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OUT OF THE WILD

A Garden-based Theory of Biodiversity Conservation

CONTENTS

INTRODUCTION

1. *A Zero-Sum Game?*

1.1 *Statement of purpose and reasons for undertaking this investigation*

1.2 *Plants and Value: Failures of Impartialist Strategies of Justification*

1.3 *Intrinsic Value*

1.4 *Gardens and Environmental Ethics*

1.5 *Anthropocentrism*

2. *Nature as a Resource*

2.1 *Using nature*

3. *Prudence*

3.1 *Losing nature*

4. *Gardens, Instrumentalism, and Resolute Choice*

5. *Gardens and Virtues*

6. *Overview of the Project*

CHAPTER 1: Gardens and Conservation

1. *Why gardens, What plants, and Where*

2. *An Illustration*

3. *Gardening the Commons*

4. *Governing the Commons*

5. *City Gardens*

CHAPTER 3 – Garden Values

1. *The make-believe charge*

2. *The say-so charge*

3. *The butt-in charge*

3.1 *Refuting the butt-in charge*

4. *Natural and Unnatural Nature: 1*

4.1 *The solid view of naturalness*

4.2 *The fluid view of naturalness*

4.2.1 *Roses and Weeds*

4.2.2 *Wilderness*

4.3 *Why weeds, wilderness, wildness, and naturalness?*

4.4. *Leaving it alone*

4.5 *Not leaving it alone*

5. *Natural and Unnatural Nature: 2*

5.1 *Impersonally valuable properties of gardens and garden nature*

6. *Personally valuable properties of gardens and garden nature*

6.1 *Value-making narrative properties of gardens and garden-nature: personal*

6.2 *Value-making narrative properties of gardens and garden nature: transformative*

6.3 *Value-making narrative properties of gardens and garden nature: projectual*

7. *Understanding and Acceptance*

CHAPTER 4 : A Garden-based Virtue Theory

1. *Experiments of living*

1.1 *Preliminary reflections on virtues and gardens*

2. *A Catalogue of Garden Virtues*

2.1 *Wonder*

2.2 *Curiosity*

2.3 *Ingenuity*

2.4 *Cautiousness*

2.5 *Mindfulness*

2.6 *Efficacy*

2.7 *Timeliness*

2.8 *Adaptive Efficiency*

2.9 *Commitment, Consistency, Perseverance*

2.10 *Gratitude*

2.11 *Loyalty*

2.12 *Humility*

2.13 *Optimism*

2.14 *Hope*

2.15 *Patience*

2.16 *Trust*

2.17 *Cooperativeness*

2.18 *Considerateness*

2.19 *Benevolence*

2.20 *Solidarity*

2.21 *Non-maleficence*

2.22 *Compassion,*

2.24 *Justice*

- 2.25 *Care*
- 2.26 *Familiarity*
- 2.27 *Temperance*
- 2.28 *Ecological sensibility*
- 2.29 *Aesthetic sensibility*
- 2.30 *Discernment*
- 2.31 *Astuteness*
- 2.32 *Vitality*
- 2.33 *Self-mastery*
- 2.34 *Cheerfulness*
- 2.35 *Self-irony*
- 2.36 *Serenity*

CHAPTER 4 - Gardens and Society

1. *Decentralizing and democratizing environmental protection*
2. *Design*
3. *Economic benefits of garden-based environmental protection*
4. *Health-related benefits of garden-based environmental protection*
5. *Educational benefits of garden-based environmental protection*

Bibliography

*“If you want to be happy for a day, get drunk;
for a month, get married;
for a lifetime, take up gardening”*

Peter Bauer

National Review 25, Nov. 6, 1996

Introduction

1. *A Zero-Sum Game?*

Concern for the fate of our environment is today pervasive in the life of many, and slowly beginning to gain its place in governmental agenda's as well. The scientific evidence that nature's future is going to be bleak (as a result of the extinction of species, pollution, and global climate change, among other factors) is overwhelming, and there is no scarcity of proof that such deterioration is in fact largely anthropogenic¹.

¹ While pollution and biodiversity loss *at its current rate* are undoubtedly anthropogenic phenomena, it is highly controversial whether the same can be said of climate change – understood as global *warming*. Some contest the very hypothesis that climate change is occurring at all, pointing to inconsistencies of scientific data across areas - with some warming up and some cooling down. Others recognize global warming but contest the data about its effective dangerousness for humans as well as ecosystems. Others accept both the hypothesis of global warming and the data about the magnitude of the threat it poses, but contest the idea of it being anthropogenic. And others still accept the hypothesis, the projected magnitude of danger, the anthropogenic character of the threat, but point to differential responsibilities for it across continents, countries, and even individuals (for a catalogue of these positions, see Leonie S. Joubert, *Scorched: South Africa's Changing Climate* (Johannesburg: Wits University Press, 2006). In the midst of such uncertainty, it is no wonder that no or very slow political action is being taken to limit the risks connected to such threat. The immense politico-economical implications of even thinking to do so also contribute to making this issue a (perhaps desperately) intractable one. Nothing in what follows will depend on assuming the fact of global warming; however, its possibility will not be discarded, and global warming will figure as a hypothetical threat in some of the cases we shall later discuss. Our focus here will be on biodiversity loss, and the loss of botanical biodiversity in particular - about whose occurrence there are no doubts. Of course, species have always died out – nothing could be more natural than that. But *the rate* at which they are dying out today, and what sort of species are taking their place (weeds, as we shall see), are phenomena clearly imputable to the pervasiveness and the adverse ecosystemic effects of a number of signally human activities – logging, grazing, polluting, poaching, sprawling, etc.

Meanwhile, seemingly insurmountable human problems, such as poverty, hunger, and epidemics, make themselves felt globally, among those who live in developing and underprivileged countries, as well as among the underprivileged of developed ones. Global migrations and communications contribute to making such tragedies vivid in the eyes of all. When these sorry phenomena are taken into consideration, it becomes unclear, on both a moral and a political scale, whether we should in fact worry about nature's future at all, and not rather mind our own business, in itself problematic enough, confident that human technology and nature's own industriousness will in the end work things out for the best. However, man's and nature's problems are interrelated, and solving one ultimately seems conditional on solving the other: alleviating the suffering and satisfying the needs of humans will, in most cases, involve ameliorating the environmental conditions of their life; on the other hand, taking care of nature will require the work of people whose everyday life is not a continuous struggle for survival.

Worries about the extinction of species, the deterioration of landscapes, and the long-term effects of unbridled carbon emissions are often incapable of driving policy-design in developing countries that are still not able to ensure even a minimally decent level of quality of life to their citizens (i.e. sufficient food, shelter, and medical assistance). On occasion, some of these countries have explicitly refused to commit themselves to dedicating more political attention to the environment, choosing rather to focus on the welfare of their people, with little regard for its ecological costs. Such focus, it is argued, is after all the same that animated the vertiginous economic and social development of Europe and the United States, which, until the very recent past, have not been very interested in the environment either, and today enjoys the highest quality of life ever achieved in human history thanks to the exploitation of nature it perpetrated before suddenly going "green". Moreover, and more importantly, despite much green rhetoric, it is not the case that such exploitation has now stopped - it is *still* developed countries, which damage the environment the most: the ecological footprint of the life of an average American or European (including meat sandwiches, cars, plastic bags, utilities, etc.) is comparatively much larger than that of the average Bangladeshi, Ethiopian, or Peruvian². And so why

² Per capita ecological footprint is a means of comparing consumption and lifestyles, and checking this against nature's ability to provide for this consumption. In 2006, the average biologically productive area used

should Bangladesh, Ethiopia, or Peru renounce the benefits of environmentally-carefree economic development? But then again (and a bit perversely), why should developed countries, those that have more dogs in the global economical fight, pursue environmental-friendly policies, when the costs of doing so may gravely hamper their (already remarkably eroded) competitiveness *vis-à-vis* the new, up and rising, environmentally carefree geopolitical-economic force of developing ones?

To many, it seems disconcertingly obvious that humans should concern themselves with the future of their environment - indeed, that the environment is “the only real human problem”³. On the other hand, imposing environmental regulations onto underprivileged individuals and communities, and indeed entire regions and countries while knowing that this may seriously curtail even their most basic attempts towards a decent standard of living, is not only politically impervious, but also morally objectionable. This is all the more so if it is taken into account that the development of such individuals, communities, regions, and countries has often been slowed, or contained - and still is - by the way in which the global economic system has been - and still is - orchestrated by the US and Europe. Still, a problem such as the environmental one knows no borders, and efforts towards its alleviation must be global.

“The truth is that the developing world is in the position to do a great deal of damage to rich countries and the things they value. In addition to their ability to significantly increase and accelerate climate change, developing countries are also the custodians of much of the world’s biodiversity. Without the active cooperation of countries in Africa, South America, and Asia, much of it will be lost forever”⁴.

pro capita was approximately 1.8 global hectares (gha). The US footprint per capita was 9.0 gha, that of Switzerland was 5.6 gha per capita, while China's was 1.8 gha per capita. For the concept of ecological footprint see M. Wackernagel and W. Rees, *Our Ecological Footprint* (New Society Press, 1996). For the data see *Living Planet Report 2008*, by the Global Footprint Network.

³ Pieter Di Paola, private conversation.

⁴ D. Jamieson, *Ethics and the Environment: An Introduction* (Cambridge: Cambridge University Press, 2008), p. 198.

But if those countries are to cooperate, Europe and the US must lead the way, and there is to date no widespread agreement among European and American politicians, scientists, lawyers, philosophers, and businesses, on how to tackle the environmental problems that confront us: thus not just why, but also *how* and *to what* exactly developing countries should cooperate, is not really clear. What is clear and widespread, however, is the acknowledgement that alleviating the environmental quandary we face today requires *both* developing and developed countries to accept, if not limits, at least additional costs to their economic growth, as well as a general, and much more environmental-friendly, new orientation for it.

It may be morally repulsive to impose such costs and orientation on people in developing and underprivileged countries; and it may be very hard, for people in developed countries, to socio-culturally accept them, and to accordingly revise and adjust their attitudes and behavior in and towards nature (an adjustment which would enable and require, in most cases, also a revision of their attitudes and behavior towards people in developing countries). In both cases, it is clear that taking care of nature's future entails very present costs to humans. By these lights, it seems that once we acknowledge the ethical call of nature, we find ourselves facing a dilemma, a zero-sum game scenario in which the good of nature is inversely proportional to the good of mankind.

Environmentally-concerned philosophers and politicians must square this circle, avoiding on the one hand the condemnation of nature to everybody's exploitation, and on the other the unjust exclusion of some from it. Any environmental ethic and policy must be able to successfully negotiate the requirements of three most fundamental objectives: economic efficiency, social fairness, and ecological sustainability⁵. This is a hard task at the local level, and even harder it is at the global one. Because many environmental problems are directly or indirectly related to the fact that current levels of consumption (putting together the 'too much' of the few and the 'too little' of the many) are unsustainable on a planet of finite resources, how to treat the environment is an inherently divisive economical and

⁵ R. Costanza and C. Folke, "Valuing Ecosystem Services with Efficiency, Fairness, and Sustainability as Goals", In *Nature's Services Societal Dependence on Natural Ecosystems*, ed. Gretchen C. Daily, 49-70 (Washington, D.C.: Island Press, 1997), p. 51

political issue, and it seems likely that it will be even more so in an increasingly globalized future, and certainly along a global North-South, rich-poor divide⁶.

Even if it is taken as established that there exist serious environmental problems and that many of them are anthropogenic, it still does not follow that we have a moral obligation to act in order to solve them; especially when doing so may in fact entail harming other humans. We must therefore inquire whether the environment possesses some form of value that requires us to refrain from harming it in the same way in which we have an obligation not to harm people; or whether, alternatively, we should refrain from harming the environment precisely because we value people. We must thus reflect on the very moral character of our relation to nature. In particular, the solidity of the zero-sum game scenario that seems to present itself to environmental ethics and politics must be called into question. It is worth enquiring whether such either/or picture is not in fact the result of a faulty conceptualization of the problem at hand, due to inherited ways to look at the world that may, on reflection, turn out to be untenable, or unnecessary.

1.1 Statement of purpose and reasons for undertaking this investigation

It will be argued that there are significant dimensions of the environmental problem in relation to which conceptualizing it as a zero-sum game between nature and humans is utterly misguided, as well as detrimental to the enterprise of finding solutions; and in relation to which the requirements of economic efficiency, social fairness, and ecological sustainability can in fact be successfully integrated. It will be argued, in other words, that in some notable cases human presence, activity, and increasing standards of living need not be inimical to nature's future, but should rather be seen as the biggest resource on which to build it.

⁶ With particular reference to the issue of climate change, see D. Jamieson, "Adaptation, Mitigation, and Justice", in *Advances in the Economics of Environmental Resources*, vol. 5, 217-248, 2005. See also H. Shue, "Climate", in *A Companion to Environmental Philosophy*, ed. Jamieson, Blackwell 2001.

The topic of *biodiversity conservation* is chosen here as one instance in which the zero-sum game scenario need not obtain. It is also chosen in the belief that many (though not all) of our main environmental concerns can be approached by exploring our concerns for the persistence of a diversity of life on this planet, if only because biodiversity loss is a phenomenon related to other major environmental problems, such as pollution and climate change; extinctions result from habitat degradation; habitat degradation is often the result of pollution, which is in turn one of the causes of climate change, which can be expected to further contribute to habitat degradation, and thus to further extinction, and so on⁷.

The UN Convention on Biological Biodiversity, produced in 1992 during the UN Earth Summit in Rio de Janeiro, defines *biological diversity* as follows:

"The variability among living organisms from all sources, including, *inter alia*, terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems".

The definition, it seems, presents the measure of biodiversity to be *genetic distinctness* within or among species (while diversity within and among whole ecosystems may be measured by assessing eco-systemic distinctness). In the context of this script, we focus especially on *botanical biodiversity*, and largely ignore the topic of eco-systemic as well as animal biodiversity. We thus focus on diversity intra- and inter- *plant* species.

We define botanical biodiversity as: "the *number* of genetic variations within or among plant species". We thus retain the stress on genetic distinctness, but prevent the following paradox to arise when comparatively evaluating possible scenarios: that a planet including two or three plant species only, which are however widely variable with regards to their genetic make-up from one another, is more valuable than one that includes millions of plant species that are less widely, or even only slightly variable from one another from a genetic point of view. It is our view that it is rather the latter planet that is more valuable, and that we have more and more decisive reasons to conserve that, rather than the former.

⁷ See S. Sarkar, *Biodiversity and Environmental Philosophy* (New York: Cambridge University Press, 2005), p. 1-20. For concrete examples of such vicious circle see also S. Joubert, *Scorched*, p.25-53, and Stephen M. Meyer, *The End of the Wild* (Cambridge, Mass. : MIT Press, 2006), p. 1-40

We have reasons to conserve botanical biodiversity because of valuable features plants possess. Such features are valuable anthropocentrically: reasons for conserving botanical biodiversity are related to the contribution that plants can make to human well-being, in both its material and spiritual dimension.

Plants are particularly relevant, when discussing environmental issues with an eye to human problems such as poverty, malnutrition, and epidemics, because they have routinely been used as food since time immemorial, as well as for medicinal purposes. The practical use that has been made of plants throughout history and across cultures is of vertiginous proportions and sophistication; and because plant species keep on being discovered and studied, and plants can always be grown, there are good reasons for thinking that much more of it can still be made⁸. For that possibility to materialize, however, we need not just plants, but a diversity of plant species, to exist and persist on this planet.

A diversity of plant species provides humans not only with diverse nutritional and medical opportunities (including opportunities to discover new medicines), but also with diverse opportunities for scientific, aesthetic, and generally intellectual stimulation and involvement. The loss of botanical biodiversity, on the other hand, deprives humans of objects, experiences, and relations that are valuable as parts of a life well-lived, which are (and, so we argue, can further be made) relevant to the narrative articulation and preservation of our identity, both as individuals and as a species, because conducive to an increasingly deeper understanding and more authentic acceptance of our station within the wider workings of things. Insofar as humans are capable of and interested in reflecting on their existence on planet earth, the presence and persistence of botanical biodiversity on this planet is a constitutive part of a good human life.

⁸ For an impressive catalogue of the possible uses of plants (nutritional, medicinal, industrial, as research models, as bases of biotechnological developments, etc.), a flabbergasting assessment of the economic benefits that would result from such uses, and a sad diagnosis of the lack of proper and properly widespread information about such possibilities, see *Nature's Services: Societal Dependence on Natural Ecosystems*, ed. Gretchen C. Daily (Washington, D.C.: Island Press, 1997).

In what follows, we shall argue that said understanding and acceptance are best achieved by coupling scientific and aesthetic contemplation of plants with practical engagement with them. In other words, not only the contemplation of botanical biodiversity, but also the hands-on practice of conserving it can contribute to human well-being, and indeed be a constitutive element of a life well-lived, insofar as it enables and requires, as we shall argue, the development and exercise of a number of virtuous character traits, attitudes, and dispositions - garden-based practices of conservation contribute to the perfecting of our *ethos*, both as individuals and as a species⁹. There is a distinctive sort of ethical value in the practice of conserving plants; and there is a *unique* sort of ethical value, so we argue, in conserving plants in gardens and through garden practices. We thus argue that gardens and garden practices are irreplaceable parts of a life well-lived; and that we (each of us humans) have decisive reasons to conserve botanical biodiversity and to promote experiences of and relations with it in gardens, because of the many and profound ways in which our life will be enriched thereby. On this account, ethical value depends on prudential value: we have decisive reasons to bring about and/or maintain certain objects and/or conditions because they make our lives go better. In fact, on the present account the word “ethical” points to a dimension that includes every dimension of value relevant to the issue of how we should live, encompassing the prudential, the aesthetical, the moral/altruistic, and the perfectionist.

In “The Subjectivity of Welfare”, L.W. Sumner points to the possibility, validated by philosophical tradition, to use the word “ethical” in the wide sense we use it here; however, he decides to follow modern trends, and to use it rather in the more social sense in which we here use “moral” - as relating to considerations about the impact of our choices onto the lives of others. As we shall accept in the next paragraph, those others are only those that have moral standing, that is minded humans and most non-human animals, to the exclusion of un-minded plants. This does not erase, however, the possibility of altruistic attitudes and behavior on our side, as individuals and as a species, when it comes to plants. Altruism, in

⁹ The ethical perfection of the human species is to be understood as referring to the aggregate and collective ethical perfection of individuals. There is no assumption being made here that there exists something like “the human ethos”; whether there indeed is such thing, is a matter we leave open. If there was, or if there ever is to be, however, its being perfected would inevitably require significant amounts of cooperation among individual specimens of the human species; and successful cooperation of any kind requires that a commitment to act in a concerted fashion be secured from the ontologically distinct individuals involved. It is through the separate ethos and activity of each individual that any collectivity operates.

the Elsterian sense in which we use the word here, refers to a psychological, and indeed ethical inclination, rather than a moral attitude: our well-being, both as individuals and as a species, is increased (in other words, we live a better life) by the existence and persistence of plants: but there is no sense of moral obligation towards plants here – as there is none when I derive pleasure, satisfaction, or fulfillment, from other people’s pleasure, satisfaction, or fulfillment. In both cases (plants and people), there are no impartial evaluations going on, which we see as one basic feature of morality, and which, as we shall presently argue, have no grip when it comes to plants¹⁰. So we reserve morality for minded entities only, while altruism can apply to minded and un-minded entities alike.

