

# Animal agency and playful relationships

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Recently, the concept of “animal agency” has emerged to promote animal welfare and to prompt a critical examination of our scientific practices. Agency refers to the ability of individuals to initiate, choose, and control their actions. This ability is particularly visible when animals deviate from expected behaviours — those predicted in experiments, hoped for by humans working with animals, or deemed typical by experts. In other words, agency is evident when animals challenge our prejudices and resist our theoretical and empirical frameworks.

This understanding of agency, centred on individuals, highlights an essential criterion of ‘agentive actions’: they are unpredictable; they showcase a form of flexibility or creativity. An agent is not a system governed by deterministic causality; it produces unforeseeable and improbable actions.

Nevertheless, this individualistic approach overlooks another fundamental aspect of agency: its relational nature. An agent’s ability to act is dependent on a network of relationships, which shape and enable its actions. This implies that the originality of these actions stems from the unique relationships animals build with the world and with others.

This presentation will examine the connection between these two dimensions of animal agency: creative flexibility and relationality.

The purpose is to advance our theoretical understanding of animal agency, while also providing insights to improve practices fostering it.

I will first conceptualise animal agency. I will then explore play as the first, chronological and perhaps ontological form of agency. To investigate the link between creativity and relationality, I will analyse interspecific play as a paradigmatic case of agency. Finally, I will outline the theoretical and practical implications of this relational approach to agency.

# What is animal agency?

## Different definitions

Animal agency is a concept used by different disciplines, with various meanings, both across and within disciplines.

### *Biology*

- *Ethology*. In biology, animal agency is often used to account for the animals' ability to confound our expectations. For example, when dolphins break the rules of Sea World and steal the fish trays visitors are supposed to hand them, they are said to express their agency by resisting their captivity conditions and subverting the expected behaviour. Similarly, when animals deviate from planned behaviour in experiments, it is often attributed to researchers failing to consider their agency. Keas, for example, are so exploratory that early experiments struggled to demonstrate their ability to reason by exclusion, despite their capacity for it. Another example is contrafreeloading, where animals choose to work for a reward even when an identical, freely available reward is present. These cases challenge a central assumption of behavioural biology— that animals always choose the most energy-efficient option. Thus, in ethology, agency reflects animals' capacity to defy human assumptions, revealing their subjectivity and initiative.
- *In evolutionary theory*, agency also comes into play when considering the animals' ability to depart from their genetically determined repertoire, by inventing new behaviours, which can sometimes influence selective pressures, and thus evolutionary trajectories.

### *Sociology*

Animal agency is also used in sociology to address animals' role in human society. It then refers to an animal's capacity to perform actions affecting others or altering its own situation. This capacity largely depends on the animal's place within the social structure, whether as a wild, domestic or farmed animal.

### *Animal welfare*

Finally, at the crossroads of biology and sociology, animal welfare studies view agency as the ability of animals to make choices, express preferences, and develop skills, either by refining existing capacities or exploring new ones. This agency depends on both biological traits and individual personalities; and it is enabled by ecological and social contexts challenging animals without limiting their capacity for action.

## What do these definitions share? Animal agency and the observer's surprise

All these definitions share a recognition of agency through unpredictability. Animals are seen as agents when their behaviour eludes observers' theoretical or practical control, acting unexpectedly and causing surprise.

This surprise is not considered a reflection of our ignorance but as a symptom of an objective reality: the animal's ability to generate something beyond typical behaviour – something new. This novelty can take various forms, from an unprecedented reaction to an experimental or living situation (such as Sea World dolphins stealing fish trays), to developing a completely new behavioural pattern or skill – like Jerusalem rats which invented a technique to open pinecones.

All concepts of animal agency highlight this creative flexibility.

An agentic behaviour is surprising because it's creative. But also, it's considered creative because it can have disruptive consequences, whether affecting the animal's living conditions or longer-term selective pressures. An example of the former is that of the two pigs that escaped a British abattoir and got so much media coverage that a campaign was launched to have them placed in a sanctuary (even inspiring a BBC movie!).

Without this coverage, the pigs' actions would not have had such an impact. This example further reveals that agency's creativity is closely linked to the network of relationships in which animals are embedded.

## A relational concept of agency

### *Relationships as conditions for agency*

Indeed, all definitions of agency view it as grounded in relationships. It is the animal's relationships that enables its actions to have sometimes remarkable effects. In the case of the fugitive pigs, it is the media coverage that enabled their act of resistance to change their destiny. Similarly, in the evolutionary concept of agency, for new behaviours to influence selective pressures, they must spread and be passed down through generations — a process reliant on the inventor's social rank and relationships. Therefore, agency relies on relationships for its *consequences*.

