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# Understanding animal worlds

analyzing the openness of the worlds of animals in the light of Uexküll and Merleau-Ponty

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ABSTRACT: Understanding what others perceive, has always been a tricky question for philosophers. In *A Foray into the Worlds of Animals and Humans* Jakob von Uexküll has expanded the question of the other into the realm of all animal life. His theory of the *Umwelt* relates the perceived environments of animals to their own personal perspective. As every animal has its own unique perceptions, due to the subjective aspect of it, their worlds look fundamentally different. This raises the question whether we can interpret such environments at all. Surely we can study their perceptive organs and behavioral attitudes, but is this in the end not just an expansion of our own subjective experiences of animal life? Maurice Merleau-Ponty's phenomenological approach towards animal life, as presented in *The structure of Behavior*, and his concept of inter-animality, as explained in *Nature* and *The Visible and the Invisible*, present a framework that allows for a bridge between ourselves and the environments of animals, while at the same acknowledging the uniqueness and opacity of their perception and experiences.

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# 1 Introduction

Understanding what others perceive, is a problem that philosophers have been engaged in for a long time. With a growing field of the study of animal behavior, and new discoveries of their ingenious behavior that has been showing up recently, this question has become very relevant in the field of biology as well. The field of onto-ethology, as it is called by Brett Buchanan,[1] studies the question of "what is?" by means of including the behavior of all living beings. As we look at the blackbird digging between the leaves on the ground, the spider weaving its web, or the snake trying to find a warm spot on the asphalt we may realize that their behavior is extremely intricate. It appears to be more than a set of blind responses. And as we try to understand their ways we may realize that every action and every perception of the animal appears to have a unique significance for it. We try to find out what their movements and habits mean to them, because surely they often mean something different to us. A careful yet critical observation of our animal others can provide interesting insights into such meaningful experiences.

However, penetrating the experienced worlds of other animals is not self-evident, as physiologist, ethologist and biosemiotician Jakob von Uexküll explains in his theory of the *Umwelt*. The *Umwelt* stands for the animal's sphere of subjective experiences. This had certain consequences for the field of ethology itself. If one's perception of the world is subjective, then the openness to an understanding of what animals perceive, is no longer self-evident. In this thesis I want to investigate what we can say about the worlds of animals, how they perceive the world and whether we even have access to their perspectives of the world. The main question is therefore: "Are we open to the experiences of other animals?" This question is actually twofold, because it asks first of all if we can ever leave our own subjective experiences and secondly if we can enter other subjective viewpoints. Including animals in the question of other viewpoints is important, because their perspectives are particularly interesting in the question of what the world looks like. Their perspectives are more unique because of their various distinctive perceptive organs. They in particular show how unique our own perspectives are and therefore confront us with the idea that perhaps the way we perceive our world is nothing more than a human perspective, instead of an objective third-person perspective of the world.

Uexküll's theory of the *Umwelt* had influenced many philosophers such as Martin Heidegger, Gilles Deleuze, Max Scheler, Giorgio Agamben and Maurice Merleau-Ponty. The theory has been particularly fruitful for phenomenological thought, as I will argue that it has opened the doors and laid out certain fundamentals for a phenomenology of all organisms. As such I think it is Merleau-Ponty's reading of Uexküll that is particularly striking, because he provides a theory of nature that includes all experiences including those of animals. As Uexküll continuously struggled to overcome the problem of whether we can understand what other animals perceive or are instead locked up in our own subjective viewpoints, Merleau-Ponty attempts to overcome the rupture that seems to separate ourselves from others. He speaks about an inter-animality, as the connecting whole of all living beings instead of the distinction between human being and animal being. For Merleau-Ponty the difference between one-eyed and two-eyed organisms is not a rupture, but a change in regulative principle. He cites Teilhard de Chardin: "Man came silently into the world."[2] Human and non-human animals are not separated by a rupture in the evolutionary process, but instead both included in a shared nature.

1. Brett Buchanan, *Onto-Ethologies: The Animal Environments of Uexküll, Heidegger, Merleau-Ponty, and Deleuze* (Albany: Suny Press, 2008).

2. Pierre Teilhard de Chardin, *The Phenomenon of Man*, trans. Bernard Wall (New York: Harper Perennial, 1955), 184.

Merleau-Ponty's unique focus on the unity will be the key in understanding how the different worlds relate to each other and ultimately it will lead us to an understanding of the openness of those different worlds.

In order to come to the conclusion of the openness of the perceived worlds of animals, I will start by analyzing in the first chapter why our animal others are truly others and not mere objects. There is something characteristic about animal life that allows us to consider them as subjects like ourselves. It is precisely this subjective aspect of the animal that is the starting point of our complication of understanding the perceived worlds of animals because it shows that the world appears to the animal in a subjective way, as I will show in the second chapter about the *Umwelt*. We share with the animal others that we cannot simply know things regardless of our perception of them, as so to say, in-themselves. All appearances are subjective. The *Umwelt* theory may be a theory that was built in order to understand animal life better, but it also confronts us with our own limitations within the perception. These limitations form a problem to understanding the perceptions of others. However in the third chapter I will explain how it is still possible to have a meaningful interpretation of the animal's world, one that keeps in mind that animals are subjects and not merely objects.

# 2 The subject

Subjectivity plays an important role in the perception of the other. The fact that living beings are subjects, brings about two difficulties that influence our main question. First of all understanding the other to be a subject, means that the other cannot be described as being merely an object. The animal has something extra, that allows the activity to be more autonomous. And secondly it means that our own perception of that animal is subjective as we are neither merely objects. Therefore it is important to examine this role of subjectivity first as it plays a big role in perceiving other living beings. The main objective of this chapter will be to get an understanding of what this subjectivity exactly is in order to observe its influence on the perceived environment of both the human and the animal.

## 2.1 Against mechanism: the self-regulative principle

In *Streifzuge durch die Umwelten von Tieren und Menschen*,[3] Jakob von Uexküll takes us on an adventure into the lives of different animal species, including the tick, the jackdaw, the snail, the deep-sea medusa and many others. As a biologist his objective was to gain knowledge about these different species, how they live and how their bodies function, what they perceive et cetera. Yet one can say that Uexküll has a rather intriguing and renewing way of tackling these questions on animal species, a way that distinguishes him from the Darwinian school of biology that had become very predominant during his lifetime. This school proposed a mechanist explanation regarding life and evolution which includes no plan or goal, but a battle where the weak will drop behind in the path of evolution as they cannot pass on their genes to future offspring. The other dominant school in biology during his time was the one of Karl Ernst von Baer, which proposed a teleological view of life. Although Jakob von Uexküll associated more with Baer's position, Uexküll sided himself with neither one of the two positions. He aimed to overcome both an absolute mechanism and an absolute vitalism.[4] If the animal is just a machine, Uexküll argues, then one fails to see the operator that controls the machine. He says that "we must abandon our fond belief in an absolute, material world, with

3. Jakob von Uexküll, *A Foray into the Worlds of Animals and Humans: With a Theory of Meaning*, trans. Joseph D. O'Neil (Minneapolis: University of Minnesota Press, 1934).

4. Buchanan, *Onto-Ethologies*, 7-12.

its eternal natural laws, and admit that it is the laws of our subject which make and maintain the world of human beings."[5]

It is Immanual Kant who has been a main inspiration for Uexküll's theory of the *Umwelt*. Uexküll starts with Kant's idea that "[all] reality is subjective appearance."[6] As Uexküll expanded his definition of subjectivity into the realm of the animal beings, he portrayed the task of the biologist to consist of "expanding in two directions the results of Kant's investigations:—(1) by considering the part played by our body, and especially by our sense-organs and central nervous system, and (2) by studying the relations of other subjects (animals) to objects."[7] Therefore one of the first twists we witness in the work of Uexküll is his acknowledgement of subjectivity in all organisms.

He criticizes machine theory for reducing animals to being mere objects.

> Whoever still holds the view that our sensory organs serve perception and our motor organs serve the production of effects will also not see in animals simply a mechanical assemblage; they will also perceive the *machine operator* who is built into the organs just as we are into our body.[8]

This idea of a machine operator does not refer so much to a consciousness, or a thought, but more to a level of subjectivity within the bodies of the organisms. The classical definition of subjectivity refers to the personal and conscious experience of a being. Such a subject, as opposed to the object, is then a being with such experience. The subject-object distinction refers to Descartes' distinction between *res cogitans* and *res extensa*.[9] However, the concept that Uexküll uses is not to ascribe a consciousness or thought to the animal. It is just to say that the experiences of the animal are personal—that its view, the sounds that it hears, or perhaps doesn't conceive at all—are unique to that animal. But to acknowledge such personal experiences to be present in all animals, as Uexküll claimed to be the case, is not self-evident. Descartes for example denied that animals have such experiences. Their actions were according to him the mere functioning like machines, like objects. But the difference in definition of the term subject allows for Uexküll to ascribe such an aspect to all living beings. So what is subjectivity according to Uexküll? Uexküll's definition of subjectivity shows similarities with the Aristotle's concept of soul.[10] For Aristotle soul is the principle of the living being, and it stands for the active property of the body, something that the table, the atom and the cloud lack. Soul is an active form of the body, according to which the body can accomplish vital functions.[11] Similarly for Uexküll, subjectivity stands for the active role that an animal plays in its own development, which is not yet necessarily a conscious act or a thought. It is due to such an active property of the subject that the animal has an *Umwelt*, or a self-world, that distinguishes itself from the inanimacy of the objective world (*Welt*). This active property of the animal, the machine operator, shows itself in the way that the animal's body is structured. It refers to the *Planmäßigkeit* of the animal, so the ability to act according to a certain plan. But how is such a conception of plan possible without acknowledging any consciousness per se?

Uexküll distinguishes centripetal architecture from centrifugal architecture. Centripetal architecture refers to the purely physical things which are formed by external

5. Jakob von Uexküll, *Theoretical Biology*, ed. C. K. Ogden, trans. D. L. Mackinnon (New York: Harcourt, Brace & Company, Inc., 1926), 89.

6. Uexküll, xv.

7. Uexküll, xv.

8. Uexküll, *A Foray into the Worlds of Animals and Humans*, 42.

9. René Descartes, *De uitgelezen Descartes*, ed. Han van Ruler, trans. Wim van Dooren; Jeroen de Keyser; Han van Ruler; Theo Verbeek (Amsterdam: Lambo, 1999).

10. Aristotle, *De Anima*, trans. Robert D. Hicks (Cambridge: Cambridge University Press, 1907), 412a 11-13.

11. Arthur Araújo, "Structure, sign and Uexküll's theory of meaning: A philosophical approximation," *Cognitio* 17 (2016): 13–38.

forces. This is for example the chemical regulation of the sexual cycle during the breeding season, as shown by Steinach.[12] An organism however is besides its reactivity to external forces, also a centrifugal architecture, which allows the animal to be self-developmental and autonomous. With autonomy Uexküll does not mean to advocate for a certain freedom within the organism to do whatever it wants to do, but rather a natural tendency to self-regulate. This happens according to a super-mechanical activity in the protoplasm. Even though the term protoplasm is no longer commonly used in contemporary biology, for Uexküll it showed how an animal can by itself develop organs out of the fluid (epigenesis).