Ethical value thus comprehensively refers to prudential, aesthetical, moral/altruistic, and perfectionist dimensions of value. Of those, the last three can in turn be informing elements of the first. Prudential value relates to considerations about what makes one’s life a life well lived *in one’s own perspective* - this has to do with one’s own well-being. Aesthetical value may have to do with considerations regarding the narrative pattern given by one to one’s own life (say, its overall balance, or its Dadaistic incongruence, or adventurousness), as well as with considerations relating to the personal “style” with which one approaches the world, with considerations about the degree of aesthetic sensibility one manifests towards the world and what is in it, and about the particular things that in fact are available for one to appreciate aesthetically. Perfectionist value has to do with considerations regarding one’s self-improvement, an improvement marked by an increasingly deeper understanding and an authentic acceptance of oneself and one’s place within the wider workings of things, and by the development and exercise of virtuous ways to look at and be in the world. The prudential value of a whole life can be affected by considerations relating to its aesthetical, moral/altruistic, and perfectionist value, insofar as a one’s self-rating in those dimensions affects one’s level of satisfaction with such life¹¹; but it is distinct from

¹⁰ The model for this position, and this distinction between morality and altruism, is in J. Elster, “Rationality, Morality, and Collective Action”, *Ethics*, Vol. 96, No. 1. (Oct, 1985), p. 148

¹¹ By “satisfaction” we mean something close to Spinoza’s *acquiescentia in se ipso* (def. XXV, part III, and prop. LII, part IV, *Ethics*), which we may translate as *self-reconciliation*, to be achieved in, through, and while “considering oneself and one’s whole potential for action”. This has very little to do with the sort of satisfaction one may tribute to oneself as a reward for what he has accomplished, or for the talents she has been gifted with. It rather has to do with dwelling into oneself, into the particular person that one is (or has been) and the particular life one lives (or has lived), understanding and accepting the circumstances, attitudes, and motivations that make (or have made) one whom one is (or has been), and the life one lives (or has lived)

those other dimensions of value: one can look back at one's life, and reckon that in it aesthetical, moral/altruistic, and perfectionist values have been maximized, and still see it not as the best life *she* could have lived¹².

1.2 Plants and Value: Failures of Impartialist Strategies of Justification

Whether plants have value, what sort of value they have, and thus what sort of reasons do we have, not only to admire, but also to respect and to actively conserve them, is a question that has never been philosophically settled, and is a topic of special urgency for environmental ethics. There are widespread doubts about there being conclusive moral reasons for humans to conserve plants; indeed it seems that, morally speaking, we do not and we cannot *owe* anything to plants. The reasons for that has to do with the sort of life plants live: unlike humans and (many) non-human animals, plants are un-minded entities, which have no rationality and indeed no neurological activity of any sort, do not suffer or take pleasure in their experiences, and indeed have no experiences at all because they lack a perspective from which to have them, and/or to assess the proceedings of their existence. It has often been suggested that un-minded entities such as plants are ultimately “mere things”; it has also often be assumed that “mere things” have no entitlement to our moral concern (have no “moral standing”), for they have no interests that we could possibly take into considerations while deliberating over actions and policies that affect them.

Some environmental ethicists have attempted to show that plants are not “mere things” on a par with cars and rocks, and that they indeed are entitled to our moral concern. Traditionally, environmental ethicists have tackled the issue of what is entitled to our moral concern as an issue of moral impartiality. Moral impartiality demands that minded entities such as human and non-human animals be not only admired but also respected and actively protected: because they possess the very same valuable properties that make me and those biologically close to me morally significant in my own eyes (in textbook formulations,

the particular life that it is (or has been). Self-reconciliation, Spinoza tells us, “is in fact the best we can hope for” (scolium to prop. LII).

¹² See L.W. Sumner, *The Subjectivity of Welfare*, *Ethics* 105 (July 1995): p. 768-774

rationality, sentience, and a perspective for experience), to deny them my moral concern just on grounds of their not being me or biologically close to me seems to involve a failure of impartiality on my side¹³.

The *bio-centric thesis* has attempted to exploit this same justificatory strategy and to ground the recognition of the moral standing of plants by extending impartialist reasoning to them as well - pointing to an even more basic property, i.e. being alive, which minded and un-minded living entities all share¹⁴. Such approach fails, for two main reasons: first, it is hard, by its lights, to recognize the value of plants without also endorsing the controversial - if not downright absurd - view that *all* that is alive has *ipso facto* value as well¹⁵; second, and related, the approach seems to lack the conceptual resources necessary to operate morally relevant distinctions among the living entities that are recognized as entitled to our moral concern: if being alive is the ultimate ground for such entitlement, questions about the moral status or significance of different alive entities *vis-à-vis* one another become very steep, and perhaps intractable¹⁶.

When it comes to the value of plants, calls for moral impartiality are destined to fail, because the properties that could ground such impartiality (rationality, sentience, a perspective for experience) do not obtain, while the common property that does obtain (being alive) is morally inconclusive. We thus accept that the moral standing of plants cannot just be impartially recognized on grounds of some relevantly valuable property we share with them. We argue that it must rather be constructed from within our own life and practices, as individuals and as a species. It must be learned through the development and exercise of a morally relevant relation between us and them. Such relation must be able to provide us with reasons for entertaining certain positive attitudes towards plants, and for acting in certain ways when it comes to them: in particular, it must provide us with reasons

¹³ Note that this problem arises for belief- as much as affection-based theories of morality. In the first case, I hold inconsistent beliefs; in the second, the reach and force of my affections is somehow defective. Either way I fail to be impartial.

¹⁴ See P.W.Taylor, *Respect for Nature: A Theory of Environmental Ethics* (Princeton: Princeton University Press, 1986).

¹⁵ The *reduction ad absurdum* is usually accomplished by pointing at viruses and pathogenic bacteria.

¹⁶ There is another serious problem with bio-centric theories *a-la*-Taylor: they presuppose, and extend to plants, a teleological account of well-being that rests on a typically Aristotelian conflation of well-being with perfection. See L.W. Sumner, *The Subjectivity of Welfare*, *Ethics* 105 (July 1995): 788-790

not only to admire, but also to respect, protect, and *conserve* them. We submit that garden-based processes of cultivation create special relations between humans and botanical particulars, which confer a diversity of values to such botanical particulars and provide us with decisive reasons not only to admire, but also to respect, protect, and conserve them. We thus submit that we have decisive reasons to conserve those elements of botanical biodiversity with which we establish special relations in gardens, and by and through garden practices. The value of plants, much like the value of botanical biodiversity, is thus relational: it is extrinsic not intrinsic.

1.3 Intrinsic Value

The previous discussion must be referred to more general philosophical issues. Environmental ethicists have traditionally been very interested in the topic of intrinsic value. The topic is thorny in its own right, and the way it has been confronted when discussing nature and natural entities has often been confused and confusing. Indeed, environmental ethics has been dealing with at least four different senses of intrinsic value¹⁷, often conflating them inadvertently.

The first is intrinsic value as ultimate value: an object of intrinsic value is valuable for its own sake, and not because it is instrumental to something else that is of intrinsic value. This sense of intrinsic value is much more complex than it looks at first, and so is its application to the case of plants, botanical biodiversity, gardens, and garden practices: we return to it in chapter 2.

A second sense of intrinsic value is the one we have expounded above: an entrance ticket into the community of morally considerable entities, given on grounds of some morally relevant (that is, intrinsically valuable) property possessed by such entities, usually deemed to be morally relevant by and through exercises of moral impartiality. Rationality, sentience, and a perspective for experience (in a word, mindedness) have traditionally been taken to be of intrinsic value in this sense. Being alive has been offered as a candidate extension to cover the case of plants, but the proposal fails. That being the case, plants

¹⁷ See D. Jamieson, *Ethics and the Environment: An Introduction*, p. 68-75.

cannot be of intrinsic value in this sense; and are therefore not entitled to our moral concern - they are “mere things”.

A third sense of intrinsic value is Moorean:

“To say that a kind of value is intrinsic means merely that the question whether a thing possesses it, and in what degree it possesses it, depends solely on the intrinsic nature of the thing in question”¹⁸

In this sense, for an entity to have intrinsic value, such value must depend entirely on the intrinsic properties of such entity being intrinsically valuable, in isolation from any relation such entity may be in with any other entity in the universe. Valuable relational properties it may possess, such as it being desired or experienced by someone, do not count. In environmental ethics, rationality and sentience are often presented as intrinsically valuable intrinsic properties, of human (both rationality and sentience) and non-human animals (just sentience) respectively. This third sense of intrinsic value is often conflated with the first, in that it is often assumed that for something to be valuable for its own sake it must be valuable on grounds of intrinsic properties it possesses, and that relational properties (such as it being desired or experienced by someone) must ultimately be of instrumental nature: I desire a plant, or an experience of it, because it is a means to my pleasure, and pleasure is of intrinsic value, etc. The first and the third sense then often converge into the second: it is only that which possess intrinsically valuable intrinsic properties that can be valued for its own sake, and it is only that which can be valued for its own sake that has moral standing. By these lights, if the intrinsic property of being alive, as possessed by plants, is not an intrinsically valuable property, as we have accepted, plants cannot be valued for their own sake, and have thus no entitlement to our moral concern. They only have an *indirect* entitlement, insofar as they or their experience is instrumental to something else that is intrinsically valuable (i.e. our pleasure, the exercise of our rationality, etc). Such entitlement, besides being indirect, is not absolute: if something else came along that was more and/or better instrumental to our pleasure, or better suited to entice our rationality, such entitlement would drop. In a deep sense, then, there is no entitlement at all.

¹⁸ G. E. Moore, *Philosophical Studies* (London: Routledge and Kegan Paul, 1922), p. 260

The fourth sense of intrinsic value is one for which what is of intrinsic value is so even if no one is there to value it. This does not rule all relational properties from being intrinsically valuable, but only those that obtain on grounds of the valuer's presence: by these lights, plants in a world without humans and animals could be intrinsically valuable because of an intrinsically valuable relational property, such as their eco-systemic value (their functional station within that mind-free ecosystem)¹⁹, even though they would not be intrinsically valuable in the third sense, which only allows considerations of their intrinsic properties.

On our view anything, not just plants, lacks intrinsic value in the last sense. It is only minded subjects such as ourselves that can produce attributions of value. Value is mind-dependent, and the sort of mind that produces evaluations is signally the human mind. This is known as meta-ethical anthropocentrism, and it presupposes a form of meta-ethical subjectivism about value. Concepts of value are constructed from acts of evaluation, and such acts amount to a creatively receptive transaction between a subject and an object of evaluation²⁰.

That does not mean, however, that only minded entities such as ourselves can be valuable and/or valued; in environmental ethics, meta-ethical anthropocentrism in no way amounts to a normative pronouncement of human superiority over nature, a denial of nature's value, or an exhortation to its dominion. Also, that there is no value without valuers in no way implies that value is free-floating in the valuer's mind, with no anchorage in the world. There is no valuing without a subject doing the evaluation, there is no valuing if there is no object being evaluated²¹. To believe otherwise is to confuse a meta-ethical condition of value with its substantive constitution: value is mind-dependent, but it is entities in the

¹⁹ See H. Rolston III, "Value in Nature and the Nature of Value", in *Environmental Ethics: An Anthology*, eds. A. Light and H. Rolston, Blackwell, 2003, p. 143-153

²⁰ The formula "creative receptivity", which will recur numerous times in what follows, was coined by G. Marcel, in *The Mystery of Being*, transl. G. Fraser, South Bend Independent: St. Augustine Press, 2001.

²¹ This leaves open the question whether it makes sense, philosophically, to say that non-existing and fictional objects can be objects of evaluation: say, peace in the world, or Mr. Stakanov. This issue conceals a web of philosophical problems we need not touch on now.

world that are valuable or not, or more, or less: that is why, in our evaluative discourses and practices, we always draw attention to properties of and facts about objects that give us reasons to value them; we do this when it comes to plants, botanical biodiversity, gardens, garden practices, as well as anything else²².

On our view, plants lack intrinsic value also in the third, Moorean sense. Their value is entirely relational, descending from the way in which they fit within our human lives, and from the ways in which they contribute to our well-being, both as individuals and as a species. The intrinsic properties of plants are not intrinsically valuable properties, in isolation from our human needs, cares, projects, and commitments.

This is more easily seen if we connect it to the second sense of intrinsic value and the issue of the specifically *moral* standing of plants, which is what environmental ethicists are most interested in. The intrinsic properties of plants, such as being alive, aesthetically significant, and biologically complex, have no intrinsic moral value unqualifiedly and by themselves. On the one hand, that something is alive (a deadly bacterium) does not mean that it is a good thing; moreover, some alive thing could be good in one context and not another (a live goat may be a good thing in Nebraska but a very bad one on the Galapagos Islands, for instance), so that ulterior discriminations must always be made. On the other hand, the fact that a plant is biologically complex and aesthetically significant says little about that plant's moral value, unless we postulate that complexity and beauty, two distinctly aesthetic notions, are somehow intrinsically valuable from a moral point of view. This is a bridge, between the aesthetic and the ethical appreciation of nature, which many believe should be in place: but it is a bridge hard to engineer²³, and one philosophically unorthodox to cross²⁴. A given plant can be complex and beautiful, and still make no unambiguously *moral* claim on me.

²² For the position espoused in this paragraph, see D. Jamieson, *Environmental Ethics: An Introduction*, p. 66

²³ See R. Elliott, *Faking Nature: The Ethics of Environmental Restoration*, (London: Routledge, 1997), for a good try. Elliott's attempt, however, revolves entirely around the assumption that everything natural is beautiful *qua* natural, and thus on an endorsement of the so-called "positive aesthetics" of nature. But the positive aesthetics of nature is precisely that - an assumption; which may or may not be made.

²⁴ Plato, Kant, Moore, and Wittgenstein are sometimes portrayed as promoters of such crossing. See S. Lovibond, "In Spite of the Misery of the World: Ethics, Contemplation, and the Source of Value", in *Wittgenstein and the Moral Life*, ed. A. Crary, (Cambridge, Mass.: The MIT Press, 2007), p. 305-326

The absence of a morally relevant, intrinsically valuable intrinsic property of plants opens a normative gap. It seems we have no reason to extend our moral concern to plants. However, so we shall suggest, we do have decisive reasons to extend our ethical concern to them. The search for those reasons must take place by enlarging our consideration also to the relational properties of plants; and specifically, to the valuable relational properties plants have, with us humans as the other end of those relations. We must then look not just at the intrinsic, but also and most importantly at the extrinsic properties of plants (and botanical biodiversity, for that too lacks a morally relevant, intrinsically valuable intrinsic property), if we want to find decisive ethical reasons not just to admire, but also to respect, protect, and conserve them.

This leads us to the first, and most complex in our case, sense of intrinsic value: intrinsic value as ultimate value: an object of intrinsic value is valuable for its own sake, and not because it is instrumental to something else that is of intrinsic value. We have said that not only plants, but also botanical biodiversity, the practice of conserving it, gardens, and garden practices are valuable on grounds of their contribution to human well-being, both material and spiritual; and indeed that they are constitutive elements of a life well-lived. We thus say that all such things, as well as the experience and the relations we humans have of, with, and thanks to them, are valuable as irreplaceable parts of a life well lived. They contribute to the narrative articulation and preservation of our identity, both as individuals and as a species, because conducive to an increasingly deeper understanding and more authentic acceptance of our station within the wider workings of things. They do so, as we shall maintain, in a way unique.

This leaves us in a strange place, with respect to the first sense of intrinsic value: plants, botanical biodiversity, the practice of conserving it, gardens, and garden practices seem to lack it, in that they are obviously valued for the sake of something else that is of intrinsic value, i.e. a life well lived, as specified. However, for a life to be so well lived, plants, botanical biodiversity, and garden-based practices of conservation must be part of it: they contribute to such life in a way unique, and there thus is no exchanging them with other objects or practices and live equally well, either as individuals or as a species. For this reason they are not just valuable as means, but valuable as irreplaceable parts, of a life well

lived; and this important distinction (between extrinsic properties as instrumental to value and extrinsic properties as constitutive of value) shelters them from being relegated (in theory, and much worse, in practice) to the role of fungibles that may be abandoned as soon as better alternatives are found, or for the sake of which we should not renounce some of these alternatives. Was that the conclusion we reached, we would have no decisive reasons to respect, protect, and conserve plants and botanical biodiversity, and much less to do so in gardens and through garden practices. We are thus committed not only to the uncontroversial, and yet often ignored notion that extrinsic properties are not necessarily instrumental, but also to the more controversial notion that objects can be valued for their own sake for reasons that relate to extrinsic properties they possess given the relation we, as humans, entertain with them both as individuals and as a species - and given the sort of individuals and species that we are, the circumstances of our life, our needs, cares, projects, and commitments²⁵.

Human well-being, in both its material and spiritual dimension - living “a life well lived” - depends constitutively on the existence and persistence of plants and botanical biodiversity; and on the practice of conserving it, and of doing so in gardens. Because they are irreplaceable parts of and not just fungible means to a life well lived, plants, botanical biodiversity, and garden-based practices of conservation are rightly to be valued for their own sake, and considered intrinsic sources of human well-being, or constitutive elements of a life well lived.

There are two claims here: that plants, botanical biodiversity, and garden-based practices of conservation are non-fungible means; and that they are irreplaceable parts. In substantiating the latter claim, what is relevant is highlighting their *distinctiveness*; with regards to the former, what is relevant is highlighting their *multi-purposeness*: the fact that they can be instrumental to a variety of human goals and projects, and further a variety of diverse conceptions of well-being that different individuals may entertain as result of their subjective experience in and of the world (one may assign less importance to understanding and more to material subsistence and health; others may assign more importance to

²⁵ See C.M. Korsgaard, “Two Distinctions in Goodness”, in *Recent Work on Intrinsic Value*, eds. T. Ronnow-Rasmussen and M.J. Zimmermann (Amsterdam: 2005), p. 77-96

aesthetical satisfaction or perfectionist improvement of character, and less to occasions for social interaction). Because they can contribute to the furthering of all such internally permutable conceptions, however varied such permutations, plants, botanical biodiversity, and garden-based practices of conservation are of not just of great but of special instrumental value: they occupy a *focal* instrumental space in our life. If something is of great and special value in our life, both as individuals and as a species, there is no need to assume that its value must of necessity be traced back to something of equal or greater value, and much less of intrinsic value: rather, the value of the thing under discussion may be great and special because such thing figures as instrumentally valuable with respect to a wide range of needs, cares, projects, commitments, and conceptions many and diverse people have. We argue that no substitute objects and practices could occupy the focal space occupied by plants, botanical biodiversity, and the practice of conserving it in gardens.

But even if some could, still the second claim would still stand. If plants, botanical biodiversity, and garden-based practices of conservation not only occupied that focal instrumental space, but also did so in a way unique, then indeed we would have reasons to value them not just as means (however special), but also as irreplaceable parts of a life well lived. This would mean that there indeed are decisive reasons for humans, both as individuals and as a species, not only to admire, but also to respect, protect, and conserve plants and botanical biodiversity, and not to trade them off with, say, massive soy-cultivations destined to feed cattle destined to feed us, or with more sprawled and luxurious modes of inhabitation, or for ever-higher levels of consumption; and that there are also decisive reasons to do so actively, through hands-on garden practices, rather than personally ignoring and/or delegating the enterprise to others and, much less, to nature.

Throughout this script, we shall argue that both the first and the second claims are true.

1.4 Gardens and Environmental Ethics

A focus on gardens and garden practices is not customary for environmental ethics. As epitomes of human intervention on nature, gardens have often been considered physical

statements of anthropocentric hubris: negative models rather than positive conceptual or practical resources. The reason for this is the discipline's tacit assumption that much of nature's value lies in its being natural, i.e. un-humanized - and, at the limit, "wild"²⁶. Valuing nature's only, ultimately, or even just primarily for its naturalness and/or wildness has often been assumed to be the surest route to valuing nature non-anthropocentrically - which has customarily been, in turn, assumed to be most appropriate way to value nature in general. Leaving nature to itself, what is also known as 'benign neglect', is accordingly often taken to be right course of action: and the seed of nature's pains is individuated in human interference with its natural course. Such set of assumptions pervades and orients much academic analysis, policy, and public discussion:

"From backpackers to bureaucrats, Romantics to rednecks, socialists to suburbanites, historians to hunters, philosophers to philanthropists, people have sung the praises of areas which they assumed to exist in their "pristine state". It is safe to think that there will continue to be wilderness defenders regardless of the challenges presented to the very concept of wilderness"²⁷.

