

Article

Building Ecological Solidarity: Rewilding Practices as an Example

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Abstract: Solidarity within bioethics is increasingly being recognized as an important means of improving health for all. Its contribution seems particularly relevant when there are injustices or inequalities in health and different individuals or groups are disadvantaged. But the current context of ecological collapse, characterized mainly by a loss of biodiversity and ecosystem decline, affects global health in a different way to other factors. This scenario creates new challenges, risks and problems that require new insights from a bioethical perspective. I, therefore, propose an argument in favor of ecological solidarity. The aim of this article is to re-define this concept, outlining which causes should incite action through ecological solidarity and who should be the main recipient of it. To this end, I discuss what the background for practicing ecological solidarity might be: an intrinsically altruistic motivation to attempt to be a better person or a forced response to a political obligation. Finally, by way of example, I argue for rewilding as an effective, practical strategy through which ecological solidarity can be applied in the belief that building ecological solidarity supports a number of key interdependencies and ensures ethical care for the health of the planet.

Keywords: ecological solidarity; bioethics; global health; vulnerability; invisibilized; rewilding



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1. Introduction

Currently, bioethics is usually formulated from a principlist perspective and governed by the following four guiding principles: beneficence, nonmaleficence, autonomy and justice. These principles should help to guide actions in relation to health care practices. Justice, in particular, plays a relevant role when the focus is on protecting the health of a collective, public health or global health, since it considers the cost–benefit ratio between someone's individual health and the health of other individuals. Being guided by beneficence or nonmaleficence and a respect for autonomy works well at the individual level when the aim is to generate good health care practices for individuals and when it comes to analyzing health. But when decisions have to be made regarding an aspect of health conditioned by multiple factors arising from the interrelation of individuals, from a society's way of life as a population, then it is necessary to incorporate criteria pertaining to justice. Particularly in its distributive dimension, justice helps to generate an intersubjective decision space where the cost–benefit balance is studied on a collective or social scale.

The recent COVID-19 pandemic has taught us the importance of social justice when making epidemiological decisions to control population health. Relying on strictly individualistic criteria, whereby, for example, personal beneficence and autonomy are the principles respected, would have been insufficient to take care of public health in this case, since it might have further increased the spread of infections. For example, those who are less at risk of suffering the most serious effects of SARS-CoV-2 might have refused to be confined and vaccinated if the only reasons they considered had been related to taking care of their own well-being and disregarded that of others. But justice helps to set limits on selfishness and reevaluate the set of values that underpins individual welfare in order to make individuals open to taking into account the welfare of others, assuming a moral rule

such as that originally proposed by John Stuart Mill, namely, that one individual's freedom ends when it causes harm to another [1]. In other words, this implies practicing solidarity in bioethics.

Autonomy, beneficence and nonmaleficence are not ethical principles that prescribe how we must carry out certain solidarity measures in order to defray the costs of overall health among all members of the community regardless of individual benefit. Rather, this usually requires distributive social justice, a set of political norms that pushes for a better distribution of benefits among the entire community involved. Acting in solidarity does not always necessitate political pressure articulated on the basis of a theory of justice. The sphere of solidarity may or may not coincide with the sphere of justice, depending on whether society judges the obligatory nature of an act of solidarity to be just or not. One does not include the other, nor do they always lean in the same normative direction, but even forcing the two together can cause moral conflicts. For example, organ donation is an act of solidarity, but making it obligatory may be unjust [2]. Section 3 addresses this question of whether solidarity—and in particular here, ecological solidarity—should always arise out of a political obligation that coincides with the sphere of justice or whether, contrarily, it should remain outside coercive public policies and arise from an act of personal, ethical motivation. It is an important question, because more or less drastic practices can be legitimized and encouraged in pursuit of this global health goal depending on how solidarity is understood. In Section 4, I propose rewilding as an appealing strategy through which to apply these practices.

First, therefore, it is relevant to state what kind of solidarity I am calling for with this contribution. I do not address just any type of solidarity, but rather mainly focus on ecological solidarity. Some may ask why we would need to transcend the idea of traditional solidarity in cases associated with social justice and look for a new concept of ecological solidarity. My answer is this: if appealing to solidarity might work well when addressing public health conflicts, what would ecological solidarity bring to the table in relation to bioethics? Drawing on this concept may help to make the connections between health and ecosystemic harms more visible, forging a broader and more interdependent understanding of “global health” (aligned with this would be the “One Health” concept increasingly used by global health experts [3]) and attending to other dimensions of justice beyond the distribution of resources.

2. What Is Ecological Solidarity?

Ecological solidarity is defined by some authors as the reciprocal interdependence of living organisms with spatial and temporal variation in their physical environment [4]. It was first embraced and put into practice by some European countries, such as France, which included it as a new management strategy and established environmental law relating to protected natural areas in 2006 [5].

