

Chapter 10

Language and Ethics



This is arguably the point: the artificial is, perhaps, a simple extension of the natural. It may be that the natural too has its own artificial mechanics, as if it had been invented by someone, or if it has been inventing itself during its process of self-construction.

(Prodi 1987b: 33)

Abstract The biological ground of ethics, according to Prodi, should not be sought in feelings of empathy or altruism. On the contrary, human ethics is profoundly “unnatural”, precisely because it is unbound from any genetic principle. As a matter of fact, if there was such a “natural” morality, there would be no free choice, since human behaviour couldn’t but conform to these “natural” norms. But with no freedom of choice, to speak of ethics becomes meaningless. According to Prodi, ethics can exist because language—that is, hypothesis and choice—exists. The natural ground of ethics is our faculty to use a language.

Keywords Ethics · Empathy · Altruism · Freedom

Knowledge, since its biological beginning, has always had a moral character.¹ Prodi writes that “the beginning of knowledge is [...] a moral moment; a fleeting priority is assigned to that which lies outside” (Prodi 1987b: 71). Morality emerges, in nature, when the metabolization of the external object is suspended, thus “allowing” that object to exist independently from the use one can make of it: it is this suspension of the consumption of the object that opens the door to the possibility of morality. But this is not the customary way to approach questions of morality: it is unusual to start with nature, adopting a bottom-up approach; rather, following a top-down strategy, the starting point is moral consciousness. It is in fact believed that morality,

¹Although Prodi talks mostly of “morality”, he really is concerned with *ethics*, as the set of all biological and linguistic conditions necessary for a human being in order to have ethical experiences.

on the one hand, implies a distinction (yet another form of dualism) between a norm that establishes what is good and what is bad and, on the other, that it also presupposes the ability to choose between the two. A further assumption lies beneath these presuppositions: that morality implies the presence of a subject, the only entity able to choose freely. This kind of perspective seems irreconcilable with Prodi's naturalistic approach. What the usual way of considering morality wants to preserve is the autonomy of the moral subject. Otherwise there is always the danger of incurring into Moore's "naturalistic fallacy", confounding the natural and the ethical: that something is "natural" does not mean that is "right", and therefore "good is not to be considered a natural object" (Moore 1959: 14). The "good" pertains to the world of human relations, mediated by language and cultural traditions, and it is not a thing of the world, like a pear or a fish.

Prodi, as usual, defends a very original position. On the one hand, he joins the ranks of those who attempt to naturalize morality (Singer 1981; de Waal 1996; Boniolo and De Anna 2006) but, on the other, he seeks a rather different "naturalization" than most (Hauser 2006). Take the example of altruism, a very common behaviour among non-human animals (Fehr and Fischbacher 2003; Schino and Aureli 2010). Here's one of the many possible accounts of this behaviour:

[t]he story of a female western lowland gorilla named Binti Jua, Swahili for "daughter of sunshine," who lived in the Brookfield Zoo in Illinois. One summer day in 1996, a three-year-old boy climbed the wall of the gorilla enclosure at Brookfield and fell twenty feet onto the concrete floor below. As spectators gaped and the boy's mother screamed in terror, Binti Jua approached the unconscious boy. She reached down and gently lifted him, cradling him in her arms while her own infant, Koola, clung to her back. Growling warnings at the other gorillas who tried to get close, Binti Jua carried the boy safely to an access gate and the waiting zoo staff. (Bekoff and Pierce 2009: 1)

Binti Jua, according to human customs, behaved in an altruistic and caring way towards the little human who fell in the gorilla enclosure. But that is from *our* way of interpreting the situation: we could presume that some empathic acknowledgement was triggered in the gorilla (O'Connell 1995; Presto and de Waal 2008) that led her to protect the young human. This would be a natural behaviour, with a clear evolutionary explanation. But its naturalness does not entail its moral "rightness", and most importantly it does not even mean that it can be considered a "moral" behaviour to begin with. A human being, behaving in the same way in the same predicament, could have done so without any feeling of empathy towards the child and simply out of a feeling of duty. A human action is not moral because it is motivated by empathy (or immoral because motivated by antipathy) but because it is *considered* "moral" by the community to which the actor belongs. Morality pertains to the rules of society, not to the innate endowment of the individuals. Empathy does not explain anything about human morality: the latter is properly human precisely because it is independent from empathy or antipathy. How could we "praise" an action based on empathy if this was actually an innate behaviour? There would be no merit in being empathic, no more than there is in having two lungs and a bladder. On the contrary, a moral action is all the more "praiseworthy" when it manages to overcome an immediate and "natural" feeling of antipathy.

