of the activity on the relationship between the partners are just a causal output or effect of that activity.

One can think of this in terms of the earlier discussion explaining the adaptive benefits of play in terms of causal cascades or pathways. The social relationships are not themselves normative relationships; social play can be counted here merely as a causal input in establishing whether a partner can be relied on or not as a cooperative partner. In other words, normative interpersonal trust may only be understood to apply during the playful interaction where the participatory stance is applied, but once the interaction has ended, how the relationship is construed outside the encounter is more a question of reliance and strategic coexistence rather than trust. As such, what is learned from and applied outside of the play encounter is a kind of evidence or predictive expectation about whether the partner can be relied on or be an effective partner outside the play encounter.

An alternative view would explore whether non-human animals are able to transfer this participatory stance to other contexts beyond social play. My analysis has so far been restricted to the participatory structure within the confines of social play behaviour. Whether this participatory stance is transferable to other contexts either by (1) applying the same co-regulated structure in social play in these other domains or contexts or

(2) coming up with a different co-regulated structure in these other domains and contexts (perhaps by applying the participatory stance cultivated and learned during social play) is another question. As observed in the example of object play and how it facilitated creative tool use, a sense of behavioural flexibility and an experimental attitude can be learned in play. Similarly, a general participatory stance or attitude can also potentially be learned and acquired in play and applied to other non-play activities and contexts. This first kind of transferability can be observed in the use of elements of social play in more domain-general communicative and relational contexts such as in navigating social relationships (Stahler et al., 2002; Pellis & Pellis, 2006; Palagi, 2018; Nolfo et al., 2021; 2022) strongly suggesting that the participatory stance may indeed be transferred beyond the confines of social play. This, I think, is a matter that should be up for further empirical investigation, especially the second kind of transferability where just the participatory stance by itself, not including the play elements, are learned and applied in other contexts.

The question of the extent and transferability of the participatory stance in social play into other contexts or into other possible forms (beyond those found in social play) in non-human animals will not be my main concern here. What I will focus on is the less controversial application of the participatory structure in shared human practices and how the SPH can be scaled up to explain these more familiar human instances of norm-governed behaviour.

2. Scaling Up to Other Norm-Governed Practices: The Scaffolding Role of Social Play

My proposal regarding the transition from social play to more robust norm-governed human practices is similar to Huizinga's (1938): social play and human cultural practices (or norm-governed practices more broadly) share the same underlying structure, a "play-element" to use Huizinga's terms insofar as these practices bear some formal resemblance to play. Ultimately, my view is that this formal resemblance can be explained not because an element of play is shared by all norm-governed practices but because all these activities – from social play to linguistic, social-cultural, and even moral practices – formally share an underlying participatory structure.

However, I am not just claiming that social play is related to other norm-governed practices by virtue of their formal similarities. I am also making the stronger explanatory claim that these other norm-governed practices can only be learned and acquired through the scaffolding role provided by social play established in earlier developmental stages. That is, it is only in species, as exemplified in us humans, where social play has been fundamentally integrated into the developmental trajectory of the organism (especially starting from a very early stage of almost total immaturity) that one can begin to have agents that can take part and be guided by other more complex and sophisticated norm-governed practices. Social play in other words plays a crucial role in the development of the normative agent by acting as a scaffold for initiating the immature child into other norm-governed practices. This scaffold can be said to be responsible for shaping and forming the child into an agent that can start to learn and eventually act and think in ways that are behaviourally intelligible and responsive to other participants in norm-governed practices.

For the rest of the chapter, I motivate support for this stronger claim about the scaffolding role of social play. I contend that this crucial scaffolding role is most salient in the developmental trajectory of humans which can perhaps explain how humans are able to construct and maintain rich and robust norm-governed practices and structures that clearly distinguish us from other animals.

2.1. Immaturity and Its Developmental Significance

One reason supporting the scaffolding role of social play can be gleaned from the sense in which play can be considered as the most basic and primitive expression of spontaneously-attuned agency. This was argued in the previous chapter. For an agent to begin to feel the force, bindingness, or authority of a rule or norm that governs their action, one can argue that they must also start from a position where adaptive or general heteronomous pressures are not salient or intense enough that they swamp the evaluative subjective perspective of the individual organism. If so, the organism can start to experience being attuned towards engaging in activities where actions are voluntarily chosen and/or spontaneously experienced. The less scripted and the broader the horizon of possibilities the activity affords for the organism, the better.

Thus, it is within a relaxed space where an individual organism is buffered from external pressures where they can begin to act in a more thoroughly voluntary and spontaneous manner.

How might this relaxed context be instantiated in humans, especially human infants who are expected to experience this buffering the most given their state of almost total helplessness and dependency? One cannot expect a helpless, immature human infant within this relaxed space to engage in anything beyond the most rudimentary forms of spontaneous activity, expressed in its most pure and unadulterated form as play. It is, after all, widely acknowledged that babies spend most of their time (beyond tending to their basic needs) playing (Gopnik, 2009). The best way to engage with a spontaneously-attuned infant is through play. But this stage of near total helplessness and immaturity – we are talking here about the first few weeks and months from birth – is at the same time a critical period in the developmental trajectory of the individual infant. Anything that goes on here should be of particular developmental significance (Bruner, 1972; Gómez, 2015).

