A FRAMEWORK OF VALUES: REASONS FOR CONSERVING BIODIVERSITY AND NATURAL ENVIRONMENTS

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ABSTRACT
The idea that «natural» environments should be protected is a relatively recent one. This new attitude is reflected in the activities of preservation and restoration of natural environments, ecosystems, flora and wildlife that, when scientifically based, can be defined as *conservation*. In this paper, we would like to examine the framework of values behind these activities. More specifically, we would like to show that there is no single specific reason that can justify conservation in each of its manifestations It is therefore necessary to adopt a complex framework of values, which must be composed carefully, since many of the canonical arguments used to justify conservation provide, when combined together, an *incoherent* or, at least, *incomplete* set of reasons. One way to avoid these inconsistencies or incompleteness is, in our view, to adopt, in conjunction with the classic economic and ecological arguments for conservation, a set of arguments appealing to the importance of nature for *human flourishing*.

KEYWORDS
Value of nature, conservation value, conservation ethic, environmental ethics, human flourishing.

1. INTRODUCTION

The idea that «natural»[1] environments should be protected, preserved and, when possible, restored, is a relatively recent one. From being considered worthless ("land that is left wholly to nature", wrote John Locke, "is called, as indeed it is, waste"[2]), the areas of the planet where anthropization is scarce are nowadays considered valuable by many people, and precious is considered the diversity of life – *biodiversity*[3] – expressed by the richness of species, populations, genetic heritage, and adaptations of the living world. This new attitude is reflected in the activities of preservation and restoration of natural environments, ecosystems, flora and wildlife that, when scientifically based, can be defined as *conservation*[4].

In this paper, we would like to examine the framework of values behind these activities. More specifically, we would like to show that there is no single specific reason that can justify conservation in each of its manifestations, and that can allow us to prioritize ethical conflicts arising from its practice. It is therefore necessary to adopt a complex framework of values, which must be composed carefully, since many of the canonical arguments used to justify conservation provide, when combined together, an *incoherent* or, at least, *incomplete* set of reasons. One way to avoid these inconsistencies or incompleteness is, in our view, to adopt, in conjunction with the classic economic and ecological arguments for conservation, a set of arguments appealing to the importance of nature for *human flourishing*. By this latter expression we mean the development and thriving of the human persona in his or her emotional, intellectual, and moral qualities, according to both our individual and specie-specific potential.

[1] «Nature» e «natural» are extremely complex and ambiguous words. In this paper we will not try to define exactly what is a «natural environment» and what distinguish it from an «artificial environment».

[2] J. Locke, *Two Treatises on Government*, in *The Works of John Locke in Ten Volumes*, Scientia Verlag Aalen, London, 1963, vol. V, p. 362.

[3] Biodiversity is another complex word resisting definitions. In this paper we will use biodiversity in its simple, if somehow vague, meaning of «diversity of life in all its forms». For a deeper discussion on the issue see: M. Oksanen & J. Pietarinen, *Philosophy and Biodiversity*, Cambridge University Press, Cambridge 2004; S. Sarkar, *Biodiversity and Environmental Philosophy. An Introduction*, Cambridge University Press, Cambridge 2005; J. MacLaurin & K. Sterelny, *What is Biodiversity?*, University of Chicago Press, Chicago 2008.

[4] Examples of activities of this kind are, for instance, management of wildlife in national parks, *ex situ* breeding programs, field research and data gathering focused on protecting endangered species, seed and genetic banks, conservation education, etc.

Before examining the issue, it is a legitimate question to ask why we need such a discussion – in a nutshell, what are *the reasons* for asking *for reasons*. It may be argued, for instance, that the environmental crisis and the climate change that our planet is currently experiencing are producing effects so evident and pervasive as to constitute immediate and self-justifying reasons in favor of conservation. Such an objection is in part justified. Yet it does not take into account the *practical functions* of critical reasoning regarding the value of conservation.

The first important practical function concerns ethical conflicts. Often, conservation practices bring about conflicts with other moral and social issues, such as development, economic growth, welfare and quality of life of human beings and other sentient creatures, etc. In order to analyze and disentangle these conflicts, we need a clear, well-articulated, and comprehensive map of the values involved.

The second important practical function is related to the issues of communication and education. A well-defined map of the values involved in conservation helps conservationists to better communicate the reasons for, and the necessity of, their work, and to build a comprehensive view of the relationship between nature and human beings which can be used to influence and educate public opinion. Moreover, solid arguments in favor of conservation can help to attract more resources and new energy.

The third important practical function concern prioritization of conservation practices. Conservation is a scientific enterprise – based on biology, and in particular on ecology. However, its goal is *practical*, meaning with this that its ultimate end is *action*. As such, conservation, as noted by Michael Soulé[5], is a «crisis discipline», which stands to biology in the same way that surgery and war stand respectively to physiology and politics. Crisis disciplines operate in difficult and uncertain contexts: usually their practitioners do not have complete information on the issues they are dealing with, and have to quickly establish their priorities as they cannot pursue the ideal solution, but only sub-optimal compromises. As such, a clear map of values involved in conservation is needed in order to quickly adjust and prioritize goals.