> The infallibility with which protoplasm, wherever it is at work, is able to improve and repair the framework, shows that its impulse-sequence corresponds to a definite rule, which in this way governs the physico-chemical processes. We can prove that the super-mechanical factor operative in protoplasm must be a rule, bound indeed to a definite place in space by the material with which it works, but in itself superspatial, since it disposes of the spatial arrangement of the framework.[13]

It is such a rule that connects the separate movements into one coherent movement. Such a rule has certain interesting aspects like, first of all, that it can persist to form certain activities in a framework in a more permanent way, which makes it no longer a mere mechanical regulation. Secondly, this organ is constantly under the influence of the function-rule. It is not just an apparatus that is once formed and then functions in a fixed manner, but by being under influence of the function-rule continually, it is plastic. So instead of a mechanical sequence of an apparatus, which is a framework, we have in the organ a framework plus protoplasm. Whenever an animal perceives an object, there is a function-rule that lies behind it, which will be exposed in the structure and the activity of this animal's perception organs. Similarly it is the framework plus protoplasm that forms the actions of the animal and this exposes in the structure and activity of the action-organs. According to Uexküll it is the job of the biologist to analyze both the mechanic framework and the function-rule of the organs.[14] The development of an organism is not only by external forces, but from the inside out, by means of the function-rule as a self-regulative principle. Machines for example "also have a rule which converts their activity into a function, but this rule is never subjective ; it always enters into the machine from without. Hence machines are never autonomous and never subjects."[15]

It is the presence of such function-rules that define the peculiar property of life and it is in this context that Uexküll speaks of subjectivity. All life is characterized by a subjective being by means of such function-rules that allow for a super-mechanical property of self-organization. And such subjectivity is not localized in one specific part of the animal's body, such as the central nervous system, but it is expressed in every organ, every cell of the body. "Consideration of the function-world of organisms showed that the animal-subject is not to be sought in an ego localised in the brain, but that the subject governs the entire framework of the animal body."[16]

Such function-rules make the study of animals as mere objects, like stimulus-response devices, problematic. There are super-mechanical processes that allow for a more intricate organization than a purely mechanistic one. Whereas in the machine we see a sort of pushed-forward chain of causal relations, in the animal we see that the actions,

12. Uexküll, *Theoretical Biology*, 150-151.
13. Uexküll, 153.
14. Uexküll, 153-154.
15. Uexküll, 206.
16. Uexküll, 234.

the functioning of i.e. the organ, depend on an organization by its own function-rule. The animal can be distinguished from the machine. As for Uexküll, every machine acts according to a construction plan (*Bauplan*), which is to be sought in the builder that constructs the machine, whereas the animal acts according to its own morphological plan. He distinguishes the *Bauplan* of higher animals from the one of animals like the marine worm and the urchin which he calls "reflex republics" because their unity is based on the individual relations forming a unity without there being a regulative center.[17] So even though a sea urchin is alive for having such function rules—which are based on the individual acting of the parts of the urchin and not of the urchin as a whole—the parts of it all act autonomously and therefore the urchin cannot be considered to be one living being. Instead it is many smaller living beings, which are the parts of the animal. Being only a set of separate parts, there is therefore not one *Umwelt* for the urchin as a whole. Merleau-Ponty calls it a "collective animal".[18] There is no project involved in the animal as a whole. "When a dog runs, the animal moves its legs. When a sea urchin runs, its legs move the animal."[19] As Brett Buchanan explains, Uexküll means to emphasize that no matter how fixed those rules posited by the cell, organ, individual et cetera are, an organism abides by its self-formed rules.[20] As such, organisms must be understood as wholes and not by their divisible parts. For Uexküll subjectivity refers to the super-mechanical structure that allows for self-regulation.

However, the question that remained open is how such subjectivity precisely takes place in the body of the animal. The animal has the property of life, the property to self-regulate and it has an environment, but as such concepts cannot be explained in terms of mechanisms and parts of the body, but as super-mechanical wholes, they still remain rather vague as to how they relate to the body of the animal. If subjectivity is not a material mechanism, then what is it? This problem is picked up by Merleau-Ponty. He praises Uexküll for unveiling the holistic character of the animal's environment and its behavior by leaving behind a mechanist approach, but takes us one step further by showing how we must perceive such super-mechanical structures in the body. Both Uexküll and Merleau-Ponty have no means to step into the realm of an idealist view of subjectivity. As for Merleau-Ponty, structure or form, would be the answer this question. The body of the animal is organized in a certain way as to unlock the ability to act according to its own interest, which supersedes a mechanical structure that acts in terms of causal chains.

## 2.2 The subjective body

In his pursuit for creating a framework that explains concepts such as consciousness, subjectivity, creativity, intentionality and vitality in a non-dualistic manner, Merleau-Ponty has developed an intriguing notion of one's own body (*le corps propre*) that includes all these aspects. On the one hand our bodies are not mere physical objects that can be explained in terms of causal relations between stimuli and response, because it would turn one's own into a meaningless object. According to Merleau-Ponty one's body is a lot richer than that. On the other hand Merleau-Ponty wishes in no way to ascribe such aspects to any form of intellect or as an idea that imposes itself upon a physical body. One's body is not opposed to a consciousness or subjectivity. Merleau-Ponty instead explains subjectivity as being a layer of our body. This is vague if one considers the body as merely being parts that interact. However, if one considers the body to be a structure, or form, as Merleau-Ponty does, then one can see how a certain

17. Uexküll, *A Foray into the Worlds of Animals and Humans*, 76-77.
18. Maurice Merleau-Ponty, *Nature: Course Notes from the Collège de France*, ed. James M. Edie et al., trans. Robert Vallier (Evanston: Northwestern University Press, 1995), 169.
19. Uexküll, *A Foray into the Worlds of Animals and Humans*, 76.
20. Buchanan, *Onto-Ethologies*, 14-16.

structure can give rise to phenomena like consciousness and subjectivity as being part of it. A structure is for Merleau-Ponty neither a thing (a fixed given, that reacts in a way based on external input) nor an idea (a product of our intellectual synthesis). A structure is something immanent to the living body that makes it more than a mere mechanism without reverting to a dualistic notion that separates the body from the intellect. The body is a unique structure that is distinguished from physical structures according to Merleau-Ponty. This has to do with the way that the body is organized, which is, in line with Uexküll, according to a principle of self-regulation and not merely according to pre-existing fixed principles (like the principles in physics). According to previous experiences of the body it can change certain regulative principles according to its own needs. So the structure has a vital interest. A structure is therefore never a mechanism, like mere stimulus-response reactions. It has the power of intentional acting on the basis of what it needs as a whole, which will be elaborated on in the next subchapter. It is this type of self-regulation that is immanent to the structure of one's body that allows one to speak of a subject. The term structure also defines how every part of the body is interrelated into a unity. This is different from the mechanism, because in the mechanism the parts operate separately and interact in a linear causal manner, whereas in a structure they function on the basis of the unity. And while a mechanism consists of certain parts (which are material) a structure consists of certain layers. Those layers are interrelated in the structure. Things like subjectivity owe their existence to the specific structure of the body. Therefore they cannot be seen as separate from the body, but at the same time we cannot speak of a part either as is is not a material thing.

Perceiving the body as a structure shows us why we should consider the body as a subject, whereas we cannot say the same about objects like the table. The table is a physical structure, whereas the living body a vital structure. But this does not mean that the subject can be opposed to the object, because the body includes both, objectivity and subjectivity. The body is the place from which one perceives the environment and perhaps other bodies, and yet if the gaze is turned towards itself, one's own body can be the object of study as well. Separating the subject and the object from each other makes no sense according to Merleau-Ponty. They are not the same, but they do not exclude each other either. Merleau-Ponty distances from a dualistic notion of the body. The body is therefore never just one object among others. One's own body is different from any other body in the sense that it is the place from which one experiences things and other bodies. And yet the body as being the placeholder of my experiences, is not separated from those things and others either. The body is in the world, it is part of the world. And things like consciousness and subjectivity do not provide us a third-person perspective, that is, a perspective that views its world from the outside. There is only the perspective of the world from within it, as being related to it and even animates it, Merleau-Ponty says.

> One's own body is in the world just as the heart is in the organism: it continuously breathes life into the visible spectacle, animates it and nourishes it from within, and forms a system with it.[21]

The body shapes the environment from within, that is, as being itself part of this environment. And being itself its relations with this world that it is part of, the body can never be a mere physical being. As Brett Buchanan explains, "[T]o think of the animal as a 'material mass *partes-extra-partes*' is to disassociate the living being from any relational structure. [...] Cut off from its environment in which it lives, every organism can be defined, classified, dissected, and studied as a 'material mass' existing exter-

21. Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald A. Landes (Abingdon: Routledge, 1945), 245.

nal to everything else around it."[22] The body and its environment cannot be regarded meaningfully if one does not take into account their relational structure. Merleau-Ponty provided us instead with a concept of behavior that is not explained in a purely physiological way, nor in a purely mental way. His concept of consciousness means to reunite both views and show that meaning is present in behavior, that is, in the relation that a perceiving being forms with its environment. Behavior is a configuration that the organism constructs around itself by its act of attention. So there are two important aspects of Merleau-Ponty's notion of embodiment. First of all, the body is within and part of a meaningful environment. And secondly, concepts such as subjectivity and consciousness are within and part of the body. They are not disembodied forms of reflection, but aspects, or layers, of the body. Such layers will not be unveiled if one chooses to study the animal as a material mass. However if one studies the animal on its meaningful embodied account, that is as a structure or form rather than a set of parts, then it will become clear that the body is more than a mere mechanism. In order to explain the subjectivity of the body as a layer, Merleau-Ponty distances from a viewpoint that explains the body as a material mass and instead understands it as a structure.

## 2.3 The unity within the animal's body

In line with Uexküll, Merleau-Ponty also acknowledges a surplus that supersedes the mechanistic aspect of the animal. He criticizes the previous physiology for understanding the operations of perception to be a parallel of nerve activity and in particular the elementary analysis which dissects the total functioning of an organism into separate parts or processes and associates them with real parts.[23] He does not deny that the body has preferred pathways, that can be attained habitually or are perhaps innate. Just like a welder can have a preferred working space and tools—which does not mean that the job is fixed to this specific setting only—there are optimal regions for specific actions in the brain. Therefore patterns of certain pathways used for these actions, ideas et cetera will become visible, even though they are not fixed.

These patterns are not fixed because a body is a dynamic project. It is constantly learning new movements and perceptions. So by being a lived body, referring to the historical aspect, the body has formed particular pathways and articulates certain structures which on their turn are able to provide the body with certain new patterns, new distributions of neural pathways. As such the body learns and evolves over time. This functional reorganization is already noticeable in the body of a dung beetle, as Merleau-Ponty illustrates. A beetle can reorganize its body after the loss of a leg, but this is not an automatic process according to Merleau-Ponty. The beetle uses its stumps to move over rough terrain, as it can still find some points of application there, but as soon as it moves over smooth terrain it does not move the stumps at all, as the stumps do not reach the terrain. The movement of the stumps can therefore not be seen as a perseverance of the normal movement. Merleau-Ponty emphasizes that such functional reorganization of an organ, as well as the phenomenon of an organ taking upon itself the function of another, happens only if a vital interest is at stake.[24] There are certain modes of preferred distributions in the nervous system in order to obtain the appropriate movements. Such movements then on their turn provoke modifications in the afferent system, like the central nervous system, which then provides new movements. This is a dynamic circular process instead of a linear one, which allows for flexible regulation. Such flexible regulation "is needed in order to account for effective behavior"[25] Being

22. Buchanan, *Onto-Ethologies*, 118.
23. Maurice Merleau-Ponty, *The Structure of Behavior*, trans. Alden L. Fisher (Boston: Beacon Press, 1963), 75.
24. Merleau-Ponty, 39-40.
25. Merleau-Ponty, 46.

a dynamic structure makes it difficult to capture these dynamic processes into clearly distinguishing fixed patterns. In fact, fixating the processes is but an illusion according to Merleau-Ponty. So we see in the work of Merleau-Ponty, that structure is the most basic element one can designate here.

However until a certain degree localization theory is inevitable. Merleau-Ponty does not deny that some functions of the body are related to specific regions. A movement needs specific circumstances. The welder is after all also not able to do her job in every situation either and is to a certain extent bound to using some of the tools, like the welding machine. According to Merleau-Ponty only a combination of localization and a functional conception of parallelism should be accepted in the understanding of the role of nerve structure in behavior.[26] As a structural unity the body can find certain pathways that are most optimal by directing certain parts of the body that seem to be the best option at that time. It can find detours in these pathways in case of injury or loss of certain organs.

We cannot attribute behavior to the animal's organs, nor to something independent of the body. Behaviorism reduces behavior to "the sum of reflexes and conditioned reflexes between which no intrinsic connection is admitted."[27] For Merleau-Ponty it is not simply the process of action-reaction and on the other hand there's not just the domain of the mental either. There is a unity of mental and physical life that is not a thing, nor an idea, but a structural whole. This structure, or form, consists of many layers of operation, and is defined by Merleau-Ponty as "total processes whose properties are not the sum of those which the isolated parts would possess."[28] He speaks of transposable wholes, as the body seems to be able to redirect certain pathways, like the beetle does. The nervous system is such a form according to Merleau-Ponty. And there are many other structures within the body that function in this manner. The body is organized by smaller as well as bigger structures, or layers, which are organized centripetally and centrifugally. In other words, we cannot understand the body as the sum of all its parts. There is an extra dimension in the functioning of the body as a whole. So the super-mechanical structures that Uexküll speaks of, are by Merleau-Ponty related to the body as being forms, which he defines as;

> total processes which may be indiscernible from each other while their "parts," compared to each other, differ in absolute size; in other words the systems are defined as transposable wholes. We will say that there is form whenever the properties of a system are modified by every change brought about in a single one of its parts and, on the contrary, are conserved when they all change while maintaining the same relationship among themselves.[29]

This idea is based on *Gestalt*-psychology, which describes behavior on a holistic account, and in particular on Wolfgang Köhler's concept of "modes of preferred distribution".[30] This means that the organism is not passive in its behavior, but rather that the behavior is active in the sense that it is directed towards the optimal state of being for the whole structure of the animal.