If to “naturalize” human morality means to reduce it to the behaviour of non-human animals, then this project can give no insight into what makes a *human* action a *moral* action. The kind of naturalization pursued by Prodi, on the contrary, looks for an “explanation” of human moral behaviour in its own species-specific nature. As we have seen, for Prodi, this means to look into linguistic ability: “the root of our humanity is to be sought in the formation of our linguistic competence” (Prodi 1987b: 49). When looking for the reasons for our moral behaviour, we need to analyse human nature—that is to say, language. Let us begin by examining which elements of our language make human moral behaviour “natural”, starting with the link between language and consciousness. Knowledge entails the search for explanations, and this is, first and foremost, a linguistic act: “from this point of view science is a ‘natural’ activity that develops the fundamental logical and linguistic competence of our species” (Prodi 1987b: 82). In order to explain something, it is necessary to have—at least implicitly—a *theory* assigning a shared meaning to the observed facts. And a theory also implies hypotheses, therefore a mechanism that allows their formulation and rectification, should they fail to explain the facts (it is therefore necessary to be able to *negate* something, not just to affirm). Are these operations cognitively accessible to a non-human animal, an animal that can communicate through his natural language but seems incapable of thinking through it?

[t]he hunter sees the tracks on the ground, and links them to the animal. He knows that the footprints didn't appear by themselves but were left by someone — the animal he's tracking — who walked that way. [...] We could object that some animals are very skilled hunters. [...] But they still demonstrate the difference there is from man's predicament, although they do start from a common ground, i.e. the fact that in nature are already present, before man, astute and laborious forms of knowledge. [...] Having acknowledged this continuity [...] we should immediately stress a profound difference [...]. The hunter can teach his methods to an apprentice. [...] These function as general rules, applicable to different kinds of prey, while the animal possesses only a rigid ability, relative to the one kind of prey it is predisposed to hunt [...]: the animal does not have a *theoretical understanding* of the hunt. The hunter does, he has a *mental* picture [...] that allows him to link together different elements [...]. The hunter can make predictions or formulate [...] *hypotheses*. (Prodi 1987b: 12–13)

In order to *think* reality, one needs a theory—even an implicit one—that is to say a set of assertions, negations, inferences, and so on that constitute a complex network within which a single fact, observed or imagined, can be placed. It is only within this general framework, Prodi argues, that the moral problem can be posed, where the other object is more than a silent and passive terminus for one's actions (I can perceive it, I can hunt it, I can eat it, or I can ignore it), and rather it is considered as another entity with its own autonomy and projects. In order for a genuinely moral gaze upon the world to exist, it is necessary—as a preliminary condition—that a theoretical knowledge of the world be possible. What does an animal need to produce a theory? Prodi argues that:

[a] theory exists thanks to a faculty to formulate theories [...] Essentially, this competence is to be identified with linguistic competence allowing, through a unique mechanism, the formation of innumerable sentences capable of facing a large number of different and unique situations. (Prodi 1987b: 14)

The foundation of human morality, then, is to be sought in language, because it is only through language that it becomes possible to achieve that *cognitive distance* from things that allows the emergence of a moral attitude towards the world and towards others. There is morality where there is the possibility—logical possibility, before factual—of deferring the moment of action and of its consummation and therefore to safeguard the autonomy of the object on whom the action is directed.

If biology means relation and complementarity, morality emerges from biology when the “translation chain” that links *A* and *B* (Fig. 6.2) is sufficiently lengthened (or loosened) that *B* can begin to be considered in itself, *independently* from *A*, as if there was no longer a relation of continuity between the two, no matter how indefinitely extended:

it is necessary to note that this discontinuity [...] represented by human knowledge is neither a split nor an opposition: it is simply a greater length of the chain of knowledge, leaving untouched the adherence to the real as well as the historical-phylogenetic solidarity with the world. (Prodi 1987b: 42)