In the rest of this paper, we will proceed as follow. In the following paragraph we will examine intrinsic value as a possible source of arguments for justifying conservation (par. 2). Next we will analyze the reach of economic (par. 3) and ecological (par. 4) reasons for conservation. In the second part of the paper we will examine reasons for conservation based on human flourishing (par. 5) and we will sketch their interaction with the reasons analyzed in the first part (par. 6).

[5] M.E. Soulé, *What is Conservation Biology?*, «Bioscience» 35-11 (1985), reprinted in M.E. Soulé, *Collected Papers of Michael Soulé. Early Years in Modern Conservation Biology*, Island Press, Washington DC 2014.

2. INTRINSIC VALUE OF NATURE

The origins of the contemporary debate on nature's value can be traced back to the theories of «intrinsic value» developed by the first generation of environmental philosophers during the 1960s. Following their *zeitgeist*,[6] these philosophers set themselves to the ambitious task of revolutionizing ethics on a new basis with new principles. They hoped to this, in particular, by attributing intrinsic value to nature. Traditional moral thought had assigned intrinsic value only to persons; philosophers building the ground for contemporary animal ethics argued for an extension of this kind of value to sentient non-human animals.[7] the first wave of environmental philosophers argued for something much more radical: something which did not involve a simple extension of the «expanding circle» of ethics – as did the classic model of moral progress proposed by Peter Singer[8] – but the application of a category usually adopted for *individuals* to the *holistic* dimension of the biotic community[9].

The strengths of this «ecocentric» proposal are evident: by assigning an intrinsic value to nature, environmental policies gain, from a moral standpoint, a crucial level of importance, one which is able to outweigh utilitarian arguments and to trump all the other considerations coming from shifting social and cultural contexts. Some conservation biologists, including one of the founding fathers of the field, Michael Soulé, flirted for a long time

[6] Dale Jamieson in his *Animal Liberation is an Environmental Ethic*, «Environmental Values» 7-1 1998, reprinted in *Morality's Progress. Essays on Humans, Other Animals, and the Rest of Nature*, Clarendon, Oxford 2002, p. 199, describes the nexus between environmental philosophy and the *zeitgeist* of those years: "The origin of the contemporary environmental movement were deeply entangled in the counter-culture of the 1960s. Generally in the counter-culture there was a feeling that sex was good, drugs were liberating, opposing the government was a moral obligation, and that new values were needed to vindicate sustain, and encourage this shift in outlook and behavior (...). Only by overthrowing (...) traditions and embracing the suppressed insight of other traditions could we come to live peaceably with nature".

[7] See the classic book by P. Singer, *Animal Liberation*, Harper, New York 1975 as well as T. Regan, *The Case for animal Rights*, University of California Press, Berkeley 1983. For a reconstruction see D. Jamieson, *Animal Liberation is an Environmental Ethics*, cit.

[8] P. Singer, *The Expanding Circle. Ethics, Evolution, and Moral Progress*, Princeton University Press, Princeton 1981.

[9] See the *deep ecology* of A. Naess (*The Shallow and the Deep. Long-range Ecology Movement*, «Inquiry» 16 1973), the *land ethic* of J.B. Callicott (*In Defense of the Land Ethic: Essays in Environmental Philosophy*, SUNY Press, New York 1989), and the theory of H. Rolston III (*Environmental Ethics: Duties to and Values in the Natural World*, Temple University Press, Philadelphia 1988). A great influence on these theories (especially on Callicott) came from A. Leopold, *A Sand County Almanac*, Oxford University Press, Oxford 1949.

with this ethical approach,[10] and empirical research shows that it is still widespread among conservationists.[11] The idea of intrinsic value theories has made even into official statements – such as, for instance, the preamble to the UN Convention on Biological Diversity. In our view, however, this success has been more a result of rhetoric than of solid argumentation. If we were to hazard a psychological explanation for this phenomenon, then perhaps the reason why intrinsic value theories are valued by conservationists – who are of course naturally inclined to believe that protecting nature is a noble and elevated task – is because they give a certain philosophical «authority» to their personal beliefs. When carefully examined, though, theories of intrinsic value prove to be, on the one hand, too *abstract*, and, on the other hand, too *reductionist*.

Historically, the first wave of environmental philosophy could be seen as part of a general process in ethics – one which started in the second half of the last century – that saw a «return» of the debate from abstract metaethic questions to normative and practical issues – a process that gave rise to the phenomenon of «applied ethics». However, when the first environmental philosophers had to elaborate the details of their new theories of intrinsic value, they were forced to go against this current – in an attempt to give a plausible metaethical account of their revolutionary tenets.[12] In fact, features usually considered necessary to the attribution of intrinsic value – such as rationality, sentience, the capacity to feel pleasure and pain, have interests, preferences, desires, etc – can be attributed to species, ecosystems, or the biotic community only in a metaphorical sense. To justify the attribution of intrinsic value to any ecological category, it is necessary to accept an «ontological *gestalt*»[13] between individuals and holistic entities of some kind. However, it is

[10] One of the normative postulate proposed by M. Soulé in a fundamental conservation biology paper assigns intrinsic value to the diversity of life, as for the environmental philosophy of that times (*What is Conservation Biology?*, cit., pp.43-44).