In order to explain such forms, Merleau-Ponty introduces the concept of the body schema (*schéma corporel*). This term originally derives from the neurological field. Merleau-Ponty refers to Henry Head, who explains it as "a standard against which all subsequent changes of posture are measured."[31] As for Merleau-Ponty it is the register

26. Merleau-Ponty, *The Structure of Behavior*, 72.
27. Merleau-Ponty, 4.
28. Merleau-Ponty, 47.
29. Merleau-Ponty, 47.
30. Merleau-Ponty, 46.
31. Henry Head and Gordon M. Holmes, "Sensory disturbances from cerebral lesions," *Brain* 34 (1911): 187.

that contains all the attitudes and actions, which serves as a reference norm to which one perceives something as related to ones body.[32] What is important to mention here is that the body schema is not a set of ideas or representations coming from a consciousness, nor a physical object. According to Merleau-Ponty the body schema is a form as described above. It is the body's 'point of departure' when confronted with a particular situation in its environment. This turns the body into a historical body, a lived body, which forms the background for a perception. Our position and attitude towards our environment is constantly readjusted according to our bodily intentions and whether our environment succeeds in fulfilling them. The body schema is continually evolving by its movements and perceptions. Merleau-Ponty's notion of the body schema is just like Uexküll's theory of subjectivity characterized by an internal law. So in order to understand the movements and perceptions of animals, one is forced to acknowledge the important role that their body schemata play in it, that is, their bodies as a complex structure that is not the sum of its physical parts which interact in a linear causal manner, but instead owes the functioning of its parts to the way that they are embedded in the unity of the whole body. Animals grasp their environment through their bodily situation. So *Gestalt*-psychology shows that we have to focus on the relational aspects of the animal and not merely on stimulus-response chains of action. If one wants to interpret the behavior and the experiences of the animal, or a part of the animal, it is important to understand what it means for the animal as a whole.

The acting of the body schema becomes clear in a concept that Merleau-Ponty calls transposition capacity, which is the capacity to transpose one learnt behavior into a novel situation. Even though he explains it to be present in humans and he does not speak of animals here, I would like to present some examples where something similar seems to happen in the animal realm. As for Merleau-Ponty, the body can be both habitual and yet creative at the same time, precisely because the two terms don't complement each other. The learning of new movements is a systematic process, which means that a body does not form a synthesis between individual stimuli and individual movements, but it gains the power to form a general type of response to a certain type of situation.

For example in the Dung beetle which Merleau-Ponty refers to, there is a functional re-organization. The beetle uses its stumps only on rough terrain as only then the movements are still useful. This functional re-organization "takes place in a characteristic manner only if a vital interest is at stake and not if a 'made to order' act is involved. Which is to say that it represents the means of a return to equilibrium for the whole nervous system and not the releasing of a local anatomical device."[33] And idem for realizing substitute actions (*Ersatzleistungen*), where an organ takes upon itself another organ's function. There is a constancy within the body which manifests non-mechanically in the actions that the individual performs. "It depends, not on local conditions, but on the total activity of the organism."[34] Compared to the equilibrium of for example a cloud, which also forms a unity of all the small drops of water held together in it, a living being does not depend solely on external conditions. It is the body's directedness as a whole on the basis of what it is given, and therefore the needs of the body are not merely based on local physical stimuli-response reactions.

Instead of simply following stimulus-response patterns, the body is able to form general answers to a general type of situation. A learnt behavior is applicable in a wider range of situations. An expert organist can play another organ with ease only after an hour of adjusting. It doesn't take a whole new act of learning of the habit, but a learning based on previously acquired habits. Acquiring a habit is the body's schematizing of perceived phenomena, in this case the appearance of the environment in

32. Merleau-Ponty, *Phenomenology of Perception*, 127-130.
33. Merleau-Ponty, *The Structure of Behavior*, 40.
34. Merleau-Ponty, 147.

practical means, so that these phenomena appear in the form of generalities and stability. The body perceives its environment in practical means and the body schema assists in the performance of actions by already knowing, *praktognosia*, how to handle with this environment. The actions are being adopted, taken up by the body schema, such that it is able to perform the learnt habit in other contexts with certain similarities. It is a continuous process that allows for a familiarity with one's environment. It is the body's propensity towards an equilibrium, so that we can speak of skillful embodiment that allows for performing certain differentiated acts without thinking about it consciously. It is a bodily memory, a memory of significant experience, of repetitive bodily attempts, grouped and ordered in a historical, lived body. The organist is not restricted to a single fixed combination of stimuli to be able to perform as desired. A slight change of situation, which is in this case a different organ with some different keys, perhaps less keys or even some extra keys, requires some time for adjustments in order to deliver a performance again just as magnificent and striking as before.[35]

This transposition capacity shows similarities with what Koffka calls 'transfer of training'.[36] The studied animals were often not only able to act successfully, but also to adjust their acts in such a way that they became successful when the situation was adjusted. The adjustments of their acts were in accordance with the adjustments of their situation, which is according to Merleau-Ponty not yet an argument for intelligent learning in the sense of an intellect capable of inference. It does, however, overcome the mechanistic view of learning, since it shows how animals focus on their situation as a totality, a whole that makes sense as a whole. A similar conclusion was drawn by Koffka regarding the animals in the puzzle-box experiments of Thorndike. Edward Thorndike's puzzle-box experiments present a mechanist conception of the learning behavior of certain animals based on the trial-and-error model.[37] In these experiments, animals are locked in a cage where they have to perform a certain task (pull a loop, push a button, or pull out a bolt) in order to gain freedom and food. Koffka explains that the animal does not, as was thought by Thorndike, repeat the exact same behavior after success, which is perhaps to be expected if the animal reacts to certain fixed stimuli. Instead the animal repeats only a general type of behavior.[176-177]Koffka According to Koffka the animal does not just learn to escape from this box, but it learns to re-organize a situation in a more permanent, general and more or less detailed way. The animals that had to escape by pulling a loop, could also perform this task when the loop was hanging in different places in the box, at different heights.[38] This meaning is not restricted to the exact same situation, but is rather general, as McDougall's experiments with his dog confirm.[39] His dog, named Jack, was able to pull the string down after watching Hobhouse showing him this task several times. "As soon as he was perfect at it, I stretched the string across from the chimney-piece to a chair-back, and found that Jack jumped at it at once. He began by aiming too high, and while still at his hind legs, edged away sideways till he came to a point which he could reach."[40] Learning is not specific, for it teaches the animal not only to solve the single problem, but also other problems that it was not able to solve before. The animal performs a general type of movements.

Transposition capacity expresses the body's creative intentionality. An example presented by Mooney is the opening of a door when one is holding a cake in the hands. One could try to open the door using a foot. This movement may be similar to the

35. Merleau-Ponty, *Phenomenology of Perception*, 180-182.

36. Kurt Koffka, *The Growth of the Mind: An Introduction to Child-Psychology*, trans. Robert M. Ogden (London: Routledge & Kegan Paul Ltd, 1924), 176-177.

37. Edward L. Thorndike, *Animal Intelligence: Experimental Studies* (New York: The Macmillan Company, 1911).

38. Koffka, *The Growth of the Mind*, 185-191.

39. William McDougall, *Outline of Psychology* (London: Methuen & co. ltd., 1923), 196.

40. Leonard T. Hobhouse, *Mind in Evolution* (New York: The Macmillan Company, 1901), 158.

handling of a football. It will not necessarily take an active representation, or placing oneself into the context of handling the football in order to open the door with the foot successfully. The body schema has done this transposable task for you already in order to overcome such an obstacle. It recombined the useful movements of the handling of the ball with the carrying of the cake fluently. All of the movements serve the bigger task of getting in the house without having to put the cake down first. The possible results were prefigured by the body schema and with one's constantly changing posture, and thus a constantly slightly changing situation, the relevant tasks get distributed among fitting segments of the body.[41]

As intentionality operates pre-reflectively, the question of whether animals possess intelligent behavior is no longer relevant in the question of whether they possess such a creative intentionality within their movements. It just means that the body has a certain way of knowing how to perform in certain situations based on previous experiences. Neither does it require representations or reflection. It is the structure of the body that allows it to make such smart moves. Intentionality goes beyond the distinction between human and non-human animality. Experiencing the world in a transposable manner, that is by adding virtual scenario's, opens a world of fantasy and also of play, a phenomenon that we see a lot in the animal kingdom as it plays an important role in the learning behavior of many young animals. The embodied consciousness characterized by this motor intentionality and transpositions manifests its vitality by continuously sketching around itself the landscapes of possibilities. These behavioral settings polarize the environment (*Umwelt*) of the animal.

> [T]he most remarkable characteristics of living homeostasis, namely [is] invariance through fluctuation. Whether we are dealing with organisms or animal societies, we do not find these things subject to a law of all or nothing, but rather dynamic, unstable equilibria in which every rearrangement resumes already latent activities and transfigures them by decentering them.[42]

The responding movements are sometimes executed by one effector organ and sometimes by another. Even though Merleau-Ponty says that there are processes in the body which are more mechanical and fixed, he says that "[t]he true stimulus is not the one defined by physics and chemistry; the reaction is not this or that particular series of movements; and the connection between the two is not the simple coincidence of two successive events. There must be a principle in the organism which ensures that the learning experience will have a general relevance."[43] Animals can just like human beings intentionally shape their own world. According to Merleau-Ponty the body, of both the human and non-human animal, has a tendency to answer to certain invitations of its situation in such a way as to reach an optimal configuration. The body is a "totality of lived significations that moves towards its equilibrium."[44] It is blind because it is not vital in the sense that there are actual goals as representations present, but it is still an expectation because the body is directed towards this dynamic equilibrium that results in a purposive action.[45]

So what exactly distinguishes the body from a mechanism, which could also be an equilibrium, a physical equilibrium? Why is it so important for Uexküll and Merleau-Ponty to distance themselves from mechanist descriptions of the body? I think the difference lies in the fact that in the physical equilibrium the unity results from the elements without there being any directedness for being in favor of itself as a unity. The

41. Timothy Mooney, "Plasticity, motor intentionality and concrete movement in Merleau-Ponty," *Continental Philosophy Review* 44 (2011): 359–381.

42. Maurice Merleau-Ponty, *Themes from the Lectures at the Collège de France, 1952-1960*, trans. John O'Neill (Evanston: Northwestern University Press, 1970), 97.

43. Merleau-Ponty, *The Structure of Behavior*, 99.

44. Merleau-Ponty, *Phenomenology of Perception*, 190.

45. Merleau-Ponty, 186-190.

mechanism simply reacts to external givens. In the body we see something more, as the multiple examples in *The Structure of Behavior*[46] show. We see that the adaptations, the developments that take place in the body are such that they benefit the body as a whole, even though it may not have local benefits to such an adaptation. In doing so the body is however still dependant on its material aspect, and besides that the change mainly happens when vital functions are at risk. Developments in the body are such that they benefit the body as a whole and that is a form of self-regulation that goes beyond any mechanism. This is again the self-regulation that Uexküll mentions and may have intended, but has only been worked out in such detail as for how it works in the body by Merleau-Ponty.

Many studies of animal behavior, like the descriptions of Koffka and Uexküll's theory of *Umwelten* have led Merleau-Ponty to the idea that animal bodies have, just like human bodies, a subjective layer that allows them to have an environment which they can perceive and act upon. The body actively adjusts itself, for example in the functional reorganization of the beetle, or by applying certain learnt movements into a new situation, like the dog's transposing behavior. This means that the acts of the animal are not only based on the current situation that the body is in, but on past experiences as well. Therefore the interpretation of the acts of the animal, should always be considered within the historical, total given of the animal. An important consequence of that conclusion is that every living being truly is unique, by means of its own historical background. And this plays a crucial role in the way that the animal perceives its environment and the way that we perceive the animals that we try to comprehend. It is not only the acts that are defined by the vital needs of the animal, but also the perception itself is designed in a way to suit the optimal organization. This has crucial consequences for the environments that we try to understand, as subjectivity plays a crucial role in its own perception. No longer can we see the animal and the environment as two material masses interacting in a purely reactive manner. The animal manipulates its environment by its actions. For us it is important therefore look for possibilities to unlock such subject-environment accordance.