Mathevet and colleagues discussed the scope of the concept within this framework, bringing up the advantages and challenges of its application for conservation biology, political ecology and even environmental ethics [6,7]. Many of their articles focused on exploring how ecological solidarity can help legal protection and citizen responsibility to deploy wider coverage over a given landscape. This thematic approach facilitated meaningful insights on political, community and ecological levels: engaging co-participation, increasing the number of stakeholders committed to land stewardship and changing the human consideration for nature, abandoning interests narrowly centered on the commodification and economic valuation of ecosystem services.

Beyond the concern for the expansion of protected territories and their community involvement, Mathevet and his colleagues [7] stated that “ecological solidarity is the moral and positive attitude derived from acknowledging objective social and ecological interdependencies”. They emphasized that ecological solidarity is both solidarity between people regarding the consequences of environmental changes, whether or not they are linked to human activities, and solidarity between humans and non-humans [5,7]. In order

to extend their question on how we take individual and collective responsibility for the consequences of the social and ecological interdependencies (often invisible) that hold humans and non-humans together [6,7], I broaden in this article the concept of ecological solidarity by integrating it into global health concerns.

Thus, I understand ecological solidarity in two interrelated ways. The first meaning is that which connects solidarity actions to ecological causes. That is, when environmental impacts cause certain damages and we take responsibility for them to a greater or lesser extent, we are showing ecological solidarity. What is being addressed here is the causal reason underlying certain solidarity behaviors or policies; a reason being the collapse and damage that our societies suffer in the face of climate change and ecosystem decline.

The second meaning is that which connects solidarity actions and non-human recipients. That is, when people take responsibility for the damages and disturbances that our societies cause—directly or indirectly—to a non-human being or entity, e.g., another animal species, plant species, an ecosystem or the climate itself. This understanding of ecological solidarity creates a link between human beings—who perform the action—and non-human nature—to which the action is aimed and by which it is received.

Thus, I do not understand the concept in an almost metaphysical way, in the sense that ecosystems or ecological relationships can show solidarity. It is we humans who have the capacity for solidarity. But for it to be ecological solidarity, it must respond to a specific type of cause and/or be directed towards specific recipients. Although there are times when we can show ecological solidarity towards a non-human being or entity suffering the consequences of an ecosystemic impact, we can also show it towards a human being suffering the effects of environmental degradation or towards a non-human species—or any natural entity with a meaningful ecological value—that is in danger of extinction for reasons that are not necessarily ecological, such as poaching. Only one of the two factors—ecological cause or non-human recipients—need be present for an act to be defined in this way.

2.1. Being in Solidarity with Ourselves When Biosphere Disruptions Threaten to Reduce Our Well-Being and Widen Social Inequalities

Why do we show ecological solidarity? Why support this type of solidarity from the perspective of bioethics? Asking what cause is behind the motivation to act out of ecological solidarity implies recognizing the existence of an ecological event problematic for society: problematic because it has a harmful effect on people's lives. This event may be, for example, accelerated climate change, loss of biodiversity, rising sea levels, desertification of soils, pollution, etc. If these events have a negative impact on the lives of some people, even causing damage to their health, then, from a bioethics viewpoint, we may argue in favor of adopting ecological solidarity with them.

Two premises are assumed here: the first is that environmental impacts have the potential to affect us all, but not equally, as they cause more damage to one person's health than another's; the second is that health should not be understood as strictly biological [8] but in a multidimensional way following the normativist axis of meaning proposed by the WHO and as "having a maximum state of physical, psychological and social well-being" [9]. It is true that we can criticize the ambitious assumption of the maximums to which the WHO's concept aspires and stick to a more pluralistically open and "minimum" version, such as that proposed by the capabilities approach through its notion of a "threshold" of basic capability [10,11]. But, in either case, what is relevant for this contribution is that health is understood as well-being in a broad sense, not only in medical terms in relation to maintaining the integrity of the body.

Bioethics should include within its principles the provision of care for the most disadvantaged and vulnerable following an impact generated by environmental degradation. This would be the case, for example, with those most adversely affected by the effects of the COVID-19 zoonosis, insofar as it is a zoonosis caused in part by a human disturbance of biodiversity [12,13]. Admittedly, this example can be justified without the need to appeal to

ecological solidarity. By appealing to a more conventional solidarity principle, articulated on the basis of social justice theory, we can find arguments in favor of taking measures to protect those most vulnerable to COVID-19. This is because the COVID-19 pandemic has been recognized as a serious social problem with a certain indifference to its ecological causes. Whether or not the cause of the pandemic was a zoonotic contagion produced by the loss of biodiversity, it invited immediate bioethical responsibility due to it threatening people's health to such a great extent. However, focusing on mitigating the impact on people's health does not necessarily mean taking serious responsibility for what has caused it. We can confine ourselves and vaccinate ourselves in the name of social solidarity, but, in addition to these collective actions, we need to take serious responsibility for the causes that led to this pandemic, such as a loss of biodiversity due to the exploitative and extractivist abuse of nature. With respect to this, the best preventions against COVID-19 and future zoonotic pandemics are sometimes thought to be to practice caution, stop participating in these anti-life activities and start taking better care of nature [12].