[11] At least in England: see T.G. Butler & T.G. Acott, *An Inquiry Concerning the Acceptance of Intrinsic Value of Nature*, «Environmental Value» 16 2007.

[12] For a review of the different meaning of intrinsic value in environmental philosophy see: J. O'Neill, *The Varieties of Intrinsic Value*, «The Monist» 75-2 1992. Some authors have claimed that the excess of metaethical discussion around the notion of intrinsic value has diverted the focus of environmental philosophy from the truly important issues of this discipline. For an example of this kind of critique, see B.G. Norton, *Toward Unity Among Environmentalists*, Oxford University Press, Oxford 1991. An attempt to reformulate anew the notion can be found in K. McShane, *Why Environmental Ethics Shouldn't Give Up on Intrinsic Value*, «Environmental Ethics» 29 2007.

[13] On this «ontological *gestalt*» see A. Naess, *The World of Concrete Contents*, «Inquiry» 28 1985, partially reviewed in *The Ecology of Wisdom*, Counterpoint, Berkeley 2008. On the

rather difficult to justify this shift in ontology without falling into some abstruse metaphysical position.

Perhaps this metaphysical oddity could be accepted if there were solid arguments for justifying the necessity of this ontological *gestalt*. However, there seems to be few arguments, and they are not very convincing. The most important argument probably derives from certain interpretations of Routley/Sylvan's famous thought experiment[14]. Imagine observing a human being who, for some reason, is the *last* human being on Earth. Now imagine that this person starts to wantonly destroy the natural environment around her for no apparent reason. She is not hurting – directly or indirectly – other human beings, yet we may have the feeling that her actions are still wrong. Outgoing from this moral intuition, we may derive the idea that nature's value does not depend on us – it is *inherent in things*.

There are, however, other possible interpretations of this intuition. The thought experiment, on the one hand invite us to imagine a world where we do not exist, and on the other hand calls us to make a judgment on something happening within it. There is something fishy about this: we are not there – in fact we are not anywhere in that world – yet we *watch* and *judge*. Moreover, the neutrality of the judgment we are called to make is questionable. Put in front of a similar case where the last person on Earth is destroying a Lamborghini, a fan of sport cars could feel something similar to what we feel when we face the original experiment. Now, few people would claim that a Lamborghini has intrinsic value: why, then, should we trust our feelings in the other case, given the metaphysical extravagance of attributing intrinsic value to non-rational and non-sentient entities?

Moreover, aside from being abstract and imposing several metaphysical demands, theories of intrinsic value are rather reductionist in concern to their practical applications. The idea that the biotic community possesses an intrinsic, unconditional value can be very interesting to discuss in a classroom in a philosophy department, but do not appear to provide any basis whatsoever in the management of ethical conflicts faced by conservationists. The major ethical issues in conservation arise from the necessity, on the one hand, of ordering priorities between different conservation policies, and, on the other hand, of balancing the need for conservation with other ethical demands coming from respect for people, communities, and animal welfare.

problems of applying intrinsic value to holistic categories see B. Morito, *Intrinsic Value: A Modern Albatross for the Ecological Approach*, «Environmental Values» 12 2003.

[14] R. Sylvan/Routley, *Is There a Need for a New, Environmental Ethic?*, in «Proceedings of the 15th World Congress of Philosophy» vol. 1, Sophia Press, Sophia 1973.

Conservation ethics is, in this sense, a rather complicated affair which must take into consideration different kinds of value. However, theories of intrinsic value tend to invariably fall into some form of "environmental fascism", as Tom Regan had phrased it at the dawn of the debate,[15] in order to be coherent with their premises.

The latest environmental philosophy has been able to take new routes in order to face the challenges of the ecological crisis, and has largely abandoned the eco-centric programs found at the beginning of the field. Different strategies to justify the attribution of value to the natural world have been formulated – strategies which take off from a less pretentious standpoint: that of *anthropocentric* value. These arguments can be divided into three broad categories: *economic value*, *ecological value*, and *flourishing value*.

3. ECONOMIC VALUE OF NATURE

The first category of instrumental value justifies conservation of nature for economic reasons. The basic idea is that conservation practices are investments that lead to positive economic returns, and that it is possible to divide this category into three subcategories. According to the first kind of economic argument, nature is a *warehouse*, that is, a repository of resources which can be exploited (in a sustainable way). The second kind of economic argument likens nature to a *playground* where human beings can enjoy a vast set of recreational activities. For the third kind of argument, nature is a *magic box*, which should be preserved for the "option value" of its content – because, in other words, any aspect of nature could one day reveal itself as an economic asset.

At least on paper, these arguments are strong, as they appeal on a powerful kind of motivation – economic self-interest. However, if we look at them closely, we find that they have few applications. This is particularly true for the first subcategory – nature as a warehouse. The majority of species and natural environments has an indefinite, small, or null economic value. In other cases, the economic value of a species or of an environment, although existent, does not justify the investment one should take in order to exploit the resource in a sustainable way: it could be more profitable, for the *homo oeconomicus*, to exhaust the resource and reinvest the profit in another business with a higher profit margin. «Nature as a warehouse» arguments, in practice, work only when there exist a very favorable combination of a) economic value; b)

[15] T. Regan, *The Case for Animal Rights*, cit.

profitability on the long term; c) scarce market fluctuation in the demand of the resource. With some exceptions,[16] such favorable conditions are not very representative of the normal interaction between market economies and nature.