In fact, one distinctive feature of the modern human phenotype, one that would distinguish us even from our closest hominin relatives like the Neanderthals, is the conspicuous extension of the period of immaturity in the typical life history pattern of the species. Differences in dental, somatic, and brain growth patterns indicate vast differences in life history patterns between Neanderthals and modern humans, in particular the insertion of a prolonged childhood and adolescent stages and the concomitant slowing of maturation (Nowell, 2016).¹ This is said to have a critical influence on the cultivation and maturation of cognitive and cultural capacities typical in modern humans. According to the anthropologist April Nowell, “the key to understanding hominin cognitive abilities lies not in absolute brain size or encephalization quotients but rather in our ability to reconstruct the childhoods of our hominin ancestors” (Nowell, 2016, p. 87-8). So the supposed prolonging of this period of postnatal immaturity and helplessness in modern humans can be said to mark an

¹ See however Rosas and colleagues (2017) for an alternative view. This however should not be problematic for the current proposal given modern humans’ close genetic ties to Neanderthals.

important difference that could explain many features that are potentially unique to our species.

It is therefore at this earliest of stages in a human newborn's life where many think critical developmental milestones take effect influencing the kind of adults humans become as well as influencing the production and reproduction of social and material cultures that humans are able to achieve (Nowell, 2016). This is a stage where the child is highly malleable and impressionable both behaviourally and cognitively. The immaturity at this stage can be said to be useful in enabling cultural and educational practices to take a major driving role in the development and formation of the individual (Bruner, 1972; Gómez, 2015). While learning as part of the process of development can be observed widely in many species, humans are distinctive in incorporating educability, teaching, and pedagogical inheritance and practices as a fundamental part of the formation of the species-typical phenotype (Fiske, 1883; Nardo, 2021, 2022). The learning here should not be thought of merely as information transmission or brute skills training. The learning here should be thought of more as a kind of initiation or entry into a tradition of common and shared communicative practices (Bakhurst, 2013; Oakeshott, 1959). More on this in the last section.

Given the unique place of immaturity in the life history of modern humans, if any base-level human environmental scaffolding or mindshaping takes place, it should at least start at this early critical stage just after birth where neural connections (i.e., synaptogenesis) is said to start. Compare this with other non-human primates where genes related to synaptogenesis are turned on sometime during fetal development and stops just after birth which indicates that post-natal infant experiences are significant in synapse formation in humans, a process that peaks at five years of age (Liu et al., 2012). So the period from birth until the child's fifth year is an especially critical one for cognitive development.

One relevant question here is to ask how the process of development works, especially if this developmental process takes the form of initiating the child into shared practices. This is particularly salient at the earliest stages where it is too early for the child to conceivably learn and understand any mature human practice. Direct instruction and responsive learning of skills is not yet possible for a child at this stage.

One might then ask how a child at the earliest immature stage transitions to a further stage where they are ready to start learning and be directly instructed and initiated into familiar norm-governed practices. A capacity and readiness to learn and be educated and initiated into shared human practices is not yet there at birth, so it seems puzzling how the child eventually becomes ready to do so.

Ostensibly, the relevant type of learning for the child to get initiated into a practice is one where they can be communicatively engaged with in the right way by a competent representative of the practice. Here, the child enters into a kind of apprentice-master relationship with a competent participant. A key component of this initiation involves easing the apprentice into the practice through guided co-regulated interactions where the representative adjusts their own moves and instruction in way that steers and shapes the learner's actions and agency to a level of competence appropriate for that practice. The learner in turn needs to exhibit some capacity to be responsive to such guided co-regulation. This is captured in Wittgenstein's remark that I shared back in chapter 4 illustrating the kind of mutual responsive co-regulation that takes place when the learner begins to be initiated into a shared practice: "I influence him by expressions of agreement, rejection, expectation, encouragement. I let him go his way, or hold him back; and so on" (Wittgenstein, 2009, §219).

While an infant a few weeks/months old is not yet in a position to be responsive in this way, I argue that this capacity to be responsive does not come for free as the child grows and matures. Similar to how language learning is facilitated by a developmental cascade triggered and amplified by advances in the child's locomotor movement (Iverson, 2021), I contend that the child's capacity to be responsive in a way that allows them to learn and be initiated into norm-governed practices via guided co-regulation is through some form of scaffolding from more basic forms of co-regulated interactions. This is where I believe social play would play a crucial developmental role, that is, as a scaffold for acquiring this capacity to be (second-personally) responsive.

2.2. Peekaboo Play as Mutual Co-regulation

I propose peekaboo play as a perfect candidate for a form of social play that can play this scaffolding role. Not only does it represent, as I will go on to unpack, a basic form

of co-regulated interaction that an infant can readily engage in, it is also the kind of interaction that can occur at that critical developmental period of immaturity. Peekaboo is the earliest kind of sustained mutual interaction that can be experienced by the child as early as 2-3 months from birth (Fantasia et al., 2014). It is also widely – practically universally – observed across cultures even in hunter-gatherer societies (Gosso et al., 2005) with slight variations in routine formats and vocalisations (Fernald & O'Neill, 1993; Addyman & Addyman, 2013; Addyman, 2020).

One might wonder about the relevance of peekaboo given the sheer simplicity and triviality of the interaction. Of course, peekaboo does not display the sophistication of full-fledged linguistic interaction nor the complex rule-governed competitive interaction in games like chess. Neither does it even display the vigorous yet communicatively delicate interactive dance between two dogs engaged in a play-fight. But it is precisely in its simplicity that makes peekaboo a powerful interactive activity that one can build on and use as a scaffold for more complex forms of interaction.

Many developmental psychologists have studied and highlighted the developmental significance of peekaboo. Object permanence is usually the developmental outcome cited to result from engaging in peekaboo. But I think this misses an important aspect of the game.² In peekaboo, one is not looking at a mere object in the world appearing and disappearing from one's sight. One is encountering another subject. Peekaboo is at its essence an intersubjective encounter.