We propose to label such set of assumptions "the wilderness paradigm"; and in what follows we undertake to challenge it. We propose in alternative an anthropocentric, garden-based, hands-on environmental ethic, geared to the conservation of botanical biodiversity, and to the ethical enterprise of making for ourselves, as individuals and as a species, a life well lived.

Biodiversity conservation is not to be conflated with wilderness preservation. These are tasks distinct, which may sometimes even be in tension: while the first unfolds along ecological criteria, the second need not; while the first, like the garden, presupposes human intervention on nature, the second auspicates human disengagement. Most importantly for

²⁶ Eminent environmental philosophers such as P. Taylor, H. Rolston III, and E. Katz are all deeply committed to the value of naturalness, and great fans of the 'wild'.

²⁷ See M. P. Nelson, "An Amalgamation of Wilderness Preservation Arguments", in *Environmental Ethics: An Anthology*, eds. A. Light and H. Rolston, 413-436 (Malden: Blackwell, 2003), p. 413.

us, while gardens can help conserve botanical biodiversity, they cannot help conserve the ‘wild’, as such.

In the context of this script, it is important to emphasize that no suggestion is being advanced to the effect that the whole of nature should be fragmented into gardens, or that those ‘wild’ areas of nature, for instance stretches of forests and jungles, in which humans do not dwell and perhaps have never dwelt, should be colonized by operative gardeners - or anything of such fantastic sort. We refer our discussions to already humanized areas: whatever is ‘wild’ (or can plausibly be thus labeled²⁸) can and should continue to be ‘wild’, i.e. left alone.

Our focus here is on conserving species, not stretches of untouched landscape. The two things are done differently: roughly, conserving species calls for positive intervention on nature, while conserving stretches of untouched landscape calls for physical disengagement and ‘benign neglect’. The ‘benign neglect’ approach will not do the required job when it comes to conserving botanical biodiversity, and may in fact even be detrimental to the enterprise. That conserving plant species may sometimes amount to leaving stretches of landscape untouched is an empirical contingency - however frequent that may be; but it is by no means a practical necessity²⁹.

1.5 Anthropocentrism

The environmental ethic we shall lay out in what follows is anthropocentric. For environmental ethicists, anthropocentrism is often problematic, much in the same way in

²⁸ Our sense of the ‘wild’ is probably best captured by the definition provided in the opening paragraph of the U.S. 1964 Wilderness Act, in which “wilderness” is: “an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain....retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable”.

²⁹ Another conflation that should be avoided is between garden-based biodiversity conservation and restoration ecology. The latter is obviously one gardening-like activity: however, it aims at returning a site to some original state, after significant disturbance (anthropogenic or not) has occurred. While a gardener *may* of course decide to devote his plot and efforts to restoring the nature that was there before he arrived, there is obviously no insurance that he will do so, and much less is there any presumption that he *should* do so.

which concern for one's own well-being is often problematic for moral theorists: they are each taken to be the very source of the problems that the two disciplines are respectively called on to confront. On the present view, however, an anthropocentric concern for our well-being, both as individuals and as a species, is absolutely central: the present environmental ethic begins and ends with our own good, given a wide enough definition of such good, in turn based on a deep understanding and an authentic acceptance of our place within the wider workings of things, both as individuals and as a species.

Humans are the only species able to discuss the issue of biodiversity loss and produce policies capable of affecting it; and humans are a species for which the loss of botanical biodiversity represents a loss of something of especially great value, and its conservation represents the conservation and indeed the promotion of something of especially great value. Conservation of species is an issue we are the only ones to mind. The demands of biodiversity conservation are inescapably human demands; and our responses to such demands must fit within the context and patterns of our human lives, and be oriented by human values. This entails that we must be able to *clearly* see how and why what we are respecting, protecting, and conserving, is in fact something that matters *to us*.

Hence the focus on human well-being, and on the prudential value of plants and botanical biodiversity, as well as of the practice of conserving it in gardens. Following Sumner, we define well-being as authentic happiness: the happiness of an informed and autonomous subject³⁰. A subjective account of well-being is presupposed, whereby individuals are the ultimate authorities with regards to their own well-being, unless their assessments can be shown to be inauthentic. Such authenticity is something that can only be ascertained in reference to objects and events in the world, and for this reason such account is dispositionalist, and sees authentic happiness as a matter of the subject's positive attitudes in relation to the conditions of her life, the objects that populate it, and the experiences of and relations she has with them. Positive attitudes on her side are necessary yet not sufficient conditions for her to be authentically happy, or live a life well lived: some anchorage in the world, with the actual conditions of her life as a particular individual of a

³⁰ L.W Sumner, *Welfare, Happiness, and Ethics*, (New York: Oxford University Press, 1996). For the views here espoused, see particularly ch.6

particular species, and indeed at a particular time in history and in a particular place, must be ensured, for a subject's assessments of her own well-being to be truly hers. In this connection, we accept Sumner's articulation of the requirement of authenticity into the conditions of information and autonomy.

This is all reflected into our adoption of an anthropocentric stance when it comes to the value of plants, botanical biodiversity, and the practice of conserving it in gardens: as individuals of the human species, and especially in the absence of an impartially compelling, morally relevant, intrinsically valuable intrinsic property of plants (let alone botanical biodiversity, gardens, and garden practices), we cannot but refer whatever is good about them to its being good for us humans, both materially and spiritually. By "good for humans" or "good for us as a species" we mean primarily "good for each of us individuals of the human species": we thus have in mind nothing but a collective aggregate. It should also be accepted that what is good for each of us (say, plants, botanical biodiversity, and the practice of conserving it in gardens), may be good for each of us for different reasons, and such reasons may also change, for each of us, over time. In the particular case under consideration, however, we can indeed assume that the aggregate good of individuals will ultimately amount to a common good for the species, because environmentally virtuous attitudes and sustainable practices will result from conserving botanical biodiversity in gardens, fostering environmental-friendly modes of behavior in *and out* of gardens; and this will enhance the possibility of the human species avoiding a possibly much bleaker environmental era through the development and exercise of sustainable practices. Because such practices, besides being sustainable, will be economically efficient and socially fair, starting locally but having profound global reverberations, they would in fact be beneficial to the human species, in that they would limit poverty, malnutrition, epidemics, and conflicts; while promoting the species' adaptive efficiency in the face of a future in which less of fewer things will be available to the ever-increasing number of specimens that compose it.

By staging the conservation of botanical biodiversity in gardens, and exposing the ways in which it can be good for us, as individuals and as a species, we obviously affirm plants,

botanical biodiversity, gardens and garden-based practices of conservation to have instrumental value; but we maintain that the ways in which they are (and, so we argue, can further be) instrumental to our well-being are especially manifold, and unique; and thus that they indeed are intrinsic sources of human well-being, or constitutive elements of a life well lived, rightly valued for their own sake, not as fungible means but as irreplaceable parts of an authentically happy life.

Our life is enriched in many, profound, and indeed unique ways by plants, botanical biodiversity, and the practice of conserving those in gardens. As said, this ethical claim includes prudential, aesthetical, moral/altruistic, and perfectionist dimensions: and, if it turned out to be convincing, it would provide us with decisive reasons not only to admire, but also to protect and conserve plants and botanical biodiversity, and indeed to promote our experiences of and relations with them, by and through hands-on, active engagement with them in gardens.

2. *Nature as a Resource*

The idea that nature is a resource *for us* may have an immediately disturbing resonance to those who entertain a broadly spiritual and contemplative relation to it. Many of the most intimately drawn to nature, and most actively concerned for its future, do entertain such relation, including not only mystics but also scientists, philosophers, and leaders of social movements; and perhaps all of us, if only intermittently. There is something in nature, a sheer 'there-ness' (what medieval philosophers called *haecceitas*), an irreducible otherness, an unaided precision, an imposing sense of self-containment, a dimension of persistence, which far exceed the limits of our form of life as humans, even as a whole species; and indeed seems to highlight the ultimate contingency of our very existence.

Contemplating a centennial Saguaro cactus, and the complex whirl of life that revolves around it, it is hardly possible not to feel the intimation of the free-standing powers of nature overwhelm us, inspiring reverence through the sights of elements and processes that belittle our wits. On occasion, we may even experience a radical call into question of our

very picture of time and existence, and of our own place in the world as individuals and as a species. Such *transformative* experiences may take place sporadically, and perhaps accidentally (we may well have taken the wrong turn somewhere, entering Saguaro-land by mistake), and may have the character of *epiphanies*, during which one's station within the wider workings of things is, so to speak, made clear to us. In these situations, it seems grossly incongruous if not downright abnormal to think of nature as a resource of instrumental value to us. Or better: we may think of it being instrumental to the transformative experience we are having (though we need not assume nature to be there *in order to* give us that experience) - but we would certainly find ourselves deploying the idea of nature being a mere *material* resource for us: indeed, *because* of that experience, we will be alarmed at the thought of Saguaro cacti being eradicated, loaded on containers, and sold as collectables, or cut open in order to make lamps out of their wooden skeleton.

As said, there may be two reasons for such alarm. On the one hand, we may feel that both us and other people, now and in the future, should have the chance to have such spiritual and intellectual Saguaro experiences – an anthropocentric, subjectivist, instrumentalist stance, which we endorse. On the other hand, we may feel the Saguaro to have value regardless of whether or not such expositions will ever take place – a non-anthropocentric, objectivist, non-instrumentalist stance. The latter view is an amalgamation of the four senses of intrinsic value exposed above: it has often been assumed to be a stronger basis for protecting the environment, because it makes nature's moral value wholly independent not only from human concerns, but also from our very existence. It is a view we do not endorse, but must attempt to pacify.

2.1 Using nature

First, the two positions must be put into historical context. The origins of our concern for the environment, and for biodiversity loss, are a matter of scholarly dispute: such concern is sometimes seen as being as old as human history, an integral part of our effort to survive and do well as a species; other times, it is seen as a relatively recent phenomenon, roughly coinciding with the birth of environmental ethics in the 1960's. Let us consider the latter

view, which gains plausibility from the fact that, indeed, it is only in response to the technological developments that have been gaining pace since the 50's that a widespread and unprecedented anxiety for nature's future has thematically come to the fore.

Because environmental ethics is historically a North-American discipline, it has received much of its ideal inspirations from notable American thinkers of nature, particularly the Transcendentalists Emerson and Thoreau. Transcendentalists thought of their relation to nature along lines similar to those in which we earlier described our epiphany before the Saguaro: they considered the American landscape "God's second book", and urged a worshipful relation to the land and the contemplation of the 'wild' as a source of moral instruction, suggesting that God need not reveal the truth but that the truth can be intuitively experienced directly from nature, through ecstatic contemplation. Of course this perspective places emphasis on aspects of nature that make it much more than a material resource of instrumental value to us; it nevertheless does consider it a spiritual resource, indeed the highest one. The value of nature thus remains in an important sense instrumental and anthropocentric, because it helps the Transcendentalists to experience the truth of God's words³¹. However, it is one kind of instrumental value supposed to silence, or at least downplay to a minimum, the attractions of the other kind, the value of nature as a material resource.

Contemplation of nature is good for the human soul; and it is also good for nature, because it leaves it untouched, untamed, and unharmed. The spiritual value of nature is thus instrumental not only to humans on their way to the truth, but to nature too, in that it limits its exploitation; on the contrary, its material instrumental value can by and large be expected to be instrumental to humans only, and to easily open onto exploitation. Thus it is not anthropocentric instrumentalism in general, but the mono-directionality of its material version that the Transcendentalist cannot accept; and it is to this version that the critiques of the environmentally-concerned, including contemporary non-anthropocentric scientists, philosophers, and environmentalists, are usually addressed. They follow the steps of Emerson and Thoreau, their basic intuition being that to see nature as a material resource at

³¹ Thoreau in particular is careful not to attribute intrinsic value to nature. It is clear, on the other hand, that he attributes transformative value to it.

our disposal is an exploitative devaluation of it. Such intuition is at the basis of what we have labeled “the wilderness paradigm”.

Consider now the other view. If one looks at environmental concerns as a fixed constant throughout human history, one will likely come to see the environment as a material resource. Clearly, our species needs and uses nature in order to survive and do well, so there is a sense in which nature’s material instrumentality is literally a part of our biology, and, more generally, of our form of life: we simply cannot help but think of (and use) nature as a material resource. A fully contemplative attitude to nature is possible only intermittently (in-between meals, for example). But from the fact that nature can be seen (and is indeed used) as a material resource, does it necessarily follow that we morally devalue it? It would, only in case we thought of nature as a material resource *only*. But we have been and will further be discussing a concomitant, and all too human inclination to spiritualize nature, which historically is as pervasive as the material use we have made of it; an inclination that had a strong hold on tribal medicine-men as much as it did on Emerson and Thoreau, and really still does on most of us (if only intermittently). The fact that such inclination *does* obtain should not be underestimated: for one thing, because it shows that we do *not* think of nature as a material resource only. Indeed, like Emerson and Thoreau, Muir and Carlson, Rolston and Taylor, and so many others, we sometimes do think of it as a spiritual resource. Spiritual *and/or* material, anthropocentric instrumentalism is however always in the picture. The two dimensions are not even always easy to distinguish: lost in the desert, a starving and thirsty man may cut an arm from the same Saguaro that fills him with spiritual awe, and eat the pulp. The fact that the cactus has been materially instrumental to his survival may in turn reinforce the spiritual awe with which he looks at it³².

³² This possibility has been pointed out to me by Belinda Pasqua; and the dynamics it refers to seems close to the one propitiating totemic practices.

Let us draw an analogy with human ethics³³. There need be no moral dissonance in thinking of one's children or friends in part as resources: they may well be more than that (like the Saguaro is more than its edible pulp), but regarding them *in part as that* is still morally justifiable. Only if we see our children and friends merely as resources, are we disrespecting them; but most of the times things are more nuanced than that. The same goes with regards to nature, and doing sincere justice to the complexity of our relation to it is one most important task for any environmental ethic. As it will be argued, the kind of instrumental attitudes that are internal to garden practice need not imply any moral devaluation of it; indeed, no devaluation of it in any sense. This does not mean that nature is not being *used*: in gardens, plants and botanical biodiversity are indeed being treated as means, if only because no good can come to un-minded entities, individual or collective, lacking any perspective for experience. But such use is ecologically sustainable, and indeed beneficial insofar as botanical biodiversity is being conserved, and more sustainable practices and modes of life are being promoted, by and through it. A gardener's use of nature is an enlightened use, which takes well into account the fact that, as individuals and as a species, we need to use plants and botanical biodiversity in order to survive and, indeed, live well; and the fact that, indeed, we can do so, from an operational/technological, as well as a moral point of view, for no one will mind it: no interests of any sort will be offended. We (present and future generations of humans) will mind our using plants and botanical biodiversity, in gardens as well as in any other context, *if* we shall so use them as to condemn ourselves to the loss of something of great value to us. This is not what will happen in gardens; to the contrary, garden-based biodiversity conservation will have numerous positive ramifications also outside the garden and not just with regards to the conservation of plant species.

Because it is in us humans to have complex, multi-layered, concomitant and non-exhaustive visions of nature, a focus on its instrumental value should not automatically be taken to be a moral devaluation of it. Those who advocate the demise of anthropocentric instrumentalism in environmental matters are in fact often advocating the demise of its material dimension only, while accepting and indeed presupposing the spiritual counterpart. We suggest that

³³ The model here is in D. Parfit, *On What Matters* (forthcoming), part 2, chapter 9: "As a Means and *Merely* As a Means". Available at <http://fas-philosophy.rutgers.edu/chang/Papers/OnWhatMatters1.pdf>

the moral unacceptability of material instrumentalism is in turn not absolute, but depends on the shape that such instrumentalism takes. Anthropocentric instrumentalism is the spinal tap of our history as a species in relation to our environment; garden-based anthropocentric instrumentalism has a positive “green” potential we propose to explore.

3. *Prudence*

Imagine a future in which Saguaro cacti have gone extinct: someone lost in the Sonora Desert is no longer able to satisfy his thirst and hunger by chopping Saguaro arms and eating them; a complex web of sophisticated biotic interactions involving sentient and non-sentient entities, which possessed both eco-systemic and economic value, has disappeared; observational knowledge of the biological structure of one of the slowest growing and most resilient entities on earth is no longer available, together with all possibilities of making any scientific and practical use of it; popular knowledge about the medicinal properties of the plant has also disappeared because pointless; Saguaro tales and proverbs no longer have a referent in the world; a most compelling monument of nature, with its stunning aesthetic features and all its symbolic connections to local culture, is no longer present to the eyes; an entity potentially able to involve us in a transformative ethical experience, no longer exists.

3.1 *Losing nature*

Let us consider just the sciences for a moment. When it comes to biodiversity loss, biologists and economists are moved by a shared concern for possible “lost futures”. As species become extinct (some even before they are discovered, let alone studied), we will lose resources on which we may possibly rely in order to survive or ameliorate our quality of life. We may get a perspective of what this might mean by looking at some figures. The earth contains at least 75.000 kinds of edible plants, of which only 150 are today cultivated

on a large scale, with 20 of them producing 90% of the food we consume³⁴. Approximately 30% of our medicines owe their origins to germplasm materials or other vital products of plant species. Had the willow-tree not been around, we would have known no aspirin. Had Madagascar's rosy periwinkle gone extinct before 1980, its alkaloids would have not provided us the bases for highly effective anti-leukemia drugs. The nutritional and medicinal benefits of a number of varieties of Aloe's are renown worldwide, as are those of *Harpagophytum Procumbens*, or Devil's Claw; the humble South African black potato produces a juice reported to have mitigating effects on HIV patients comparable to those provided by chemical drugs, at a remarkably lower cost. The commercial value, actual or potential, of plants around the world is expressible in terms of trillions of dollars; and the nutritional and medical use that could be made of those plants in some contexts may save and ameliorate many lives.

Biologists and economists worrying about biodiversity loss live with the shadowy knowledge that resources are not unlimited, and that in the future we will have to reduce our rates of consumption and also make choices between possible consumption patterns: we will be able to enjoy less of fewer things. The fact that biodiversity loss may have enormous costs for us, in terms ecological and economical, should be enough to warrant a strong prudential concern for its conservation. Some have argued, however, that the stakes are not quite so high: future technology may well allow us to compensate for the loss of some species and even of larger eco-systemic services previously provided for by the interaction among these species and the wider environment. Attempts have been made at calculating the kinds of costs that such technology could be called on to cover, but it is no easy task: and although it all seems to indicate that they would be monumental, we still do not know which and how many species have to go extinct for an ecosystem to break down and truly stop providing its services (as a matter of fact there are difficulties even in figuring out exactly what an eco-system is, and in demarcating one eco-system from another): until we know more, diverting funds away from human concerns and towards the protection of species of uncertain ecological and economical value remains a politically impervious and morally controversial enterprise. Concerning the scientific significance of

³⁴ This, as well as the other figures following in the text, are taken from *Nature's Services: Societal Dependence on Natural Ecosystems*, ed. Gretchen C. Daily (Washington, D.C.: Island Press, 1997).

biodiversity, others have maintained that most of the truly diverse living forms have already been discovered, so that, by and large, we have seen what we needed to see; or that because there are only few distinct types of ecological dynamics, of which we have a clear enough idea, continued efforts at conservation may not be worth the pains, given that we could focus our research on model systems. And as far as aesthetics goes, when gripped by the desire of contemplating an extinct life-form, we may at last resort to sensory simulators.

This is all possible in theory, so long as we assume: that technology will in fact allow us to compensate for the loss of the eco-systemic services that we may incur - and we have so far no concrete indication that it will; that indeed we have already discovered the most diverse species - which is plausibly not the case, considering, for instance, the largely unknown life that agitates the bottom of the oceans; that model systems can give us reliable scientific indications in ecology - which is still far from established; and that those famous sensory simulators will in fact be so good as to really replicate an experience of biodiversity rather than caricaturing it.