Similar limitations can also be found in the second subcategory – nature as a playground. The recreational value offered by nature is unquestionable. Many people like to spend their free time outdoors, walking, hiking, camping, climbing, swimming, snorkeling, skiing, fishing, hunting, etc. This activities provide economic well-being to many communities and create profits and jobs, however it is not so obvious that this results in some direct or indirect advantage for nature. Many recreational activities are highly invasive to natural spaces: trees are cut to make room for sky slopes, resorts are built in order to house tourists, and the mere presence of too many people can have negative effects on natural environments. Moreover, there are usually no substantial economic gains to be spent on conservation coming from recreational practices: some practices, such as ecotourism,[17] and, in limited contexts, hunting are exceptions, but are not the general rule.[18]

The third category, that is, nature as a magic box, is the weakest, despite our initial impressions. In fact, it is a rather popular argument, with undoubted rhetorical power. Yet it has a very weak structure and its premises are empirically unsubstantiated. Let us start with the first issue: the argument that nature ought to be preserved because we do not know which incredible discovery we could made in the future is weak, because it is basically structured as an argument from ignorance, and as such, its strategy is to move surreptitiously the burden of proof. We cannot know *a priori* that some particular bit of nature could not prove to be useful one day. However, we may have good *a posteriori* reasons to advance such claims. For instance, regardless of whatever we may still discover about polar bears (*Ursus maritimus*), it is rather unreasonable to invest in their conservation (a very expensive affair, given the dissolution of their natural habitat due to climate change) on the

[16] It is the case, for instance, of vicuna (*Vicugna vicugna*): the economic value of its wool is fundamental for its conservation.

[17] See, for instance, C. Sekercioglu, *Ecosystems Functions and Services*, in N. Sodhi & P. Ehrlich, *Conservation Biology for All*, Oxford University Press, Oxford 2010.

[18] The issue of the relationship between hunting and conservation is debated. The majority of environmental philosophers supporting theories of intrinsic value usually share a favorable view of hunting – since they place value on the biotic community, and not on the individual animal. From the standpoint of instrumental value, the issue can be instead dealt with by a more pragmatic approach. For an analysis of the issue see A.J. Loveridge, J.C. Reynolds & J.M. Milner Gulland, *Does Sport Hunting Benefit Conservation?*, in D.W. MacDonald & K. Service, *Key Topics in Conservation Biology*, Blacwell, Oxford 2007.

grounds that there could be a future crucial discovery. Conservation, as we have stressed, is a crisis discipline: we need to set definite priorities and not pretend to be in any condition to try and save everything. For these reasons, hard choices regarding allocation of human and economic resources need to be dealt with, and the magic box argument offers no help for this task, as its assumptions are that every bit of nature is potentially important in a future more or less distant.

The major weakness of this argument lies, however, in the possibility of overturning its logic. Nature does not only offer good surprises: it also offers bad, and sometimes *very bad*, surprises. This can lead to the opposite conclusion that we ought not to conserve nature, because, by doing in this way, we could prevent bad surprises from coming out of the magic box. There is a chance, for instance, that if we had systematically destroyed the African tropical forest many years ago, we could have eradicated Ebola before the first epidemic.

4. ECOLOGICAL VALUE OF NATURE

The second category of instrumental value justifies conservation because of the essential services for the survival of life on our planet provided by ecosystems – services such as, for instance, air purification, climate stability, pollination, water purification, detoxification and decomposition of waste, soil fertility, etc. These services ensure the stability and the continuation of Earth's life cycle, and, in this way, our survival as a species: for this reason, we should be concerned about the health of ecosystems, just as we are for the conditions of the car we use for driving, or for the roof and walls of the house in which we live.

The capacity of this argument to ground environmental policies, and more specifically conservation policies, is widely debated. This debate does not stem from doubts about the importance of ecosystem services, but rather because it is not clear how far can we extend the reach of this argument. According to some, it has an unlimited reach, since there is a strong link between biodiversity and ecosystem services: the efficiency of an ecosystem, and its stability, both depend on the extent of its biodiversity in terms of species richness. A famous analogy illuminates this thesis. The species of an ecosystem are like the rivets that hold together a plane:[19] lose a rivet, and nothing will happen, lose another one, and the structure will still maintain its capacity to

[19] The argument was first formulated in P.R. Ehrlich & A.H. Ehrlich, *Extinction: The Causes and Consequences of the Disappearence of Species*, Random House, New York 1981.

function properly; this can happen even if a third and a fourth rivet is lost, and so on: however, beyond a certain threshold, the accumulation of losses will increase the chances of an irreparable structural damage. The same is true for ecosystems: they can lose some pieces without being damaged in their structure and functions, but beyond a certain threshold, the situation become the analogue of an ecological Russian roulette, wherein there is a certainty that something bad *will* happen, even if nobody knows *when*.