There are further examples that perhaps provide for a better appreciation of the need for both ecological and social solidarity, including restrictions on the entry of highly polluting vehicles into cities, recommendations by experts in ecological science to reduce the consumption of meat or prohibition of the use of certain pesticides such as DDT on crops. What is common to all these practices is that they react to the damages derived from the impacts we humans have on ecosystems. The underlying causes constitute environmental damage that, in turn, damages our health.

Sometimes, this damage can be recorded biologically, such as the effects of repeated inhalation of pollution on the respiratory tract, the weakening of our immune system in the face of increasingly resistant bacteria—or “superbugs”—that are strengthened by the antibiotics supplied to livestock or the various alterations in the nervous system, dehydration, headaches or tachycardia that can be caused by experiencing increasingly extreme heat. Other damages are more subtle and difficult to detect by means of medical analysis and strictly biological criteria, such as the green gentrification of urban areas or the increase in poverty and migration in those areas most affected by the climate crisis. But these are forms of damage that also seriously affect people's well-being, negatively influencing their psychological, social or emotional health. And what is common to all these health impacts is that they are caused by ecological or climatic effects.

2.2. Being in Solidarity with Non-Human Others When Human Societies Cause Them Harm or Disturbances

I began this work by addressing the question of under what circumstances we can act out of ecological solidarity, reasoning first that we can do so when someone's health is threatened due to environmental degradation or impact. This is only one side of the coin, however; the other is related to the subjects or recipients for whom an act of solidarity is intended. Here, I argue that if we are in solidarity with a vulnerable, natural being or entity that holds a fundamental ecological value for the proper functioning of the biosphere—and planetary health—regardless of what circumstances are causing its vulnerability, then we can also understand that we are practicing ecological solidarity.

This question of who should be the target of ecological solidarity if we are to improve the health of the planet may point to beneficiaries such as wild ecosystems and different animal and plant species, especially those in vulnerable situations. This consideration is based on the premise that good planetary or global health (I understand planetary health as being almost synonymous with global health, only, in my opinion, the term “planetary” makes the inclusion and participation of wild nature more explicit within the scope covered by health) depends on minimally protecting the state of wild nature [12].

On the other hand, this issue also invites us to first rethink the meaning of vulnerability by addressing why something or someone may be considered vulnerable and, second, ethically analyze why focusing on vulnerability should constitute a priority moral criterion. In research ethics and medical ethics, vulnerability is regarded as a state to be addressed

and even overcome [14,15]. But what is vulnerability? The notion of vulnerability has, at different times, been criticized as being too vague, too narrow or too broad [16]. Even the notion “vulnerable populations” has been criticized for stigmatizing and stereotyping entire categories of individuals and expanding to include almost everybody [17]. On the other hand, it has also been argued that rejecting the notion would be dangerous, since some people might no longer be protected [18]. So how should we define it?

On this point, it is pertinent to bring up the distinction that Onora O’Neill [19] offered between “persistent vulnerability”, understood as an inherent condition of every living being from a philosophical perspective, and “selective vulnerability” due to contextual circumstances, understood from a political perspective. The philosophical understanding of vulnerability as an essence that we sometimes experience and share with others in the most fragile moments of our lives—such as at birth and when we are close to death—can certainly motivate humanitarian feelings of solidarity, because we feel that we all share common features and are part of a whole. This may lead us to participate in the implementation of global justice and assume collective responsibilities [11].

However, this approach addressing inherent and common vulnerability does not help us to decide who needs more supportive attention at a given time, especially when contextual conditions are causing greater vulnerability to someone or something. To this end, it may be more useful to employ a political perspective than a purely philosophical one. In this regard, vulnerability should be understood as a circumstantial and specific state in which physical, emotional, cognitive and social conditions are undermined by external factors or, in capability language, vulnerability is that circumstantial state in which some thresholds of basic capabilities for health and well-being become unshielded [20].

Having defined vulnerability—in more political terms—the next question might be why it should be viewed as a moral criterion superior to others when the aim is to act out of ecological solidarity towards the more-than-human world (here, Alasdair Cochrane proposed a sentientist political and a global interspecies justice approach in which solidarity towards non-human animals becomes crucial. According to Cochrane, a prerequisite of a sentientist political system is that it is underpinned by a civil society with “sentientist solidarity”—that is, a citizenry with feelings of shared affiliation with sentient non-human animals—as well as a commitment to the institutions designed for their protection [21]). Why would it be more ethical to focus on the most vulnerable non-human beings or ecosystemic entities as opposed to other features or conditions of those entities? While we may accept that non-human nature deserves to receive solidarity actions because its flourishing at least guarantees planetary health, there is still a need to justify why the most vulnerable should be cared for first.