The very notion of co-regulation gives us an idea of how more basic forms of interaction like peekaboo can serve as a scaffold for more robust forms of communication. Alan Fogel, in defining the notion of co-regulation, quickly points to peekaboo as a fitting example of the consensual social frame that is generated by co-regulated interaction over time:

² There might be some ambiguity whether to treat peekaboo as a game. I think peekaboo can be treated as a game qua social practice in the sense that the caregiver engaging with the infant in an activity with a participatory interactive structure that is also in part informed by culturally-specific variations (Fernald & O'Neill, 1993).

Peek-a-boo is a frame composed of a repeating theme of hiding and revelation. Such regularities suggest that there is a set of discrete rules that individuals are following in the execution of their actions. [...] The regularized features of the frame contribute to partners' ability to attend to and contribute to the creation of the game. (Fogel, 1993, p. 12-13)

The peekaboo game's barest requirement is that the infant be able to recognise and acknowledge (through some form of facial reaction and/or vocalisation, usually a smile or laugh) the presence of their caregiver. But expressions of recognition and acknowledgement are not randomly deployed nor are they expressed merely as instinctive or even as stimulus-induced learned reactions. Although smiles and laughter are often thought of as automatic reflexive reactions, they also develop into more ritualised and flexible social signals that play certain roles in social situations and can be used to regulate social relationships (Kawakami et al., 2006; Addyman et al., 2018, Addyman, 2020; Davila-Ross & Dezecache, 2021; Palagi et al., 2022). These expressions and reactions are thus deliberately performed in an intersubjective context where the infant and caregiver are interpersonally attuned to one another.³ Specifically, they are expressions and reactions that play certain roles within a ritualised sequence involving the concealment and unconcealment of the caregiver's face accompanied by a pattern of calls and vocalisations.

To facilitate this ritualised sequence, an "obstacle" is introduced (usually one's own hands, a piece of cloth, etc.) to hide the caregiver's face thus blocking the recognition. One can think of the "gameplay" here as an incipient form of hide-and-seek. The obstacle produces an element of anticipation and expectation of the reappearance of the caregiver. Once the face shows up again recognition is re-established and is acknowledged with a facial reaction or vocalisation.

Significant in the interaction are the caregiver's own vocalisations and facial expressions which assist the child in recognising the various phases that take place in the game. These vocalisations allow the child to grasp the rhythm of expressions and

³ Given that this is a context of play, we can expect that this is also a context where both are spontaneously attuned and have a bias towards voluntary engagement in activities that facilitate interpersonal connection.

responses that inhere in the game thus allowing them to participate in the activity in a sustained, measured, and calibrated way. Even if there is a readily recognisable and predictable pattern in the peekaboo routine, it is not something that is deployed in a repetitive, mechanical manner. The routine leaves a lot of room for variations and flexibility in facial and gestural expressiveness as well as in patterns of vocalisations:

[W]hile stereotyped in its overall structure, the peekaboo game is quite flexible in format. The mother varies, within limits, the gestures, words, and melodies, as well as the tempo and dynamics of the game, in order to make each repetition of the familiar routine engaging and slightly different from the last, and to accommodate the fluctuating attention of the infant.” (Fernald & O’Neill, 1993, p. 263)

While peekaboo indeed has a routine structure, it still leaves a lot of room for discretion for both play partners. The range of variation that either partner can play around with, particularly variations in facial expressions, gives the shared activity a space for spontaneity where various expressions can be explored and expectations adjusted.

Also of note here is the observation that peekaboo is not a static game; it evolves and becomes “more sophisticated” as the infant grows. An important milestone would be the infant’s capacity to engage in role-reversals where they take more active roles in the game, such as initiating and controlling the hiding and reappearing phases (Rochat et al., 1999; Miller & Commons, 2007; Nomikou et al., 2017). The caregiver scaffolds by carefully and gradually guiding infant participation in a way that assists the child in grasping a global sequential structure of expectations. This in turn allows the infant to anticipate specific phases and, more importantly, develop an understanding of reciprocal roles with the kinds of expressions and vocalisations that are appropriate and expected of individuals that inhabit them (Nomikou et al., 2017). Through the measured co-regulated scaffolding provided by the caregiver, the infant gradually learns to participate more actively by learning to take turns and take on roles as prescribed by the interactive format given by the global participatory structure of the game.

Jerome Bruner thinks that this shifting of recognised roles in peekaboo is significant in that it directs the child towards a pragmatic understanding and elaboration of signalling and sequencing rule structures (Bruner, 1975, p. 10). Here is Bruner expounding on this point:

The universal prelinguistic game of 'Peekaboo' is a striking example (Bruner and Sherwood, in press; Greenfield, 1972) of... reversible role structures, bound as it is by rule constraints with respect to who is the recipient and who the agent of coverings and uncoverings and how these may be reversed... In such games, once developed, the child looks mother directly in the eye for a signal at crucial pauses in the play, as if to calibrate his intended actions with hers and to check which one is playing which role. In the first year of life, then, the child is mastering a convention – checking procedure not unlike that of adults – indeed, even using eye-to-eye contact for determining intent, readiness, and whose 'turn' it is (Argyle & Ingham, 1972). (Bruner, 1974, p. 273)

The framing of the interactive encounter through the playfully-regulated responsiveness involving the hiding and revealing of faces contributes to the shaping and regulation of the child's expressions and reactions as well as their expectations of the expressions and reactions of their play partner. This global pattern of expectations created by the co-regulated exchange serves as the background structure that guides and regulates how agents express themselves and react to others during the interaction (Parrot & Gleitman, 1989).