# 3 The *Umwelt*

Subjectivity is a problem for our understanding of the animal world, but it may also be the key to it. It is the problem because no longer we can see the world as a unitary field open to all subjects in the same manner. No longer is there the existence of one single world existing by itself (regardless of being perceived by us or not), made out of objects which the perceiving beings may or may not perceive. The only world that opens up to the subject is a subjective one, as the thought of Kant teaches us. However, studying the relations between the subject and the objects around it (in contrast to a study that sees the objects within the environments to be essentially the same things) may be the key to a more righteous understanding of the animal's environment. It means that the subjectivity of the animal should be included in the study of it. Understanding the relation between the subject and the perceived world, as is explained in Uexküll's theory will help us gain understanding in how to interpret the presence and viewpoints of other humans and ultimately all other forms of life which present themselves in our personal perceived environment.

46. Merleau-Ponty, *The Structure of Behavior*.

## 3.1 Uexküll's theory of the *Umwelt*

Merleau-Ponty praises Uexküll's theory of the *Umwelt* precisely for understanding perception to be always related to one's own subjective experiences, and for saying that the human perception is no exception in that. Merleau-Ponty does not say that all that there is, is my subjective environment and nothing more, no nature around me. What he means to say is that nature is never completely open for everyone's experience and that it never will be. Every animal sees the object only by means of its own personal viewpoint. So even though there is nature around me, it appears as viewpoints only and is never something objective hiding behind the perception. Also for Uexküll, there is no reality other than the reality of each individual animal, that is, the *Umwelt*, which I will translate as environment, following Joseph D. O'Neil's translation of Uexküll's work.[47] It portrays the world surrounding the animal, from the perspective of the animal itself, so as it appears to the animal. This is to contrast a *Welt* or *Umgebung*, which shows the objective world, so the things as they are regardless how the animal perceives it. Whether such a *Welt* exists at all, and the question of whether one could enter such a world are important, but such questions cannot be answered without analyzing the *Umwelt*, that is the subjective world, first. Since all appearance is subjective, not all aspects of the world, or of the direct *Umgebung* are part of these subjective experiences. The animal subject forms a transductive relationship with its surroundings, creating its own unique horizon. To explain his relationship, Uexküll takes the reader with him on a stroll:

> We begin such a stroll on a sunny day before a flowering meadow in which insects buzz and butterflies flutter, and we make a bubble around each of the animals living in the meadow. The bubble represents each animal's environment and contains all the features accessible to the subject. As soon as we enter into one such bubble, the previous surroundings of the subject are completely reconfigured. Many qualities of the colorful meadow vanish completely, others lose their coherence with one another, and new connections are created. A new world arises in each bubble.[48]

To exemplify one such a bubble, Uexküll presents rich descriptions of a tick (Ixodida). The environments of ticks are relatively confined, he explains. Their task is to climb up a branch to wait for mammals to appear. Once the smell of butyric acid is noticed, a scent produced by all mammals, the tick relaxes its legs and drops itself. This leaves two options: the feeling of warmth, which indicates that it has landed in the right place, or no warmth, which means the tick will climb back up a branch to start the same ritual again. If it landed on the mammal, it bores its head in the skin to suck as much blood as needed for her eggs and then drop to the ground to lay her eggs and die.[49]

However, besides studying these general characteristics of the tick, Uexküll's goal is to enter the *Umwelt* of the tick, that is to understand the subjective view of the tick. This means we would have to start from the landscape of the tick as the way this particular tick perceives it. If we imagine one tick to sitting on a fern leaf in the woods, we can also try to imagine what the things will look like for the tick. The *Welt* of the tick is as good as non-existent. Some qualities that we perceive in our encounter of the tick are to be left behind and other qualities and connections will appear. For example the color of the fern that the tick is sitting on we will have to leave behind. Ticks are blind and thus is visual perception not a part of their horizon. Also things like the moon, or the weather have little to no meaning for the tick, and are therefore simply

47. Uexküll, *A Foray into the Worlds of Animals and Humans.*
48. Uexküll, 43.
49. Uexküll, 44-45.

not there for the tick. On the other hand the scent of butyric acid will appear as a new connection, one that plays no role, or at least less, in the *Umwelt* of the human perceiver. The *Umwelt* of the tick is not a fixed external world that partly opens up in the tick's close space. It is a self-centered world and thus related to the tick itself. Some aspects of the tick's *Umwelt* may be species-specific, or even specific for the whole order, like in the general description of the tick above. There may be for example a morphological characteristic of the whole order that allows for a similar construction of effectors and receptors. An example of this is the fixed number of seven cervical vertebrae in all mammals, or the release of butyric acid in all mammals, which is of great importance for the tick.[50] Other aspects, however, may differ on an individual level. If we take the dog species as an example, we see many different races with a wide range of race-specific properties. An Australian Sheppard is bred for a different job than a Fox Terrier and therefore they have a different race-specific *Umwelt*. But then again, the *Umwelt* of one individual Australian Sheppard is still different from the *Umwelt* of another Australian Sheppard. For the completeness of the term, it is best to not explain the *Umwelt* as species-specific worlds, since all the different layers—individual, race, species, family et cetera—are enveloped in it. The same goes for the tick. The *Umwelt* of the tick that managed to fall onto its prey is different than that of the tick that failed. The feeling of warmth or hairiness is at this moment not part of the *Umwelt* of the failed tick. This example of the tick shows how every individual animal has a unique perception of its environment and none of it involves the *Welt* as a world in itself. Instead every individual perceives certain aspects of the world, while certain other aspect are simply not there for it. Every animal and also the human being has such a unique environment, one that is open to certain perceived things to which another being is perhaps not open to.

## 3.2 The meaningful organization of the *Umwelt*

With understanding the *Umwelt* as the personal viewpoint of the animal the question remains by which principles an *Umwelt* is defined. The *Umwelt* is not simply the part of the *Welt* that happens to catch the animal's eye. So what, then, creates the *Umwelt*? This has to do with meaning and brings us back to the subjective aspect of the animal. Uexküll explains that the *Umwelt* must not be parted from the subject. Both influence each other to the extent that they are interdependent. The subject and the *Umwelt* evolve as a unitary structure and therefore "it is immaterial where we begin. All things within it must react on one another. So we may begin either by studying subjects, or by investigating their appearance-worlds. The one could not exist without the other."[51] With each new organism, a new *Umwelt* comes along. As such they must be understood in a holistic fashion.

The relations within this subject-*Umwelt* structure are meaningful relations. Uexküll criticized Darwinism for a lack of understanding the animal being on its meaningful account. He says that the process of variation and selection of stimuli alone do not yet explain why these stimuli are meaningful. There needs to be more to account for the reason that some stimuli are meaningful for the animal and others are not. There needs to be a capacity for reception in the animal that allows a stimulus to have a meaningful appearance. Meaning does not belong to the object only: an object is not by itself meaningful or not. A stimulus is meaningful only if there is an inner disposition for being received, according to Uexküll. Therefore Uexküll would not speak of animals as stimulus-response mechanisms. Animals are semiotic agents.[52] Things appear to

50. Uexküll, *Theoretical Biology*, 187-189.
51. Uexküll, 71.
52. Araújo, "Structure, sign and Uexküll's theory of meaning."

the animal within the specific meaningful organization of the *Umwelt*. It is within the unity of the personal environment that something becomes meaningful for the animal. The animal perceives its environment therefore not as in-itselves, but in terms of what it means for the animal. He says that the stimulus should be understood as a sign. The *Umwelt* represents such a system of signs. "Behaviors are not mere movements or tropisms, but they consist of perception (*Merken*) and operation (*Wirken*), they are not mechanically regulated, but meaningfully organized."[53]

The *Umwelt* consists of a perception world (*Merkwelt*), which is everything that the subject perceives, and an effect world (*Wirkwelt*), which is everything that the subject produces. The perception world and the effect world represent the elements that carry a significance for the animal, respectively as to perceive or to act upon. This significance of perception is represented by the perception signs (*Merkmalen*) and the significance of action by the effect signs (*Wirkmalen*). The animal has interest only in that which is significant to it and therefore the perception- and effect signs are the only things that exist for the animal at all. In other words, it is only through these signs that the animal is related to the objects that surround it, and there is no other relation. Examples of perception signs are the scent of butyric acid and the warmth of the skin. The perception organ of the animal exists of perception cells which receive such perception signs. These perception signs come together in units that become the quality of an object. For example 'blue' can become the 'blueness' of the sky or of the water. And we may then recognize the sky or the water from its blueness. The same happens for the effect signs, such as the wound that the tick creates in the skin of the mammal, which make up the effect world. There are effect organs in the body of the animal which produce effect signs. Similarly to the perception signs, the units of the effect signs are carried by the object as a quality. The mammal, which is an object for the tick, is something to which the tick can inflict such a wound. The mammal is the carrier of a feature, just like the water and the sky. The mammal is a carrier of an effect sign for the tick, in its susceptibility to be wounded by the tick, as well as a carrier of perception signs, by producing warmth and the scent of butyric acid. If we zoom in on the mammal however, we see that it is just a specific part of it that produces the warmth and another specific part that allows for injury by the tick. They are therefore different qualities and nonetheless they are connected to each other through the structure of the mammal. By inflicting a wound in the skin of the mammal, this effect sign simultaneously influences the mammal in a way that the perception signs are altered. The mammal may smell or feel different to the tick after boring the head into its skin. As such, the tick has a transformative effect on the perception signs of the mammal. "Since all qualities of an object are connected with each other through the structure of the object, the qualities affected by the effect mark must exert their influence through the object upon the qualities that are carriers of the perception mark and have a transformative effect on the perception mark itself. One can best sum this up this way: The effect mark extinguishes the perception mark."[54] These dynamical influences from both sides together form a structure that Uexküll calls the functional cycle. The functional cycle connects the object (mammal) to the subject (tick). The mammal, which is the carrier of meaning for the tick, becomes the complement of the tick. And some of its properties play a more important role as being carriers of perception- or effect signs than others. Some only have a supporting role.[55] "For, in the environment of animals, every carrier of meaning is utilized through perception and effectuation. In every functional cycle, the same perception-effect process is repeated. Indeed, one can speak of functional cycles as meaning cycles whose task is

53. Jakob von Uexküll, "The Theory of Meaning," *Semiotica* 42 (1982): 25–82.
54. Uexküll, *A Foray into the Worlds of Animals and Humans*, 49.
55. Uexküll, 145-146.

determined to be the utilization of carriers of meaning."[56] The role of the object, here the mammal, is nothing more than to posses the necessary features, that is the perception- and effect signs. The object itself, if it exists at all, for sure does not exist for the tick.[57] The perception- and effect signs express a utility for the organism. Meaning has for Uexküll a very pragmatic sense. The production of significance results therefore from it's being useful in the *Umwelt* of the animal.

Even though every subject is able to self-organize, this organizing remains in relation with the *Umwelt* that influences the subject. It is because of the *Umwelt* that such a cycle can be formed. The animal's subjectivity, that is its natural tendency to self-regulate, allows it to answer to the things in its *Umwelt* and by doing so, closing the circle of this functional cycle. Without the self-regulative principles of the subject, the cycle would be a mere physical reactivity to external forces. The reflexes of the tick may be activated objectively through physico-chemical effects. However, the important question is why out of a hundred effects that the mammal's body could emanate, only those three that are important for the tick become feature carriers, or stimuli. From the enormous *Welt*, only three stimuli seem to target the tick. This is according to Uexküll because the tick has been given only a very confined *Merkwelt*, with only three perception signs that it uses as features. "Through these features, the progression of the tick's actions is so strictly prescribed that the tick can only produce very determinate effect marks."[58] And the poverty of it's *Umwelt* allows the tick to respond with more certainty, Uexküll explains, and that is for the tick more important than richness.[59]

What makes the environment of the animal unique, is the meaning that certain objects have for the subject. This is not a one-way street in the sense that the perceived environment is never completely determined by an object in itself, nor by the subject. It is not simply the subject that determines what is meaningful and therefore shapes its world, but also the objects that produce the signs. So it is meaning and not simply the stimulus that is at the core of the perceived environment.