In the bioethical debate, there are perspectives that might criticize such moral decision-making criteria. From a utilitarianism standpoint, it is sometimes held that the most vulnerable must be a priority for health care. Utilitarian arguments are focused on providing the greatest benefit for the greatest number of individuals at the lowest possible cost. Their priority is efficiency—based on cost effectiveness—rather than attending to those victims identified as most vulnerable. It is true that a global health focus may be counterproductive when it comes to allocating all health resources to those first recognized as being the most vulnerable. This may cause a bias, because solidarity would, above all, be shown towards those individuals or entities known to be most harmed at present. What if there were other unrecognized, affected individuals or other vulnerabilities not yet recognized but that might emerge in the future? When distributive social justice enters the health management debate, it can provide rational proposals that go beyond the moral criterion of the “rule of rescue” [22].

But ecological solidarity is not a proposal that should only be articulated within the logic of distributive justice. The normative meaning of this concept aims to embrace other dimensions of justice, such as justice based on recognition—of social and ecological interdependencies—on participation and on the absence of structural domination [4,6]. Fortunately, from the perspective of bioethics, acting out of solidarity is not reduced to

managing health resources. Solidarity neither ends with resources nor is it limited to them. A conduct in which nothing is given—materially—but something is done—through behavior—can be out of solidarity and may even be of greater help. Ecological solidarity should also help to address some of the problems faced by justice beyond resource sharing, such as the recognition and absence of domination [23]. This entails consideration of vulnerability insofar as it is a condition that affects the basic capabilities of individuals deserving moral consideration. And it is also a good ethical criterion because it helps to identify when some fundamental thresholds for flourishing are not being protected.

All of the above being said, vulnerability must be put into context for two reasons. First, because using vulnerability as a criterion should not mean being guided solely by the psychological effect of the “identifiable victim”, according to which we attend to those symptoms and individuals that are most visible [24]. Let us consider a situation in which a choice has to be made—given limited energy and time—between being in solidarity with an abandoned dog on the street who is starving or an entire forest threatened by deforestation. Whereas the former is likely to be more visible and its vulnerabilities more identifiable at first glance, ultimately, the situation of the latter may lead to many more vulnerabilities for more individuals and species. Therefore, to focus on vulnerability is not to focus on those symptoms that are most visible, conspicuous or even with which we can most empathize, but rather to focus on those capability thresholds that are most at risk even if they are often invisible at first glance. With regard to this, there are authors who defend a politics of sight, which uses the concept of justice to address both those processes and vulnerabilities that are made invisible by our societies and those subjects that are “invisible” to it [25,26].

Secondly, a further reason why vulnerability must be put into context is because, in the case of ecological solidarity, it must be assessed in relation to the proper functioning of the biosphere. At the beginning of this section, I mentioned that the focus should be on the vulnerability of those individuals or entities that play a more fundamental role in the proper functioning and health of the environment. The “ecological” attribute that I add to solidarity responds to a holistic perspective where the protection of ecosystems is paramount. Thus, it is necessary to combine the criterion based on caring for the most vulnerable people with utilitarian criteria concerned with the prevention of diseases and future vulnerabilities and the care of global health from a systemic approach as well [27].

In short, by ecological solidarity I mean those acts of solidarity which, in addition to being intended for those most harmed by environmental issues, are especially intended for the “others”: the more-than-human world. And, within the wide variety of beings or natural entities that might receive our solidarity, I consider it especially important to focus on the most vulnerable, whose existence and development make an important contribution to planetary health.

3. Why Should Ecological Solidarity Be Driven by Public Policy?

In the process of defining ecological solidarity, I have discussed the causes that can motivate people to act with this type of solidarity and who would be its main recipients. Having explored where solidarity actions are directed, to whom their effects are directed and the reasons for it, it is now time to consider the origins of these actions: do they arise from people’s personal motivation to voluntarily try to be more responsible and ethical or from political obligations that pressurize people to act out of solidarity? To consider this means to ask whether ecological solidarity should be a purely ethical and motivational virtue born intrinsically from each individual—after some educational nudging, of course, but without forcing or compelling—or whether the laws of justice should also be obliged to implement it when there is a lack of personal motivation.