But it also relies on relationships for its *expression*. Indeed, for animals to express agency, they need sufficient freedom to deploy their creative flexibility. This requires being part of a web of relationships where they can make choices, express preferences, and develop new skills.

These relationships include interactions:

- with the environment's affordances,

- with congeners – for instance, the animals’ social rank influences what they can or cannot do,
- and with other species, especially with humans, as the animals’ position in society shapes their agency.

So, this web of relationships defines the concrete conditions of agency. And also it defines the theoretical ones: it determines how observers interpret agentic actions.

### *Relationships as loci of agency*

But agency is not only *dependent on* relationships: agentic actions *can reshape* the relational network itself. Indeed, being an agent means creating new relationships,

- beginning with oneself. Developing new skills changes the animal’s relationship with its body and self, enhancing its overall welfare.
- This coincides with a transformation of the relationships with the world: agentic actions open up new possibilities for interactions.
- Finally, it redefines relationships with others, both human and non-human.

For example, when Jerusalem rats invented a technique for opening pinecones, they developed their relationship with their own bodies. But they also gained access to new resources, enabling them to expand into pine forests and shift their ecological niche. As a result, rats transformed their network of relationships with others: this brought them into contact with new species, and this also changed their relationships with humans, elevating their status from pests to valued research subjects.

## Animal agency and play

### Being flexible, being playful

To summarise, an agent is an animal which, through its web of relationships, produces something new, that can transform these relationships. And agency is rooted in creative flexibility: the agent diverts its usual relationship to itself and the world, acting in ways not dictated by genetics, nor by the environment. This requires distancing from the urges of the present. The animal is not in an actual relationship with the world, but in a virtual one. In other words, its actions are not mere responses to stimuli but outlines of potential relationships with the world.

And the relational activity that best coordinates detachment from the present and from reality in general, with behavioural flexibility, is play.

Indeed, play is a motor activity that

- (i) fosters positive relationships with oneself, the world or others,
- appears (ii) to have no obvious short-term benefits,
- (iii) in which motor patterns from other contexts may be used
- in (iv)
  - o (iv<sub>a</sub>) modified forms



- and (iv<sub>b</sub>) altered temporal sequencing.

Given its uselessness, it

- (v) mainly occurs in non-stressful, safe situations.

## Play as creativity through relationships

All play is relational (i).

- First, play is enabled by certain relationships. Indeed, it requires safety (v) allowing animals to expend energy ‘wastefully’. And this safety is usually ensured by the group or caregivers – which explains why juveniles tend to play more frequently, as they are supported by adults.
- Second, a certain type of play, social play, only emerges from communication- and trust-based relationships. This is why animals tend to play preferentially with family members, or congeners of the same age, or with members of other species they live with. The creativity expressed during play depends on these relationships. For instance, dogs play more creatively with their human companions than with other humans. Moreover, this play strengthens their bond. Social play both springs from and transforms relationships.
- Actually, play *in general* is a means of exploring relationships. Playing opens animals to new connections with others, as well as with themselves and the environment. This openness, sometimes described by scholars as *tenderness*, contrasts with conflict and competition. Through play, animals show curiosity about their abilities, the environment and other beings, transcending the typical utilitarian relationships.

## Play as a preparation (condition?) for agency

Indeed, play is untethered from the imperatives of the struggle for life. Its lack of immediate function (ii) and deviation from typical behaviour (iii) creates a distance from reality. Play involves a pretence: the animal uses real conditions to engage with something *virtual*. A cat chasing its tail acts *as if* it were a mouse, and hyenas, for instance, simulate fights without real aggression. Here, virtuality is grounded in objects, bodies, or interactions, without requiring mental representations. Importantly, animals do not mistake these virtual situations for reality. When the dog – in the video – finally grabs its tail and bites it, it probably feels it is biting its own body, but the play resumes: the tail remains a virtual prey. Likewise with hyenas: they send metacommunication signals informing their partner the situation is fictional, ensuring that play fights don’t turn real.

Furthermore, in play, behaviour is highly flexible in its form (iv<sub>a</sub>) and temporality (iv<sub>b</sub>). Therefore, it is often unpredictable. Thus, for researchers, play can be a “laboratory of agency”: it exemplifies the distancing from environmental conditions that is both the precondition and the first stage of the exercise of agency.

But it also serves as a laboratory *for animals themselves*. Indeed, play only occurs in safe situations (v), allowing animals to test their competences, try new behaviours, and develop relationships, without running significant risks. Hence the apparent awkwardness of play: animals seem to be practising their ability to act flexibly in unpredictable situations.

This is why researchers have suggested that play helps animals develop their agency: it seems to be the first agentive activity, both chronologically (in the life of the individual), and ontologically: it may be one of the most fundamental forms of agency.