## 3.3 Perception in the form of *Gestalten*

It is clear for Uexküll that the body and the perceived environment can only be seen together and not separate. And together they form a structure of meaningful cycles between the subject and its environment. Merleau-Ponty emphasizes, just like Uexküll, that the perceiving subject plays a crucial role in the appearance of the environment. Uexküll's theory of the *Umwelt* has played an important role in this idea regarding animals, but Merleau-Ponty's references to *Gestalt* psychology should not be neglected in this regard. Most importantly, both the theory of *Gestalt* and the theory of the *Umwelt* emphasize the role of structure in the living being as well as the perceived environment as being related to the living being. *Gestalt* psychologists such as Adhémar Gelb, Kurt Koffka, Max Wertheimer, Wolfgang Köhler and Kurt Goldstein have influenced Merleau-Ponty's view of the human body. In general *Gestalt* psychology denounces that the stimuli enter the body uncensored and proposes instead that there is already a selection in stimuli taken by the body. Perception is not just the coming together of sensations of the psycho-physiological nature. We perceive only if the body structures this perception first. Therefore, what one perceives is not just a summation of sensations, but a configuration (*Gestalt*), or a structure. Merleau-Ponty explains the *Gestalt* as "a spontaneous organisation of the sensory field which has supposed 'elements' dependant on 'wholes' which are themselves articulated within more extensive wholes. This

56. Uexküll, *A Foray into the Worlds of Animals and Humans*, 151.
57. Uexküll, 46-49.
58. Uexküll, 51.
59. Uexküll, 47-52.

organization is not like a form imposing itself upon a heterogeneous matter; there is no matter without form; there are only organisations, more or less stable, more or less articulated."[60] The perceived phenomena form a structure that functions as a field that the perceiving being can play upon. Merleau-Ponty gives numerous examples showing that the field of perception for humans is based on a configuration that is not the sum of the parts. Different objects of perception are interrelated according to certain structures, like the figure-background structure, or the fact that certain objects appear to be forming a group etc. Again I will take it upon myself to show that many of such structures, like the figure-background configurations, apply to all animals by showing some examples given by the *Gestalt* psychologist Köhler, the biologist Buytendijk and a more recent study of vision in bees.

Wertheimer gave multiple examples using different figures in which the *Gestalt* tendencies came forward.[61] From this he formed the fundamental principles of such organization.[62] An example is presented by Christian von Ehrenfels about *Gestalt* qualities in a melody. He shows that the body is easily able to remember complex melodies while failing to remember simpler non-melodical arrangements of tones. The mnemonic memory, like the fact that our memory for melodical and harmonical tones is much better that that of the single musical elements, is according to Ehrenfels based on a *Gestalt* structure.[63] If the melody is nothing more than the sum of certain tones, then how come the same melody can be played on complete different keys, each representing a certain tone, on a piano? This question led Ehrenfels to the belief that there was a certain founded content, the *Gestalt*, that conditions the certain tones.

This example shows that there is a level of organization present in the perception that does not owe to the single stimuli. It is not singular sensations glued together to form a unity, but the unity that conditions the association of these details. Already at the level of perception there is unity. Also according to Merleau-Ponty the complex structure of the perceived is not build up from single sensations, because the elements of perception are not homologous determinate parts, but influenced by their background. The whole, the connections in the perception, the contiguity and resemblances are not the result of an association of individual stimuli, but rather other way around; the unity of the perceived things precedes the condition of association. Therefore the most basic unit one can designate is a complex structure. As a result from this conclusion, the question of the meaning of a certain color, or the meaning of color-vision in general, for a certain animal, involves taking in mind that this color may appear meaningful in one contextual environment and yet mean nothing in another. The signification of the parts of perception, in this case the color, depends on how it is embedded in the unity of perception.

Merleau-Ponty's research of child perception is interesting in this respect. Children

60. Maurice Merleau-Ponty, "The Nature of Perception," trans. Forrest Williams, *Research in Phenomenology* 10 (1934): 9–20.

61. Mitchell G. Ash, *Gestalt psychology in German culture, 1890-1967: Holism and the quest for objectivity* (New York: Cambridge University Press, 1995), 224-231.

62. The first two laws Wertheimer presented were the one of *Prägnanz*, which states that the perceptual field is structured in the simplest and most impressive structure possible, and the law of proximity, which states that when a person perceives a set of figures, that the figures which are close to each other will be perceived as to form a group. Next there is the law of similarity, which states that in a set of figures the ones that are similar are perceived as a group. The law of closure states the tendency of completeness, for example if only parts of a certain figure, like a circle or a snake, are shown that it will still at first be recognized as being that figure. The law of continuation states that if for example two figures, like two lines, cross, that they form two uninterrupted figures instead of one, because they have an abrupt different direction. Other *Gestalt* laws are those of past experience, which states that stimuli are organized and categorized according to past experiences, and music, which states that people can recognize a sequence of notes despite being played in a different key.

63. Christian von Ehrenfels, "On Gestalt-Qualities," in *Foundations of Gestalt theory*, trans. Barry Smith (Vienna: Philosophia Verlag, 1988), 82–117.

have a more holistic form of perception than adults, he says. His thought contradicts the idea that the unities in perception are formed out of elementary stimuli, because when we look at the perception of the child we see precisely the opposite. The child sees its environment in a holistic fashion, and by means of attending, studying and so learning the objects, it will start to discriminate the object as being a thing in-itself.[64] Perception in adults is more developed and bound to local stimuli in accordance with the theory of sensation—which we see in empiricist view of perception—than the perception of the child.[65] The discrimination of figure-background unities is a learning process according to Merleau-Ponty. When the child learns to distinguish the yellow color of the flower, it direct its attention towards it consciously. It actively constitutes the flower as a figure. As soon as the child orients towards the object, it can determine certain properties of the object that were indeterminate in the background beforehand.[66] The assumption that the child does not yet see the yellow color of the flower at an early stage as the result of confusion over the color names, is wrong according to Merleau-Ponty. The child must have seen the color where it is, but it has not yet actively put attention to it. The yellow color was indeterminate in the background for the child instead of a precise quality of the flower itself. Attention allows one to originate a new dimension of the flower by taking it as a figure—a dimension that is read back to pre-established relations with the flower—instead of clarifying the pre-existing givens as empiricism would take it to be. This reading back shows the historical aspect of perception. That what is pre-formed is the horizon of previously established figures as attention moves from determining one aspect to the other. As such the child one by one constitutes the flower as an object by its use of transition synthesis. "The miracle of consciousness is to make phenomena appear through attention that reestablish the object's unity in a new dimension at the very moment they destroy that unity."[67] By this fixation method the perception of the flower becomes a thing. The child takes the objects upon itself and constructs its own environment, its own objects, what was before merely offered as an indeterminate horizon. The act of attention provides the power to fix the flower. Understanding the figures of its attention together to make up the ultimate flower is a mistake according to Merleau-Ponty. It lives the illusion of thinking that it can overcome the indeterminate by attending all perspectives and adding them together as the pieces of a puzzle. Children lack such objective judgements that adults have developed. Their world therefore does not appear yet as an objective world, but rather as the pre-objective world.[68] We should therefore rather say that the child precedes intellectual judgement instead of lacking it. The child's world is phenomenal precisely because for it there is nothing outside of perception. Merleau-Ponty emphasizes that such attention of the child does not require any reflective consciousness. He says that "[c]onsciousness must be brought face to face with its unreflective life in things and must awaken to its own, forgotten history—this is the true role of philosophical reflection and this is how a true theory of attention is established."[69]

This process of forming figures has led the human being eventually to something that Merleau-Ponty calls perceptual faith. In *Phenomenology of Perception*[70] Merleau-Ponty explains how perception has a natural tendency to focus on the perceived things which, according to him, often results in the oblivion of the role that the perceiving being itself plays in these phenomena.[71] Perceptual faith is the belief that the world appears to us

64. Merleau-Ponty, *Phenomenology of Perception*, 35.
65. Merleau-Ponty, 35.
66. Merleau-Ponty, 54-56.
67. Merleau-Ponty, 55.
68. Merleau-Ponty, "The Nature of Perception."
69. Merleau-Ponty, *Phenomenology of Perception*, 56.
70. Merleau-Ponty.
71. Merleau-Ponty, 55-65.

as an in-itself, so that the world is as it appears to us.[72] If someone were to ask me to describe what a certain flower, I will most likely focus on the physical properties. I might mention the size, the colours and other descriptions of how the flower is built up physically, while leaving out aspects like how it smells like my grandmother's garden. I filter these out, because they are personal. I "leave behind my individual life by grasping the objects as an object for everyone,"[73] but according to Merleau-Ponty one forgets then, that in the end all of my perceptions are at first personal. The flower's physical presence is but a mere result of my act of objectifying the perceived phenomena into a stable construct of objects in-themselves. Therefore one must make sure that the evidentness of the physical reality is not "cut off from its perceptual origins".[74] It is the natural world of experiences that gives birth to such an objectivity. And the evidentness that we see in the empiricist view does no longer focus on what is seen, but on what is ought to be seen when I look at the flower.[75] The physical aspects of the flower are just one side, or layer, among the richness of all the other sides that the flower presents. And while caught up in our perceptual faith we "are not prejudging the relation that may exist between these different 'layers,' not even that they are 'layers'".[76] The nature that I perceive becomes then a pure exteriority, with an individual existence independent of my subjective perception.

The question that we can ask ourselves here is whether animals also have such a way of forming figure-background structures. We have seen that children develop in such a manner and even to the extent as to construct out of all the perceived phenomena a thing-in-itself. The development that Merleau-Ponty describes here, from a pre-objective world to an objective world, refers to the human perception only. He does not speak about the non-human animal here. However, I think this passage is very relevant in our understanding of animal perception, although one has to be careful not to anthropomorphize the non-human forms of perception here. It is difficult to say something about the objectivity or pre-objectivity in the animal's perception, hence there being a figure-background configuration for animals at all. It is hard to deny that animals have non-reflective forms of perception, but that does not mean that it develops in the same way as it does in humans, that is by forming a figure-ground relation by means of attention, as Merleau-Ponty explains it. Certain experiments however show us that animals have perception in the form of *Gestalten*, that is in the form of meaningful figures which are related to a meaningful background.

Frederik Buytendijk describes in *Psychologie der dieren*[77] that bees tend to not orient on single objects in finding their way back, but instead on the environment as a whole. Both bees and bumblebees imprint their local environment before flying out in order to find the way back to the hive. However, removing specific objects from the environment of the hive, or from the hive itself, does not complicate finding the way back for the bees. This seems to imply that it is not, or at least not only, single objects that appear as a landmark, but a configuration of multiple perceived objects. This could even be a configuration existing of cross-modal interactions, which are interactions from different sensory modalities, such as smell, taste, sound et cetera. Attraction towards flowers even seems to be based on cross-modal perception depending on the distance of the flower.[78] More recent studies of bees confirm such a configural perception to be present in bees.

72. Maurice Merleau-Ponty, *The Visible and the Invisible: Followed by Working Notes*, ed. Claude Lefort, trans. Alphonso Lingis (Evanston: Northwestern University Press, 1968), 26-27.
73. Merleau-Ponty, *Phenomenology of Perception*, 66.
74. Merleau-Ponty, 66.
75. Merleau-Ponty, 55.
76. Merleau-Ponty, *The Visible and the Invisible*, 158.
77. Frederik J.J. Buytendijk, *Psychologie der dieren* (Haarlem: De Erven F. Bohn, 1920).
78. Buytendijk, 134-135.

Adrian G. Dyer writes that a study[79] with a Y-maze shows that the bee's perception is focused on a global view instead of smaller local traits. It turned out that the bees preferably chose the global figures over the smaller figures.[80] Such experiments do not prove that perception is fundamentally holistic since the opposite also appears in nature. Some animals appear to focus on local traits. Buytendijk explains that certain wasps of the Crabronidae family find their way back by orienting on the little rocks which they use to lock off their nests in the ground before leaving. The preference of the animal to focus on smaller or bigger configurations seems to be a matter of style.