I am inclined to accept this second, broader and more coercive meaning, according to which ecological solidarity can be both an ethical virtue and, in some cases, a political obligation. Indeed, the ecological solidarity articulated in the French law on biodiversity conservation and national parks governance is framed within the legal and political sphere and aims at collective actions of community participation [6]. The ethical motivation that

can move us to act out of ecological solidarity on a personal level sometimes arises as a response to a problem from which we are already suffering. We can be motivated to act more easily if we are familiar with the vulnerability or suffering of others. It awakens an empathy that is often more sentimental than cognitive (with respect to this, Peter Singer [28] has been working to substantiate an altruism based on a cognitive basis of rational arguments rather than on an empathic feeling. Following the utilitarian Henry Sidgwick, who shared with Kant the conviction that ethics has a rational basis, he argues that with a cognitive effort, we can do better than when being guided by emotions alone), pushing us towards an ex post responsibility generated a posteriori. But what happens if what we want is to prevent vulnerability or harm?

In the previous section, I noted that ecological solidarity does not necessarily have to follow the rule of rescue based on the psychological bias of the identifiable victim, but rather often points towards “invisibilized vulnerabilities”. This also applies to the type of bioethical responsibility derived from acting out of ecological solidarity towards such vulnerabilities. Often, ignoring what is at stake prevents us from feeling the need and urgency to act in solidarity. Social solidarity does not usually appear as a method of prevention but as a reaction to a problem of morality or justice. On a personal level, we are not usually motivated as much by a concern for the risks of suffering damage in the future as by perceiving such damage directly in the present. But ecological solidarity is often an exercise in prevention, an ex ante responsibility, because the effects of an environmental problem often accumulate over time and are only detected in the long term, having remained invisible in our societies; and, sometimes, it is even too late to compensate for the damage inflicted [29]. It is, therefore, not enough to offer a response to an already visible problem. In fact, it may even be too late. This is why, in order to strengthen this type of solidarity, it cannot be left to personal motivation, to the free will of the private sphere, but rather it must be catalyzed through public policies.

It is sometimes argued that if an act of solidarity is the result of political coercion, it narrows the opportunities for people to develop morally as responsible persons [30]. In this sense, functioning on the basis of obligations and incentives limits the freedom to cultivate one’s virtues and to mature ethically. Thus, increasingly shifting motivational and altruistic decisions in favor of solidarity towards a kind of social duty that is fulfilled in order to avoid sanctions and loss of quality of life may result in moral regression. Paradoxically, it could be seen as an advance in terms of a just society but as a setback in terms of promoting morality among individuals.

However, the urgency and gravity of the situation facing the Anthropocene, characterized by a loss of healthy ecosystems, are pushing us towards a rapid decision-making process. Time is running out for responsibility to emerge motivationally from each one of us; it is needed now. Hence my call for an ecological solidarity that is also driven by public policies, even if this implies certain obligations and incentives.

I do not think that forcing or promoting people to act in solidarity necessarily leads to a kind of rebound effect where we lose empathy, moral will or ethical virtues. First, because I do not advocate that every act of solidarity should entail public coercion for all. Some acts should remain strictly personal and not politically enforceable, such as, for example, if someone decides to give food to a malnourished animal due to the degradation of its habitat or other environmental causes. Persuasive measures might be introduced, for example, including information about the benefits of caring for those animals most disadvantaged by environmental factors or giving subsidies to those who adhere to a commitment to ecological solidarity. But forcing this can be counterproductive for several reasons. The relative biospheric benefit of such interventions may not outweigh the hardship of some economically poor people having to share their food or the pollution from the international travel that some wealthy people would undertake in order to assist suffering exotic animals or the psychological stress that can be caused by forcing individuals to approach a wild animal they fear or even the risk of destabilizing an entire food chain in which it is natural and even necessary for the proper functioning of ecosystems to have weak, wild animals

that can be hunted by hungry predators. The widely varying conditions pertaining to each individual, the lives of wild animals and ecological dynamics make it difficult to demand solidarity of this kind without some injustices. Thus, if we leave the door open for some acts of ecological solidarity to only be assumed in the private sphere, then there is still room for personal moral development.

Second, the fact of having laws of justice that give incentives or oblige individuals to act can help to awaken their moral conscience, insofar as they can become aware of ecological damage that they themselves may be causing indirectly without realizing it and begin to acknowledge an important moral value. For example, if there had been no public bans against the use of pesticides such as DDT, many people would have continued to contribute to the widening of the ozone hole out of pure ignorance. The same would be true if there were no prohibitions and severe penalties for indiscriminately polluting rivers, deforesting a natural area or lighting a fire next to a wooded area. Information campaigns are sometimes not enough to make people realize the extent of the effects that such activities have on the proper functioning of ecosystems and on global health. A political measure can also educate us morally.