Like all analogies, even this one should be taken with a grain of salt. The basic idea of the rivet argument is that the value of a species depends on its providing of a functional redundancy to the whole ecosystem, yet things are much more complicated. In fact, there are at least three variables that can influence the complex relationship between species, ecosystems, and ecosystems services. The first variable is the *importance* of a species[20] *for the overall stability* of an ecosystem. The second is the species' ability to *shape* the ecosystem. The third is its *contribution to the services* provided by the ecosystem, which can be, on the one hand, *indirect* – that is, produced by the species' contribution to the ecosystem's structure and stability – or *direct* – as when a service is provided firsthand by a species. The rivet argument – and, more generally, any idea of a strict correlation between ecosystem services and its species richness – confuses all the previous variables, by conflating direct contribution with indirect contribution, and reducing indirect contribution to a mere functional redundancy, making in this way species richness to be the only important issue regarding an ecosystem's structure and stability. The reason for this simplification stems from two holistic assumptions implicitly adopted in the analogy. On the one hand, the argument undervalues the *differential contribution* that different species can give to the structure and the stability of an ecosystem. On the other hand, the argument attributes to the whole properties of its parts: it is only in a broad sense that we can say that ecosystems provide services, as what *directly* provide services are, in fact, single and specific parts of it.

The first implicit assumption is contradicted by the fact that, according to models more complex than those adopted by the rivet argument,[21] not all

[20] Or of a *population*, or of a *process*. To avoid complications, we should refer here only to species. However, a great part of the following reasoning can be applied also to populations and processes.

[21] As, for instance, seen in the *extended keystone hypothesis* of C.S Holling (see his *Cross-scale Morphology, Geometry and Dynamics of Ecosystems*, «Ecological Monographs» 62-4 1992) or the *drivers and passengers hypothesis* di B. Walker (*Biological Diversity and Ecological Redundancy*, «Conservation Biology» 6 1992 and *Conserving Biological Diversity Through Ecosystem Resilience*, «Conservation Biology» 9 1995).

species share the same value in shaping and preserving an ecosystems: in fact, this is the reason why ecologists have created the categories of ecosystem engineers and keystone species to designate certain particular species[22]. Not all species, therefore, share the same ecological value: some rivets are more important than others.[23]

The second assumption is contradicted by the fact that services are, in a strict sense, provided by parts of the ecosystem, and not by the ecosystem as a whole. In fact, a large part of ecosystem services are provided by bacteria, plants, and invertebrates, and in very few cases there is a significant contribution by vertebrates – including the majority of vertebrate on the verge of extinction.[24] Moreover, some species may give a negative direct contribution to the ecosystem services, by providing *disservices*, at least from an anthropocentric standpoint: this is the case, for instance, for pathogenic microorganisms.

Even if limited, the analogy between the species of an ecosystem and the rivets of an airplane still contains a wise precautionary principle. However, this

[22] In a review of the literature on the issue R. Thompson and B. M. Starzomski conclude that "much evidence points to a strong role for dominant species (e.g. keystone species or ecosystem engineers) in controlling ecosystem function" – see T. Thompson & B.M. Starzomski, *What does Biodiversity Actually Do? A Review for Managers and Policy Makers*, «Biodiversity and Conservation» 16-5 2006.

[23] The rivet argument is ambiguous for another reason: it is grounded on an *engineering* idea of resilience. According to Holling (*Engineering Resilience Versus Ecological Resilience*, in P. Schulze, *Engineering within Ecological Constraints*, National Academy, Washington DC 1996) there is a difference between engineering resilience and ecological resilience. On the issue, see also G. Peterson, C.G. Allen & C.S. Holling, *Ecological Resilience, Biodiversity and Scale*, «Ecosystems» 1 (1998).

[24] See for instance D. Maier, *What's So Good About Biodiversity? A Call for Better Reasoning About Nature's Value*, Springer, Dordrecht 2012. However, many vertebrates can be classified as ecosystem engineers or keystone species, and as such can possess a high *indirect* value concerning the provision of ecosystem services. As J. MacLaurin and K. Sterelny writes (*What is Biodiversity?*, cit. , p. 169): "In most ecosystems a very small proportion of species have very high interactivity (they are either keystones or dominant species) and we know what sort of interactions are typical of such species. These include mutualism such as pollination and seed dispersal. Effective predation is another typical keystone interaction, preventing overbrowsing and resultant simplification and even destruction of ecosystems (...). Niche construction by ecosystem engineers such as beaver (*Castor canadensis*) and elephants *Loxodonta africana*) is another keystone interaction. These strong interactions are not dotted randomly through phylogeny. They are more common in some taxa than others. For example, keystone species are often mammals; (...) there is a systematic tendency for species coposed of organisms that have high metabolic demands (as mammals do) to play a disproportionate role in structuring biological systems (...). These animals – large herbivores and high-trophic level carnivores – are likely to have keystone effects, and so their losso might well be very serious".

precautionary principle is not sufficient for justifying the whole of conservation activities. Despite its great importance, ecological value needs to be integrated with other kind of values.