However, using the framework of the *Gestalt* psychologists and Merleau-Ponty's elaboration of it, I would argue that such a holistic perception performs at a more fundamental level than a mere preference of the animal. According to Buytendijk it is not the single observations that are most primary in the animal's perception, but a complex whole from which these single observations may arise and appear meaningful.[81] The *Gestalt* structure is a fundamental aspect of perception and defines the style of an animal. It defines the animal's preference to focus on local or relational aspects of its environment. Categorizing animals into *Gestalt*-preferring perception or local trait preferring perception does not do right to the *Gestalt* framework as described by many *Gestalt* psychologists and further elucidated by Merleau-Ponty. It is within the nature of perception to be configural, Merleau-Ponty argues, even when it comes to 'single' sensations. "What we call 'sensation' is merely the most basic of all perceptions and, as a modality of existence, sensation can no more than any other perception be separated from a background that is, ultimately, the world."[82] Merleau-Ponty's phenomenological view of perception envelops the idea that a sensation is not a *partes-extra-partes* thing, not a thing in itself, but related to the subject and the environment that it is part of. Perception is the lived relations of one's own body with its environment. It envelops according to Merleau-Ponty the body's intentions, past experiences and viewpoints. This all forms the background of the specific object perceived, a background that determines the appearance of the particular object. Thus, for Merleau-Ponty it is this figure-ground structure that is a particularly striking aspect of the perception. It is precisely this point that underlies many of the critique coming from *Gestalt* psychologists like Koffka about Thorndike's puzzle-box. The stimulus, that was taken as the figure in the experiment, was often presented to the animal as a single stimulus only. There was often no background that allowed the stimulus to speak to the animal, to be be meaningful for it.[83] Stimuli make sense only within the specific context that they are part of, and ripped away from it they become empty. It is within the particular configuration of the perceived environment that an object is perceived a certain way. So also in the case of the wasps, which at first seem to have a non-holistic tendency of perceiving their environment, the little rocks appear in the form of configurations. Yet, as Merleau-Ponty might argue, given the quote above, the significance of the little rocks cannot be fully

79. Researchers had created an experiment for testing the processing of complex information. This consisted of a Y-maze, which is a tunnel with at the end a decision chamber and two more tunnels with a reward that the bee can take depending on its decision. In the decision chamber the bees were presented two figures. The first figure was a big square made out of smaller upstanding triangles and the second figure was a big diamond shape made out of small inverted triangles. The bees learned both the square and diamond shape as well as the upward and inverted triangle. Then the bees had to match one of these figures in the decision chamber with another figure in the beginning of the tunnel. If they were given in the beginning of the tunnel the figure of for example a big square out of smaller inverted triangle, so a combination of both figures, then one could observe if the bees base their decision on the bigger square figure, or the smaller triangles. The other combination, the big diamond shape out of smaller upstanding triangles, was also presented and had the same effect.

80. Adrian G. Dyer, Scarlett R. Howard, and Jair E. Garcia, "Through the Eyes of a Bee: Seeing the World as a Whole," *Animal Studies Journal* 5 (2016): 97–109.

81. Buytendijk, *Psychologie der dieren*, 81-83.

82. Merleau-Ponty, *Phenomenology of Perception*, 289.

83. Koffka, *The Growth of the Mind*, 245-247.

attributed to these rocks as figures themselves, but instead will be partly determined by the indeterminate background for the wasp. These local traits are embodied within a background—like surrounding rocks or other objects, certain past experiences of the wasp with these rocks or certain innate tendencies—to which it is closely related. It takes the little rocks to be the figures against which the still indeterminate background remains hidden. So a configuration is the form in which an environment appears to the animal, whether the animal is focused on local traits or not.

Animals perceive, just like humans, their environment as configurations. It may not have the objectifying result as is the nature of the human being, but the experiments of the *Gestalt* biologists show clearly that there is a transfer of meaning present in the object that surround the investigated animal and that they create figures as means to a certain end, based on the whole structure. For Merleau-Ponty the objects in the animal's environment always appear as figures against a background. The stick of the chimpanzee in Köhler's experiments, the loop of the dog in Hobhouse's experiment and the little rocks of the wasp explained by Buytendijk are all figures in this sense. Their significance refers to the total situation of the specific animal in question and does not belong to the object itself, for the same object may lose this significance in another situation or in the eyes of another animal. And one can try to ascribe all such qualities to the object, but this form of objectification, which Merleau-Ponty advocates to be exclusively human, will never show the original being of the object. One has to always keep in mind that every living being has a unique viewpoint and therefore sees the object of its environment in a unique way.

## 3.4 The dialectic between the animal and its *Umwelt*

Every animal builds around itself an environment by actively positing certain phenomena as figures, while leaving other phenomena undetermined in the background. This is a very fundamental aspect of perception and goes for both humans and animals. Perception is always from a certain perspective and everything we perceive relates to a certain context; it is read back according to previous experiences. This is again related to Merleau-Ponty's concept of the body schema. It shows that humans, nor other animals, live in the moment, but are instead historical beings. Previous experiences play a role in the animal's current perception. The perceived phenomena appear within this context that is provided the body schema. As being part of this context things appear meaningfully. As a result of perception being a configuration, the significance within perception can neither be explained as being imposed by the animal subject itself on the passive, by itself meaningless, elements (like ideas), nor as fully dependent on present pre-existing givens, that is, things that are by themselves meaningful regardless of my experiences of it (things-in-themselves). Therefore Merleau-Ponty would not speak of a pre-existing world that opens up to the subject, but the perception unfolding itself as being the root for the development of both the perceiving being and the perceived environment.

The animal is passive and active in its ability to influence its environment by being a subject that has a tendency to self-regulate—and therefore also shape the environment according to its own needs—and is at the same time dependant on the signs presented by the environment, like the mammal for the tick. The animal can actively shape its environment according to its own taste and will yet be dependant what the environment presents to it. Merleau-Ponty acknowledges a type of creativity to be present in any perceived world and thus also in our animal others. In *Nature* he speaks of an architecture. "In virtue of its endogenous initiative, the organism traces out what its future life will be; it sketches out its milieu (*Umwelt*); it contains a project in reference to the whole

of its life."[84] As the animal is not merely a mechanism, but has instead the endogenous character of self-regulation according to the needs of its own structure, the environment will also be experienced in this regard. The animal perceives the environment in terms of its own needs. This is not a passive perception, because things are not by themselves meaningful, but they appear meaningfully to the animal. The animal's perception is active. The tick actively constitutes a milieu that allows it to obtain blood from a mammal by focusing on three stimuli only, while leaving other stimuli behind, which help it live up to that need.

Already in the functional cycle of Uexküll we see the dialectical relation between the animal and its environment. Also according to Merleau-Ponty the body of the animal forms a dialectical relation with its environment, as a creative creation, and follows the law of its internal vital needs; it is an intra-being, determined from within, as Merleau-Ponty would call it. The structured whole of the body is constantly looking for a balance between the body's vital goals—which are not absolute, but rather an overcoming of distortions based on its own lived experience—and what it is given in its perceptible situation. This process is always short-sighted, due to the body's perspectival and therefore limited access to the full situation that it is in. Behavior acts upon a perceived world and this perceived world on its terms is actively shaped by a certain behavior. As such the body and the world are co-extensive according to Merleau-Ponty. The environment requires for the body to have a certain configuration, and the action of a living being is the completing of such a configuration. Therefore does the body not only constantly move towards this optimal configuration, it also constantly reforms what counts as an optimal configuration. The body acts after its motivation to get maximal grip on its world.

> My body is geared into the world when my perception provides me with the most varied and the most clearly articulated spectacle possible, and when my motor intentions, as they unfold, receive the responses they anticipate from the world. This maximum of clarity in perception and action specifies a perceptual *ground*, a background for my life, a general milieu for the coexistence of my body and the world.[85]

We see here an intertwining, a crossing of two lines, that is of the line that represents the body's vital goals and the line that represents the body's perceptible environment. There is not simply a subject that enacts on the environment, nor is the subject the mere result of its environment. The subjective body is precisely the intertwining of those two; a dialectic weaving of two threads. This interweaving shows the relation between the animal and its environment. It shows how the environment of the animal appears in the form of *Gestalten*, where the meaning of an object depends on the way that it is embedded in the unity of the animal's environment and its own vital needs.

For the subject the environment appears as a configuration, where certain things appear as figures as they are meaningful in the subject's current position and other things remain in the background or do not exist for the subject at all. The animal subject actively shapes its environment according to what is meaningful for it and as such certain formations like the figure-background appear. This shows how every environment is unique as it depends on the animal's own subjective viewpoint, as well as the environment which influences the animal by presenting certain signs.

84. Merleau-Ponty, *Nature*, 151.
85. Merleau-Ponty, *Phenomenology of Perception*, 298.

# 4 The other

Now that we have elaborated on how, despite the differences, each perceiving being, including the human being, relates to the environment around it, we come to the point of trying to understand how the other appears in this environment. Because what is certain for both Uexküll and Merleau-Ponty, is that there are other subjects with their own viewpoints which are different from our own viewpoint. How do these different *Umwelten* relate to each other and what happens when they meet? This question brings us back to our main question as it is the meeting of our own human *Umwelt* with the animal's *Umwelt* that we are questioning here. We can now analyze whether the conception that every subject has its own *Umwelt*, results in a incapability to understand the *Umwelt* of other living beings, like animals. Are we locked up in our own *Umwelt*, or can we transcend our own *Umwelt* and study what other animals perceive?

## 4.1 Nature as a melodic unity

In order to understand what different animals with different viewpoints mean to the other animals, we have to go back to the role of meaning. The environment, and therefore also the other which presents itself as part of the environment, appears in the form of signs. Uexküll often speaks of tones instead of signs to emphasize that the meaning of the sign is related and even depends on the way that it is embedded in the whole ensemble of other signs, like tones in a melody. "Everything physical can be cut with a knife—but not a melody. The melody of a song played on a free carillon of, living bells remains unchanged, even if it only controls half the number of bells."[86] Since the *Umwelten* of animals are meaningfully organized, they will be different for every species depending on what is meaningful for that species. The experiment of E.G. Sarris with dogs shows this diversity of *Umwelten*. A dog was trained to jump on a stool when given the command "chair". After the dog learned the trick, the stool was taken away and the command was given again. It turned out that the dog treated many other objects in the room as chairs, for he easily jumped on the boxes, shelves or overturned footstools. All these objects had acquired the sitting-tone for the dog, in fact specifically 'canine-sitting', because many of these dog-chairs would not be proper chairs for humans. The swivel stool did not acquire the sitting-tone for the dog, because it was too smooth. The special tone that an object has for a subject, relates to the acts that the subject performs on it. The question that Uexküll asks here, is: how does the object acquire these different tones? How does the chair get a sitting-tone for the dog? How does the cup get a drinking-tone, and the ladder a climbing tone for the human? Uexküll says that we "notice in all objects that we have learned to use the act which we perform with them, with the same assurance with which we notice their shape or color."[87] So our acts define the tones of the objects. The act of sitting defines which object meets such requirements and becomes a chair for the dog. In other words, the dog understands its perceived objects by the use it makes of them, which is to be able to sit on it. The relation that the dog has with its environment is meaningful. In order to understand the *Umwelt* of the animal, one should therefore look at what the objects could possibly mean for that animal, so what tone it carries, if at all. These tones of the objects depend on the actions that the subject performs on it. And these tones of the objects for the dog, or for the tick et cetera, can be read back from such actions. "Since the effect images can be derived from the easily recognizable acts of the animals, the things in the environment of an alien subject take on a high degree of concreteness."[88]

86. Uexküll, *A Foray into the Worlds of Animals and Humans*, 194.
87. Uexküll, 94.
88. Uexküll, 95.

By jumping on the box when given the command "chair", the dog has shown that many other objects contain the sitting-tone for him, instead of just the human chair, and as such he has given something away about his *Umwelt*.

Uexküll speaks of tones to leave behind a mechanist approach towards animal behavior. "If we find it difficult to admit the influence of the one rule on the other, let us remember that, in their very nature, the rules are active factors, and so may also be called regulators. Now the analogies for these regulators are to be sought, not in the domain of mechanics, but in that of music."[89] These rules are function-rules based on what is significant for the subject as a whole. They are super-mechanical. The tones depend on the arrangement of the whole framework. The rock has a throwing-tone only by the means that the throwing subject is in a threatening situation to which such a tone of the rock can be significant for it. For the ant, this rock will never get a throwing tone. As such the tones are connected to the whole framework.