Third, if ecological solidarity is sometimes the result of coercive or subsidized measures implemented by public policies and institutions and applied to all, this may help generate outcomes with a greater collective benefit than if it were exercised only by some people in a disinterested manner. And achieving a better outcome collectively perhaps enhances our moral virtue. This implies consideration of, first, the extent to which moral virtue takes into account the results of its actions and not only its motivation or underlying origin; and second, whether the virtuousness of solidarity responds only to individual actions or also to collective ones. Ethical virtues can be both personal and civic in nature, neither of these being superior to the other provided they lead to beneficial results for others and the environment.

If we compare two cities, for example, one that prohibits the circulation of private vehicles in the urban center and another where there are no prohibitions on circulation, it would be incorrect to conclude that people from the second city who choose not to drive their private car are more virtuous than people from the first city where they do not do so because it is forbidden, because it all depends on the intentions of the people in the city where there is a prohibition: whether they explicitly express an interest in driving in the city center if they could, despite the polluting effects it may have. That being said, those people who do not directly question this ban or deliberately comply with it because they agree with it can also be considered to be cultivating a civic virtue. Moreover, as a collective inhabitant of the first city, the latter can be considered to be more supportive than the inhabitants of the second city, because they take better care of the ecological environment as a whole, even if it is a civic obligation.

Resuming the case of ecological solidarity applied in the management of some European nature reserves, it was argued that a community adherence to this practice promoted by conservation payments or public recognition of the stewardship role can help identify the multiplicity of interdependencies, the plurality of values and the shared responsibility involved in the process [4,7]. Thus, by integrating all these aspects in a policy-driven and community-led approach, ecological solidarity may become a public communication tool and a catalyst for achieving greater collective outcomes for both nature and society.

Whether promoted or compelled by governments and laws of justice or born of the voluntary decisions of a set of self-organized individuals, in both cases, collective actions can be virtuous acts of solidarity. And when they are born of political obligation, the key question is whether the corresponding policies were the result of plural and democratic deliberation or of belligerent authoritarianism [31]. Ensuring spaces for dialogue and co-participation to engage in common goals becomes key for addressing this question [5,6], rather than holding a dichotomous opposition between the private and public spheres and pitting the interests of private owners against those of public representatives.

4. Ecological Solidarity in Practice: Rewilding Strategies as an Example

In the Section 2, I mentioned that the protection of natural areas in France was the first time that ecological solidarity was articulated and put into practice. Ecological solidarity takes on its full meaning when humans recognize the reciprocity of most interactions, for instance, biodiversity in the core area of a national park depends for its efficient functioning on the surrounding area, and human activities outside the core of the protected area (i.e., in the peripheral, transition or buffer area) can influence the biodiversity within the protected area itself. Following Mathevet et al. [7], I explained that ecological solidarity can also be manifested when responding to a concrete cause of an unjust scenario generated by environmental degradation or ecological impacts and when it is directed at non-human subjects or recipients. By bringing together these two premises comprising ecological solidarity, we are able to formulate another moral question regarding how to act out of ecological solidarity, which is discussed below.

As mentioned above, the responsibility that ecological solidarity invites us to engage in must not only follow the framework of distributive justice, but go beyond it and assume a logic of relational justice, i.e., that of recognition and absence of domination [23,32]. Indeed, one of the purposes of the ecological solidarity tool adopted in the French management policies consists of going beyond a directly profit-oriented approach towards a form of “go-between”, or pragmatic compromise, in the sway between the ecocentrism and weak anthropocentric ethics that characterize efforts to value nature [4].

To act out of ecological solidarity, it is necessary to recognize other forms of life and relate to them in a non-oppressive way [21]. And, in my opinion, one practice that supports this approach of multidimensional justice and responsibility for global health is rewilding. I set out the argument for this below.

Rewilding is a narrative and a movement for natural regeneration that seeks to make the planet wilder by ensuring it has healthier and more functional ecosystems. Although the concept has been expounded upon since the 1990s [33,34], it has changed in recent years. Nathalie Pettorelli and colleagues [35] compiled some of its most common definitions: (i) the first is about reviving the wild, whereby degraded areas can recover biodiversity and develop undefined future states without further interference and not necessarily with greater utility for humans; (ii) the second focuses on reintroducing extirpated species (or their proxies) so that an ecosystem can resume its former functionality, with potential benefits for humanity; (iii) and the third is based on recognizing that biodiversity exists within dynamic and changing social-ecological systems and seeks the self-sustaining function of an ecosystem; those who manage it need not necessarily restore it to a former state, rather it may be sufficient to provide the ecosystem with adequate environmental conditions through minimal intervention.

In short, at a theoretical level, the philosophical idea of rewilding consists of recovering biodiversity and the functionality of ecosystems by reintroducing and preserving some wild species and exerting minimal influence on them so that they can organize and sustain themselves. But how can these practices contribute to improving planetary health and be relevant to ecological solidarity from a bioethical point of view? On the one hand, rewilding applied mainly within cities reduces pollution and increases psychological benefits for people; on the other, applied in more rural environments, it reduces the risk of contagion and the spread of pathogenic diseases.