These are no small assumptions to make in an eminently uncertain framework such as this. A purely prudential calculus, based on an analysis of real as well as opportunity costs, and which factored in probabilities, would be likely to recommend the conservation of biodiversity all things considered; and even though we do not know which and how many species are truly critical to our ecosystems, because the accumulated effects of an attitude of permissiveness towards continuing individual extinctions may turn out to be much larger and gloomier than we may anticipate, it would advise us to try and conserve *every* species, as good precaution. For even if we knew what the “right” level of extinction amounted to, and let ourselves approach that level, there a possibility that the loss of each species may render us increasingly insensitive to the loss of the next one – according to a dynamics we may call of “diminishing concerns for scale”. Because the very drawing of a line of acceptable extinction may set off such self-reinforcing mechanism of higher tolerance, there is reason to avoid going down that road in the first place³⁵. Such advice is reinforced

³⁵ The model for this reasoning can be found in G. A. Cohen: “A Truth in conservatism: Rescuing conservatism from the Conservatives.” unpublished document. Oxford, 2004.
Web 1 April 2010:
<http://sites.google.com/site/politicaltheoryworkshop/GACohenConservatism.pdf?attredirects=0>

by the consideration that the extinction of species is irreversible, as is the intellectual and ethical loss that we would face as a result. It is worth stressing these dimensions of the problem, because with biodiversity we would arguably lose not only food and medicines, goods and services, but also the spiritual insight and intellectual opportunities that a diversity of life on this planet affords us. In particular, biodiversity loss would deprive us of objects, experiences, and relations that could be relevant to the articulation and preservation of our identity, both as individuals and as a species, and to the understanding of our station within the wider workings of things.

A Saguaro-less future is a poorer future in a very bare biological sense: not only will life no longer take the form of a Saguaro, but also many other species, sentient and not, will be deprived of a major component of a whole, highly localized, and highly specialized eco-systemic cycle. This may condemn some of them to extinction. Moreover, as Saguaro's disappear, a vast portion of land stops performing its usual eco-systemic functions, negatively affecting wider ecosystems, say in case migratory birds, bats, or pollinating insects ceased frequenting Saguaro-land because of its eco-systemic depletion³⁶.

Among the species that will be negatively affected, one way or another, by the extinction of Saguaro's, are also humans. As we know, some of them will be lost in the desert and unable to find nourishment – but these may be relatively few. For many others, a Saguaro-less future will be poorer in a sense involving more than immediate survival: these will be people whose quality of life is in one way or another dependent on the Saguaro, at least to some extent, say local travel agents, tour guides, motel owners, small villages and native communities - those will suffer an economic loss. Others yet will be people whose basic

Another factor that may make this slippery slope pretty steep is that, as suggested by experimental psychology, our reactions to loss, even of things we deeply care about, such as beloved people, is often way less dramatic, and lived less dramatically, than we would have thought it would be *before* the thing had been effectively lost, and we get by surprisingly well. This may be the upshots of adaptive psychological mechanisms that allow us to go on in a world in which many things we care about (jobs, people, plants, etc.) are routinely lost. See D. Moller, "Love and Death", in *The Journal of Philosophy*, Vol. 104, Issue 6, 2007, p. 301-315

³⁶ Mexican bats, along with various species of birds, stop by Saguaro-land in the summer, on their way to cooler northern climates, taking advantage of nutrients contained in the cactus' flowers; those only bloom at night, and only one or two nights a year.

organizing self-conception was importantly related to the Saguaro, for instance villagers and medicine-men for whom the cactus had a totemic or symbolic significance, who will suffer a cultural loss. There will then be people whose personal projects involved Saguaro's in a way or another, say students of botanical biology, photographers, and landscape painters, who will suffer an intellectual and aesthetic loss. And there will be all of us, who on the one hand might have enjoyed anything of value that could have come out of all these people's involvement with the cactus, and on the other may have exposed ourselves, intellectually and affectively, to the Saguaro on some occasion, enjoying its majesty and beauty, considering its uncanny resilience, perhaps somehow extrapolating from such experience insights about nature, as well as ourselves and our station within the wider workings of things. The experience of wonder that the Saguaro may once have allowed us to have is gone, and wonder before our world is arguably a significant component of what most of us would consider a life well lived: as the variety and diversity of the sources of human experience on this planet is decreased, our chances to deepen our understanding of our station within the wider workings of things are decreased accordingly.

The scope of prudence is wide: like instrumentalism, it is not confined to a concern for material resources, but it also includes that which, in the attempt to follow the mood of reflection favored by the Transcendentalists, was earlier broadly characterized as a spiritual concern. A life lived well should include an increasingly deeper understanding of one's station within the wider workings of things, as an individual of the human species capable of and interested in reflecting on her existence on planet earth, and an authentic acceptance of such very station, which may in turn function as a springboard to the development and exercise of virtuous ways to be in and to look at the world. A deep understanding should arguably include the perception of a number of relations (biological, eco-systemic, cultural, historical, ethical) running between oneself and the animate and inanimate nature with which one's life on earth is shared, and (at least episodes of, if not) a general sense of wonder for the complexity and variety of such predicament. We may thus value negatively, and indeed regret biodiversity loss, for making the experience of certain (some, many) animate and inanimate elements of nature unavailable to us, thus being an obstacle to the establishment of such relations, and thus to the attainment of said perception and connected understanding, acceptance, and sense of wonder. We may well regret not having ever had

the chance to see and appreciate a panda bear, a coral reef, an *Aloe Polyphilla*, or a Saguaro cactus: a world that included such entities, in which relations between us and them could have obtained and helped us deepen our understanding of our situation as individuals of the human species on this planet, have in fact never been open to us. We have thus lived a poorer set of possible experiences. Perhaps we are a distant future generation, have never known anything about Saguaro's, and are thus in no position to even care about their loss. But perhaps Saguaro's have gone extinct during our lifetime, or just before we were born, so that we have had access to information about such most unusual wonder of nature that is now gone. We may regret having lived in a world that precluded us a life good enough for this and so many other entities to be part of it, and for us to have experience of and cultivate relations with them.

4. *Gardens, Instrumentalism, and Resolute Choice*

Because admitting the instrumental value of botanical biodiversity may be translated into the more disturbing claim that the latter is here to serve our whims, that it is in our power, and that we can do whatever we want with it, including doing it harm, it may be necessary to put some distance between the present standpoint and such claims. The picture of instrumentalism to which such claims refer is dangerously incomplete, and a focus on gardens helps bring out the reason for such incompleteness quite starkly. Let us begin with the general point, that instrumental value can be anthropocentric *or not*: a garden tree can give shade and fruits to me, but also allow birds to nest, rats to mate, and innumerable other entities, sentient and not, to contribute and profit from the micro-ecosystem that around such tree may come to revolve. The latter, even in a garden, has therefore a quite clearly non-anthropocentric instrumental value.

Now, the tree also has anthropocentric instrumental value, of course, but for that value to be realized and to persist, the human gardener must understand and accept a very peculiar role for himself, that of facilitator of that tree's existence and persistence: a role that is instrumental to such tree's existence and persistence even though the tree has no perspective from which to assess whether that is a good or a bad thing for it (the evaluative

standpoint with regards to that question remains the gardener's). Such role is likewise instrumental to the existence and persistence of the whole micro-ecosystem that around that tree revolves. The fact that nature's value in the garden is instrumental to the gardener, in that he eats fruits from his tree and enjoys pleasant mental states or mystical raptures pruning or contemplating it, does not mean that its value is anthropocentric in the hierarchical and exploitative sense rightly abhorred by the environmentally-concerned: for the human gardener takes on a role (indeed she chooses to take on a role) that is instrumental to the existence and persistence of her plants; so that an eminently anthropocentric project such as a garden is found to have also positive non-anthropocentric implications, with its prudential being positively affected by its altruistic value³⁷. As said, the garden is no zero-sum game scenario: humans must give in order to take. It is in the garden that a positive vision on which to build a future culture of nature can be articulated³⁸.

Garden practices are anthropocentric practices that respond to the non-anthropocentric needs and requirements of plants. The fulfillment of such needs and requirements is a necessary condition for there to be any prudential value in gardens and garden practices at all. Such needs and requirements are spelled by the internal biological dynamics of the plants and by the external dynamics of the wider environmental conditions characterizing the locality in question. A gardener must respond to such needs and requirements with consistency and punctuality. As Goethe put it:

³⁷ Seen this way, gardens, gardeners, and garden practices may often be "right" on a plausible reading of Aldo Leopold's widely influential "land ethic": "a thing is right when it tends to preserve the integrity, stability and beauty of the biotic community; wrong when it tends to do otherwise". The "thing" referred to (which may be an action affecting a component of the biotic community, or a component itself) is thus "right" if it has instrumental value for the biotic community. Although often cited as the herald of the intrinsic value of nature, Leopold usually argued for conservation in instrumental and prudential terms. Leopold essentially configured an ethic of management, within the framework of which there was room for considerations regarding both the value and the function of all parts of an ecosystem, including humans.

³⁸ The formula "culture of nature" is by A. Light, in "Restoration or Domination? A Reply to Katz", in *The Ethics of Environmental Restoration*, ed. M. Throop, (Amherst: Humanity Books, 2000), p. 112

“A tranquil eye, an unruffled consistency in doing, each season of the year, each hour of the day, precisely what needs to be done, are perhaps required of nobody more than they are of a gardener”³⁹.

A gardener cannot generally do what he pleases with his garden: he cannot, for instance, quit nurturing it out of whim or boredom, because something else has called his attention (fast-car racing, for instance). Or better, he can do so, but only on pain of losing whatever value he sees in it, as the biological basis of its botanical elements fades away; and assuming that he cares, at least to an extent, for his garden and the plants in it (an assumption warranted by the fact that he has created and maintained his garden up to the day in which car-racing got his attention), such loss can be expected to cause him a sense of personal detriment.

A gardener’s enterprise, the way Goethe depicts it, seems to enable and require one to make a “resolute choice”, in E.F. McClennen’s sense⁴⁰. Such is a freely adopted commitment to which one steadily coordinates one’s future choices, maintaining deliberative consistency through time.

McClennen contrasts this to two other, “sophisticated” alternatives to what he calls “myopic” choice (which counsels the treating of each node of one’s decision tree - say, whether to leave one’s garden behind and go fast car-racing instead - as if it were an isolated choice, unconnected not only with what [choices] came before but also with anything that can be projected about what [choices] may come later): *pre-commitment* (I pledge loyalty to the enterprise of gardening, perhaps set up some self-coercive system to force myself to it, etc.) and *consistent planning* (I anticipate I may in the future choose fast car-racing over gardening, and thus decide now to make *no* plan to garden at all, maybe pay someone else to do it, or do it myself but only “when I feel like it”, etc.).

³⁹ J.W. Goethe, *Elective Affinities*, trans. R. Hollingdale, (Harmondsworth: Penguin, 1971), p. 224. The same point is made more forcefully by J. Baker: “Successful gardening is doing what has to be done when it has to be done the way it ought to be done whether you want to do it or not”. See www.gardenquotes.com

⁴⁰ E.F. McClennen, *Rationality and Dynamic Choice: Foundational Explorations* (Cambridge Mass: Cambridge University Press, 1990).

The former strategy forecloses projected *ex post* choices (entailing a limiting of one's freedom and the expenditure of resources on the project of imposing inviolable constraints on one's future behavior); the latter adapts to them preventively (thus effectively making a plan of one's diachronic inconsistency, and possibly paying a foreseeable price for it). Both strategies assume diachronic intrapersonal separability; and both can cope with dynamic inconsistency (which occurs when later choices - e.g. fast car-racing - contradict or subvert the intended consequences of earlier choices - e.g. gardening) only by equipping the agent with a possibility "to circumvent the exercise of will, whether through the imposition of external constraints, or the avoidance of choices that require it"⁴¹.

Resolute choice, on the other hand, requires regimenting future choices to the originally adopted plan, imposing an internally constraining commitment to a freely undertaken project, with an eye to how future choices may benefit one, if and when coordinated with present ones. McClennen:

"Choice within the decision tree is shaped by a plan that is responsive to the totality of prospects that the agent confronted at the outset. For such an agent, choice points within the decision tree are continuation points: He sees his task (at each such point) as that of continuing to implement the plan he initially settled upon, so as to ensure that the sequence of choices thus made serves to access the prospect he initially judged to be most acceptable (or, at the very least, took to be one of those that were acceptable (RDC 158-59)....the *ex post* resolute self is [thus] oriented to the idea of the *ex ante* self as a controlling self and, hence, to the idea of his *ex post* self not being completely independent (RDC 160)"

If I take up gardening, it is because I anticipate some benefits deriving from it; and if I do not give up gardening for fast car-racing, it is because I anticipate that doing so will result in some loss - of my garden, my plants, and of all the value that I see as inhering in them and in my experience of and relation with them. I thus see my two diachronic choices, of taking up gardening at *t*₁, and of keeping up gardening at *t*₃, as a pair of choices that is beneficial to me at both *t*₁ and *t*₃, as well as at any intervening point *t*₂. Being thus consistently beneficial, my deliberative consistency is eminently rational; and even more

⁴¹ See A.M.S. Piper, *Rationality and the Structure of the Self*, Vol. II, chapter IV
<http://www.adrianpiper.com/rss/docs/10.PiperRSSVol2KC.Ch4.McClennen.pdf>

so, because it is achieved through an internally constraining commitment to a freely adopted plan, thus being less costly than if it resulted from pre-commitment (no self-coercion, nor indeed coercion of any kind, is needed – entailing savings in both liberty and resources), and not just less costly but also less volatile than if it resulted from consistent planning (for a self-binding plan is effectively adopted, which will certainly, not just incidentally, be carried through - and there will be no need to pay anyone to do it).

By these lights, the assumption of intrapersonal separability is not a pre-requisite for benefit maximization (McClennen's consequentialist proxy for rationality): on the resolute choice model, benefit maximization is rather consistent with diachronic deliberative consistency. Having said that, we also suggest that preserving an internally coherent, unified, readable self is a benefit in its own right, though not in the sense that it adds directly to the subject's well-being: rather, because it enables the subject to define what counts as a benefit for her, in a way she may understand and accept, diachronically, as authentically her own. Such preservation of self is not, however, the intentional objective or explicit end of a gardener (as it may be if he merely had a soft spot for choosing always in the same way): for conserving an internally coherent, unified, and readable self in a garden and through garden practices is what Elster calls a "process-benefit", which is in this case parasitic on the "outcome benefit" of there being living and persisting plants in that garden. An internally coherent, unified, and readable self is not the sort of thing that is actively and thematically preserved, and much less promoted, in a garden - it is rather the sort of thing that is simply not changed, by keeping up the practice of gardening, even in the face of mutated circumstances in our life (a sudden flaming passion for fast car-racing, for example)⁴².

The preservation of self that diachronic deliberative consistency enables (and requires) is one reason for acting in certain ways, not the objective of it. But it can be a very strong reason: after all, there are psychological costs related to giving up on one's commitment to a settled plan, project, habitual set of practices, and the attitudes and actions these calls for - in order to follow other paths that may momentarily catch one's attention: a sense of disconnection from whom one is, perhaps bewilderment at it; and guilt, shame, and resentment. Guilt in the face of oneself, for a commitment to a freely adopted project has

⁴² See J. Elster, "Rationality, Morality, and Collective Action", *Ethics*, Vol. 96, No. 1. (Oct, 1985), p. 147

been broken – and, in the case of a gardener, the existence and persistence of his plants have been sacrificed, entailing a failure of altruism. Shame, because dynamic inconsistency exposes one's incapacity to live up to one's own freely adopted project, signaling a somewhat weak character in that one's exercises of freedom are not supported by one's parallel assumptions of responsibility. And resentment towards his earlier self for pointing a way he was in fact unable to follow, and to his later self for not following it. Such psychological agitations will usually be accompanied by a general sense of regret, more or less hurtful according to the extent to which one's abandoned project, the practices it called for, and the attitudes and actions that such practices enabled and required were seen as constitutive parts of one's conception of oneself and of a life well lived. Note that such bewilderment, guilt, shame, resentment, and regret do not descend from any community-wide *mores* nor abstract moral principles, but only from one's assessment of whom one is in relation to earlier and later incarnations of oneself. All that is assumed is that one entertains a concern for the different stages of one's self or, as we shall put it, an authentic concern for the whole of one's life.

5. *Gardens and Virtues*

To engage in garden practices is to engage in a character-molding cluster of activities. In what follows, we shall present a garden-based virtue theory: we shall argue that gardens and garden practices are especially conducive to the development and exercise of virtuous character traits, which may ultimately go to the benefit of the environment at large, way beyond the limits of one's garden. On this view, gardens are places in which a diversity of plant species is conserved and nurtured (this being their direct quantitative contribution to the goal of biodiversity conservation), as well as places in which virtuous attitudes toward such diversity of life, and indeed toward nature at large, can be developed and exercised through hands-on everyday engagement, attitudes that may then be extended beyond gardens and biodiversity conservation, across contexts and themes (this being their indirect qualitative contribution to the general goal of environmental protection).

Stressing the crucial role that gardens and garden practices can play in one's development and exercise of environmentally relevant virtues will shelter us from the risk of looking at the value of gardens as simply derivative from that of the nature that is in them. On the present view, a magical or Edenic garden that has more beautiful plants and more botanical diversity in it, but has enabled and required no human work, is not as valuable as one that has been grown first-hand by someone (and especially if that someone is oneself). There is the value of garden objects (plants and botanical biodiversity), and the value of garden practices: the latter too, much like the former, are constitutive elements of a life well-lived. In gardens not just plants, but also characters are cultivated; and indeed in a garden one cultivates ways to be in and to look at the world, and a certain understanding and acceptance of one's place within the wider workings of things, which can be cultivated in no other setting and through no other practices. We shall later indulge on a catalogue of the virtues whose development and exercise are internal to garden practices; some of those will be especially relevant from a specifically environmental point of view (such as mindfulness), while some others will have a more generally ethical, indeed existential resonance (such as cheerfulness).

6. *Overview of the Project*

Garden-based biodiversity conservation and environmental protection are capable of integrating the three golden objectives of ecological sustainability, economic efficiency, and social fairness. This claim harbors the following sub-theses: first, botanical biodiversity can benefit more from our active engagement than from benign neglect (contrary to any wilderness-based ethic); second, relatively un-natural nature (such as garden plants) need not be less valuable than its naturally evolved counterpart (not that the latter has no value, or necessarily less: rather the properties or facts that are salient to the evaluations of the two alternatives are different, as are the attitudes and actions that valuing the two respectively calls for), which supports the case for both garden-based conservation and restoration as policy *complements* to preservation; third, the global environmental problem of biodiversity loss is better managed in a highly decentralized manner by individuals, groups, and communities than it is by governments (though governments may play an important

orienting and connecting role for and among individuals and communities); and fourth, a future based on local consumption and on a more refined knowledge of the properties of plants is desirable for us, both as individuals and as a species.

In chapter 1 we shall give a characterization of the notion of garden as we understand it, and argue for a garden-based game-theoretical redefinition of the problem of biodiversity loss. In chapter 2, we shall expose our position on the ethical value of plants, botanical biodiversity, and the practice of conserving it in gardens, and discuss the manifold valuable properties of gardens and garden plants. Special attention will be devoted to objections coming from those who consider naturalness to be an essential component of nature's value, and wilderness to be the only place in which such value can be found. In chapter 3 we will strengthen our garden-based proposal for biodiversity conservation, and highlight its relevance to environmental ethics, by articulating a theory of garden-based virtues, which will be catalogued and contrasted with those that can be developed and exercised in the 'wild'. Finally, in chapter 4, we shall elaborate on the social, economical, and political benefits that may come if and when a garden-based culture of nature and ethic of environmental protection is operationalized by policy.