The analogy with the theory of counterpoint shines light on such connections. By speaking of tones, Uexküll includes a meaningful account of the connections between the subject and its *Umwelt*. Uexküll uses the musical composition theory as a model for the composition theory of nature. He explains that there is a contrapuntal relation between meaning utilizers instead of a mechanical relation between subjects, or between the subject and its environment. Uexkull's departure from mechanism lies in the fact that "at least two tones are necessary in order to form a harmony."[90] The musical theory of counterpoint describes a type of musical writing where two melodies, or voices, are combined. The contrapuntal style is an intertwining of individual melodies where the emphasis is on the independence of the different voices instead of their harmony. It rests on "two factors that together form a unit,"[91] such as the subject (as the utilizer of meaning) and an object in its environment (as the carrier of meaning). Uexküll understands the organism to be like the instruments producing a melody. Different organisms are connected to each other contrapuntally instead of harmoniously. The individual organism is a subject, that means it sings its own melody—it produces its own meaning, its own function-rules—and yet it is connected to other organisms in a symphony. "Like every instrument, every animal harbors a certain number of tones, which enter into contrapuntal relationships to the tones of other animals."[92] The central nervous system is analogous to a carillon and the perception- and effect signs to the tones of the melody. These tones, that an animal harbors, enter a contrapuntal relation with the tones of other animals. By perceiving and acting, the animal sings a melody of several tones, in other words, it produces different signs. What is remarkable about the tones of an instrument, is that they are not simply airwaves, Uexküll says, but "relationships of the airwaves to the human hearing organ."[93] In the same way the signs produced by organisms, such as the smell of butyric acid produced by the mammal, are not simply the presence of a certain acidic liquid, but the relationship between it and the tick's scent organ. And just like the airwaves are transformed into tones only in the human hearing organ, so does the smell of butyric acid only become a sign in the tick's scent organ. We cannot assign this smell to the mammal itself. It must be taken up in the environments of other animals, like the tick, in order to be transformed into perception signs.[94]

Uexküll gives a few examples of this theory of counterpoint. For instance the leaves of an oak tree which form a canopy with drop groove. The counterpoints are the raindrops rolling down. As for the counterpoint raindrops, the meaning is no more than a set

89. Uexküll, *Theoretical Biology*, 254.
90. Uexküll, *A Foray into the Worlds of Animals and Humans*, 172.
91. Uexküll, 172.
92. Uexküll, 187.
93. Uexküll, 187.
94. Uexküll, 187-188.

of physical rules that form the structure and path of the raindrop. The meaning of the oak's form, as a canopy, makes sense as it is related to the physical rules of the raindrop formation, and serves as its counterpoint. Both intervene each other, but as the canopy of the oak tree intervenes in the pathway of the rain drops in a mechanical way, the raindrops on the other hand intervene "compositionally in the melody of the living carillon of the oak cells."[95] According to Uexküll the organism is connected to its environment by a meaning rule which binds the two in a composition of counterpoints. Counterpoints of the tick are for example the common smell in all mammals, butyric acid, against the tick's organ that knows only this one smell. These meaningful counterpoint relations show how the things appear to the subject. As for the tick, all mammals appear as the same carriers of meaning, Uexküll explains. It has only one smell and warmth as the common denominators, which serve as the counterpoints in the tick's functional cycles.[96] "Meaning in the natural score takes the place of harmony in the musical score, which works as a conjunction or, more precisely put, a bridge in order to unify two natural factors with each other."[97] Uexküll refers to Goethe's famous poem saying:

> *Were the eye not sunlike,*
> *It could never gaze upon the sun.*[98]

Uexküll adds to this that "[w]ere the sun not eyelike, it could not shine in any sky,"[99] because for eyeless creatures there is no such thing as a sky or a sun. The spider is fly-like in his building of the web. The fly serves as its counterpoint.[100]

So animal *Umwelten* meet in their meaningful encounter. A luring tone of a bat may have such meaning for another bat, but it is at the same time a warning tone for the moth. In the same way an oak tree plays a different role in many *Umwelten*, including the human *Umwelt*. For the forester the oak tree is a potential of wood. His focus will be on whether the trunks of wood are ready to meet the axe. A fox will have a different take on the oak tree. For the fox, which built a den between the roots of the oak, the oak has become a roof providing protection for its cubs. The oak here does not possess the use tone from the foresters environment. It has no wood-tone in the *Umwelt* of the fox. Instead, it shows a protection-tone in the world of the fox. For songbirds, which sit on the twigs to sing and built nests, the oak tree offers a carrying-tone and there are many more contrapuntal relations regarding this oak. "Each environment cuts out of the oak tree a certain piece, the characteristics of which are suited to form the perception-mark carriers as well as the effect-mark carriers of their functional cycles."[101] The oak is therefore not a fixed object. It is both large and small, it serves for defense, but can also be used for offense. The oak tree is the carrier of all these characteristics that it has in the different environments. Every subject catches several glimpses of the meanings that are borne by the oak tree. The tones that they sing, the signs that they produce, resonate with other organisms contrapuntally.

The analogy of the melody shows how the subject and the environment as well as different subjects form a connected unity without losing their internal subjective aspect. Merleau-Ponty praises the analogy of the melody for showing that the unity of nature is, just like the melody, not determined from without. The melody itself unfolds, where the unity itself determines which tones form a melodic unity and which tones will result only in a cacophony, just like the tick's smell organ makes sense only in relation to the

95. Uexküll, *A Foray into the Worlds of Animals and Humans*, 173.
96. Uexküll, 171-179.
97. Uexküll, 188-189.
98. Johann Wolfgang von Goethe, *Scientific Studies*, ed. and trans. Douglas Miller (New York: Suhrkamp Publishers, 1988).
99. Uexküll, *A Foray into the Worlds of Animals and Humans*, 190.
100. Uexküll, 186-190.
101. Uexküll, 130-131.

mammal's production of butyric acid. As such the tick and the mammal are connected somehow like the tones in the melody. "'Every organism,' said Uexkull, 'is a melody which sings itself.' This is not to say that it knows this melody and attempts to realize it; it is only to say that it is a whole which is significant for a consciousness which knows it, not a thing which rests in-itself (*en soi*)."[102] The melody represents for Merleau-Ponty a unity in behavior that avoids a positing of nature as a positive phenomenon, like one big organism of which we are the organs.[103] The melody shows that it is not the past determining the future, but from the beginning of the melody, the last note is there. The unfolding of nature refers at each moment to the unity of it. One cannot point out a single tone to be the effect of the other tone in a melody. In the same way one cannot distinguish between the animal's body and its environment as the one being the cause of the other. The relation between the animal's situation and its acts is not a causal relation, or at least not a "'pushed causality' from the before to the after."[104] He emphasizes that we cannot understand behavior as moments after each other. Such an understanding will find a mechanism in the animal, but does not grasp the relation of meaning that lies behind this mechanism, because each part of the situation relates to the whole of the situation.[105]

Animals relate to each other in terms of the signs they produce and are perceived by the other. Through this they are related to each other and form a bigger unity of counterpoints. Nature altogether consists of such relations where animals appear in the form of signs for each other. The melody shows how this unity of nature with all such connections does not require a positive phenomenon, like a *Welt* in itself, to cause this unity, but that the unity is formed from within.

## 4.2 The appearance of the other

The fact that other organisms appear to us contrapuntally does not mean that we can have no understanding of their own meaningful relations. On the contrary, according to Uexküll this theory of contrapuntal relations between animals even appears to be a gateway to an understanding of them.

> If, in a given case, we possess enough knowledge of the functional cycles that connect the respective subjects with their carriers of meaning and which can count as circuits of meaning, then we are enabled to search for the counterpoints on the perception side as well as on the effect side, in order to establish finally according to which specific meaning rule the composition was done.[106]

Just like the actions of the dog in E.G. Sarris' experiment exposed certain sitting-tones in the dog's functional cycle, many other tones can be exposed by studying the dog's counterpoints. One would have to look at what the stool, the box and the chair could mean for the dog, and how, or whether at all, they are harmoniously composed together.

So what does this all say about the penetrability of other *Umwelten*? Are we not just still caught in our own human *Umwelt*? According to Uexküll we can never perceive what other animals perceive. Even though we can try to understand the function-rules of the dog we still do not see what the dog sees, smell what it smells, feel what it feels et cetera. In that regard every animal, also the human being, is locked up in its own *Umwelt*. He says the following about expanding our human *Umwelt* into the realm of other animals:

102. Merleau-Ponty, *The Structure of Behavior*, 159.
103. Merleau-Ponty, *The Visible and the Invisible*, 142.
104. Merleau-Ponty, *Nature*, 175.
105. Merleau-Ponty, 174-176.
106. Uexküll, *A Foray into the Worlds of Animals and Humans*, 172.

> Our advantage over animals consists in our being able to broaden the compass of inborn human nature. While we cannot create new organs, we can provide our organs with aids. We have created perception tools [*Merkzeuge*] as well as [effect] tools [*Werkzeuge*], which offer each of us who knows how to use them the possibility of deepening and broadening his environment. None leads out of the compass of the environment.[107]

So with all the extensively creative tools that the human kind has created in order to get a better understanding of animals, we must still never forget that "[b]lowing up our environmental space by millions of light-years does not lift us beyond ourselves."[108] Uexküll does seem to be a bit discordant in his statement about other worlds. On the one hand we have the theory of counterpoint which gives us an understanding of the meaning rules that apply in the life of another animal and on the other hand there is the inability to escape our own *Umwelt*. What is clear for Uexküll however, as he continues the previous statement, is that "what certainly does [lift us beyond ourselves] is the knowledge that, beyond our personal environment, the environments of our human and animal brethren are secured in an all-encompassing plan."[109] So there is no doubt that the the dog in the experiments of Sarris is a subject with an *Umwelt*. There is no doubt that the dog and the human researcher relate to each other like counterpoints. The theory of counterpoint does not allow us to lift beyond ourselves, to transcend our own experiences, but to further expand and deepen our own *Umwelt*, to go on an adventure and find out new things within it. And this "within it" encompasses the meaningful relations that we share with other subjects, like the dog. The fly-likeness of the spider does not mean that the spider is able to transcend its *Umwelt*, but rather that its *Umwelt* encompasses a fly-likeness. In the same way, studying the dog's meaningful connections to its *Umwelt* does not allow for a transcendence of the human *Umwelt*. Some readers of Uexküll have interpreted it to be that way however, like Martin Heidegger. Heidegger uses Uexküll's *Umwelt* theory to argue that, despite that animals are locked up in their *Umwelt*, human beings have access to other *Umwelten* and ultimately to the *Welt*.[110] I would argue however that this ability of humans simply shows how incredibly deep and intricate an *Umwelt* can be. Claiming such an ability, to enter the *Umwelt* of others and have at least a partial understanding of it, to be restricted to the human being only, is too short-sighted. It does not take the overlap that takes place between different *Umwelten* seriously. It does not take serious the meaningful relations between the snake and the rat as the close in on each other, or the tick and the mammal.

The theory of counterpoint shows that even though no animal is able to escape its *Umwelt*, there is a shared meaning between animal subjects that allows one to take upon itself the glimpses of others, as an expansion of one's own *Umwelt*. For example the fly as a counterpoint is taken up in the building plan of the spider's web. In order for the spider to build such a web that is clearly designed to catch small flying animals like the fly, it has to be fly-like. In the same way the human being catches glimpses of the dog's behavior towards the objects in the room when it is commanded "chair". The reaction of the dog has revealed a meaningful relation of the sitting tone, that extends to many objects that do not serve as a chair for the human being. No subject will ever be able to escape its *Umwelt* and as such, no subject will ever be able to understand the full coherent nature of other subjects or of the full scope of nature. And yet meaning is shared between subjects and objects as well as among subjects, which allows us, and others, to notice certain characteristics that are part of the other coherent animal

107. Uexküll, *A Foray into the Worlds of Animals and Humans*, 199-200.
108. Uexküll, 200.
109. Uexküll, 200.
110. Martin Heidegger, *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*, trans. William McNeill and Nicholas Walker (Bloomington: Indiana University Press, 1995), 347-349.

subject.[111]

According to Uexküll we cannot transcend our own subjective realm, nor can any other animal. But in admitting so, he does not tend to focus on the boundaries of the *Umwelt*. The *Umwelt* is therefore not fixed, but something fluent and dynamic, in the sense that new signs are created all the time, and perhaps some may disappear. Every organism has its own unique horizon which expresses the environment. It appears as perception- and effect sings that allow the subject to perceive and answer to its environment. New tones appear in one's *Umwelt* all the time, tones coming from the melodies that other subjects sing. And they may be caught by the ears of others by being the counterpoint of their own existence. In this manner, a meaningful relation can be established between the shark and the sardine, the rat and the snake, the tick and the mammal, the oak and the forester, and the dog and the researcher, as they come together as being significant for one another precisely by being 'other', that is, the counterpoint of oneself. We may never be able to experience things the way other animals experience it, but with that said the door is not closed. Quite the contrary, the animals can be seen as the different melodies which resonate with the other living and non-living beings. And even though it is not of his intentions, Uexküll opened up a path that leads to a phenomenological understanding of nature, one that is taken up by Merleau-Ponty. Merleau-Ponty's phenomenological approach shows how different *Umwelten* exist next to each other and how they encroach each other ontologically, as they are all part of one phenomenal realm.

Other animals appear to me as a certain style, a manner of being in the world.[112] The cat's grace and the fox's playfulness are all such styles; they are the perceptible appearances of the animal. The question remains, what such a style reveals about the animal's complete being, because for sure the animal I perceive is more than this style that I currently perceive of it. There is always a layer of anonymity that remains hidden behind every style. This is even the case in the perception of oneself. Merleau-Ponty criticizes Bergson's attempt to explain one's own body through introspection.[113] According to Merleau-Ponty the process of introspection is never complete. There is a certain anonymity in the body's experience of itself; this immediate experience contains a distance, a non-coincidence. As he says, introspection always fails at the end, because it is never able to experience its own unity in its full thickness.[114] "The body catches itself from the outside in the process of exercising a knowledge function; it attempts to touch itself touching, it begins 'a sort of reflection,' and this would be enough to distinguish it from objects."[115] Introspection does not bring us back to our original unity, but it takes a detour instead.