## Interspecies play as a paradigm of agency

Interspecific play, in particular, exemplifies and develops animal agency in a striking way. Like all play, it involves distancing from immediate environmental demands, and creatively exploring relationships. But it amplifies these characteristics like no other form of play.

### Greater flexibility

In interspecific play, animals must be especially flexible as their partner may dramatically differ in size, morphology, and behaviour. For example, a wagging tail signals play in dogs but irritation in cats. Thus, dog-cat play requires adapting bodily signals. Moreover, both animals must adjust movements and self-handicap to avoid injuring their partner. The further apart the species are phylogenetically, the greater the flexibility required to maintain play. CLIC For instance, in the cat-turtle chase play, the difference in size, weight, and speed forces the cat to adjust its behaviour—slowing down and lowering its body to match the turtle's pace. Similarly, when crows play stick with wolf cubs, they adapt their flight patterns, flying just above the cubs – keeping the height low enough to encourage the cubs to jump and try to catch the stick, but high enough that they almost never succeed.

### Exacerbated relationality

#### *Unique relationships*

The relationship between crows and wolves is actually a well-studied case of mutualism: crows scavenge wolf kills and, in return alert wolves to potential predators. However, even in this well-established adaptive relationship, the mutual-aid behaviour and the playful activities that enable and reinforce it are not genetically determined. They do not spring whenever the two species cohabit. Instead, they are contingent on the active connections individuals forge with one another.

#### *Creative relationality*

Indeed, in interspecific relationships and especially playful ones, the behaviours are extremely dependent on the relationality. Neither the play signals nor the behavioural patterns are the same as those used between conspecifics, requiring the invention of new forms of communication.

When primatologist Barbara Smuts describes her dog Safi playing with the donkey Wister, she indicates that they *co created* their *own* system of communication.

Moreover, while closely related species, like guerezas and vervet monkeys, use the compatible patterns from their existing repertoire, more phylogenetically distant players – such as donkeys and dogs – need to invent new behaviours. For instance, Wister imitating Safi, learned to jaw wrestle and grab sticks, when playing with her.

Indeed, imitation, which forms part of play activities, transcends species boundaries. But sometimes, the disparities between players can lead animals to go beyond mere copying and demonstrate inventiveness. A striking example is that of the dolphin Dolly, who, after watching a human blowing cigarette smoke against the glass of her tank, swam off to collect milk from her mother, then returned to release it against the glass, creating a similar cloud.

## A remarkable irrelevance

Creating clouds is probably useless for Dolly. And, in many cases, interspecies play appears irrelevant. It has been hypothesised that play *within species* can train animals in species-specific behaviours or help them form social bonds. But inter-species play, while sometimes fostering mutualistic relationships, most often lacks practical purpose. This is especially true of play between species that are otherwise in a predator-play relationship, such as polar bears and dogs, yellow baboons and vervet monkeys, or even alligators and otters. In such situations, playing seems not only pointless but dangerous: the distance from the demands of the struggle for existence is exacerbated.

## What can we learn from this?

Interspecific play highlights agency's flexibility and relationality, offering a unique lens to study the conditions and consequences of agency.

### *Agency, relationality and human responsibility*

It underscores how deeply agentive behaviour is shaped by relationships: some conditions inhibit the flexibility essential to agency, while others promote it. Interspecies play, being high-risk, is particularly sensitive to these relational dynamics. Indeed, animals communicating poorly run the risk of their play escalating. For instance, Wister and Safi could play because they regularly saw each other and co-created signals to maintain the playful nature of their interaction – this familiarity being enabled by their shared environment within human society. But human influence is not only important between domestic animals. The case of polar bears and dogs is edifying. They started playing together in Churchill (Canada) because they lived close by and were familiar. But also, given their typically predatory relationship, they only played when the bears' basic needs were met. Because, when bears are hungry, what matters is no longer exploring the possibilities of their relationship with dogs, but eating them. Indeed, these bears were fed by the dogs' protector (and they attacked the dogs as soon as they didn't



get enough food). Likewise, alligators and otters were only observed playing in the protected context of a nature reserve managed by humans.

While human actions often hinder agency by disrupting habitats, these examples reveal that sometimes they can also promote it. And the question is when and under what conditions such intervention is justified—the man who fed the bears was strongly criticised for breaking local laws (even though the dog-bear play video went *viral*).

### *Ecological and evolutionary consequences of interspecies play*

The study of interspecific relationships, playfully established, also reveals the importance of agency in long-term transformations. Through interspecific interactions, animals can develop otherwise inaccessible behaviours, like Wister's stick-grabbing. Moreover, these relationships can shift ecological and evolutionary dynamics. For instance, the relationship with wolves helps crows overcome their neophobia and gain access to new types of carcasses, thereby expanding their ecological niche. Both crows and wolves also increase their chances of survival and reproduction, potentially leading to co-evolution.