To be more specific, here we can likely find a co-regulated calibration not of expectations of the predictive sort, that is, based on expected outcomes or successful and reliable attainment of (shared) goals.⁴ The calibration is instead related to

⁴ One can also find this resistance to interpret peekaboo (qua co-regulated interaction) in terms of attaining goals in Fogel: "Goal... is a metaphor that describes regularity in action from the observer's point of view, but that is not necessarily the means by which participants organize their own actions. To the extent that communicative frames such as peek-a-boo are spontaneous, creative, emergent achievements of a co-regulated process, is it necessary to assume that participants had the goal of becoming co-regulated? Each partner may have an intention at the outset of their interaction: to play, to have fun, to get attention, to get one's way. The mother may play peek-a-boo to cheer her baby up or distract the baby from something else. It is unnecessary that participants share a goal in order to co-regulate, nor that they share a goal of achieving joint coordination" (Fogel, 1993, p. 15). Here it seems

interpersonal expectations, which are more about how the participants in the interaction treat and relate to one another qua co-recognising participants within the playful encounter. In other words, a peekaboo interaction is a properly normative form of interaction.

The co-regulated interaction that sustains the playful encounter thus creates its own structure (or consensual social frame) of interpersonal expectations that goes beyond brute individual subjective states. The interpersonal expectations are also not third-personal impersonal causal expectations. Instead, these should be understood more as second-personal or intersubjectively-framed expectations. Subjective perspectives still play a role here, but they go beyond mere individual subjective perspectives, they are co-regulated subjective perspectives that are structured based on expectations of appropriate ways to treat others and react and express one's subjective perspectives. Any individual subjectivity here is only intelligible as an interpersonally or socially-embedded individual subjectivity.

2.3. From Human Communities to Human Subjects Through the Play of Human Faces

It is important to point out as I did the kind of subjectivity involved here because I think it speaks to the wider implications of peekaboo play. There is, I think, a deep significance to the fact that peekaboo is played by humans almost universally with variations across and even within cultural and linguistic groups. And it has, I suspect, something to do with an individual human's initiation into a community of co-recognising human beings/subjects. Initiation into this community amounts to initiation into a complex entangled mix of linguistic practices, moral practices, social-cultural practices and so on. Although we do think of each human being as an individual subject, I do not think human beings are mere individual subjects simpliciter. We are the kind of individuals that we are because of our social-embeddedness. Human beings are essentially socially-embedded individuals; our individuality, agency, and indeed our sense of personhood and subjectivity as human beings can only be

that Fogel is mirroring my claim about the teleological indeterminacy of participatory co-regulated practices.

understood and explained from the fact that we are, to a fundamental degree, embedded in and shaped by human communities and shared practices.

This view of the human being is not unfamiliar. The notion of “second nature” points towards a view of this kind where the beings that we are is fundamentally owed to our initiation into human linguistic practices and cultural traditions. John McDowell is perhaps the most prominent contemporary proponent of this view. According to him: “our second nature is the way it is not just because of the potentialities we were born with, but also because of our upbringing, our *Bildung*” (McDowell, 1994, p. 87). In a similar vein, Marya Schechtman (2019) draws on similar themes in her practice-based account of personal identity, which marks the distinction of personhood based on whether that being’s life is mediated by cultural practices. Schechtman accepts the animalist view that we are at root biological beings, but our nature as biological beings extends to the fact that we are inextricably entangled in a complex web of social-cultural practices, communities, and traditions; that is, a social-cultural and developmental niche. As such:

This view of personhood is practical and social. On it a person is a participant in a culture, one of the beings who maintains and develops the cultural infrastructure. Such beings are targets of a host of practical concerns and interactions, which are inscribed in the cultural infrastructure. They are the ones who are educated in the ways of the culture, who are dressed in clothes or brought to rituals or inducted into religious communities, and so on. To be a person on this view is to be a locus of these social practices and to live as a person in the cultural community. (Schechtman, 2019, p. 140)

This, I think, is a quick but apt distillation of the human developmental niche and the kind of person or agent that is formed and cultivated within it.⁵ It is a niche that has a participatory structure at its core (arguably more than any other animal) and that distinctively human socio-cognitive capacities are scaffolded and shaped by embedding the human organism within this niche. As such, the human being’s process

⁵ See Ramsey (2012) and Stotz and Griffiths (2018) for a related account of human nature that captures this complex developmental and life history processes that produce the distinctively human phenotype.

of development is one where action and cognition is shaped by a participatory structure, precisely, as mentioned earlier, in the form of being initiated into shared practices, communities, and traditions as a participant of these.

Drawing inspiration from Huizinga, David Egan argues that human institutions (or human practices and traditions more generally) build upon and are a manifestation of the more basic capacity for play (Egan, 2022). Egan argues that the cultural and institutional life humans have built can be derived from a specific capacity that is a central feature of play, that is, the capacity to treat one thing as another. This “as if” structure involves treating something as having a “status function”⁶ assigned through some act of make-believe (e.g. a pen that is treated as a rocket) or, in the case of human institutions, the attribution of deontic powers (e.g. a judge having the power to rule on legal cases) (Egan, 2022). Similar to my earlier comments on Huizinga, I share Egan’s position that human institutions do build upon play, but what they build on is I think better understood and explained by the underlying participatory structure that obtains in social play and that other institutions also have.

This leads us back to the deeper significance of peekaboo play. If human institutions (and norm-governed human practices more generally) build upon and are derived from a more basic capacity for social play, and that this is explained by both sharing a participatory structure, then what if anything does peekaboo play contribute to the human infant’s initiation into these human institutions and practices?

We can start by unpacking how we come to understand (and recognise) other individuals/beings (and perhaps ourselves) as persons and self-conscious subjects. Naomi Eilan (2020) suggests that this understanding of others as persons and self-conscious subjects “rests essentially on a practical capacity to treat others as partners in conversation, addressors and addressees.” Being a partner in conversation and occupying reciprocal roles as addressors and addressees allows individuals to stand and situate themselves in second-personal communicative relations with their partners where both adopt attitudes of mutual address, a kind of participant stance in the joint activity of having a conversation. The joint practical context of having a conversation

⁶ Egan here draws from Searle’s (2010) account of human institutions.