5. FLOURISHING VALUE OF NATURE

The third category of instrumental value justifies conservation because of nature's importance for human flourishing. By flourishing we mean here the development and thriving of all the peculiar qualities of our species concerning its non-material needs and wants. Nature does not provide us exclusively with ecosystem services that keep life going on our planet. She is also a provider of more "intangible" necessities – well-being, beauty, knowledge, and autonomy. From here, it is possible to build at least three kinds of arguments, each grounded on a different aspect of nature as a source of flourishing: the aspect of nature as a *museum* – as a place that stimulate our appreciation for beauty and other aesthetic qualities; the aspect of nature as a *laboratory* – as a place that stirs up our scientific curiosity and our desire to understand the mechanisms of life; the aspect of nature as a *cathedral* – as a place able to satisfy our instinctive desire of "otherness", that is, to be somewhere else other than by ourselves. All these views of nature justify a sense of respect and reverence for nature that play a fundamental part in the life and well-being of many people. As we shall show in the last part of this work, this kind of values allows to complete a framework of value for conservation built on economic and ecological reasons.

5.1 Aesthetic value of nature

The first argument, grounded on the view of nature as a *museum*, appeal to aesthetic value to justify conservation. Natural environments, flora and fauna, landscapes where anthropization are harmonized with nature have always been a great source of aesthetic appreciation. Often, we tend to underestimate the importance of this kind of appreciation to many people, and underestimate the effectiveness of aesthetic value in building arguments in favor of conservation. Beauty, as a value, always faces a series of prejudices, despite the importance it can have on many people as a source of flourishing The beauty of nature is no exception. One of the main objections put forward to the use of aesthetic value relies on the alleged "selectivity of our tastes". According to this

argument, aesthetic value cannot provide, for reasons of justice and efficiency, substantial grounds for conservation.

This latter objection is justified by what seems to be the preferences of the majority of people: preferences for what is cute, colorful, pretty, totemic, exotic, big enough and dynamic, all qualities indicative of so-called charismatic animals. However, it would be, from an ethical standpoint, unfair, and, from an ecological standpoint, inefficient, to accept these kinds of preferences as grounds for guiding conservation policies.[25] Fans of Damien Hirst may appreciate the exposition in a glass box of dead animal bodies infested with maggots. However, the same sight outside of a museum will be hardly appreciated by anyone. According to a widespread opinion, beauty is rare in nature, and it cannot ground strong arguments for conservation.

It is possible to answer the previous objection by stressing that taste could be educated, and it is not necessarily limited to what we tend to appreciate at first sight. In particular, a mature aesthetic appreciation of nature cannot be separated from the acquisition of information and scientific knowledge regarding the object of aesthetic contemplation.[26] As the knowledge of the relevant cultural and religious references can illuminate our experience of a medieval fresco, in the same way, for instance, scientifically informed knowledge, even at a basic educational level, on bat's echolocation can stimulate our interest and appreciation for the extravagant faces of these creatures, which we might otherwise consider repulsive.

Aesthetic appreciation of nature must then be accompanied by at least a basic knowledge of the subject, in order to overcome certain limitations of our immediate taste. In this sense, aesthetic appreciation of nature shares some characteristics with the second kind of value grounded on human flourishing – knowledge – as was already noted by Kant in a passage of his *Critique of Practical Reason*:

> An observer of nature finally comes to like objects that at first offended his sense when he discovers in them the great purposiveness of their organization, so that his reason delights in contemplating them, and Leibniz spared an insect that he had carefully examined with a microscope and replaced it on its leaf

[25] For this argument see R.J. Loftis, *Three Problems for the Aesthetic Foundation of Environmental Ethics*, «Philosophy in the Contemporary World» 10-2 2003.

[26] On the link between aesthetic appreciation of nature an scientific knowledge see Y. Saito, *Appreciating Nature on Its Terms*, «Environmental Ethics» 20-2 1998, G. Parson, *Natural Appreciation, Science, and Positive Aesthetics*, «British Journal of Aesthetics» 42-3 2002, an A. Carlson, *Contemporary Environmental Aesthetics and the Requirement of Environmentalism*, «Environmental Values» 10 2010.

> because he had found himself instructed by his view of it and had, as it were, received a benefit from it[27].

5.2 Scientific value of nature

The second argument, grounded on the view of nature as a *laboratory*, appeal to scientific value to justify conservation. Science, conceived as a human activity, is ideally unfettered by material interests, and should be devoted to the discovery and contemplation of the world and the universe, and furthermore possesses a value that transcends even its undoubted social and economic impact. Knowledge is just as important as beauty in defining what is peculiar and important in our appreciation of the natural world. If we must, therefore, protect the natural environment, ecosystems, and the species of the world because they are part of an ideal museum of beauty, we must also protect them because they are the subjects of study for the "laboratories" of naturalists, geologists, geographers, ecologists, ethologists, and various other kind of scientists.

We should not think, however, that this kind of value plays an important role only in the lives of a select few people. In the same way that aesthetic value is not exclusively a patrimony of aesthetes, scientific value is not the exclusive patrimony of scientists, but can rather permeate into all of society thanks to the possibilities offered by education. The awe and reverence caused by the complexity and diversity of the living world are important sources of nourishment for the highest quality of human beings, and what is capable of generating wonder should not be considered with disdain, since sources of wonder are limited, and should be protected.

Beyond being, a perennial source of beauty and discoveries the natural world can also be considered as a source of wonder and reverence in another way – as something completely other from us – and this bring us to the third aspect of the relationship between nature and flourishing.