Such examples show how agentic actions can influence a species' ecology and evolutionary trajectory.

## Theoretical and practical consequences

### Ecological and evolutionary implications of agency

Beyond interspecific play, agency in general has an ecological and evolutionary causal power, challenging us to rethink our theoretical and practical assumptions.

As Darwinian theory indicates, genetic variations are selected when useful to an animal's interactions with its environment. But what is often overlooked is that the benefits of these variations depend on the animal's behaviour and relationships. So, when an animal invents a behaviour or establishes a new relationship, and this invention spreads in the population, it can alter selective pressures and influence the evolutionary path of the population, transforming not only individual destinies but those of future generations.

- Ecologically: because flexibility promotes adaptability, it can influence species' gains and losses within communities in unexpected ways. It is also pivotal in niche invasion, adaptation to changing conditions, and even in preventing extinction. For instance, Mauritius kestrels, threatened by macaques knocking their nests out of trees, innovated by nesting on cliffs, leading to a partial restoration of the population.
- Evolutionary speaking, creative flexibility allows niche invasion and exposure to new conditions, influencing species diversification. Moreover, innovations may affect the rate of species divergence not only by shifting selective pressures, but even by directing them. This is the Baldwin effect: a new useful behaviour first acquired through inventiveness becomes a catalyst for natural selection, inducing genetic evolution.

Against the traditional reductionist view, organisms are not passive recipients of genetics and selection. They can actively develop their adaptability and transform evolutionary trajectories in unpredictable ways.

## Theoretical implications

Therefore, it is necessary to integrate agency into our theoretical paradigms. But this requires several shifts.

- It involves departing from a population-level perspective where individuals are interchangeable and acknowledging singularity – not only of individuals but of their biological, relational situations.
- Second it is necessary to move away from seeing competition as the default state of all biotic relationships and reframe it as a subset of relationships where the playful, agentive aspect is inhibited by the imperatives of the struggle for life. Indeed, competition is only triggered when the animal's broader web of relationships fails to ensure its safety.
- If competition is no longer the model for all relationships, it is because an understanding of agency requires us to abandon the utilitarian framework through which animals are seen as rational cognisants optimising their access to resources, and evolution as a process tending towards ever better adaptations. And, given the importance of agency in understanding individual behaviour, ecology, and evolution, it is essential to acknowledge the significance of 'just for fun' activities. Animals often engage in relationships driven by joy and curiosity – and these relationships provide them with positive experiences but rarely with direct survival benefit. Indeed, many behaviours are not rational in terms of fitness. For instance, play – which can be beneficial in the long term – can have negative short-term consequences, such as increased predation risks. Remarkably, 22 of the 26 seals killed under the observation of biologist Robert Harcourt, were killed while playing.

These shifts prompt a focus on previously neglected phenomena: odd behaviours, peculiar relationships, and seemingly pointless activities. They also challenge our ambition for mastery and utter prediction in biological sciences, urging us instead to embrace unpredictability as the necessary consequence of the surprising behaviours of biological agents. Hence the need to develop new epistemological models, hinging on interdisciplinary collaboration.

## Practical considerations

The same type of collaboration is required to draw the *practical* implications from animal agency. Indeed, animal agency also requires us to rethink our concrete relationships with non-humans, which implies engaging philosophical reflection, studies of animal behaviour, research into animal welfare, and ecology.

### *Ethics*

Historically, ethical considerations for animals hinged on an assessment of their intelligence. Today, these considerations are no longer based on intelligence, but on animal sentience. As Jeremy Bentham famously put it: “The question is not: Can they reason? nor Can they talk? but, Can they suffer?”. However, if agency is a key capability for animals, the question cannot simply be: how can we minimise their suffering? But: how can we allow them to fully express their agency, in other words to exercise their creativity through playful relationships?

### *Ecology*

Moreover, the importance of nonhuman agency not only to animals’ individual fate, but also to ecological networks and evolutionary processes calls for humility. Science should not assume an omnipotent stance over animal behaviour and environmental dynamics.

Moreover, animals’ creative flexibility and their ability to forge new relationships suggest they could develop adaptive strategies, whose benefit could go beyond their own survival, to restore ecological dynamics – provided, of course, they are free to express their agency. Thus, we should tend to develop new, non-hierarchical ways of relating to non-human animals, considering them as co-engineers of possible ecological solutions.

### *Going back to interspecies play*

These new relationships should also enable us to co-create new interactions with the world. Once again, interspecies play could serve as a model, not just theoretically to understand agency, but to foster it. While miscommunication can lead to conflict and competition, adjusting to other animals could allow the co-creation of a shared world – this time not just virtual as in typical play, but actual. It could help us – humans and non-humans – establish a network of wider relationships, enriching our conditions of existence.

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