(rather than mere observation) is thus a critical moment in understanding and explaining how it is that we come to recognise others as self-conscious subjects. For Eilan:

[T]he basic scenario we should be appealing to in explaining our capacity for making sense of other I's is one of a particular kind of joint activity, that of having a conversation... [H]aving a conversation involves interdependent I-you thinking – the basic scenario is one of interdependence between one's own and the other's I thinking. What this means, in part, is that my I-thinking is dependent on the other's potential contribution to it – the other cannot get 'swallowed up' as it does in empathy because without such independent contributions, my own I-thinking, and hence communicative activities, wouldn't exist. (Eilan, 2020, p. 16-7)

What Eilan seems to be suggesting when she states that “the other cannot get 'swallowed up'... in empathy” is that the other is not merely there as an object or “patient” of concern and to be fully determined or influenced by us. Rather, the other is treated as a full-blown subject and agent with their own equally unique perspective and contribution to the conversation as our own perspective and contribution. For Eilan, our awareness of and sensitivity towards other self-conscious subjects develop out of practices of conversation which cultivates our capacity for second-personal communication involving mutual address where we “think of each other as ‘you’” (Eilan, 2020, p. 3).

Once we learn to adopt an attitude of mutual second-personal address, how we constitute our own thoughts and perspectives would depend on the contribution of the other insofar as they are part of the conversation and vice versa. Both partners as such co-constitute and build on each other's thoughts and first-personal perspectives through the reciprocal roles of addressor and addressee they inhabit in the conversation. This is another way of articulating what I have been referring to as (mutual communicative) co-regulation.

One can make this idea a bit more concrete if we imagine certain specific roles that we occupy in certain speech acts and conversational practices. For instance, when a

promisor makes a promise, the speech act of promising entails that they are addressing and making a certain commitment to the promisee. The promisor's own thinking and actions as a promisor depends on there being a promisee as an addressee that can hold them accountable to their promise. This communicative format and our participation in it is what establishes our identities through the kinds of commitments that we make in these conversations and the role that others play in making those commitments possible. A promise is not a promise without a promisee. Relatedly, one's understanding and treatment of others as self-conscious subjects that can take on these conversational roles is also cultivated by one's participation in these practices. Establishing this mutual recognition, in my view, emerges out of the co-regulated interactive dynamics amongst committed participants engaging in a shared communicative practice.

Eilan's focus on conversation is also significant because conversation is, according to Michael Oakeshott, the best model on which to understand our rich cultural inheritance:

As civilized human beings, we are the inheritors, neither of an inquiry about ourselves and the world, nor of an accumulating body of information, but of a conversation, begun in the primeval forests and extended and made more articulate in the course of centuries. It is a conversation which goes on both in public and within each of ourselves.... It is the ability to participate in this conversation, and not the ability to reason cogently, to make discoveries about the world, or to contrive a better world, which distinguishes the human being from the animal and the civilized man from the barbarian. (Oakeshott, 1959, p. 199).

Beyond our animal, biological nature, what we inherit from our human ancestral forebears (one which allows the mere human organism to transition and become a full-fledged human person) is a unique social, interpersonal niche built around our capacity to take part and participate in conversation (see also MacIntyre, 2007). Oakeshott (1959) calls this niche "the conversation of mankind."

It is through our immersion into this “conversational” niche that we humans get a sense of ourselves and others as self-conscious subjects by virtue of being participants in this “conversation of humankind.” This model of conversation also gives us a sense of how humans figure within this inheritance. The inherited “conversation” is not some mere external physical inheritance that influences and determines behaviour, it is to be taken as an ongoing communicative activity in which humans are expected to participate and make a contribution towards. It is thus a living inheritance that constantly reinvents and revises itself as new generations come and take part in the ongoing conversation. It is through these conversations where we also get to take part in various concrete human practices.

Entry into this conversational niche thus gives one access to fully human ways of life. The relevant question for us would then be how a helpless, pre-linguistic infant is able to enter this conversation. This is where I think peekaboo play can make a contribution.

Insofar as peekaboo play is understood as a kind of mutual communicative co-regulation (indeed, exhibiting a participatory structure) and even as a kind of “protoconversation” (Fogel, 1993; Rochat et al., 1999), there is reason to think it fits this model of conversation that Eilan suggests puts participants in a second-personal communicative relations with their partners. The sentence usually uttered after exclaiming “Peekboo!” is “I see you!” This, I think, is a vivid demonstrative expression of the underlying attitude of mutual second-personal address inherent in the encounter.

That said, I do not think we can expect the infant to have a ready grasp of this second-personal communicative relation at the very start. Rather, through the process of interactive ritualisation and co-regulation of a joint activity with a partner where a consensual social frame is built over time, a kind of mindshaping takes effect that scaffolds a form of second-personal intentionality, this attitude of second-personal address. The child’s ability to stand in second-personal communicative relations with others is thus not a given but instead arises as an interactional achievement arising out of these ritualised interactive practices that serve as a scaffold (Heesen et al., 2017).