Chapter 1: Gardens and Conservation

1. *Why gardens, What plants, and Where*

We refer here not just to private residential gardens, but also to restoration sites, city parks, public gardens, yards, cloisters, nurseries, orchards, small-to-medium agricultural fields, etc. We exclude from the rubric of gardens massive and intensive agricultural fields attended to mostly by machines rather than humans; however, we do not exclude the use of technology however advanced as well as light machinery in those settings we refer to, which are nonetheless attended to mostly by humans. Designing gardens will involve: 1) observing and capitalizing on the workings of local eco-systemic patterns; 2) acquiring scientific as well as procedural knowledge about the functional station of different plants within eco-systems, as well as about their biological requirements, levels of endangerment, and adaptive capabilities to the locality in question; 3) protecting and transferring knowledge of the nutritional and medicinal properties of plants, and of appropriate ways to cultivate and process them. Knowledge of such properties and techniques will usually be available as an element of a wider cultural and symbolic system, tied to the locality in question or in any case to some form of specialized expertise. 1), 2), and 3) suggest no more and no less than following the golden rule of garden-design, namely “consulting the ‘genius’ of the place”⁴³, in both an ecological and a cultural sense. Because gardens are cultural products that can and should also *elaborate* on such genius, we suggest that they should be so conceived as to also enable social and educational practices - orienting those who engage in them within the wider system of meanings and narratives that attach to the place, as well as to the nature that is being preserved in it.

It should again be emphasized that no suggestion is being made to the effect that the whole of nature should be fragmented into gardens; or that those areas of nature, for instance

⁴³ The formula is by Russell Page, quoted in D.A. Cooper, *A Philosophy of Gardens* (Oxford: Oxford University Press, 2006), p. 132.

stretches of forests and jungles, in which humans do not dwell and have never dwelt should be colonized by operative gardeners; or more generally (if even more improbably) that the despoliation of 'wild' areas connected, for instance, to logging or deforestation, is made somehow permissible by the intention, or even the fact of, posthumous restoration (understood now as a modification of gardening)⁴⁴; or that no value at all is lost in the process of spoiling and restoring; or that garden nature is somehow more valuable than its 'wild' counterpart, etc. Anticipating themes that will be dealt with later, we should rather say that, while we must continue to respect and defend the untouched and untamed, 'wild' nature (or what we take to be such), by leaving it alone, we should also recognize that thinking about nature in terms of something to be left alone cannot help us, botanical biodiversity, or nature in general, when it comes to *non*-'wild' areas - all these areas that we have already altered or cannot help but altering, in which the damage is already done – areas which cannot simply be *returned* to nature⁴⁵.

Positive intervention is in order in all those areas that have already, directly or indirectly, been the objects of human developments. This includes, most importantly for our present purposes: 1) urban, sub-urban, and semi-urban agglomerates, in which the life of most people is spent, most environmental damage is produced, and in which much of contemporary environmental awareness is being developed, far removed from the 'wild'; 2) the so-called "countryside", all areas beyond the suburbs and yet not included in natural reserves, areas that are obviously most exposed to environmental exploitation; and 3) the fringes of fenced 'wild' areas, along which human presence pushes and presses most forcefully, often trespassing in search of pasture-lands, housing possibilities, chances for logging, and hunting grounds. Also included are abandoned mining and industrial sites, deforested surfaces, terraces, despoiled wetlands, altered coasts and shores, inner-city

⁴⁴ This would be an instance of "malicious restoration" in A. Light's sense. See his "Ecological Restoration and the Culture of Nature: A Pragmatic Perspective", in *Environmental Ethics: An Anthology*, eds. Andrew Light and Holmes Rolston III (Malden: Blackwell, 2003).

⁴⁵ See M. Pollan, *Second Nature: A Gardener's Education*. New York: Grove Press, 1991, for enlightening quasi-philosophical ruminations on this and related themes. There have been authoritative suggestions that, at least ecologically speaking, the 'wild' no longer exists at all - humans and the effects of their activities have become the single most pervasive and powerful driving force of natural selection, so that no place on earth is left that fits the 1964 definition of the Wilderness Act: see S. M. Meyer, *The End of the Wild* (Cambridge, Mass. : MIT Press, 2006). The point had already implicitly been taken by philosopher J. B. Callicott in his "A Critique of and an Alternative to the Wilderness Idea", in *Environmental Ethics: an Anthology*, eds. Light and Rolston, (Malden: Blackwell, 2003), p. 440. It should be noted how in that article Callicott is in fact distancing himself from some of his own earlier, "wilder" positions.

canals, forgotten rail-tracks, bridges, buildings, rooftops, vertical walls, and generally any context in which human presence and activity not only puts natural eco-systemic patterns and botanical biodiversity under stress, but also opens possibilities for new patterns and botanical biodiversity to obtain. Any available area fit to be renewed with an eye to restoring eco-systemic patterns and promoting botanical biodiversity, while at the same time providing resources for local consumption, and increasing opportunities for environmental-friendly social interaction (this may, but need not exclude private gardens) will be of interest - there is no necessary limitation on size.

This script has no ambition of providing guidelines for garden aesthetics in terms of style and composition. In particular, it is not in the least concerned with the issue of what a beautiful garden should look like. Gardens are being discussed here in *functional* terms, as conducive to four main classes of objectives: ecological (biodiversity conservation, landscape restoration, and general environmental protection), economical (satisfaction of local consumption and other needs; increased quality of life), socio-cultural (ecological literacy; connection to and elaboration of local narratives and systems of meaning; fostering of a new, and shared, culture of nature; active participation with regards to environmental issues), and ethical (living a life well lived, in reference to prudential, aesthetical, moral/altruistic dimensions of value, as well as to a perfectionist dimension articulated into a deeper understanding and an authentic acceptance of one's place within the wider workings of things, and the development and exercise of a number of important virtues - which to that understanding and acceptance are recursively related).

Species indigenous to the locality in which the garden is being designed should always be employed; but also non-indigenous species that are endangered, and/or possess significant nutritional/medical properties, should figure in all those gardens; and non-indigenous plant species of all sorts could indeed figure too, provided their propagation can be kept under eco-systemically sound restraint. With that proviso, *ex-situ* cultivation of non-indigenous species in gardens should be encouraged. In some cases, the reason will be straightforwardly economical: some non-natives will be able to provide for the subsistence

of gardeners and local communities, so that, by cultivating and propagating enough of them, they will not only be conserving the species but also providing for basic human needs. In other cases, the reason will be related directly to the requirements of conservation. *Ex-situ* conservation could simply be the only chance of survival for many plants the natural habitat of which has already been altered or compromised beyond their adaptive capacities. Examples are legion: take *Puya Raimondii*, the largest existing bromeliad, native of Peru and only localized on top of 2500 mts. high *Cordera Blanca*, an area in which herding and grazing has been steadily increasing over time: herders simply burn down or cut the thorny plant in order to allow their cattle to move freely; or *Aloe Polyphylla*, a lily native to mountainous Lesotho and decimated by land-conversion, illegal eradication, and exporting; or the curious case of *Echinocactus Grusonii*, or Golden Barrel cactus, native of Mexico and arguably the most famous and commercially represented globular cactus worldwide, extinct in the wild and yet cultivated virtually everywhere, to be distributed in department stores on the base of millions.

The quarrel between those pro and those against *ex-situ* conservation may appear to reflect a much more general disagreement about what to do with nature's value: is the latter to be respected, or rather promoted? When it comes to biodiversity conservation in particular, the contrast is between policies of 'benign neglect', most conspicuously realized by leaving nature alone (in natural reserves or wilderness areas, for instance), and interventionist policies aiming at nurturing the existence and promoting the persistence of a diversity of plant species. A garden-based environmental ethic for the conservation of botanical biodiversity obviously aligns itself with the latter position, while any wilderness-based ethic would do just the opposite⁴⁶.

Given the troubling topography in which *Puya Raimondii*, *Aloe Polyphylla*, *Echinocactus Grusonii*, and so many other varieties of plants thrive, benign neglect has for a long time been a somewhat inevitable, very cost-effective, and overall successful conservation policy, entailing no more than letting things be. Today, however, very few places remain beyond (direct or indirect) human reach, and *ex-situ* conservation, and indeed in some cases *in-vitro* propagation, may be the only chances for many plants. Some may later be re-introduced in

⁴⁶ *Ex situ* conservation, and gardening in general, entails loss of naturalness of both places and plants, and of the value that to the property of naturalness may be connected. This large issue we take up in chapter 3.

the 'wild' and re-enter eco-systemic patterns more or less easily (so would the Golden Barrel cactus, for instance), while others may not manage the transition from captive breeding to open nature, sometimes because captive breeding produces plants more delicate than does natural selection, but much more often because the eco-system that previously hosted them may have itself been altered by macroscopic anthropogenic processes such as deforestation, pollution, and the loss of other biotic elements, and may no longer be capable of sustaining the life of the re-introduced plants; the latter thus simply cease to possess any possible eco-systemic function. In these cases (and they are many), they will in fact be conserved as mere living trophies and genetic receptacles, by and for us.

A risk connected to *ex-situ* conservation, which has been signaled by proponents of 'benign neglect' policies, is the spreading of infesting non-indigenous species, which may subtract important resources from local vegetation and alter eco-systems for the worst, possibly leading to an eventual decrease in botanical biodiversity. This is no small problem. But first, with respect to the biological composition of ecosystems, the origin of disturbances (human or natural) is irrelevant - what matters is its extent and intensity: and there is no reason to assume that some, and focused, human intervention can only lead to the spreading of weeds, and not to the conservation of indigenous and non-indigenous species that could otherwise face extinction. Once this point is made, there is room for a second: a significant amount of scientific evidence shows that an increased level of botanical biodiversity (resulting, for instance, from cultivating natives and non-natives side by side) within an eco-system will increase the number of inter-specific interactions determining the function of the eco-system⁴⁷. Because of that, eco-systems that are species-rich will contain more alternative pathways for the flow of energy and the internal cycling of nutrients, and will thus be more resistant to perturbations and disturbances⁴⁸. Also, inter-specific differences in strategies of nutrients-capturing will allow more diverse communities to more fully utilize their limiting resources, and thus be more efficient and productive⁴⁹.

⁴⁷ A review of such evidence is offered by D. Tilman, "Biodiversity and Ecosystem Functioning", *Nature's Services Societal Dependence on Natural Ecosystems*, ed. Gretchen C. Daily (Washington, D.C.: Island Press, 1997), p. 93-112. Notes 42 and 43, here below, make reference to studies cited by Tilman.

⁴⁸ Gardner and Ashby (1970), May (1973), Pimm (1979, 1984, 1993), King and Pimm (1983)

⁴⁹ The first to advance the hypothesis was C. Darwin (1872). See Odum (1953), MacArthur (1955), Elton (1958). For scientific tests see Swift and Anderson (1993), Vitousek and Hooper (1993). For an application of the diversity-productivity relation in reference to forests see Bolker, Pacala, Bazzaz, Calham, and Levin (1995). This latter study found that forests areas containing many spatially intermingling species would be up

It should finally be noted that refraining from gardening will not ward off the spreading of infesting non-natives, which are continuously disseminated by any human activity *whatever*⁵⁰; because such phenomenon will necessarily keep increasing as humans continue to extend their activities the world over, policies of benign neglect that only aim to leave endangered natives alone in their native lands will “in the long term effectively bifurcate the earth’s biota into weedy species and ghost species”, while “relic species – some of which might have persisted with a fairly stable presence – will instead become ghosts”⁵¹. S.M. Meyer defines *weedy species* as organisms that thrive in continually disturbed, human-dominated environments: adaptive generalists that have their needs better met by humans than nature, and will thus enjoy expanding populations, wider spatial distribution, ecological dominance, and enlarged opportunities for further speciation into the future. Raccoons, coyotes, goats, rats, as well as dandelions, daisies, crabgrass, clover, pigweed, buttercup, opuntia’s, some agave’s, many ground-covering succulents, the aquatic and sewage-adapted Eurasian watermilfoil and hydrillas are notable examples. Environmental weeds are literally the forefront of (human-driven) evolution today. *Relic species*, on the other hand, live in decreasing numbers and contracting spatial distributions. They are adaptive particularists, persisting in small and isolated populations, often in remote environments and troubling topographies, surviving largely through benign neglect. Because no topography is too troubling today, and no environment too remote, relic species are most exposed to extinction and are the ones that usually agitate conservationist concerns: the African elephant, the giant Panda, the California Condor, as well as the majority of the plant genus Euphorbia’s, orchids, cycads, aloe’s, and virtually all of Hawaii’s, Galapagos’, Socotra’s and Madagascar’s endemic plants, are relics. Relics require positive human intervention in order to persist. Many of them, however, will never become the focus of conservation programs, while some of those that will may not respond positively: these are *ghost species*, which will simply not survive on a planet with billions of people because of an eco-systemic incompatibility between their characteristics and

to 30% more productive than areas populated by one or a limited number of species: this means that biodiversity increase may lead to a 30% increase in the amount of carbon dioxide removed from the air and stored by forests.

⁵⁰ For some examples of the complex dynamics of weeds-spreading, see S. M. Meyer, *The End of the Wild* (Cambridge, Mass. : MIT Press, 2006).

⁵¹ See S.M Meyer, *The End of the Wild*, p. 65.

abilities and our political and economic choices. While many ghost species may today still be around and plentiful, and may indeed keep persisting for a considerable time, their extinction is certain, apart from those individuals that will manage to survive in zoo's, public and private gardens, and DNA laboratories. Notable examples include lions and tigers, the East Asian giant soft-shell turtle, 90% percent of large predatory fish such as tuna and sharks, as well as timber trees, numerous bromeliads, pachyform succulents, some cacti, and enormous numbers of tropical plants and trees. These species are condemned to extinction unless massive captive breeding and restocking is carried out by humans, *in* and *ex-situ*, *ex-* and *in-vitro*. They are, in fact, already part of what ecologists call our "extinction debt": because many decades can pass between the start of the decline and the effective collapse of a population structure, a dramatic gap exists between the looks of biodiversity and its real health. The present extinction debt, accumulated in the last century or so, will be paid by future generations. In time, weedy species (able and happy to follow us around the globe) will fill in habitats left vacant by relic and ghost species, homogenizing the earth's biodiversity as ecosystems re-organize around a human motif: in Meyer's words, the web of life will become the strand of life.

In a world in which ecosystems had never been altered, benign neglect would be a non-controversially positive and highly effective conservation policy. In the actual world, in which humans have literally colonized the earth, *ex-situ* conservation is in many cases simply a necessity⁵². However, to avoid contributing to the spread of environmental weeds and pests, programs should take place under strict observance of already established prohibitive policies such as the Endangered Species Act and CITES⁵³, which in turn must continuously be adjourned so as to provide a veritable picture of the eco-systemic station and endangerment of given species.

But most importantly, *ex-situ* conservation programs as we propose them will as a rule be relatively small-scale and reticular, taking place in gardens, places in which control over weeds is inevitably paramount, being constitutive of the very practice of gardening. There

⁵² Here one is reminded of Wittgenstein's aphorism in *Culture and Value*: "Every tragedy could really start with the words: 'Nothing would have happened had it not been that....' – (had he not got caught in the machine by the tip of his clothing?)"

⁵³ For the Convention on the International Trade of Endangered Species, see <http://www.cites.org/eng/disc/text.shtml>

can never be any assurance that no weeds will be produced, but there can be the certainty that gardeners will work to contain them. The containment of weeds may well be an ecological version of the Myth of Sisyphus: and that enterprise, as any gardener will agree, is costly and ultimately desperate; but that does not mean that it will or should be abandoned. We shall return to this point while discussing various garden virtues, for instance perseverance, humility, and cheerfulness.

2. *An Illustration*

To get a vivid picture, it will be useful to briefly refer to actual trends in garden-design. In particular, the technique of *permaculture* seems to share the goals and methods we envision for our gardens. The term stands both for "permanent agriculture" and "permanent culture", highlighting the fact that social aspects are an integral part of any truly sustainable system. Permaculture should be seen as one garden-focused instance of a more general approach, definable as regenerative agriculture. The latter makes use of locally adapted resource-conserving technologies (such as integrated pest management, soil and water conservation, nutrient recycling, water harvesting, multiple cropping, waste recycling, etc.), fosters coordinated actions by individuals, groups, and communities, and auspicates partnerships between those and governmental and/or non-governmental institutions. Most successful examples of regenerative agriculture have come from the South, in which farmers and communities adopting regenerative technologies have substantially improved yields without resorting to externally-supplied technologies such as fertilizers, pesticides, artificial irrigation, machinery, and patented crops and livestock. Success, however, has also been obtained in many cases in the North, where farmers in irrigated and high external-input lands have maintained their yields while substantially reducing their use of inputs, or have maintained profit by producing smaller quantities of low-input crops, of a higher market-value because cheaper to produce and more appreciated on grounds of their being ecologically sound.

Permaculture is an approach to designing human settlements and systems that mimic the relationships found in natural ecologies, capitalizing on their internal resources and

dynamics rather than relying on external inputs. It therefore incorporates into design patterns natural processes such as nutrient cycling, nitrogen fixation and pest-predator relations. It is a re-vegetation strategy that applies ecological analysis to the characteristics of plants (and generally design elements) as well as to the potential relationships that could obtain among them. Each design element is considered in terms of its needs, properties, and possible outputs. A greater and more informed use of the biological and genetic potential of plants is called for, and is usually obtained by coupling scientific information and data with a thorough investigation of local knowledge and practices. Design elements in a permaculture garden are arranged cooperatively, i.e. the outputs of one element feed the needs and/or clear the waste of adjacent elements. The objective is to establish synergy while minimizing the demand for human labor.

Exemplary permaculture designs evolve over time, and can become extremely complex systems that produce a high density of plants, food and materials with minimal input. Because minimal input is only sustainable if design elements fit effortlessly within the larger eco-systemic framework, permaculture designs tend to rely on local biodiversity and may easily end up re-creating the original eco-systemic conditions of the site in question. Indeed, they can be pushed in that direction at will, and a strong focus on biodiversity would do just that. While techniques and systems of cultivation may be borrowed from organic agriculture, sustainable forestry, horticulture, and the land management systems of local peoples, permaculture's fundamental contribution to the field of ecological design is the development of a concise set of broadly applicable organizing principles that can be easily transferred through training⁵⁴.

Traditional agriculture was labor-intensive; industrial agriculture is fuel-intensive; regenerative agriculture and permaculture are design- and information- intensive. They focus on knowledge and planning more than repeated intervention, and aspire at smarter, not harder work. One way of achieving this is by designing "multiple outputs" zones. Perennial food-crops are often used, as they do not need to be planted every year and thus require less maintenance and fertilizers. They are especially important in outer areas and in layered systems involving various levels of vegetation. Below them, other entities are

⁵⁴ For information regarding permaculture's principles, applications, and promises, see www.permacultureprinciples.com

allowed to grow: dwarf trees, shrubs, herbaceous varieties, root crops, as well as climbing plants. A potato field interspersed with olive trees onto which vines grow will reduce soil erosion, act as a windbreak, and provide three crops. Many permaculture designs also involve animals, chickens especially, which can be used as a method of weed control and also as a source of eggs, meat and fertilizer. Here the technique clearly comes into conflict with conventional large-scale agriculture: although it may increase the overall productivity and resistance of the plot in question, inter-planting trees and vines (not to mention allowing chickens to roam free) in a potato field will reduce the potato yield and make the field harder to harvest using machinery.

Permaculture began with the issue of sustainable food production, and was informed by a willingness to move away from reliance on industrialized agriculture (as well as factory farming). Whereas industrial farms use technology powered by fossil fuels, and specialize in producing high yields of a single crop, permaculture stresses the importance of low inputs and diverse crops, in a designed imitation of the workings and biodiversity of natural ecosystems. It envisions an abundance of home gardens for the production of food and medicinal plants, as well as small-scale markets attending to local distribution, and it obviously auspices increased vegetarianism. It generally suffers from an adverse policy environment, however, because most policy frameworks still encourage farming and design techniques that depend on external inputs and technologies, while permaculture, and regenerative agriculture in general, are often stigmatized as backwards rural utopias.

What distinguishes permaculture from a typical back-to-the-land approach, however, is precisely the extensive use made of technology and design tools aiming at reducing energy consumption, conserving soil and water, re-creating micro-climates, and emphasizing the role of natural materials and cooperative planting. One of the innovations of permaculture design is its willingness to scientifically investigate the workings and appreciate the efficiency and productivity of local ecosystems, and to apply such study to the way human needs for food and shelter can be met. Because permaculture is a cluster of techniques rather than a list of things to do, it is applicable to any context, be it large or small, 'wild' or urban: one of the feature of the approach being precisely that of relying on locally-based knowledge, skills, and resources.