5.3 Existential value of nature

The last argument, grounded on the view of nature as a *cathedral*, appeals to the existential value of nature to justify conservation. For many people,

[27] I. Kant, *Critique of Practical Reason*, in *Practical Philosophy*, Cambridge University Press,, 1996, p. 178. On the value of Kant's aesthetic theory for environmental aesthetic and ethics see P. Biasetti, *From Beauty to Love: A Kantian Way to Environmental Moral Theory?*, «Environmental Philosophy» 122-2 2015.

nature mirrors a moral image of existence – an image of moral autonomy – because it is a source of a radical "otherness" that allows them to distance themselves from many aspects of human life. As a species, we spend much of our lives designing new ways to structure and restructure the environment we occupy, with the aim of controlling it in an ever improving manner. This is probably a consequence of our ethologic endowment of clever – and highly destructive – primates that, for most of their evolutionary history, were hunted by predators much more than they hunted for prey, and, as such, had to learn to control their territory effectively. Thanks to our cognitive abilities, this instinct to control the environment has reached heights never seen before on this planet: the human being, from this standpoint, can be considered as the most inventive and effective ecosystem engineer of all the natural world. However, what we get in return from the hyper-controlled artificial environments we build is a profound sense of loneliness. This is particularly evident if we look at the paradigm case of this kind of space, what the French anthropologist Marc Augé has called *non-lieux* (non-places)[28]. Non-places are environments planned and built to fulfill specific functional reasons, in which each feature is designed according to a rigorous logic. In this way, non-places lack a specific identity, the possibility to build authentic relationships, and, historicity: the same historicity that we can find instead in traditional urban centers, and, paradoxically, in the nexus of relationships evolved in natural environments. It is important to stress here that by the word historicity we mean here the intertwining of contingency and intentionality (even *apparent* intentionality) that can be constructed only across a prolonged temporal dimension. Non-places, on the contrary, tend to exclude contingency and otherness as much as possible, eliminating them in favor of specific functional requirements. From this point of view, non-places represent the culmination of our ability as a species to control and to structure the environment, and every artificial environment tends, at least in part, towards this type of functional and ahistorical organization.

This may explain why some people find a refuge in the idea – as romantic and idealized as it can be – of nature as a wild, unspoiled, dimension located beyond our control. We recognize then a value in nature because we find in her something which is missing in our hyper-controlled artificial environments: a resistance against our desires and our will, and a network of contingent relationships not shaped by human beings. From this perception of a radical and autonomous otherness perhaps comes the sense of awe that can be

[28] M. Augé, *Non-lieux. Introduction à une anthropologie de la surmodernité*, Le Seuil, Paris 1992.

experienced in front of nature. We value her because we appreciate her being different from us, even in spite of our instinct to transform everything we encounter into something more suitable to us – or even something more like us.

This need for something other, different, and independent from our will is probably stronger in the very same moment that our capacity to control the environment is at its peak. This may explain, perhaps, why for many people in search of a refuge from modern life, it may suffice to play with a pet, or take a walk amongst the trees in a park in order to feel well and comfortable. For many others, this is not enough, and they need to live their relationship with the natural world by leaving the comfort and safety of modern life in a way that may appear to other people reckless or even senseless.

6. REASONS FOR CONSERVATION: A COMPLEX FRAMEWORK OF VALUES

It is time to draw some conclusions. In order to assess the role that the previous reasons can play in a complex justification for conservation it is necessary to find some parameters of evaluation. In our view, it is possible to establish four parameters of this kind. The first parameter is *extension*, that is, the capacity of a value of being a source of arguments for justifying conservation in all the richness of its aspects and applications. The second is *stability*, that is, the capacity of a value to be a source of arguments whose conclusions are not subject to changes based on social, economic, or technological variables. The third is *weight*, that is, the capacity of a value of being a source of arguments that can appeal on crucial and essential interests. The fourth is *viability*, that is, the capacity of a value of being a source of arguments that can be of practical use for prioritizing policies and disentangling moral conflicts arising from conservation practices. These four parameters reflect four specific goals of conservation: a) to protect as much biodiversity and natural environments as possible; b) to fulfill this task in a way as independent as possible from potential changes in the social and cultural context; c) to ground its task on an ethical necessity as strong as possible; d) to manage conflicts and provide order as needed in order to fulfill its task.

As we have seen, the major limitation of intrinsic value theories lies in their metaphysical plausibility. We believe that, for these reasons, many people will not find them palatable. However, if we have to judge them according to the previous parameters, they show a large extension, a robust stability, and a

great strength. These are, in fact, the main reasons why they were adopted in the first place. Their extension is equivalent with the whole of biodiversity, and their stability is a maxim because, by definition, intrinsic value does not wax or wane with the shift of cultural, economic, and technological contexts. Moreover, their weight, being tied to a moral imperative, is high. At the same time, however, they are scarcely viable. Intrinsic values cannot be compared with other kinds of value. A source of intrinsic value has the same ranking order of other sources of intrinsic value, and is, by definition, more important than sources of instrumental value.