Since, like a conversation, peekaboo also (at least in its more advanced stages where turn-taking and role-reversals are more prominent) relies on the mutual interdependence of the partners making a contribution to the joint activity, I suggest that this shared communicative playful context also marks the beginning of the infant developing a sense of themselves as a person and self-conscious being. Wittgenstein suggests something in a similar vein: “If the play of expression develops, then indeed I can say that a soul, something inner, is developing. But now the inner is no longer the cause of the expression” (Wittgenstein, 1980). The sense of personhood and subjectivity (or the soul) one develops from this communicative relation is not one to be explained purely from a single individual’s internal perspective. It is a sense of personhood and subjectivity that is best understood as embedded in human communities with the kinds of shared intersubjective practices, that is, the play of expressions, that shape these. But if this is the case, we cannot understand the person or subject purely on the basis of individual capacities or subjective perspectives. It is the intersubjective niche, the conversation of humankind as it were, that helps us understand these individual capacities and subjective perspectives, not the other way around.

As such, we have some reason to think that it is in the back-and-forth sequential exchange of facial expressions, emotional reactions, and vocalisations in peekaboo where we can find the very first instances of a child starting to have a grasp of oneself as a self-conscious subject and of the other not merely as a being to depend on and be attached to in times of need but as another self-conscious subject with a unique perspective on the world; that is, a sense and recognition of the other as a *you* with a different perspective as one’s own *I*.

The way in which peekaboo almost exclusively involves a play of faces, indeed human faces, is also worthy of note here. Peekaboo seems to be a distinctively human form of social play. The evolutionary biologist Adam Wilkins explains that human faces are indeed an anomaly in the animal world. It is an anomaly not only because of its unique morphology, but more interestingly because of its expressive power. How Wilkins unpacks this is instructive:

The human face differs strongly from other mammals not just physically, however, but in its “behavior”—that is, in its mobility and expressiveness. If you were to observe human beings, chimpanzees, and foxes interacting with their fellows (their conspecifics), you would notice that all three creatures exhibit facial expressions but that chimpanzees and humans have far more expressive faces than foxes and that the human face is still more expressive than the chimp’s. Human facial expressivity is particularly evident in conversations: when two humans converse directly, literally “face to face,” there is a constant interplay of facial expressions, something without parallel in the worlds of the fox and the chimpanzee. (The latter can make a range of vocalizations, but these are not speech.) Human facial expressions are an important adjunct to understanding the meaning of the spoken words... [T]he vibrant play of facial expressions that accompanies talk constitutes a form of shadow dialogue behind the verbal exchange that we regard as the actual dialogue. They provide the emotional subtext that is often as important as the information conveyed by the spoken words. Given our dependence on language and speaking, we use our faces for communicating with our conspecifics far more frequently than any other animal species, even our nearest primate relatives, who can be highly facially expressive. [...] Evidently, the human face does more than act as the individual’s sensory headquarters, important as that general function remains; the face is integral to so much of our social interactions. (Wilkins, 2017, p. 2-4)

Given the human face’s distinctive expressiveness and its integral role in human social interaction, it should be no wonder then that peekaboo plays an outsized role in the playful life of the infant. Indeed, before they can even engage in anything resembling locomotor or even object play (due to their altriciality), they can already engage in peekaboo play. This is significant because before the infant can properly move about and interactively engage with the world, their primary interactive engagement with the world is through their interactive engagement with the responsive faces of others.

This primordial interactive comportment with the faces of others, I think, has a cascading effect on the overall developmental trajectory of humans. As mentioned in chapter 5 (in the section on developmental cascades), once a child learns to walk, they do not merely explore the world on their own, they explore and learn about the

world with others in joint attentional activities, which in turn facilitate the further acquisition of language (Iverson, 2021). The way in which expressive, interactive faces become a primary locus and anchor for ongoing child development in humans gives us a further picture of the significant role of peekaboo – with its play of facial expressions – in helping to ease the child into the human conversational niche.

Importantly, beyond the expressive power of the human face that makes it a locus for playful interaction in humans, the face can, due to the fact of its expressiveness, be said to be the site where humans can begin to have an awareness and recognition of themselves and others as persons and self-conscious beings. It is in through the face that we form and cultivate a sense of self. Wittgenstein again is relevant here as he is particularly cognizant of the role of the face in constituting our understanding, recognition, and awareness of ourselves and others in this way:

Consciousness in another's face. Look into someone else's face, and see the consciousness in it, and a particular shade of consciousness. You see on it, in it, joy, indifference, interest, excitement, torpor, and so on. The light in other people's faces. Do you look into yourself in order to recognize the fury in his face? It is there as clearly as in your own breast. (Wittgenstein, 1967, §220)

Drawing on Wittgenstein's insights, David Cockburn (2022) argues that our sense of a person as a human subject is concentrated and localised in the face in contrast with the rest of the body:

Within the total human form, the face plays a special role in creating a place for responses of the relevant kind. In particular, a central feature of what is involved in thinking of another as a human being is the special significance we attach to the eyes of another. (Cockburn, 2022, p. 27)⁷

Indeed, as Wittgenstein himself puts it, "if someone has a pain in his hand, then the hand does not say so (unless it writes it) and one does not comfort the hand, but the

⁷ See Laing (2021) for a discussion of alternative accounts of the kind of "touch" that occurs in eye contact.

sufferer: one looks into his face” (Wittgenstein, 2009, §286). If the face has this power to convey and express the person’s own subjectivity, their soul as it were, one can imagine how powerful the play of facial expressions during peekaboo would have on the impressionable infant especially in developing the capacity to recognise the self-conscious expressive subjectivity in others and indeed their own gradually developing sense of themselves as self-conscious expressive subjects.

The considerations I laid out here regarding the distinctive expressiveness of the human face should give us an idea of the potential of the peekaboo exchange and sequence in cultivating the expressive and communicative capacities of the child. The kind of expressive agent that is developed in the co-regulated interactive dynamics of peekaboo play should serve as an important scaffold for the child to become more communicatively responsive such that they can begin to learn and be initiated into robust human norm-governed practices through guided co-regulation. It is in peekaboo interaction where the child starts to learn the ways of participating in a human conversation and in so doing they can begin a developmental process of being initiated into the human conversational niche.