As we have seen, morality emerges in nature when *A* lets *B* exist without consuming it: that is to say, when *A* does not immediately “eat” *B*. In this sense, there is a very strict link between moral behaviour and negation. Turning a common assumption on its head—the one that considers empathy as the biological ground of morality—it is *negation* that allows *B* to survive to the interaction with *A*: indeed “negation is unknown to categoriality” (Prodi 1982: 131), i.e. to the cognitive and sensible world of vegetables and non-human animals, the world of nonlinguistic semiosis (Horn 1989). The ethical value of negation is crucial: it makes it possible to distance oneself from the world as presented, to imagine a different world (formulating hypotheses) and stop our own actions—this is the *natural* origin of ethics. Indeed “categorial operations are invariably positive, since they apply to something meaningful *qua* really existent” (Prodi 1982: 131). On the contrary “only with the appearance of a system of knowledge equipped with propositional characteristics does negation become a meaningful operation, serving the purpose of hypothetically and operationally describing the real” (Prodi 1982: 131). Negation, then, is the logical precondition of hypothesis; a hypothetical situation can only be imagined by negating the one we are currently presented with: “the problem of the existence of a thing, even when this is not directly observed, can only be given within a global frame of analogies and propositional operations. It is only there that the question of whether or not a certain hypothesis regarding reality — or more generally regarding real or putatively real facts — acquires a meaning” (Prodi 1982: 132). Let us try now to assemble all the fundamental natural preconditions of morality according to Prodi:

[i] human knowledge [...] emerged from the “objectification” of things. Now, things are not consumed or eaten at will (the targeted destruction that characterizes all of categorial logic). They now are preserved [...]. Even if for just an instant [...] reality becomes more important than my need to consume it. I spare it, and refrain from eating it. I recognize it as a point of convergence of an abstract system of exchange. I therefore suspend my destruction. This is not a collateral effect of knowledge, but rather an integral part of it. There would be no man

without such a moral attitude. [...] [T]he most real “thing” for a man is, in any event, another man. Here the other is protected from consumption, from immediate utility, and is ‘pulled into discourse’ and ‘made part of the linguistic fabric’. [...] Therefore, the preservation of reality (through the objectification that constitutes the beginning of human knowledge) is the first pillar of morality.

- [ii] [N]obody speaks alone. Man built himself upon the other. Man, that is, is constitutionally social in a far more concrete sense than all other animals that are organized in societies. Man, built upon discourse, has interiorized the other. [...] Others have selected, in us, the means to communicate with us. We carry the network of all the external agents we have been shaped by *within ourselves*, that is to say, we reproduce this network (Prodi 1987b: 166–167).
- [iii] The presence of a field, [...] of a theoretical infrastructure — represented by its various linguistic forms and by its codes — is constitutive of man’s proper kind of knowledge. [...] The “self” is cast within this abstract field: it is here that we find the single individual. He thus arrives to self-consciousness, i.e. he can see himself as an operational unit within this field. The identification of oneself amounts to the identification of this “object I” in one’s area of belonging. [...] This is not a metaphysical event — identifying a dimensionless point — but a time-bound singular operation, all the more efficient (leading to a more precise consciousness of the self) the wider the history and the geography of the objective field are in the representation of the individual — and the more complete is his language. [...] The fundamental logical-moral operation of logical (abstract) substitution with the other can only take place in the logical-linguistic field, and therefore in the reality that it mediates. Only in this field I can see another me in the other, and can also look at the world through his eyes. (Prodi 1987b: 45–46)

The first condition institutes the logical space necessary for the emergence of moral objects, that is to say entities endowed—at least potentially—with rights. The first and most important of these is the right to have rights, the right not to be immediately eaten and consumed. It is important to note that this condition, in turn, presupposes the existence of complex objects, those “federations of readers” we have already encountered: before morality, but continuously with it, there is always biology. The second condition defines that particular complex object that is the human organism, the subjective I: this constitutes itself—through language—through others and onto others. Speaking with other autonomous agents (the result of the first condition), the knowing object discovers itself as an “object I”, since it discovers its substantial relation with all the other “I”s. This is an identity relation because it is an “I” like everyone else, defined by the logical infrastructure of language, and a relation of difference because every “I” presupposes and makes possible a correlative “you” (Benveniste 1971). It is only within language—and within its logical apparatus—that the “I” *qua* self-consciousness can emerge, at once an abstract and a concrete object: abstract because it is given by the entry of the individual into the logical network of language (common to everyone and therefore tending towards uniformity, turning different things into the same); concrete, because every entry

into language is always a singular—spatially and temporally defined—event, an *uttering* “I” here and now. Prodi explains that:

the individual enunciates some markers of differentiation, i.e. propositions. [...] These, constructed from the impersonality of the codex, are veritable “ultra-distinctive” traits, that is to say that they do not simply mark the individual, but also that particular state that characterizes it, in a specific instant, within its field. The proposition is precisely a function or a mark of differentiation. (Prodi 1987a: 54)