Also the appearance of other living beings is not an open book according to Merleau-Ponty, because perception always refers back to one's own body, one's own lived experiences and behavior. And what one perceives is a facet, or layer, of the complete style that the animal comprises. This means in no way that the animal is so to speak 'locked up' in its own bubble. Merleau-Ponty instead emphasises that styles are visible from the outside, for this particular side that I perceive of the animal still belongs to that animal. It is in that sense very much 'real'. It is however not 'real' in the sense that it is a part in in-itself. Other living beings appear to me as part of my own lived world. The grief of a friend is a lived situation for him or her, while for me it is appresented. I may also grieve, but still we are not committed to it in the same way.[116] However, the other does not appear as devoid of interior. I recognize the other by its style of behavior and

111. Uexküll, *A Foray into the Worlds of Animals and Humans*, 126-132.
112. Merleau-Ponty, *Phenomenology of Perception*, 529.
113. Merleau-Ponty, *The Visible and the Invisible*, 123-124.
114. Merleau-Ponty, *Nature*, 75-76.
115. Merleau-Ponty, *Phenomenology of Perception*, 122.
116. Merleau-Ponty, 414.

yet at the same time I do not see the other in his or her complete form.

Every living being can only be understood within the context of its own perceived environment, its personally constructed environment (*Umwelt*), unique thoughts and habits. As a result of our perspectival perception however, the animal being will appear to us as a figure against a background. This figure manifests a certain style of behavior that is perceptible for others. The full thickness of the animal remains hidden nonetheless. This does not mean that there is nothing meaningful to say about animal lives at all. It does not even mean that all scientific results of experiments on animal and human behavior can be thrown overboard. They are not wrong perceptions, no illusions. The main issue that Merleau-Ponty stretches is driven by the fact that science forms a construct out of all the visible facets and builds it up as a being in-itself. If we want to understand the environments and behavior of animals properly, we would have to acknowledge their invisibility as well.

## 4.3 The tension between self and other and inter-corporeity

In the experience of the other one sees a body that, just like itself, has a way of constructing objects to form an environment and articulating itself. In the other we do not simply perceive an object, but we perceive that the other has itself a perception and can act upon it. The other is a subject, just like me. There is a certain reciprocity in the experience of the other. Merleau-Ponty refers to Husserl's experiment of the hands, where the left hand touches the right hand and the touching-touched relation immediately becomes reversed. As soon as the left hand touches the right hand I notice that my right hand is also touching the left hand. Something similar, I perceive of the other. I experience that the perceived other is at the same time also a perceiving being. I experience the other as likewise, an experience that I do not share with the table. It is in the other living being that I experience the internal double (touching-touched, seeing-seen et cetera).[117] All of nature does not belong to me only. As the horizon opens up to me a unique landscape, so does it for others. By means of the reversibility Merleau-Ponty finds a way to avoid solipsism. I perceive the other as perceiving. "[O]ther bodies would be known by me in the same way as would be my own, they and I would still be dealing with the same world."[118] One cannot simply conclude that the horizon opens up to only one consciousness. Merleau-Ponty compares these 'consciousnesses of...' to flowers in a bouquet, where each 'consciousness of...,' with its own subjective viewpoints, turns the others' into objects.

According to Merleau-Ponty one's private world is not juxtaposed to one other's private world, but rather surrounded by it and connected to it. The other's private world is never completely separate from mine. Merleau-Ponty does therefore not speak of a separation between the perceiving being and the perceived being, nor between the visible and the invisible as well as the interior and the exterior, but of a divergence of the these aspects. Within nature there is intertwining (*entrelacs*), which translates Husserl's *Verflechtung*, between sensible beings. He speaks of a chiasma, which represents the unity in difference. There are two important aspects that allow one to speak of an intertwining. Firstly, there is the reversibility, as my perception of the other teaches me that concepts like the other and oneself can be reversed. And secondly there is the circularity, where we encroach in one others environment. There is an exchange in both directions between me and the other beings that I perceive. This bond I share with all living beings in contrast to objects like the table or the cloud, which have no *Umwelt*. Merleau-Ponty explains that "what is proper to the visible is, we said, to be the surface of an inexhaustible depth: this is what makes it able to be open to visions other than our

117. Merleau-Ponty, *Nature*, 74-76.
118. Merleau-Ponty, *The Visible and the Invisible*, 141.

own."[119] It is this inexhaustible depth that makes one realize that there is more than just one's own environment, that there's in fact, an infinite amount of environments portrayed by other consciousnesses including that of the other human being, the rat and even the tick. Other animals are not completely locked off from me. In the reversal of my perception; "for the first time, through the other body, I see that [...] the body contributes more than it receives, adding to the world that I see the treasure necessary for what the other body sees."[120] This opens up in us an inter-corporeity in which distinctions between bodies such as subject-object and interior-exterior become empty, because they can switch their roles.[121] The appearance of the other body within the world that I perceive attests the articulation of my own body within the world lived by the other. The animal's world is not only open to me, but my world is open to the other animal as well, because we are both of a certain structure, or form that allows us to have an *Umwelt*. The vision is no more than the horizon of an inexhaustible depth. It is the vision of these horizons that teaches us the limits of our vision. And yet, it is in the perception of other bodies that one can enlarge the circle of the visible. In the encounter of other bodies one notices the movements, touch, vision et cetera of the other.[122] By means of our shared phenomenal world we encounter other bodies.

The meeting of others is never complete according to Merleau-Ponty, because the other is always in a different situation. The other is an alterity, but not alterity in strict sense; the other is never completely alterior to oneself as a self-enclosed inaccessible bubble.[123]

> The experience of my own body and the experience of the other are themselves the two sides of one same Being: where I say that I see the other, in fact it especially happens that I objectify my body, the other is the horizon or other side of this experience.[124]

Self and other are relational in the sense that they are, just like the hands in the example, potentially reversible. And in the same way that the touching hands experience each other in their intertwining, the self and the other are also intertwined. I notice this intertwining in the body because the reversibility of the hands is experienced by me directly, as my hands are connected to each other through the structure of the body. In perceiving the other I will only see a glimpse of the reversibility, because it is not myself who experiences the reversibility completely, but a suggestion of it by looking at the other and perceiving the other as an alterity. Therefore the experience of the other is a good example of Merleau-Ponty's paradox of transcendence; we are open to the others who at the same time transcend us. We are not transparent to ourselves—introspection is no more than an illusion—nor are we towards others. The inner states of others appear to us only in a situated and ambiguous fashion.[125]

In the acknowledgement of a visible and invisible aspect of living beings Merleau-Ponty points out that one has to be careful not to create a double reality, one of the perceived spectacle and on the other side the regulating principle that remains hidden behind it. As we saw earlier those viewpoints of the other are allusions of the perceiving being, and not illusions because they are real inasmuch as they are open for perception, while at the same time transcending it. The invisibility aspect of *Umwelten* had left Uexküll to accept a Kantian epistemology. Perception eventually becomes separated

119. Merleau-Ponty, *The Visible and the Invisible*, 143.
120. Merleau-Ponty, 144.
121. Merleau-Ponty, 140-144.
122. Merleau-Ponty, 143.
123. Merleau-Ponty, *Phenomenology of Perception*, 414-415.
124. Merleau-Ponty, *The Visible and the Invisible*, 225.
125. Merleau-Ponty, *Phenomenology of Perception*, 422-423.

from the reality of objects that remains hidden behind it. Merleau-Ponty's phenomenological approach throws such a dualistic account overboard. According to him there is only one reality and this encompasses all phenomena. Both, the visible and the invisible are within this world of phenomena and all perceiving beings are open to these visible phenomena. One is therefore not locked up within one's own bubble. The visible and the invisible are not absolute, but a matter of attention, of the movements of the body, of the lived history. They are of the same phenomenal being, since being cannot be separated from its appearance. Merleau-Ponty's notion of transcendence is not an absolute transcendence, since the facets that other beings show to me are no illusions, so I do have access to those things to some degree. We cannot see the positive principle of the phenomena that we envision, since the meaning of it rests in the unity of the visible and the invisible. Merleau-Ponty's phenomenological approach teaches us that we cannot indeed ever escape subjective relations, but more importantly there is nothing more than the different facets of reality. Reality is phenomenal only. What rests beyond the object as one perceives it, is merely the object as another living being perceives it, or the object as it was ten years ago, or the object viewed from the other side. But there is no object in-itself, no *noumenon* seperated from the phenomenon, as Kant takes it to be.

This relation that I have with the animal reveals something about it. There is a certain reciprocity which shows that the bodies of animals have a certain interiority, that there is something going on in them, that it is 'something like' to be that animal, to use Thomas Nagel's phrasing. The behavior of the animal reveals the symbiotic ontology of the animal as being always involved with others' corporeity. And therefore it is best to speak of inter-animality. The animal's behavior does have a visible component, say it divergent as separate profiles. Our embodied situations allow for our openness towards the visible. Animals are visible beings with an invisible background. These appearances of animals in our world are not created by our thought, but lived as a part of our own embodiment; due to our embodied existence we are within the world that we experience, a world that we share with other living beings. There is no hierarchical relation between animals, including humans, but a lateral relation in the form of an *Ineinander*. So even though the visible being is not the whole of being, it is a display of other living beings. "Animality and human being are given only together."[126] Between ourselves and other living bodies exists an inter-corporeity that is characterized by an openness and transcendence at the same time, a visible and an invisible. And this is something that we share with all living beings.

# 5 Conclusion

Understanding the worlds of other animals is not self-evident, but as both Uexküll and Merleau-Ponty show us, every living being is gifted with an openness. Living beings are connected to each other in a contrapuntal way according to Uexküll and by inter-animality according to Merleau-Ponty and this is as far as the openness towards other living beings, and thus our animal others, goes. It is true that we cannot see what they see, we cannot feel what they feel, but Merleau-Ponty shows us that we are nonetheless connected in the interweaving of our perceptual consciousness. This connection with animals is not empty, not meaningless. It may not be all-encompassing, as my perspective does not allow me to see all other perspectives, but that does not make my perceptions of the animal other illusions either. Both Uexküll and Merleau-Ponty tried to overcome an empiricist as well as an idealist view of nature. As the environment captures many perspectives from every standpoint, the pigeon you see in the tree eventually appears

126. Merleau-Ponty, *Nature*, 271.

as a picture of the pigeon, that is one viewpoint of the pigeon, a phenomenon. And if one takes the time to study it, it appears as a whole set of pictures. Phenomenology departs from empiricism which states that if one keeps on taking such pictures of the pigeon, one will eventually construct a view of the pigeon itself. As for Uexküll and Merleau-Ponty, the result will be a human pigeon, that is, the pigeon as it appears to the human who studies it. Such a study does not escape ones own *Umwelt*. There is no escaping the view of separate images, but one can try to look at the meaningful structure that the pigeon is a part of. And although the pigeon will always enclose an invisibility, it will appear meaningfully once one looks at the unity of the structure for as far as it is visible. And for the sake of wholeness, it is of great interest to include the behavior of other animals in this study. One can ask what the pigeon means to the fox, to the pigeon's mating partner, or to the pigeon breeder and what they all mean to the pigeon, as points and counterpoints. And even though one cannot capture the pigeon in its full richness, what one does perceive of it is not meaningless either, for perception is always already loaded with significance.

When I come home to see that my dog has been waiting for me, as she is wagging her tail and jumping up against me, I cannot degrade such a meaningful encounter to any mechanist explanation. I know my dog has an interiority as it reflects mine. I know this, not on the basis of any close examination of her, but on the basis of our shared inter-corporeity. It is on the basis of the reciprocity of my perceiving-perceived relation with her, one that attests not only an interiority, but a horizon that is not only dog-like, but unique to her life, her history, her bodily experiences. And her horizon fits her body as they are inseparable and evolve together over time. I know that what I see and hear of her is not a fully given and yet not an illusion either. As her full being will always remain a mystery to me, I can in no way conclude that my experiences with her, my thoughts of her, are not truly hers, in the same way that I cannot conclude that her experiences of me are not truly mine. All living beings are part of the same phenomenal realm and the distance between them is never absolute. The distance between me and my dog allows us both to open up to each other, as our horizons overlap and encroach each other.

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