Peekaboo as such is significant in that it is through that playful interaction where we can begin the process of self-formation and cultivation of a deeply normative human agent immersed in norm-governed practices. Peekaboo, in other words, is significant for its role in *Bildung*. In the next section, I unpack this significance further by elaborating on peekaboo as a game that makes this process of formation and cultivation possible.

3. Peekaboo as a Game of Recognitional Tag and Its Developmental Significance

More than just an incipient form of hide-and-seek, I suggest that peekaboo represents at a deeper level a game of “recognitional tag” in which a capacity for robust mutual recognition-based awareness of the other and of oneself as a self-conscious subject

is cultivated.⁸ The tagging that goes on here, as I see it, is two-pronged. For one there is the proximate recognitive tagging of facial expressions between the infant and the caregiver. What goes on here can probably be described like a “whack-a-mole” game where the concealed face builds anticipation in the infant. This anticipation culminates in the sudden emergence or re-emergence of the face which the infant is expected to “tag” with a signal of acknowledgement.

At the same time however, this proximate recognitive tagging is ostensibly part of a long historical chain of humans that have been recognitively tagged. This historical process of recognitive tagging is significant in that, in my view, peekaboo along with other similarly playfully-mediated interactive activities can mark the beginnings of the infant’s entry into the human community, that is, a community of co-recognising and co-regulating human persons/subjects. This is the sense in which I think the joint activity of peekaboo plays a significant scaffolding role in the development of the human being qua human person/subject.

The infant’s gradually-developing participation in a game of peekaboo can be understood as the moment when the child begins to be initiated into and participate in the conversation of humankind, albeit in figurative baby steps. To be sure, this is not yet the kind of conversation we expect nor recognise in mature human persons/subjects. Similarly, we cannot expect a child just learning to walk to also go on a stroll or play football and so on. Learning to walk is nevertheless the start of the process of eventually being able to do these other things. Through the playful tagging of facial expressions and the simple mutual address and recognition this potentially achieves, the infant has entered a process of formation and cultivation of a self (i.e., what some scholars call a *Bildungsprozess*) who can eventually grow and take part in more mature conversations of human significance. The self that develops here is best construed as a participant that can competently take part in human conversational practices.

⁸ I borrow the term “recognitional tag” from Terry Pinkard (2021). Pinkard does not discuss this game in a favourable light in relation to establishing mutual recognition, but I will not discuss his objections here. Nevertheless, I think the idea of a joint activity like a conversation or social play gestures towards a potential response to these worries.

If my proposal here is correct, peekaboo play should not be understood as mere play full-stop, it is also education proper within the human developmental niche, particularly in Oakeshott's sense of the term:

Education, properly speaking, is an initiation into the skill and partnership of this conversation in which we learn to recognize the voices, to distinguish the proper occasions of utterance, and in which we acquire the intellectual and moral habits appropriate to conversation. And it is this conversation which, in the end, gives place and character to every human activity and utterance. (Oakeshott, 1959, p. 199)⁹

Peekaboo seen through this light isn't just a trivial joint activity. One can think of it as a kind of "guided play." Guided play is regarded as helpful for priming learning as it "harnesses active, minds-on thinking, engagement, meaning-making, joy, and iteration more so than other types of play" (Zosh et al., 2018).¹⁰ Specifically, peekaboo is a kind of guided play in the way a caregiver gently directs, shapes, and scaffolds the child's expressive capacities so that they can be gradually eased into making more and more of an active and independent contribution in the co-regulated routine (Nomikou et al., 2017).¹¹ But more fundamentally, if peekaboo can indeed be understood as a game of recognitional tag, the most significant educational achievement in the joint activity is mutual second-personal recognition. And as is pointed out by thinkers as far back as Fichte and Hegel to contemporary scholars like Honneth, Brandom, Darwall, and many others, this mutual recognition is a precondition for the formation of the self-conscious subject.¹²

⁹ See also Bakhurst and Fairfield (2016) as well as Bakhurst (2011; 2015) and Misawa (2013; 2014a,b) for similar treatments on education and the formation of the human person.

¹⁰ This educational significance of peekaboo can be seen as an external adaptive benefit of playing the game. However, one should not think of this necessarily in terms of survival value. The role of education is better characterised as something that arises out of a developmental rather than a selective niche (Stotz, 2017). Education and the related notion of teaching fits well within the developmental dynamics at work in DNC and likely emerges from exaptive and cultural evolutionary processes (Smaldino & Newton, 2015).

¹¹ A related notion is that of a "participatory play" model of learning articulated in An (2018).

¹² There is a rich and expanding philosophical literature (including engagement with the empirical sciences) on the notion of mutual recognition and the second-person perspective that cannot be covered here. I take this current project as a contribution to this literature. Developing this current account entails further engagement with this literature.

Tying the discussion back to the Social Play Hypothesis, this growing awareness of the other and of oneself as a self-conscious subject formed and cultivated through playful co-regulated interaction should also be understood at the same time as a gradual cultivation of a normative agent. Given my account of rule-following or norm-governed agency as emerging from the co-regulated interactive dynamics amongst co-recognising participants, it should follow that the growing active participation of the child in the peekaboo sequence's co-regulated dynamics (involving elements like recognitive tagging and the play of facial expressions) is to be viewed also as an instance of a gradually developing normative agent.