A permaculture garden may be as small as a urban backyard and as large as a national park, and host all of the activities that are here being considered under the rubric of gardening. Take Project Bona Fide in Ometepe, Nicaragua: the garden covers a 43-acre site and has been running for nearly a decade, during which it has become an important center for education and community development. Its infrastructure includes natural buildings built with local materials, terraced and medicinal plant gardens, an extensive nursery, a seed bank, fruit and nut orchards, food forests, native timber forestry, timber bamboo plantings, water-catchment, drip irrigation and ferrocement technologies, renewable energy systems, and composting toilets. Outreach efforts include social programs that provide educational opportunities based on ecological agriculture, community reforestation efforts that are supported by the seed bank and nursery, local seed and plant exchanges, a children's nutritional kitchen, and a community center.

Project Bona Fide does grandly what we argue could be done at any scale; it gardens the eco-system, propagates natives and non-natives, and involves the locals in the management of their natural resources, securing their survival and the possibility to trade their produce, allowing them to discover in first person the ways in which human interests and nature's future can converge, and centering social exchange, education, and cultural elaboration precisely on that discovery. Of course, like many other biodiversity-related projects, Bona Fide is ultimately a governmental program. Many of the gardens we envision, however, need not and will not be: indeed, one of the strengths of our proposal is that it tries to strip governments from their monopoly on the collective action problems of biodiversity conservation and environmental protection. Let us dwell on this point for a moment.

3. *Gardening the Commons*

Biodiversity conservation, like most other environmental challenges, is a collective action problem. If the collectively best outcome is assumed to be, say, the conservation of every presently existing plant species, the problem lies in getting individuals to cooperate with

one another so as to achieve such outcome. In this case, we refer to the conservation of botanical biodiversity as an inter-personal collective action problem. But in our garden case, the conservation of botanical biodiversity is also a collective action problem in an intra-personal sense: different incarnations of oneself must not defect from the freely adopted commitment, made by one of them in the past, of conserving a diversity of plants in a garden and through garden practices⁵⁵. Schematically, we may say that, in both cases, one is not to defect from cooperating (with others or with different incarnations of oneself) in the face of opportunities for increased personal benefits, i.e. free riding, and/or lack of resoluteness, i.e. weakness of will. In both cases, given our focus on individual well-being, we need such reasons to be internal to the perspective of each individual and each incarnation: we need, in other words, prudential reasons for each individual and each incarnation not to defect; if aesthetical, moral/altruistic, or perfectionist reasons are to be in the picture, they can only be insofar as they function as informing elements of the prudential.

In relation to biodiversity loss as an interpersonal problem, a version of Hardin's "tragedy of the commons" is often invoked. If biodiversity is conceptualized as a common property of humanity, and the treacherous rationality of free-riding prevails, each participant will have an incentive to take more than their fair share of biodiversity - say by engaging in industrial activities, licensing housing developments, or allowing inconsiderate grazing - and no incentive to cooperate their fair share of biodiversity (say, by volunteering to a project of restoration, or sponsoring it).

Hardin believed that the solution to the vicious dynamics of the commons was Hobbesian in kind: stripping individuals (as well as groups and communities - all "individual actors") of the liberty to make decisions about their use, and investing such authority in central

⁵⁵ The parallel between inter- and intra-personal collective action problems is made and explored by J. Elster in many of his works, as well as by E.F. McClennen, quite technically, in *Rationality and Dynamic Choice*. The notion of resolute choice depends on the drawing of such parallel. Much of our positions in this chapter are inspired by the work of those authors, as well as, if less directly, by D. Jamieson's suggestions for a consequentialist virtue theory in dealing with environmental collective action problems, especially in "When Utilitarians Should Be Virtue Theorists." *Utilitas* 19, no. 2 (2007): 160-83

institutions (according to an exemplary mechanism of pre-commitment, as defined in the previous chapter). The task of such governmental (and generally but not exclusively state-level) institutions, is to enforce cooperation by means of sanctions, or to promote it by means of some positive incentives.

However, Hobbesian solutions based on centralized enforcement of cooperation through incentivizing legislation and/or coercive sanctions are costly. Among their costs in the case of environmental protection, biodiversity conservation included, are:

- 1) those related to the expenditure (through taxation) of resources for maintaining the institutional figures and the bureaucracy necessary to the legislation, the processing, and the coercive enforcement of cooperative regulations, be those based on incentives, sanctions, or any mix of the two;
- 2) those related to limited information or ignorance, on the side of such institutional and bureaucratic figures, about the ecological and social specifics of the localities in which environmental problems are to be tackled: which may lead to honest mistakes, on the side of such figures, when making or implementing general policies unfit to such specifics. One-size-fit-all environmental policies, drawn in abstraction from the ecological and social particularity of places and constituencies, bet the whole lot on one horse, as it were, while not necessarily being acquainted with the racetrack; and thus involve great risks. Fragmenting policy, so as to key both its making and implementation to locality, means fragmenting the risks, and gaining some latitude for making mistakes during the phase of experimentation, for such mistakes will be smaller and less costly;
- 3) those related to adaptive inefficiency, a feature of one-size-fit-all environmental policies based on centralized regulation, which may disable revision and change in the face of new information or mutated circumstances. This is an especially insidious sort of costs, for the incomplete and indeed embryonic knowledge we possess of ecology (and of urban ecology in particular reference to the topic of gardens), may have to be revised numerous times in the coming future, and with it, arguably, will have to be policy. Relying on crystallized regulation may make our approach to environmental policy and protection too complacent, and slow. The

process of crystallization will only be exacerbated by increasing bureaucratization. Given the inherent open-endedness, complexity, and multidimensionality of the problem and of the information (not only ecological but also economical, sociological, political, etc.) needed to frame and face it, environmental protection (and with that, biodiversity conservation) is a magnet for bureaucratization. However, if there is one field that should stay loyal to principles of locality, and accordingly flexible with regards both to the design and the implementation of policies (and to who designs and implements policies), that is precisely environmental protection and, with that, biodiversity conservation;

- 4) those related to possible rent-seeking behavior on the side of institutional and bureaucratic figures: it is an historical fact that the higher the institutional level at which environmental policy is made and implemented, the more the focus of protection shifts from nature to power;⁵⁶
- 5) those related to lack of trust in faceless authorities on the side of individuals and communities, and to the suspicion of power-schemes, corruption, and socio/politico/economical unfairness being perpetrated at their expenses. Even well-meaning regulations that will indeed attempt positive radical change (say, state imposition of wall-gardens on each and every building), if and when imposed top-down may be perceived as shocking and/or threatening, and resisted because of their unfamiliarity, however beneficial the proposed change may be. Such lack of trust, more than vested self-interest, may generate widespread indifference to environmental problems on the side of individuals and communities left out of the decision-making and the implementation process, fueling an “every man for himself” kind of attitude, most inimical to environmental protection and stewardship;
- 6) those related to a generalized de-responsibilization of individuals and communities when it comes to environmental problems, which may lead not only to widespread ignorance of such problems, but also to their worsening and precipitation.

⁵⁶ See J. Radkau, *Nature and Power*, transl. T. Dunlap (New York: Cambridge University Press, 2008), p. 57

Moreover, there is always the risk that the central enforcing institution, be it at global, state, regional, or even just very local level, may become yet another actor (indeed a mighty powerful one) involved in the exploitation of environmental commons. Swedish 19th century forest protection policies, for example, meant the expulsion of all farmers and forest dwellers from lands they traditionally occupied so as to preserve oak trees that were ultimately destined to royal shipbuilding. From being a familiar part of their life, the oak became for the expelled a symbol of state domination and interference, and its militarized protection estranged them from nature in a historically significant way⁵⁷. It is very often protection compelled from above that which makes the object of protection unpopular among those who should protect it.

While the logic of the problem presented by Hardin is simple and rock-solid, the best solutions to it may not follow a simple and rock-solid strategic pattern such as centralized enforcement, but may rather have to take more complex, social, cultural, and indeed, as we maintain here, ethical routes.

Mechanisms of control against the overexploitation of the commons existed well before the advent of centralized political power. From an evolutionary point of view, one can expect individuals and groups to succeed in surviving only if they learn to manage the local commons in a sustainable way. Those who settle for long in a locality, in full control of their resource-base, can only be expected to exhibit a number of socio-cultural practices that promote sustainable use of such resources, among which biodiversity⁵⁸. Indeed, the very assumption that has individuals and groups necessarily benefiting from taking more than a fair share of the commons may well be unwarranted in such contexts, for local communal norms and values usually work to ensure that there are clear costs to free-riding. A depletion of common resources and biodiversity should not be assumed to logically

⁵⁷ See J. Radkau, *Nature and Power*, p. 61

⁵⁸ See K. Bawa and M. Gadgil, "Ecosystem Services in Subsistence Economies and Conservation of Biodiversity." *Nature's Services Societal Dependence on Natural Ecosystems*. Ed. G.C. Daily. Washington, DC : Island Press, 1997, p. 303. Many cases studies can also be found in other works by the same authors, cited in the same article.

follow from the lack of central political oversight; nor should, conversely, the presence of a collective action problem involving those be presumed to automatically give rise to a marshalling institution, independently of 1) the circumstances in which cooperation is to be obtained and maintained, and of 2) the attitudes of the actors involved.

1)- Preserving the commons is most easily accomplished when the system of incentives is not imposed from above, but is rather inherent in a particular way of life organized around shared social and cultural practices (be those practices pursued for the sake of some further, commonly shared value, or in order to further a variety of interests, objectives, and projects that individuals may entertain); when the affected environment is small and easy to survey; when cooperation must be ongoing rather than one-shot or episodic; when those who cause environmental damages must bear the consequences and costs themselves, and in general when the distribution of both benefits and liabilities resulting from cooperation is perceived to be fair. These conditions gesture at a change in the circumstances of cooperation, and indeed in the physiognomy of the cooperative game being played. They are all fulfilled in a garden-based economy based on principles of local consumption.

In the gardens we advocate, plants will be edibles, specimens of non-edible indigenous species, specimens of endangered non-indigenous species, as well as plants chosen for whatever other reason by those involved in growing them (with the proviso that their propagation be always susceptible of eco-systemically sound restraint). Suppose a town indeed adopts a garden-based arrangement for conserving plant species, while at the same time producing food, and, for that matter, absorbing some carbon emissions from the atmosphere. Such arrangement presupposes the cooperative use of common, limited, and fixed resources such as soil and water for an extended period of time, by individuals that will thus find themselves interacting with each other repeatedly; and it also entails a drastic reduction in imported foods from outside town (it is irrelevant if such reduction is, along with conservation of botanical biodiversity, the deliberate objective of such arrangement, or simply one of its upshots).

Under such circumstances, a use more sustainable of the commons (be they land, soil, or botanical biodiversity) will be made, than it would be if the commons were being used to

sustain global, import-export based income maximization⁵⁹. On the one hand, their use will be limited to satisfying local demands; on the other hand, having to make do with the local resource-base, and relying less on the possibility of importing anything that might be needed, will limit both non-cooperative overexploitation of the local commons and the indulgence with which one's acts of overexploitation will be received by others: communal norms and informal networks of control will work to ensure that there are clear costs to free-riding.

This looks like a familiar zero-sum game, in which each individual is accorded a certain amount of shares of a limited and fixed resource-base, so that it is impossible for her to take any more than she is accorded without making someone else worse off thereby; only, in this case, we assume it to be nearly impossible that the non-cooperative behavior of the defector not be spotted and sanctioned in some way. But a zero-sum game this is not, in fact; for gardens are productive places, and new plants, previously absent from this planet, are grown in them, with most of the growth happening thanks to the free energy provided by sunlight and the workings of photosynthesis. Let us suppose that such plants can be environmentally valuable in at least three ways: a). they may be edible vegetables, and people producing and eating them locally would reduce the amount of imports of vegetables, the amount of land devoted, somewhere in the world, to the production of those vegetables, and the number of cargo planes and trucks transporting them - while less red meat would be eaten, less water and land would be consumed to breed cows, fewer cows would liberate less methane in the atmosphere, and so on; or b). they may be specimens of endangered botanical species; or c). they may be neither, but still absorb carbon emissions like any plant does. In any of these cases, each individual working in gardens is not only taking units off a resource-base (whether those units are carbon-emission units, or units of biodiversity, or units of available food) but also creating and throwing new units in. Put differently, garden practices have positive externalities, from man to man as well as from man to nature; and this is why our garden-town and its citizens are in fact involved in a

⁵⁹ H. Demsetz has confirmed that a basic distinction must be drawn between commons sustaining local consumption, and commons destined to sustain income-maximizing export, in his 1967 seminal article *Towards a Theory of Property Rights*.

non-zero-sum game scenario.⁶⁰ Now, any non-zero-sum n -person game can be shown to be formally equivalent to a zero-sum $n+1$ person game: one can imagine a fictional, additional player (in our case, nature), who participates not in the game actively, and yet is assumed to lose, at each play of the game, an amount equivalent to what the totality of the real players wins, and vice-versa⁶¹; with such gains and losses then being distributed equally across the population of individual real players. This is a rudimentary, but useful framework for looking at the circumstances of the cooperative games played in a garden-based economy of local consumption.

We shall not indulge in a full-blown philosophical or technical defense of such kind of economy, here; and it is readily admitted that, in many cases, the rhetoric of its proponents voices a merely ideological position, sugar-coated in ecological flavors. However gardens, and garden techniques such as permaculture, are meant to be useful also to people with little hope of going beyond an economy of local consumption, and therefore naturally invite reflections on it. Moreover, sympathy is accorded to the idea of reducing the incidence of intermediate trade and great capital on what we eat and consume. Finally, an economy based on hands-on production and local consumption is a conceptual polarity useful to contrast current practices of delocalized mass-production and money-fuelled, impersonal consumerism, which are widely regarded as being among the chief causes of our environmental problems, including biodiversity loss⁶².

Observe that nothing prevents a reticular, garden-based economy inspired by the principle of local consumption to radiate far beyond households and include villages, landed estates,

⁶⁰ This line of reasoning may possibly be developed into a counterargument to H. Shue's vehemently asserted position that the distribution of emissions per person on earth be necessarily zero-sum: see H. Shue, "Climate", in *A Companion To Environmental Philosophy*, ed. Jamieson, Blackwell 2001. Gardens and garden practices enable and require people to produce what we may call "in-missions", that is, sequestration units of carbon-dioxide, by growing plants. If this is so, *contra* Shue, the total amount of emissions available to mankind before the effects of climate change become humanly unbearable is *not* fixed. Note that this is not to affirm that gardens will suffice as means for eliminating emissions - it is only to say that they will help to some extent. That, however, is enough to throw doubts on Shue's central assumption on this topic.

⁶¹ See Von Neumann and Morgenstern, *A Theory of Games and Economic Behavior*, (Princeton University Press, 1944), p. 505 and following.

⁶² See R. Sandler, *Character and Environment: A Virtue-Oriented Approach to Environmental Ethics* (New York: Columbia University Press, 2007); D. Jamieson, *Ethics and the Environment: An Introduction* (Cambridge: Cambridge University Press, 2008); M. Sagoff, *The Economy of the Earth: Philosophy, Law, and the Environment* (Cambridge: Cambridge University Press, 1988)

cities, regions, and entire states. Whatever the unit of locality, what matters is whether the principle of satisfying local consumption *first*, and only then exporting the residual, takes precedence over the principle of producing, exporting, and only *then* satisfying local consumption *with* the residual⁶³.

If economies based on local consumption are seen as relics of the economic past, necessarily destined to wither away in the face of global trade, the “tragedy of the commons” may indeed be a fair picture of many of our environmental problems, and centralized control on common resources (as advocated by Hardin) may indeed be in order. But even in the global age, household-level “smallholders” will not disappear. Perhaps the shadow of an ecologically darker future and the reality of an economically uncertain or prohibitive one will in fact increase their numbers⁶⁴, while new technologies and communications will reinforce their political power. R.C. Netting shows that “smallholders” cultivating gardens are historically to be found across continents, that many were members of economies based on local consumption, and that such economies were often largely unaffected by the “tragedy of the commons”⁶⁵. He argues that garden-based local economies should not be seen as a backward and marginal practice in agriculture, but rather as a resource, one most sophisticated way to balance economics and ecology so as to *preserve* the commons⁶⁶. In direct response to Hardin, Netting also argues that an economy based on local consumption would be able to tolerate significant increases in population density. K. Polanyi, who offered an impressive picture of the humanity and reasonableness

⁶³ Because the objective of the second option is ultimately that there be *no* residual, it will often be the case that localities that own certain natural and agricultural resources, and export them, will then have to re-import the very same kinds of resources in order to satisfy local consumption.

⁶⁴ This hypothesis seems to be confirmed by current trends. According to the National Gardening Association, 7 million U.S. households have converted their lawns into edible gardens in 2009 alone. Crucial to such decisions has been economical and, to a less but still significant extent, ecological uncertainty, and day-to-day considerations such as the following: 50 heirloom tomato seeds cost \$3.00. 10 seeds can grow into 100 lbs. of produce. At \$3.50/lb. there is a \$3.00 against \$350 monetary cost. Institutions and organizations are clearly picking up on this trend, too: the NY Botanical Garden, for example, has devoted its entire 2009 summer program to the topic of edible gardens.

⁶⁵ See R. Netting, *Smallholders, Householders: Farm Families and the Ecology of Intensive Sustainable Agriculture* (Stanford: University of California Press, 1993).

⁶⁶ This need not imply that, historically, such preservation has been based on ecological criteria or motivations, however.

inherent to local economies, has captured many of the arguments above arguing that one of the biggest strengths of such economies is precisely their closeness to nature: being unconcerned with the peaks and depressions of distant markets, local economies can better adapt to the natural conditions on which they depend⁶⁷.

If it is conceded that both economists and ecologists could learn much from the local management of commons, it seems legitimate to explore solutions to collective action problems, such as biodiversity conservation, other than centralized regulation, control, and enforcement – a solution that seems to take zero-sum games scenarios of export-based income-maximization for granted. But we must make some qualifications here. First, it is not the case that once devolved, decentralized, localized, and articulated into garden-based arrangements, biodiversity conservation and resource consumption should be subject to no regulation, oversight, and/or coercion at all. But each of those should be primarily empowering, and only secondarily regulative, of conditions and ways of life in which biodiversity conservation is to become a constitutive element of the notion of well-being, no longer at odds with the satisfaction of local consumption and other human needs.

A central institution (which need not be governmental, or wholly governmental) may still be needed to gather and transfer information about levels of endangerment of different plant species, as well as about their biological requirements, the ecological conditions necessary to grow them sustainably, their botanical, nutritional, and medicinal properties, etc. For example, we may imagine situations in which individuals, groups, and communities are assigned usufructuary rights on vacant plots, and perhaps start-up micro-credit, on grounds of their agreeing to devote some of their land, future funds, and work, to the conservation of relevant botanical species previously individuated by such institution.

⁶⁷ See K. Polanyi, *The Great Transformation*, (Boston, 1944). F. Braudel, in *The Mediterranean and the Mediterranean World in the Age of Philip II*, transl. by S. Reynolds (London, 1975, [orig. 1949]) has reported that in 16th Mediterranean areas, the worst famines were suffered by trading centers such as Crete, Cyprus, and Corfu, rather than by the “poorer and backwards islands”, which depended on local consumption and were relatively unconcerned with market fluctuations. An illuminating, more recent case is offered by Niger, which has significantly improved the quality of life of its inhabitants since it discontinued peanuts exports (till then its biggest business) in 1972.