Economic value, instead, has a limited extension. It is certainly possible to use economic value to justify the conservation of certain species and natural environments. However, the applications are few, because the only arguments with an unlimited scope in the economic value category – the argument of nature as a magic box – is flawed, and the other two – the argument of nature as a warehouse and the argument of nature as a playground – can be applied only under very specific conditions. The stability of arguments grounded of economic value is limited too – as it depends on highly volatile market conditions. The weight of arguments based on economic reason, when they are applicable, is, instead, high, as they can give leverage to a powerful species of motivation: economic self-interest. Finally, arguments of this kind are viable, as they provide reasons for ordering policies and entangling conflicts, even if, on the one hand, these reasons may conflict with ecological reasons, and, on the other hand, can be deemed as rather crude.

In many ways, ecological value seems more promising than intrinsic value or economic value. The extension of arguments born from ecological value is wide – although not universal. The stability provided by these arguments is good, even if, again, not absolute – as, *in principle*, we could, by the means of some future technologies, replace all life-supporting services provided by ecosystem with artificial substitutes, having in this way no ecological reason for conserving biodiversity.[29] Concerning weight, arguments born of ecological reasons once again demonstrate their force, as they appeal to our own material survival. Regarding viability, they provide conservationists with, on the one hand, sound reasons for prioritizing policies, and, on the other hand, principles for assessing conflicts.

All this does not mean, in our view, that we should be content with ecological value, with some contribution given by economic value. We can

[29] On this issue see K. Lee, *There is Biodiversity and Biodiversity: Implications for Environmental Philosophy*, in M. Oksanen & J. Pietarinen, *Philosophy and Biodiversity*, cit. and D. Maier, *What's So Good About Biodiversity?*, cit.

aspire to a much more extended and stable justification of conservation – akin to the one reached by intrinsic value theory – by adding a new set of values to the framework: the values linked to human flourishing. These values, even if weaker in their weight than economic and ecological values, allows for a more comprehensive view of conservation, and, as such, should not be put aside.[30] The reasons why values grounded on human flourishing can be a source of arguments with great extension and stability can be found in the fundamental character that accompanies our aesthetic, scientific, and existential experiences: *authenticity* and *disinterest*.

Concerning authenticity, it may be useful to compare experiences involving flourishing value and experiences involving recreational value. At first glance, it may be difficult to draw a clear line between the two, because they often come together: pleasure being a usual companion to beauty, knowledge, and search for otherness, and, at the same time, appreciation for beauty, wonder, and awe being often a result of outdoor activities. As a general rule, however, *mere* recreational activities involving nature can be replicated in an artificial context. Skiing, for instance, can be a fun even if practiced in an indoor slope in Dubai, with a temperature artificially maintained between thirty five and forty degrees lower than outside. Aesthetic, scientific, and existential experiences involving nature, instead, cannot be repeated by artificial means. From this standpoint, if we experience some awkwardness when skiing inside a concrete freezer in Dubai, it is not because we are missing the recreational aspect of skiing in itself, it is instead because skiing is not accompanied by the usual aesthetic and existential experiences that come from practicing this activity when surrounded by majestic mountains.

The issue of disinterest may be grasped instead by reflecting on the differences between arguments involving flourishing and arguments involving economic and ecological reasons. The main reasons why these latter arguments possess a greater weight than arguments based on flourishing is because they appeal to our immediate interests: economic prosperity, and future survival. The reasons why we appreciate nature as a source of beauty, knowledge, and autonomy are instead intangible, and spring forth from a set of preferences typical of our species lacking utility: these preferences follow from higher aspects of our existence, and are not, for this reason, limited by mere considerations of immediate interest. An example will illustrate this

[30] Moreover, values linked with human flourishing foster a positive climate around conservation. The weight of ecological and economic arguments is based on «fear»: fear of our extinction, impoverishment, etc. On the contrary, values linked with human flourishing exalt more positive reasons: love of beauty, knowledge, and what is other than us.

point. Troglobites are animals that lives exclusively in the depths of caves. They are mainly invertebrates, with some fish and amphibians included in the group, and often possess peculiar characteristics such as lack of pigmentation, a very slow metabolism, lack of eyes, and an incredibly high life expectancy. Many species of troglobites are at risk of extinction (not a surprise, given the difficulties of living in a habitat like that). Troglobites do not have any economic value, and it is unclear what kind of ecological services they could offer to the planet. They could become extinct, and we will not suffer any economic or ecological negative consequences. However, this lack of economic or ecological interest does not preclude their aesthetic, scientific, or existential value. It is hard, for instance, to remain indifferent in front of the transparent elegance of the shell of the small terrestrial snail *Zospea Tholussum,* which was discovered a few years ago in a cave in Croatia. Moreover, no one would be surprised by the curiosity that this kind of organisms could raise in a naturalist. The existence of living creatures in places so alien and inhospitable can generate in many of us a strong feeling of wonder and awe concerning the tenacity of life, and the adaptability of organism to the most incredible conditions.

There are, in fact, no aspects of the natural world that cannot be deemed important from an aesthetic, scientific, or existential standpoint, because values linked to human flourishing are not tied to any utilitarian requirement: and for this reason they are ubiquitous, and reach a range and stability unknown to economic and ecological considerations. In this way, by integrating values linked to human flourishing to ecological and economic values we obtain a complex framework which is less metaphysically abstruse as intrinsic value theories, and functionally equivalent regarding extension and stability: a framework that, in this sense, is probably the best framework of values justifying conservation that we can build.