Moreover, if my claim about the deeper significance of peekaboo is correct (i.e., that it serves as an initiation of the infant as a self-conscious subject qua participant in the community of humans), then the kind of normative agent that develops is not just a normative agent within the context of peekaboo. One reason to think this is because expressions like smiles and laughter are also not limited in their application within the context of peekaboo play. Not only are they used as flexible social signals within the peekaboo sequence, they are also deployed more generally as a form of social facilitation and signalling in public contexts (Addyman et al., 2018). It has been argued especially in the case of humans that the complexity of our social niche enabled laughter to transition from being a play-specific vocalisation to a general-purpose social signal that can be applied to a large suite of social contexts and situations (Winkler & Bryant, 2021).

The scaffolding that the caregiver provides in peekaboo thus is not just scaffolding for the purposes specific to the play context, it is also a kind of scaffolding of expressive capacities that can be built on and applied to other contexts beyond play. It can be recalled that the subject that is being formed and cultivated here is one that is continuously being shaped within a larger developmental niche that has a participatory structure at its core. The subject (or the self or soul) that is being formed and cultivated is one that is anticipated to eventually become a full-fledged member of the human community writ large, with all the linguistic, moral, intellectual, aesthetic, political, economic, social-cultural, and so on practices that are deeply embedded in that community.

I think it is best not to construe these practices as distinct and mutually exclusive external social “modules.”¹³ Although one should still have a grasp of the normative force and authority of each practice in an independent and practice-specific manner, this should not detract from the fact that many norms are deeply entangled and can exert some force in multiple practices. Linguistic, moral, and intellectual norms can be thought to apply across the board irrespective of a person’s group affiliations or specific practices they explicitly commit to. Notice for instance how Oakeshott not only talks about distinguishing “proper occasions of utterance” (which are arguably tied to linguistic norms), but also “intellectual and moral habits appropriate to conversation.” Conversely, even in these general-purpose practices, specific legal-political and social-cultural norms can also be implicated and can exert some normative influence or pressure on how these more general practices are co-regulated.

To elaborate on this deep normative entanglement especially as it obtains within the human niche, take for instance a set of practices that can be regarded as isolatable from other normative practices: game practices. According to Thi Nguyen (2020), when we are immersed in a game, the artificial rules, values, and goals set by the game become our sole and single-minded concern and the entangled messiness of norms, values, and goals that apply to everyday life are temporarily set aside. Quill Kukla however argues that game practices are just not isolatable from other practices in this way; they are also “inextricably and messily bound up with norms that are not internal to the rules of the game” (Kukla, 2021, p. 297). The manner in which one plays a game, for instance, matters. Being a good sport requires that one treats opponents with respect as people and not merely think of them as competitors that one tries to defeat at all costs within the bounds of the game. This according to Kukla requires moral sensitivity as well as respect for the material and cultural context in which the game is embedded in (Kukla, 2021, p. 302), not to mention the many varied external reasons why people play games which may have an effect on how they play the game. For Kukla:

¹³ The notion of a module evokes in any case an adaptive mechanism, which I think should be avoided as a way to characterise a shared practice. Mechanisms identify a functionally-structured behavioural agency whereas shared practices arguably promote more participant-oriented expressions of agency.

People play games for all sorts of messy reasons and these come with moral complications. It is a dick move to just play so as to maximize the win without sensitivity to the complex reasons why people are playing, and why they are playing as they are. Game play is typically an activity embedded within already-messy social relationships. Other people continue to have complex interests and needs that can be abused or disrespected easily during gameplay. (Kukla, 2021, p. 299)

Just as the messiness of the co-regulated interactions in the community of humans are implicated even within the strict confines of a game, I also suggest that what occurs within the confines of a game such as peekaboo can also reach out and have transferable normative applicability in other contexts and practices. This may especially apply to the expressive capacities acquired in peekaboo insofar as the same expressive capacities are also deployed in other contexts albeit with some variations in propriety or appropriateness.¹⁴ With the deep entanglement of norm-governed participatory practices in the human niche, we can only expect norms in all sorts of practices to have some kind of ongoing application in multiple contexts depending on where they are deemed to be appropriate (and where contexts of applicability are also up for co-regulated discussion and debate). I assume that moral and intellectual norms have the widest scope and applicability and which many will take as context-independent (of course, this is also up for debate).¹⁵

More importantly, the play of expressions in peekaboo is where the process of mutual recognition begins to develop in the child. As the child develops an understanding of the other as an expressive self-conscious subject through the play of peekaboo expressions, one can say that their growing active participation in the peekaboo

¹⁴ In a way these expressive capacities can be thought of as continuous with Strawson's (1962) reactive attitudes which similarly deploy second-personal expressive and emotional capacities (see also McGeer, 2012). Of course, Strawson talks about these reactive attitudes as key elements of our practices of holding responsible which is not applicable to the infant. But again, much like an infant learning to walk, the attribution of responsible agency is a gradual process that takes time to fully mature and develop. See McGeer (2019) for a proleptic and scaffolding account of the reactive attitudes and Pritchard (1991) and An (2020) for a participation-based pedagogical account of the child's entry into the community of morally responsible agents.

¹⁵ There may also be more specialised sub-domains of moral and intellectual practices with their own more circumscribed norms such as strict evidential norms amongst scientists or higher moral standards expected amongst religious leaders and so on.

exchange is also a manifest sign of a developing expressive self-conscious subject in the human child.

The story I have offered here is very sketchy and incomplete. But I hope to have given some impressions of what an account of how norm-governed agency can emerge with the explanatory resources and empirical details assembled in support of the Social Play Hypothesis. A lot more needs to be said to fill in the details. One critical gap in my presentation is a more phylogenetically-oriented account of the origins of human normative practices. I have more or less concentrated in this chapter on what I think is a plausible ontogenetic story. But insofar as ontogeny can also be said to recapitulate phylogeny (cf. Mesoudi, 2011; Heldstab et al., 2020), perhaps an analogous social play-based phylogenetic story can also be made to complement the social play-based ontogenetic story offered here.

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