The latter may then help coordinate the establishment and maintenance of networks of ecological information, seeds exchange, education, local distribution and transportation of goods (for instance of the vegetables that may be grown on these same plots), and so on – intervening in all such cases in which information and negotiation costs may prove too high for the individuals and groups involved (or wishing to be involved) in biodiversity conservation. Once ensured a functional minimum of cooperation, this central institution may focus on monitoring and facilitating the proceedings, encouraging Pareto-efficient moves (for instance by adopting a mix of policies and incentives favoring low-inputs cultivation techniques rather than high-input ones, fostering operative coordination among gardeners/farmers, involving them in the establishment of trading patterns of information as well as goods, etc.) This is to enable and empower an enterprise that remains (and must remain), nevertheless, essentially open to all, from individual city-dwellers to indigenous groups, from non-profit organizations to landscape-design firms. Governmental institutions have ample latitude for delegating to civil society most of the practicalities connected to such strategies of empowerment.

But there will always be second-order collective action problems, and some degree of coercion will always be needed to keep free-riding under check, and initially also to push some of the most recalcitrant to cooperate. This does not mean that such coercion must come in the form of legal sanctions: public opinion may do most of the work. In this case coercion would not be vertically but horizontally applied, and informally .

The way that could go is the following. Suppose the garden-based cooperative arrangement is put in place by policy, but no one of the participants is willing to make the first cooperative move – say, turning her lawn into an orchard, or planting an endangered plant that produces a very unpleasant smell (for example, the highly endangered *Amorphophallus* from Madagascar) in her garden, or participating in the clean-up of the common irrigation pipes, and so on. In this case, what is needed is some (not all, and not necessarily most) individuals making such first move non-strategically, that is, non-conditionally on the behavior of others, so that others may then be stimulated into making it conditionally. Such

non-strategic initiators could be people devoted to the cause of conservation and environmental protection, let us call them activists: there will usually be at least some of those. But most individuals will not be so devoted: those will have to be coerced or pushed, through some mixed system of incentives, into cooperation. Who will those be is a matter we leave open: the presumption, however, is that they should be those who profit the most from a non-cooperative use of the commons – this would seem to satisfy at least a primitive requirement of social fairness. But what is important for us now is not who should be coerced, but why there should be coercion. The reason is that many arrangements, cooperative and not, are the results of gradual evolutionary processes in society: and introducing change deliberately may be too difficult, even though the change could in principle be clearly and publicly justified as efficient and/or efficacious: in other words, the path-dependency of the evolutionary processes encapsulated by a given unsustainable arrangement may impose notable constraints on revision, change, and efficient adaptation⁶⁸.

In time, less and less coercion would be needed. The activists, first joined by a number of recalcitrant members lured by incentives or goaded by sanctions, would then be joined by a larger number of conditional cooperators, who would find strategic reasons to cooperate in a). the fact (and further expectation) that most others do cooperate, and will keep on doing the same; b). the fact (and further expectation) that participating in the cooperative arrangement is indeed prudentially beneficial – that is, beneficial for the individual involved and from her own perspective, and not just for the collectivity; and c). the fact (and further expectation) that the distribution of the benefits and liabilities brought about by and through the cooperative arrangement will be fair. If the level of cooperative participation is brought high enough, there may be a critical point at which new individuals (or groups) would be shamed into quitting free-riding and joining in the arrangement⁶⁹.

It should be noted that the cooperation of everyone on every occasion is neither necessary nor desirable. It is not necessary, because gardens and garden practices generate positive externalities that will be dispersed across the group: even if only a relatively small

⁶⁸ See E.F. McClennen, *Rational Society* (forthcoming), chap. 4, par. 12 on draft.

⁶⁹ See J. Elster, *Rationality, Morality, and Collective Action*, p. 154

percentage of individuals was to join the cooperative arrangement, there will be positive spillover effects (more food, more botanical biodiversity, more dioxide absorption) onto all, cooperators and non-cooperators alike. Of course, some system of compensation may have to be devised, and corresponded by the non-cooperators to the cooperators – this being an issue more pressing the smaller the percentage of those in fact cooperating.

It is also not desirable that all should join in the garden-based cooperative scheme, and then cooperate all the time. First, because the costs of getting everybody to cooperate on all occasions could be quite considerable, even if consideration is restricted just to the information costs involved. Second, because a community of uncompromising cooperators may be unable to individuate and then undertake possible Pareto-efficient changes. Third, and related, because a community of uncompromising cooperators may be exposed to more forceful critiques and countermoves: for instance, if each and everyone in a given city gardened enough food to cover her whole consumption, food-distributors, supermarkets, and retailers would have to take their business elsewhere; truck-drivers would lose a route; and real-estate developers would have much less estates to develop. The loss of many economic opportunities also lead to forceful counter-lobbying, and perhaps a crackdown on the whole arrangement. Such crackdown could even be publicly justified as liberating people from some garden-herd mentality – much like many gardeners today would see a cooperative scheme as we are imagining it as a liberation from the supermarket-herd mentality characterizing those who unconditionally cooperate with the arrangements of corporate consumerism, by buying rather than growing. In short, some non-conditional cooperators are needed, especially to get things started, but not too many.⁷⁰

⁷⁰ In fact, a different progression may be more efficient: first, coerce or incentivize as many as possible, and wait for others to join out of conformism, shame, or whatever. When these two reservoirs of possible, and only exogenously motivated cooperators are exhausted, the marginal productivity of cooperation will probably begin to fall. At that point, bring in the unconditional cooperators/activists to boost it up again. Besides being quite unrealistic, however, this approach is also more invasive, for the liberty to join the arrangement voluntarily is ultimately not given to anyone (except, but even then only to a limited extent, to the conformist and the ashamed).

The interpersonal risks connected to unconditioned cooperation on the side of all are mirrored in the intrapersonal risks of never defecting from a commitment made by an earlier incarnation of oneself. The “no exceptions” strategy against weakness of will may easily lead to compulsive and crystallized character; not only the benefits of defecting will be foregone, even (and perhaps even more) when such benefits could be huge not just for the individual in question but for everyone; but also, such impatience for particular cases may in time debilitate one’s capacity to deal with real situations without bending them to fit a rule at any cost; indeed, it may debilitate one’s very capacity to enjoy the reality of situations, and lead to ideological and/or authoritarian and/or delusional attitudes towards them, and towards those involved in them. The idea that “nothing is more important than the plants in my garden” or “conserving botanical biodiversity” or “cooperating” is not a sensible one, at least prudentially speaking: there are other sources of human well-being than plants, biodiversity, and cooperation, which may on occasion take precedence over those - such as meditation, friendships, and the non-cooperative cultivation and fulfillment of one’s talents. Neglecting those *unconditionally*, for the sake of plants, botanical biodiversity, and cooperating in its conservation, is as prudentially unsound as it would be to neglect plants, botanical biodiversity, and cooperating in its conservation *unconditionally*, for the sake of meditation, friendships, and the non-cooperative cultivation and fulfillment of one’s talents⁷¹. Being so enslaved to one’s own commitments or rules⁷² may also lead, in some cases, to intra-personal exasperation, and self-rebellion: a recovering alcoholic might be maddened by the self-imposed lack of booze in his home, and storm out to a bar; a heartbroken lover may be consumed by his commitment never to call his ex, and begin circling around her house in the hope of seeing her instead; a nurseryman’s commitment never to let weeds grow around his plants may drive him insane, and force him to a vacation where no plants grow; a father may one day find out, by stumbling into some secret diary, that his devotion to garden-based conservation of plant species, depriving his children of much of his attention, drove a deep wedge between his life and theirs, much deeper and painful than he ever thought: and repudiate the whole enterprise, seeing how it has made his life, and that of others, much worse-off, and hoping to make time for reconciliation.

⁷¹ This statement, as it should be apparent, presupposes no hierarchical ordering of the sources of human well-being in question.

⁷² This notion of self-enslavement is, unsurprisingly, Elster’s.

So when we discuss point number 2)- the attitudes of the actors involved in collective action, in this case garden-based conservation of plant species, we must start, once again, from prudence. If the intrapersonal collective action problem is to be solved, and different incarnations of oneself have to cooperate – that is, if the individual is to stick to her commitments - that must be a prudentially sound move to make at any continuation point – where that means a good move *for her*. The requirement of prudence may be articulated as follows: sticking to the commitment must be seen to be mutually advantageous, from a prudential point of view, at any continuation point and for each pair of incarnations of oneself, namely the originally committing one and the presently committed one: the father who discovers that his unconditional commitment to conservation has made him so dramatically worse off in relation to his children, realizes that his sticking to it *now* is all to the advantage of his earlier self, the one which made the commitment, while there is nothing in it for his present or future selves. Less dramatically and more generally, for individuals to have any reason to stick to a commitment made, there must be a recognition, at every continuation point, of increases in well-being of some sort - spiritual or material, actual or expected – which depend crucially on sticking to that commitment. This is not the case of our repenting father: he has no prudential reasons not to defect. The heartbroken lover is in a rather different predicament: he does have prudential reasons not to defect in general; but he has no prudential reason not to defect *this time*: for he may end up stalking his ex-partner, if he sticks to his commitment not to call. If not calling his ex is *only* making the heartbroken lover obsess more about her, rather than helping him forget, there is no reason why his later self should not defect from the commitment made by his earlier one, *for the very purpose of furthering such commitment*: rather call her, chat a bit, and then return to self-compliance with a lighter heart and a clearer mind. In this sense, self-compliance is no self-enslavement to commitments made: it can be broken when prudentially unsound; and indeed, in some cases, it even *should* be broken, if a prudentially sound commitment is to be furthered.

Resume now the notion of resolute choice. A resolute choice is conditional on certain prudential considerations being satisfied at any continuation point: generally, it is conditional on the fact that sticking to the commitment made is to the mutual advantage,

prudentially speaking, of all the different incarnations of oneself that may be affected by such choice. Being a resolute chooser is not, therefore, the trait defining an unconditional, but rather a conditional cooperator. In the case of conserving plant species in gardens, the condition is that the individual be clearly able to see why conserving species by growing specimens in gardens is good for her; and to see that every time she must choose whether or not to keep sticking to their commitment. In short, there must be agent-relative, prudential benefits relating to intrapersonal cooperation, in order for one to engage in it. In order to elaborate on these suggestions, let us now see what sorts of prudential benefits may be involved here, which could provide individuals with decisive reasons for intrapersonal cooperation in garden-based conservation.

Elster distinguishes four sorts of prudential benefits: selfish/outcome-oriented; selfish/process-oriented; non-selfish/outcome-oriented; non-selfish/process-oriented. By “selfish” he means any benefits accruing to the subject directly from his own consumption or his own activities; thus excluding those accruing to the subject from the consumption or activities of others, and indeed from their own mental states: taking pleasure in the pleasure of others is, therefore, a non-selfish benefit. By outcome-oriented, he means benefits deriving from the outcome of the (in this case intrapersonal) collective action; by process-oriented, those deriving from participation in the action itself.⁷³

We apply this grid on our topic as follows: first, we note that any process-oriented benefit that may accrue to an individual from intrapersonal cooperation in garden-based conservation is parasitic on its outcomes: there are no process-oriented benefits deriving by garden practices resulting in no plants, or in neglected plants; and no benefits from the practice of conserving botanical biodiversity in gardens if no species are in fact conserved thereby. This is because internal to the process in question is the entertainment of certain attitudes, and the performance of certain actions - and not others: and the absence or neglect of plants, as well as the extinction of all botanical species one tries to conserve, signal very clearly the fact that such attitudes and actions were not the ones in fact entertained; so that,

⁷³ See J. Elster, *Rationality, Morality, and Collective Action*, p. 145

ultimately, the process-oriented benefits have never been available, because the wrong process has unfolded.

Having noted that, we turn to the first possibility, selfish/outcome-oriented benefits. Individuals who only look at those as possible reasons to cooperate will not choose to do so. As it is known, this may lead to sub-optimal collective outcomes in both the interpersonal and the intrapersonal case. In the latter case, it is standard to refer to the choices these individuals make as myopic. Now, in the interpersonal case, the theory of iterated games provides a solution to myopia, which amounts to changing the circumstances of the game, as we have done at point 1)- : assuming that individuals will have to interact with one another repeatedly (in the context, say, of a garden-based economy of local consumption), there is room to think that selfish/outcome-oriented individuals may decide to cooperate, afraid of punishment or hoping for future returns in kind, as folk theorems of interactions would have it⁷⁴. But it is unclear whether this has any meaningful application on the intrapersonal case: for one of the defining feature of the selfish/outcome-oriented self may be precisely its attaching little or no importance on future ills and goods: he may care not one bit for the payoffs accruing to his future incarnations, and, differently from the folk solution to the interpersonal case, there would be no one to *make* him care at any continuation point in the future.

In the case of a commitment to garden-based conservation of botanical biodiversity, a cooperative solution to the interpersonal collective action problem is dependent on the obtaining of a cooperative solution to the intrapersonal collective action problem: people have to stick to their personal commitment to their gardens and plants individually, if the auspicated social outcome of biodiversity conservation is to result collectively. Changing the circumstances of the game may not be enough: in this case, it is the player themselves that must change. This is when the importance of resolute choice becomes clear: an outcome-oriented, selfish individual will be able to cooperate with others on some arrangement, only if able to cooperate with herself, and of regimenting the choices of her successive future selves to those made by a self past.

⁷⁴For an overview on Folk Theorems see
<http://www.virtualperfection.com/gametheory/5.3.FolkTheoremSampler.1.0.pdf>

We must now look at the possibility that the sorts of prudential benefits that may give one decisive reasons to cooperate intrapersonally also include selfish/process-oriented benefits. These are the benefits that may accrue to the individual from engaging with the intrapersonally cooperative arrangement itself, not from the results of such arrangement. Now, the possibility of prudential benefits accruing to the subject from a practice rather than its results (though, as said, process-benefits are often parasitic on outcome-benefits, and they certainly are in our garden case), rests on the assumption that the perfectionist dimension can play an important role in the prudential self-evaluation of one's life.

The sense of perfectionism we refer to has to do not just with following through on one's commitment to a practice, but in doing so well: with an understanding and an acceptance of the attitudes and actions that by such practice are called for at any continuation point. In this sense, benefits relate not only to the outcomes of the practice but also to the practice itself, because one's commitment is not only to acting so that certain outcomes are achieved, but also to acting, at any continuation point, so as to see to it that the commitment to achieving such outcomes is not abandoned, neglected, or poorly operationalized. This idea can be elucidated by referring to Aristotle's familiar distinction between *praxis* and *poiesis*. For Aristotle, action (*praxis*) is not just any voluntary or purposive doing aiming at the achievement of some external end, but a voluntary and purposive doing that, while indeed aiming at some external end, also has good doing (*eu-prattein*) as its purpose. A doing lacking such purpose is, according to the philosopher, no action, i.e. no actualization of character. In the garden case, I could attain the outcome benefits related to, say, having that particular plant, or conserving that particular species, simply waving cash under somebody's nose - to get just the plants I want, or to have somebody real good work the plot in my place, and save plant species on my behalf. In that case, the perfectionist dimension would be playing no role in my prudential evaluation of plants, botanical biodiversity, and the practice of conserving it in gardens. Indeed, it seems I may be cooperating interpersonally, and for prudentially sound reasons, without cooperating intrapersonally.

But in that case I would not in fact be following through on a commitment to the practice of conserving plants and species in gardens, but on one to bear a fair share of the economic costs of garden-based conservation of plants and species. Suppose I reformulate my commitment thus (as a commitment to the outcomes of garden-based conservation, not the practice), and maintain that bearing the economic costs at stake is still cooperating, and that the reformulated commitment is functionally equivalent to the earlier one: it is still an environmentally beneficial commitment; and it is still a prudentially sound one for me to make - but with no perfectionist tone at all. This will not necessarily do the trick, for I may still find space for defecting from this new commitment: I may stop paying a fair share of the costs of garden-based conservation, while still enjoying its full outcome benefits, for instance by finding ever-cheaper manpower (employing pregnant women, children, addicts, or illegal immigrants), which would then be bearing the lion's share of the costs; or by purchasing plants eradicated (by someone else, and not on my request), from the 'wild. In this case, I will not pay a fair share of the costs because I "save" one specimen while fuelling the very same predatory practice that threatens others, thus imposing additional costs on those who cooperate to the conservation of species by growing new specimens: for they may have to grow more specimens of more species, now – as a result of my encouraging the threatening practice, and the predatory attitudes and actions that practice calls for. In either of these cases, it is clear that the exclusion of any perfectionist dimension from my prudential evaluation of plants, botanical biodiversity, and the practice of conserving it in gardens, has opened a breach for non-cooperative dynamics: first, intrapersonally, because I defected from my commitment to conserve species in gardens, and had to redefine my commitment in terms of a commitment to pay for the costs of garden-based conservation; and then intrapersonally as well as interpersonally, because I found ways to defect from my reformulated commitment by reducing costs in a socially and ecologically objectionable way.

If we transpose this to the interpersonal level, we may obtain some such picture as this. A garden-based cooperative arrangement for conserving species by growing specimens is put in place in a given locality. The condition for cooperation is that cooperating is prudentially sound in the eyes of each of the individuals involved; however, the perfectionist dimension that related to process-oriented benefits is excluded from the prudential evaluation of the

arrangement made by each individual, which is thus restricted to outcome-oriented benefits. It is to be expected that even within the framework of a changed game, for instance in an economy of local consumption, individual calculations of costs and benefits could easily lead to defection and to a downward spiral of non-cooperation⁷⁵. Everyone could always find ways to increment benefits by defecting, as long as all others (or at least many others) kept conserving. One may therefore refuse the practice of conserving a given species in her garden because she sees the outcome involved (a specimen of an endangered species that is especially noxious, spiky, poisonous, or emits an especially offending smell) as not especially beneficial to her; or the practice itself as too demanding to be prudentially sound, for the plant may be especially difficult to grow (highly endangered species often are) - or simply to deal with, given the spikes. Including the perfectionist dimension into the prudential evaluation, however, and thus considering the process-oriented benefits of conserving that species, may help prevent such defection: seen from a perfectionist perspective, conserving an especially noxious or hard-to-grow species may be more beneficial than conserving an easy-to-grow and pleasant one. This is because conserving the former, more than conserving the latter, may enable and require one to understand and accept what the practice of conserving plant species in one's garden calls for; and this practice, as we shall extensively argue in chapter 4, is in turn one that enables and requires an increasingly deeper understanding and authentic acceptance of one's station within the wider workings of things, and the development and exercise of virtuous ways to look at and be in the world.

So we want to follow Aristotle, and say that acting (*praxis*) crucially involves not only doing but also taking interest in the quality of one's doing; and that while the doing itself may be occasioned by the desire or necessity to achieve some beneficial outcome, the interest one takes in its quality does not entirely depend on such outcome being itself prudentially beneficial. On this view, a commitment has, so to speak, both an external and an internal stake: while the external corresponds to the outcomes it purports to accomplish, the internal has to do with doing that well - with the quality of one's overall appreciation of what is enabled and required *of oneself*, by one's own commitment; and with one's consistency and punctuality in responding to such opportunities and requirements. By these

⁷⁵ This formula is Jamieson's.

lights, a commitment, and the doing it enables and requires, are not just necessary steps towards getting something done, i.e. achieving some beneficial outcome: there is a certain process-oriented benefit, a certain 'value of doing' we may say, which those who truly act are interested in, appreciate, and aim to preserve and refine. Such perfectionist aims are not in tension with prudence, nor rationality, for that matter: they are internal to a prudential evaluation that considers *both* outcomes and processes.

It thus seems that solving the interpersonal collective action problem of conserving botanical biodiversity depends on two main moves: first, giving a new physiognomy to the game, by changing the system of incentives that confront the individuals involved; and second, giving a new ethical physiognomy to those individuals, with the ultimate objective of avoiding that intrapersonal defection in the individual block interpersonal cooperation among individuals. This amounts to a call for resolute choice, on the side of individuals, in favor of the practice not just the outcomes of conservation; and this, in turn, is to advocate a great role to the perfectionist dimension within prudential evaluations of plants, botanical biodiversity, and the commitment to conservation.