Within language, the self interiorizes the others—it *is* the others. Language is something that precedes the self, and that the self can access only when its genetic predisposition to language (i.e. when the phylogenetic history of language has become part of the individual genetic inheritance, predisposing it to an ontogenetic development of language) is actualized by other individual’s use of language, starting with one’s parents. As an innate predisposition, language is always already this potential space for the encounter with others: upon learning how to speak, the child is immediately in relation with others and therefore becomes another for them, a self facing other selves. Morality begins with knowledge, which is part of the biological make-up of our species; therefore, the individual’s entry into language is necessary in order to have moral experiences. Only within language can a complex “federation of readers” become a moral subject, since it is only within language that it can become an individual subject, a singularity capable of posing the moral question upon itself. Morality without an individual would be meaningless, since only the individual can pose the problem of choice and of freedom. Within language, then, the biological potentiality for moral behaviour becomes an effective reality: within language, there is the logical space to form the distinct individuality of a species for which alone the moral problem can be an issue. Language is both norm—and therefore equality—and singularity, the concrete entry of the individual into language, and therefore differentiation:

[w]hile uttering a phrase the individual declares himself as different through it. He is localized by it in his ultimately intentional behaviour. Therefore, the entire communicative-cultural life is conceivable as a continuous flux generating differences — and therefore meanings — that require an impersonal or interpersonal reference to be codified. [...] Therefore, the opposition between codex and individual, freedom and language, or singularity and norm is utterly meaningless. Language is constructed, like a species, via a mechanism of normalization. A norm is also an instrument of singularity. (Prodi 1987a: 157)

Both logical possibility and—in defiance of all those culturalist stereotypes assuming that culture has nothing to do with nature—biological possibility only emerge in language, making possible the appearance of a moral subject: a subject who can choose. It is important to stress this point: Prodi is not defending the dualistic and metaphysical thesis that an ant is determined, while the human being is free. What is at stake is the living being’s capacity to perceive itself as a free agent. In fact, an animal is *free* in the moral sense when it can make experience of itself as a free agent. A moral agent is such an agent who can suspend its own actions in order to preserve the autonomy of the object it is aiming to. Such an agent is a by-product of the human animal’s capacity to present itself like an “I”. The idea is that

an *I* can exist only if a *linguistic* “I” exists. This implies again that the complex “federation of readers” that we are—*qua* animal organisms—can reach self-consciousness only through language (as we have started to see in the previous chapter). The Cartesian subject, appearing in the *cogito*, is transparent to itself, an immediate self-intuition preceding anyone else, and indeed a condition of possibility for the existence of others. Coherently with his anti-Cartesian approach (and following Peirce), Prodi sees the *cogito* as a terminal point, rather than as a point of origin, of the process of knowledge:

the only acceptable formula for the *cogito* would be ‘I think *about*, and therefore I am *among*’ [penso a, dunque sono tra]. The intentionality of the transcendent I, unifying the object, has nothing to do with the real epistemic interaction where the object is the source of the process. Rather, it is the whole assemblage of objects that constitute the genesis of the subject. (Prodi 1987a: 180)

The subject is engendered by its interaction with others, and not by an intransitive act directly positing the autonomous subject, the Cartesian *cogito*. In particular, the subject is born within language, within a linguistic network that is already intrinsically made of relations and connections:

by performing this comprehension of external reality, the subject that reads other subjects is actually reading itself. That is, it finds within its own individual existence something in common with the others: the capacity to formulate hypotheses and comparisons, to make choices, as well as to feel joy, pleasure, pain, suffering, and fear. There is no private aspect that cannot be subsumed, albeit partially or with difficulty, to intersubjective relations. (Prodi 1987b: 70)

To be self-conscious means to be able to locate oneself—both as a subject and as an object and as a gaze and as a gazed-upon—within the “theoretical scaffolding” whose boundaries are traced by language. Between these two poles, it becomes then possible to introduce a *hypothesis*, which requires the possibility—once again, logical before factual—of projecting oneself towards a space and a time that are different from those presently inhabited. Only a self-conscious organism can access the space of hypothesis, because in order to imagine (or desire) a different future, it is necessary to be aware of one’s existence in a given present. Strictly speaking, without self-consciousness, there cannot be any distinction between times other than the present. In fact, not even the present can be given: a temporal experience flattened on the present, ignoring the possibility of past and future, is non-temporal. There is a present only for those organisms capable of differentiating it from the past and the future. For Prodi, human freedom is intrinsically bound to language and therefore to the quintessentially *linguistic* ability of formulating hypotheses:

[t]he individual’s strategy, within his logical-linguistic domain (and, indirectly, within his objective world) is hypothetical. [...] Every datum coming from the outside goes through the decompression chamber of language — man’s internal representational method — and is then translated towards the outside via a hypothetical reformulation. Situations that correspond to possible matters of fact are thus constructed: these are the hypotheses. They are constructed starting with a repertoire, an *a priori* situation — which, in a very general sense, could be called a codex (an intersubjective matter of fact) — by means of our logical -linguistic competence. The hypothesis is first built, and then it is compared with reality. In his

specific actions, man employs this strategy, one that has nothing to do with predetermination. [...] The hypothetical strategy means freedom. With freedom I simply mean the capacity of formulating hypotheses. This capacity is constitutive of man. (Prodi 1987a: 47)

The kind of freedom proper to human beings is intrinsically bound to language and in particular to a form of knowledge that amounts to the capacity to transcend things, to look beyond them, to connect them with other things, and to conceive of them beyond their mere use: “freedom is real precisely because it is biological. Human freedom is the capacity of formulating hypotheses” (Prodi 1987b: 54). To know means to read the world via a theoretical infrastructure, a set of hypotheses; and since to formulate a hypothesis means to be inside a language and to know means to use such a language, ultimately to be inside a language and to be—fully and properly—linguistic animals mean being free. This notion of freedom profoundly differs from a more simplistic one which would identify freedom with the absence of limitations to movement and with the simple free choice between a number of alternatives. If these alternatives are not enlightened by consciousness, they are not, properly speaking, choices at all, since any such choice will not be any more meaningful than a completely random decision:

the freedom of those who do not have a mental horizon within which to choose (those who don't possess knowledge and language, or who do not dispose of materials on which propositional knowledge can be applied) is virtually empty. It is, at best, a pure decisional power over other beings: something completely different from freedom as I intend it, to be identified with the physiology of hypotheses. (Prodi 1987a: 47)

For the human animal, freedom is a species-specific characteristic (that is to say, it defines and specifies the human species, *Homo sapiens*), and not a subjective choice; it is given as part of our natural inheritance. The human animal is naturally free because it is an animal with both a well-defined evolutionary past and a peculiar relationship with his language. With a paradoxical conceptual turn, which once again undercuts the traditional opposition between freedom and necessity, necessity is here inscribed in the very possibility of freedom, in the very determinate sense that it is fixed by its biological inheritance:

[the human animal] is determined by freedom. This is not an oxymoron: linguistic competence is innate, but it produces varied and original constructions. The human is forced by its evolution to be, and to remain, an original copy [with respect to the genetic model of its species]. (Prodi 1987a: 52)

Following, once again, the model of the circle, we understand that freedom cannot represent an external supplement to the cognitive endowment of the human animal: as such it would be unjustified, and its origin would remain a mystery. Rather, the human is free because it is determined, because of its peculiar natural and semiotic evolution. Freedom is genuine only within a system of constraints. In order to define freedom, it is necessary to traverse something that is not free, something thoroughly determined like the biological endowment that specifies the human animal as *that kind* of animal and no other. Specifically, if freedom is to be identified with the semiotic capacity to formulate and test hypotheses—and therefore with language—the field of freedom will coincide with that of language: only within language, within the logical space determined by its rules, we can effectively be free.

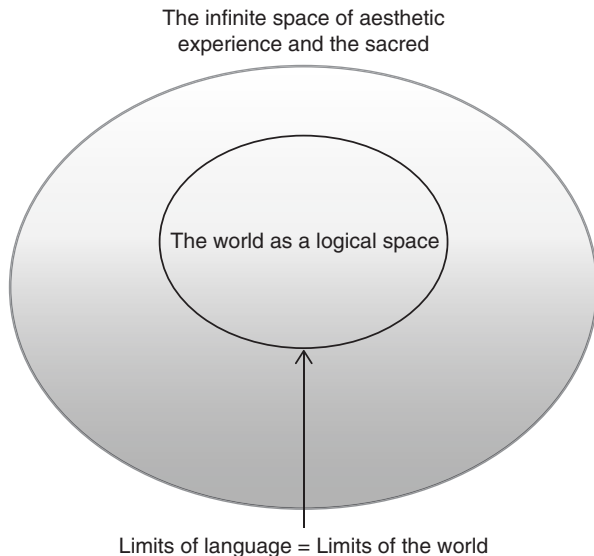
Finally, the link between knowledge, language, and ethics poses a problem (that I will explore in greater depth in the next chapter) the general contours of which need to be immediately delineated. This problem is a direct consequence of the issue of freedom: what are the limits of our freedom? Our knowledge of the world, Prodi argues, cannot but be filtered through a theory, a network of hypotheses: our knowledge of the world, then, is nothing but another expression of language. Now, according to this characterization, there will always be something that slips through the net, precisely because:

1. A net is so structured to let some things slip through; it is composed by nodes and links, and no matter how close these can be, there will always be holes between them. A net is selective, which means to say that every net will always let something slip through and therefore that any ambition for an absolute knowledge of the world is a pipe dream, a dream in the very precise sense that it is logically (and therefore, for Prodi, from an ontological and semiotic point of view) impossible to hope for an exhaustive knowledge of the world.
2. Every net, as large as it might be, is finite. Too big a net would be useless, since it would not be practical to use. But if every net *has* to be (more or less) small, this means that the sea that slips through it would be, by definition, ungraspable. Knowledge can only cut finite portions of the infinite sea of the knowable. Again, the model of the circle makes this situation intelligible: language, as a generative logical-linguistic apparatus, defines two connected spaces: the first one is the space of what the language explicitly can formulate; at the same time language implicitly defines an indefinitely extended space of what could be expressed. Since there is no upper limit, at least in line of principle, to the number of admissible linguistic combinations.

But this set, as immense as it can be, is nothing but a fraction of the infinite set within which the rules of our language do *not* apply. The intrinsic logic of language defines two complementary spaces: one regimented by its rules—that coincides with the world, our *Umwelt* (since we have no access to it that not mediated through knowledge/language)—and one which contains the first one, being infinitely more extended, and within which such rules do not apply, as I try to show in Fig. 10.1.

Here we encounter the problem of the limits of the human semiotic field. This can be divided into an aesthetic problem (aesthetics *qua* domain of the unsayable) and a theological problem (intended as the domain of the ultimate meaning of the world). For Prodi, rather than being concerned respectively with beauty and the fear of the unknown, these issues are defined by logic: “the sacred, from this perspective, is a specific drive that is one with logic” (Prodi 1987a: 119). Language, conceived as a moving and expanding circle, defines two concentric spaces: we reside into the space of language, and by definition we are unable to transgress the boundaries imposed by its intrinsic logic, because we cannot think outside of language. Here Prodi is essentially reformulating Wittgenstein’s thesis from the *Tractatus* “5.6 The limits of my language mean the limits of my world” (Wittgenstein 1922: 74). Every conceivable access to the world goes through language, and every possible thought is linguistically formulated: it follows that whatever is not bound by the rules of our language is, by definition, unthinkable. “Unthinkable” does not mean that there is

Fig. 10.1 The infinite space of knowledge/ language and that of the unknown



another, non-linguistic, way of thinking what the language cannot formulate; it means that for a human animal is bio-logically precluded the possibility to think without the mediation of language. Since language defines a space, and since we reside within that space, it bio-logically follows—an entailment that cannot be precisely defined—the existence of something that lies outside the domain of our language. Once again, Prodi reformulates in his own terms the Tractarian problem of the *internal* limits of language:

5.61 Logic fills the world: the limits of the world are also its limits. We cannot therefore say in logic: This and this there is in the world, that there is not. For that would apparently presuppose that we exclude certain possibilities, and this cannot be the case since otherwise logic must get outside the limits of the world: that is, if it could consider these limits from the other side also. What we cannot think, that we cannot think: we cannot therefore say what we cannot think. (Wittgenstein 1922: 74).

We know, through bio-logical reasoning, that there cannot be any space beyond our logic, but still this space can be logically said to be unreachable, unknowable, and unthinkable. It is here that an opening for the logical—but also historical and evolutionary—possibility of those experiences that lie at the limits of language, like the aesthetic and the religious one, is created:

[Human reality] is not simply composed by objects like *A, B, C*, and then by some hidden objects that are progressively illuminated and captured by language. It is also made up of (an ever increasing number of) objects that are not there. Indeed, knowledge is since the beginning strictly linked to non-knowledge. If an animal only reacts to the most meaningful entities, as if these were the only existing ones, it does not wonder about what might (or might not) lie beyond the boundaries of its categories. But when knowledge becomes reflexive and propositional, there occurs a contextual emergence of uncertainty about that which is not characterized by discourse: the issue of boundaries then arises, *beyond which* there lies an unpredictable reality. (Prodi 1987a: 117–118)