Rewilding practices can be well reflected in the implementation of ecological solidarity promoted by French environmental management laws. Both have the potential to blur the borders of nature reserves by taking responsibility and caring for nature also in adjacent areas, involving rural and urban communities. Rewilding is not only understood as a land-sparing strategy but also as a land-sharing strategy. That would entail an integration of wilderness into the socio-cultural matrix on a large scale [36], striving to minimize human–wildlife conflicts and being concerned for interdependencies. Many studies show that rewilding, especially in urban areas, helps to reduce pollution and create more resilient spaces [37]. There is also research that shows how the reintroduction of wild species, such

as some native plants rich in aromatic phytoncides, can reduce depression and reduce cortisol levels, benefiting our emotional and psychological systems [38]. Furthermore, some theses claim that our mental and physical health may be compromised by the lack of ecological interactions because our population genetics and evolutionary history are intertwined with other species [39,40].

Then, there is the issue that rewilding reduces the spread of infectious diseases from pathogens. The risk of zoonoses increases with changes in the industrial and extractive ways we use the land, the expansion and intensification of agriculture and global trade and unsustainable production and consumption [41,42]. These factors disturb nature and increase contact between wildlife, livestock, pathogens and people [43]. However, strategies such as rewilding have the potential to significantly decrease these pathogenic risk factors related to global health [44].

Many investigations demonstrated this direct correlation between the presence of wild species and a containment of disease transmission. For example, studies were conducted on how animals such as opossums or squirrels help to prevent the spread of Lyme disease [45]. Since this is caused by the bite of an infected tick, if some rodents and marsupials are able to eat thousands of these in a few weeks, then the protection of the latter may be crucial in helping stop this zoonosis. Another example of the links between rewilding and health was illustrated by research conducted in northwestern Spain, which analyzed how wolves in Asturias are able to slow the advance of tuberculosis thanks to predation on wild boars [46]. Also striking is the role that scavengers play in preventing disease. As the number of vultures declined in Asia during the 1990s due to indirect diclofenac ingestion, the number of decaying carcasses in rural areas increased, leading to health problems such as new outbreaks of tuberculosis and brucellosis and even increased contamination of nearby water sources, resulting in an increase in diseases such as cholera and typhoid in humans who drank from their tributaries [47,48].

In addition to the above, a decrease in animal biodiversity is not the only factor that increases global health problems and makes it easier for viruses to adapt to local reservoirs or dominant vectors in the area, amplifying their transmission, since the destruction of forested areas and specific ecosystems also leads to the same outcome. For example, some studies showed how fragmentation of tropical forests leads to the spread of viruses such as Ebola [49,50]. There are many more pathogenic diseases that arise from ecosystem decline, however, such as those caused by leishmaniasis, malaria, dengue, Nipah virus or retroviruses such as MERS-CoV or SARS-CoV-2 [13,51].

There is another reason that I have not yet mentioned regarding why rewilding can be a good practice for ecological solidarity. So far, I have focused on its benefits with regard to global health and certain groups put in a vulnerable position by ecosystem degradation. But there is another perhaps more subtle reason why rewilding can also be an exercise in ecological solidarity from a bioethical perspective: because it recognizes more freedoms and grants sovereignty or freedom of movement to wild species (Sue Donaldson and Will Kymlicka [52] defended wild animals' rights to sovereignty. Although Cochrane [21] rejected this claim, arguing that non-interference does not necessarily lead to wild animals flourishing and that sovereignty is not required for animals' rights concerning their land being protected, he still posits that cosmopolitan free movement of animals will not allow humans to seize and destroy animals' spaces for their own purposes. Aligned with such a claim, the ecological solidarity concept used in the French environmental policies and even claimed by IPBES [53] seeks to expand the wild protection zones in order to ensure greater movement opportunities for those animals that need to migrate or are forced to do so due to ecosystem degradation). I previously mentioned the importance of understanding health in a multidimensional way and not in strictly biological terms. If we adopt the premise posited in the Section 2, according to which some of the main recipients of acts of solidarity must be non-human beings and entities who are "invisible", then it is essential to favor their autonomy without introducing a sense of paternalism, which oppresses the wild. In bioethics, the principle of beneficence is important but so is that of autonomy. And

solidarity must ensure that neither of these principles is undermined. I believe that the *laissez-faire* but conservationist philosophy of rewilding balances a tension between doing and leaving be, between the freedom of wildlife and caring for it. The associated strategy of reducing anthropogenic pressures on ecosystems and allowing wild nature to reclaim unimpaired territory diminishes ecological disruptions that could harm global health.

As a final consideration, how exactly should it be practiced? Practicing rewilding to act out of ecological solidarity may be performed in both the public and private spheres, just as I stated in Section 3 that solidarity may be an individual or a social and civic virtue, one not necessarily having greater moral value than the other. Governments and public policies can implement certain obligations that encourage rewilding. For example, by drafting laws on poaching and wildlife trafficking, regulations against the emission of certain pollutants, penalties and taxes for the consumption of certain products and services with a large environmental footprint, etc. In the personal sphere, there are certain everyday behaviors that also practice rewilding and are aligned with ecological solidarity. For example, one measure, which is based on self-restraint, might be to pay more attention to our diets and to try to reduce the environmental impact of the products we consume, minimizing the consumption of meat [54] and those foods from monocultures maintained through the intensive use of fossil fuels or global trade [55]. Other measures of ecological solidarity for rewilding that are not subject to political obligations might be, for example, to instigate a neighborhood response to try to save the spontaneous nature that has emerged on an abandoned site, a social initiative to create an urban forest on an abandoned industrial site, the creation of orchards and community gardens in disused spaces or the formation of a group of friends in a peri-urban natural space and active participation in its conservation and restoration [56].

5. Closing Remarks

In this contribution, I attempted to define the concept of ecological solidarity. I began by stating that the loss of quality of life due to ecosystem decline and the vulnerability of those non-human beings or entities that are key to the proper functioning of the biosphere are factors that invite us to practice ecological solidarity. Following that, I argued that it is not only a personal virtue that must always arise from the intrinsic motivation and free behavior of each individual, but that sometimes it is also a civic or social virtue that can be conditioned or imposed by public policies or laws of justice. This does not, however, mean that ecological solidarity loses value or necessarily leads to an ethical apathy in which we are incapable of behaving altruistically. Finally, and grounding the theory a little more in practice, I argued that one way of showing ecological solidarity involves reducing anthropogenic pressures and domination actions to free up spaces in which wildlife can manage itself. This call for rewilding is justified by the findings of various studies which demonstrated how healthy, self-managed biodiversity contributes to global health and reverses ecosystem decline. Thus, practicing rewilding represents a strategy in which ecological solidarity becomes central to bioethics.

However, some questions were not addressed in detail in this paper and will require further explorations: below, I identify at least three important fronts still open to discussion from a moral point of view.

One, deriving mainly from the Section 2, consists of distinguishing which recipient of ecological solidarity has priority. Deep down, this is a problem of moral ontology. If, as in Section 2.2, I focus on the non-human community, and especially those individuals or collectives most “invisibilized” by our societies, it is because I already extended solidarity to humans in Section 2.1 by arguing that all individuals—human and non-human alike—most affected by ecological impacts and environmental degradation should be recipients of such solidarity. In doing so, I broadened the field of recipients of solidarity to embrace the most vulnerable subjects. This, of course, makes practice more difficult, because the more recipients we include who are morally relevant to receive solidarity, the more complex

the hierarchical decision-making exercise becomes. It is also true, however, that practical difficulties do not necessarily imply a contradiction within a moral theory.

A further challenge, deriving from the Section 3, is to try to elucidate when ecological solidarity should be enforced and when it should not. That is, to consider which rewilding actions require political and legislative support and which should be left to the goodwill of individuals. This is a question to which there is no clear and definitive answer. The relationship between individual freedom and collective responsibility, or between individual health and global health, can lead to difficult moral tensions and even tragic decision making across multiple levels. The example of the management of national parks in France through the application of ecological solidarity based on the territorial involvement of adhesion zones in protected areas may shed some light on this point. That being said, it is undoubtedly a bioethical challenge that we must collectively address in a democratic manner and one for which we should seek alternatives and imaginary futures in which this conflict between different levels of freedoms and health is reduced.

And one final open front, stemming from the Section 4 in particular, concerns the tensions between the suffering of wildlife and the pursuit of ecosystemic functionalities and global health. Rewilding, insofar as it seeks to minimize positive interventions in nature so that wildlife self-management can enable ecosystem regeneration, may invite us not to help some non-human animals suffering in the wild. Beyond a utilitarian calculation, to what extent is abandoning the individualized protection of some suffering non-human animals in exchange for the pursuit of global profit ethically permissible? Giving up responsibility for actively caring for wildlife might seem strange considering the theories posited in the Section 2, where I argue in favor of allocating solidarity to the most vulnerable and invisible beings and entities. But it should be remembered that the adjective “ecological” accompanies the term “solidarity”, leading us to understand beneficiaries from a holistic rather than an individualistic point of view. As I already pointed out in Section 2.2, the most vulnerable and invisible people who are key to the ecosystem deserve to receive ecological solidarity first. Therefore, if the interests of all suffering animals are of concern, regardless of their participation and role in the ecological functioning of the biosphere, then ecological solidarity should dialogue and build bridges with other principles of multispecies solidarity.

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