The intrapersonal solution to the interpersonal collective-action problem of conserving botanical biodiversity may come in the form of suitable character traits, attitudes, and dispositions, as they may be developed and exercised by individuals who choose resolutely, making their commitment to the practice of conservation non-contingent on their own dynamic inconsistency - insulating it from the treacherous logic myopic maximization. Staging the conservation of botanical biodiversity in gardens can change both the physiognomy of the game being played, and the ethical physiognomy of the individuals playing it. Gardens are thus meant to ease up the collective action problem under scrutiny by articulating the commons into manageable units, stimulating an economy of local consumption, decentralizing conservation, and motivating individuals to it by keying their efforts to clear and present increases in their well-being. Moreover, and more importantly, garden-based practices of conservation, being such that they enable and require resolute choice on the side of the individuals involved, are those most conducive to the development and exercise of non-calculative, and yet prudentially sound generators of positive

environmental behavior: character traits, attitudes, dispositions, and ways to look at and be in the world - in short, environmental virtues.

Elster also speaks of non-selfish prudential benefits, outcome- as well as process-oriented. He distinguishes non-selfish benefits relating to altruism from those relating to morality: exercises of altruism respond to a psychological inclination of the agent, to the effect that she regards benefits to others as being beneficial to herself, and finds in that sufficient reason to benefit those others; while exercises of morality are rather denoted by impartialist modes of evaluation when it comes to what others are due. The language of obligation applies to morality, not to altruism; and while exercises of the latter may be reserved to those one has a personal relation with, exercises of the former may not. Now in the case of individuals engaged in garden-based conservation of botanical biodiversity, there may well be exercises of altruism on their side when it comes to their treatment of their own plants: gardeners may often see whatever ensures the existence and persistence of their plants as beneficial to themselves, and for this reason employ *themselves* to their existence and persistence, by nurturing them with their work. But it is improper, given the lack of an impartially compelling, morally relevant property of plants, to speak of exercises of morality as extending to them (or to botanical biodiversity, for that matter). This does not mean that garden-based conservation of plant species is an enterprise that has no moral dimension at all: but such dimension only involves other humans and non-human animals – minded entities that have moral standing - and the benefits that may accrue to them as a result of such strategy of conservation: say, more food for more people, or a reduction in the number of animals being slaughtered to fuel our meat-consumption.

In these cases, we are dealing with non-selfish/outcome-oriented benefits. When dealing with their process-oriented counterpart, we must refer to the non-selfish, altruistic benefits connected to the existing and persisting of specific plants, and indeed botanical biodiversity at large, as a result of the development and exercise of virtuous attitudes, dispositions, and character traits on the side of those individuals involved in garden-based practices of conservation; as well as to the non-selfish benefits connected to a moral treatment of other humans and non human animals, again as a result of the development and exercise on the side of those individuals involved in garden-based practices of conservation. On this view,

the moral/altruistic dimension is also given, along with the perfectionist, a great role within prudential evaluations of plants, botanical biodiversity, and the practice of conserving it in gardens.

All four sorts of prudential benefits described are available in gardens, and achievable by engaging in and with garden practices. Prudential evaluations of plants, botanical biodiversity, gardens, and garden practices of conservation, are now thought of as including a perfectionist as well as a moral/altruistic dimension. Later, we shall see how the aesthetic dimension, too, may enter into the calculation. Remember that on our view, ethical value depends on prudential value: we have decisive ethical reasons to bring about and/or maintain certain objects and/or conditions because they make our lives go better. And thus it seems that there is a distinctive sort of ethical value in the practice of conserving plant species; and there is a *unique* sort of ethical value, so we maintain, in conserving plant species in gardens and through garden practices. If that is so, not just botanical species and specimens, but also gardens and garden practices are irreplaceable parts of a life well-lived; and we (each of us humans) have decisive reasons to conserve plant species by growing plant specimens in gardens; and to promote garden-based experiences of and relations with plants species and specimens, because of the many and profound ways in which our life, both as individuals and as a species, will be enriched thereby.

4. Governing the Commons

We favor and call for the decentralization of conservation. We have made some remarks on the empowering rather than the regulative role that centralized institutions should take within such localistic framework. When we talk about governments in particular, however, it is important to not underestimate the importance of their role in this matter. In squaring biodiversity conservation with the fulfillment of human needs, the most important role for present and future governments remains that of purifying globalization from the over-consumptive traits that characterize it now. Politics (as well as political activism) could be pivotal in reducing overconsumption in the rich North so as to have it fall well below sustainable levels; a renewed focus on local consumption would be invaluable in this

connection. Such reduction could arguably be accomplished without making humans lives unbearable or even noticeably more uncomfortable; however, it would come at enormous political costs, as it would effectively amount to a radical restructuring of the world economic order. It is hard to believe that oil-fuelled governments trading carbon emissions while at the same time negotiating grossly unbalanced global regimes of agricultural trade to the advantage of agro-pharmaceutical corporations will, *sponte sua*, generate exhaustive solutions to environmental problems (and particularly biodiversity loss) that may be efficient, sustainable, and fair. After all, the costs of “greening” the global economy are monumental, and the benefits of doing so are uncertain, non-divisible, and distant into the future.

It is equally hard to believe, however, that governments count environmental problems, including biodiversity loss, as no problem at all. What can an environmentally well-meaning, but oil-fuelled and corporate government do, in order to conserve biodiversity? Rather than imposing costs on the supply-side (a politically very impervious enterprise, and one that does not guarantee that the costs will in fact be borne by the supply-side), it could perhaps try working on the demand side, altering the physiognomy of the economical games played, by stimulating local consumption and structuring piecemeal attempts to channel people’s preferences and lifestyles away from what big industries can offer, thus limiting the political prominence of those from *within* the market: it could disclose and enable alternative possible practices, empowering the reticular responses of individuals and groups: it could make it manageable and advantageous for them to plant trees, grow their own edibles, and eat meat two rather than seven times a week. No doubt some governments are already moving in this direction. No doubt they will encounter major difficulties and setbacks, and may in truth not ever succeed. Fortunately, tough, governments are not the only actors on stage. Involving people in a way of life that includes both biodiversity conservation and local consumption may require the participation of governments, but no more than it requires the participation of NGO’s, municipalities, universities, biologists, landscape-architects, farmers, engineers, city majors, medicine men, urban designers, local leaders, teachers, preachers, coaches, parents, seeds collectors, gardeners, philosophers, and indeed every available individual.

5. *City Gardens*

A garden-based approach to biodiversity conservation and the satisfaction of local consumption is applicable in non-urban as much as it in urban, sub-urban, and semi-urban settings. Because well over 50% of the world population (with peaks of 80% in Europe, United States, Australia, Canada, and Japan) lives in urban, sub-urban, or semi-urban agglomerates, and because such figures are destined to increase in the future (considering current urbanization trends in China and India), our discussion will be mostly focused on the social and political role that gardens can have in cities, suburbs, towns, and in medium-to-large villages and agglomerations in the so-called “countryside”. This is out of the belief that if a garden-based environmental ethic is able to provide orientation and vision for the future of urbanized life, it will have provided policy-makers with an invaluable tool for confronting the challenges that nature is and will keep posing us as an increasingly urbanizing species. Most environmental damage is done, directly and/or indirectly, in and by urban, sub-urban, and semi-urban agglomerates. Ethical, social, and political progress made in and by such agglomerates will reverberate on the fate of both the people and the nature that in such agglomerates are not.

As we shall extensively argue in chapter 4, local municipalities will have to get involved in further decentralization, for the administration of conservation to reach down to neighborhoods and suburbs; as well as providing information on botanical biodiversity and on ways to conserve it, adopting policies and incentives favoring low-inputs techniques rather than high-input ones, fostering operative coordination, facilitating structured learning processes, etc.

Examples of projects enabling garden-practices in familiar and available urban, suburban, and semi-urban circumstances are numerous. The importance of design, both at the level of city-planning and at the level of specific gardens, becomes here paramount⁷⁶. Urban and suburban gardens may take advantage of opportunities for urban and suburban renewal, and

⁷⁶ See R.T. Hester, *Design for Ecological Democracy*. (Cambridge, Mass. : MIT Press, 2006).

become the cornerstones for the division of space in future ecological cities⁷⁷. The future Chinese city of Caofeidian, expected to host 2.5 million people, will feature elevated buildings rising 30 meters above ground, to leave space for gardens and vegetable plots underneath. Ever-more refined design techniques today allow the cultivation of plants on rooftops and vertical walls as well. Cultivating plants on buildings will not only stimulate local consumption, but will also insulate those buildings so as to significantly cut domestic energy use in both hot and cold weather, reducing the use of fossil fuels. Urban and suburban vegetation also captures rainfall, absorbs air pollutants, and provides opportunities for wildlife. It is today technically possible to increase the amount and variety of urban and suburban vegetation *vertiginously*. Grand-scale gardening operations in cities and suburbs would radically alter our urban landscape, allowing dramatic (and given our quiet resignation to the city/nature mental divide, perhaps unimaginable) aesthetical improvements. MillionTreesNYC, a citywide, public/private program aiming at planting and nurturing a million trees in the next decade, estimates that trees provide \$5.60 in benefits for every dollar spent on tree planting and care: a large portion of which is channeled directly into increases of property value. This may appeal to community and business investment⁷⁸.

In advocating mushrooming urban and sub-urban gardens we are not running against the grain (though we are running against the interests of many real-estate developers). There is increasing recognition in cities the world over that urban forest and vegetation in general must become planning and design priorities. Urban and suburban gardens are already being used (and could much further be used) as educational reference points (a successful example of such ‘learning by doing’ are the “edible schoolyards” currently flourishing in American elementary schools); to produce food and spare energy; as laboratories of sustainability (experimenting in cutting-edge ecological design and techniques, such as permaculture, biomimicry, phytoregeneration, xeriscape, etc.); to rediscover traditional ethno-botanic practices; to preserve threatened varieties and species of plants. In a larger perspective, gardens can enable new forms of social interaction to bring about unplanned

⁷⁷ See C. Clumberidge, Clare and L. Musgrave, *Design and Landscape for People*, Thames & Hudson, London, 2007

⁷⁸ Find more data on these matters at: <http://www.milliontreesnyc.org>

cultural developments, a role they had in many cities in the past (such as Nanjing, Marrakech, Genoa, Stockholm, Paris, Irvine⁷⁹, and famously New York from the 70's onwards, with its Lower East Side *community gardens*⁸⁰), in which new *mores*, social ties, and cultural elaborations were enabled by promoting garden practices and encounters. Social encounters in private and public gardens foster civic engagement and the coagulation of new dimensions of cultural identity, and because garden practices give a transparent and readable cultural form to nature, gardens can enable intra- and inter- group cooperation as well as disputations on the legitimacy of certain general behavioral and attitudinal propensities of man towards nature, or on the distribution of environmental goods and bads across members of the constituency. In so doing, they can foster the development of a shared public culture of nature, and with that, the crystallization of a new and common language of nature's value, equipped with which people can begin to work towards a convergence of their individual attitudinal frameworks (see chapter 2) and learn to share those responses we call evaluations. Gardens can thus unite individuals and groups – at the scale of whole cities – into ethical communities sharing systems of judgments about nature and envisaging collective environmental and cultural intentions and objectives.

Gardens enable practices, individual and communal, that require an understanding of the workings of nature and of the ways in which human action can nurture it to flourish. In this they differ from the 'wild', which generally invites respectful contemplation and practical disengagement. The gardener personifies an active, consistent, manual engagement with nature, aimed at and instrumental to not only his own but also nature's flourishing; the heroic individual of personal excellence flourishing in harmony with the 'wild', on the other hand, personifies a more receptive, emotional, compassionate, perhaps loving attitude - but while the first seems to have the practical and operational resources to respond to deteriorating environmental circumstances, the second seems practically helpless in the face of them. It is thus not too far-fetched to suggest modeling policies and practices of

⁷⁹ For discussions of these and numerous other cases, see *Gardens, City Life and Culture*, eds. M. Conan and C. Wangheng (Cambridge, Mass.: Harvard University Press, 2008).

⁸⁰ See M. Pasquali, M. *I Giardini di Manhattan* (Torino: Bollati & Boringhieri, 2008).

conservation, restoration, and sustainability, as well as reflections on our dealings with nature in general, on a paradigmatic picture of nature, and of human engagement with nature, more germane to that provided by gardens (of which, moreover, we have an ordinary and available experience, even in cities), than by the ‘wild’ (of which we have an episodic and remote experience, usually regarded as the direct opposite of the normality of our lives in cities). This seems an idea more sensible and more feasible than working our culture of nature out of reflections on a relationship with genuine wilderness that very few, or perhaps none, really have. Few characters, after all, are formed in the ‘wild’.

One of the main theses of this script is that gardens and garden-practices are conducive to the development and exercise of good environmental character. By fostering active and consistent engagement with nature and natural entities, gardens enable and require one to develop and exercise a host of environmentally relevant virtues, which may then be extended beyond the garden, across contexts and themes. An oil-fuelled, corporate, but environmentally well-meaning government will have an interest in the moral upbringing of its citizens getting them to internalize environmentally virtuous dispositions, which will orient their preferences away from environmentally costly goods and lifestyles, and towards more sustainable options. In fostering the development and exercise of environmental virtues, such government will avoid both environmental inaction and painful political choices or revolutions in the economy. Insofar as gardens and garden-practices are indeed conducive to the development and exercise of virtuous environmental character – a topic we take up in chapter 4 – governments should stimulate garden-based strategies of conservation; and indeed, garden practices in general.

CHAPTER 3 – GARDEN VALUES

In this chapter, we shall investigate the issue of the value of gardens, and the separate but related issue of the value of garden nature. The value of garden-practices, on the other hand, will be the topic of chapter 4.

Gardens have never been very popular in environmental ethics; indeed, they have often been thought of as physical embodiments of all that is wrong with man's attitudes towards, and treatment of, nature. It has often been assumed, and it often still is today, that to talk morally about nature must be to talk morally about *wild* nature⁸¹. The word 'wild' can be used to designate a natural place or area, as well as to refer to a qualitative property of a natural entity: in both cases, the point is that no human activity has gone on - in that place, or involving that entity. Now, a garden is not a 'wild' place, and garden nature, being ultimately the result of human contrivance, is not natural in the relevant sense.

Environmental ethics has historically been tightly connected with the idealization of (or at least a deep concern for) wilderness. The 'wild' has long been taken to be nature at its best and truest: the fathers of environmental awareness – Emerson, Thoreau, Muir, Lewis, Leopold, etc. – were all great lovers of it, and the earliest concrete epiphenomenon of such awareness was indeed the delimitation, in the 1870's, of the first national parks, established in order to protect what was wild and natural from the interferences of human activity. Given this background, it should come as no surprise that, among thinkers raised by and large on North American environmentalism, and thus ultimately according to the wilderness paradigm⁸², gardens have never been the object of much theoretical enthusiasm; the main reasons being that gardens are not 'wild', and garden nature is the result of human contrivance, and thus not natural.

⁸¹ Eminent environmental philosophers such as P. Taylor, H. Rolston III, and E. Katz are all deeply committed to the value of naturalness, and great fans of the 'wild'.

⁸² Non-Western environmentally concerned authors, such as Vandana Shiva, place much less emphasis on wilderness and other wilderness-related issues.

On any account that sees nature as ‘wild’ nature, something untouched, untamed, other, removed, and independent from human agency, or “unmodified by human activity”⁸³, a garden is not nature. Its design is the result of conscious human decisions, and its maintenance occurs through the consistent employment of techniques, such as planting, pruning, grafting, irrigating, fertilizing, and the like, which have no parallel in nature. Design and maintenance are the two forms that human agency takes in relation to gardens, as much as it does in relation to buildings⁸⁴. Contrary to our metropolitan perceptions, gardens and architecture belong to the same category: gardens and buildings are designed and maintained places that have both aesthetic and practical qualities, as well as aesthetic and practical purposes. A garden is no more natural than a building, and this applies to geometric gardens *a la francaise*, as well as to “natural” gardens *British-style*, in which the design and maintenance are only less obvious to the eye.

From a phenomenological point of view, if experiencing a garden means experiencing a place designed and maintained by humans, then its experience is not an experience of nature. If one attended exclusively to the natural qualities of the botanical entities that populate a garden, in so doing she would be missing a major, perhaps the main chunk of what is there to be appreciated, i.e. the ingenuity of human design and nurturing maintenance. On pain of phenomenological delusion, gardens are not to be appreciated as nature⁸⁵.

Once it is agreed that gardens are not natural, and are not to be experienced as such, we may move on to an independent and more pressing question: is there something *wrong* with

⁸³See R. Elliott, *Faking Nature: The Ethics of Environmental Restoration*. (London: Routledge, 1997), p. 82

⁸⁴Both gardens and buildings are alterations of existing places according to human design, with the difference that the former require a nurturing kind of maintenance, as they contain living entities such as plants (a plant can be living and yet non-natural, like a genetically manufactured, *in vitro* grown tulip and, strictly speaking, all garden plants); while the latter does not, as it deals with non-living materials the nurturing of which is pointless, such as cement, wood, mud and dead palm-leaves. Note, however, that this distinction need not apply in all cases: while gardens generally do contain living entities, in atypical instances (such as the stone gardens of the Zen tradition in Japan) they may not at all; and while we usually assume architectural materials to be non-living, or at any rate not to require any nurturing, contemporary design possibilities such as green walls and living roofs challenge such assumption.

⁸⁵See G. Parsons, *Aesthetics & Nature*. (London: Continuum, 2008), p. 114-127

gardens? They have often been neglected, and if not, criticized, by environmental ethics - why?

In the background of such criticisms stands the wilderness paradigm. Three main charges are usually leveled against gardens, which we may call the make-believe charge, the say-so charge, and the butt-in charge⁸⁶. Before embarking on a discussion of the value of gardens and garden nature, let us discuss them in turn.

1. The make-believe charge

The make-believe charge has in fact two sides: on the one hand, it has it that gardens deceive viewers to the belief that what is around them is nature, and on the other, that they deceive viewers to the belief that nature is what is around them. In other words, gardens fake nature, passing themselves off as something they are not; and in the process they give a false representation of nature itself, oversimplifying and indeed suppressing nature's complexity, uncertainty, liability to change, etc., in short, stripping nature of what is most valuable in it, its "richness"⁸⁷.

The first part of the charge seems tied to a restrictive and *démodé* idea of gardens, modeled on the 'picturesque' gardens that became the rage in 18th century Europe, especially in England, as well as their Chinese progenitors. These gardens did in fact try to imitate nature, concealing human intervention by design. Picturesque gardens provoked Hegel's indignation (Hegel thought that human intervention should be proudly proclaimed by any art worthy of such name⁸⁸), Kant's commendation (Kant thought that art "should have the appearance of being nature"⁸⁹), and Rousseau's enthusiasm: the garden to which Julie, in

⁸⁶ See E. Katz: "The Big Lie: Human Restoration of Nature", reprinted in *Environmental Restoration: Ethics, Theory, and Practice*. eds. W. Throop (Amherst: Humanity Books, 2000), p. 83-93

⁸⁷ I. McHarg, *Nature is More Than a Garden*, in Francis & Hester, *The Meaning of Gardens: Idea, Place and Action* (MIT Press, Cambridge 1990), p. 34-38

⁸⁸ W.F. Hegel, *Aesthetics* (Oxford: Clarendon Press 1975), p. 248

⁸⁹ I. Kant, *The Critique of Judgment* (Oxford: Clarendon Press 1952), p. 88

the *Nouvelle Héloïse*, takes her future lover Saint-Preux, is a designed wilderness wherein, by means of the highest craft, every trace of human intervention has been concealed.

But it is highly questionable whether the idea of concealing human intervention remains as vital to today's garden-design as it was in the 18th century. If anything, avant-garde designers today rather tend to emphasize the fact that a human has intervened on the place, sometimes even inviting viewers to mull over the very media and techniques used. Today, many gardens exist that, rather than concealing human activity in and on nature, expose it and foster more or less sophisticated ponderings about it⁹⁰. In an era characterized by an unprecedented level of human impact onto the environment, and by an unprecedented awareness of the urgency of the environmental challenges that confront humankind, many contemporary gardens do in fact invite reflection on the role of human activity in the environment, and designers are often moved by concerns explicitly ecological. But even if one looks not at the avant-garde, it is clear that not all gardens (with the exception, perhaps, of the 'picturesque' ones, and then not necessarily all of them) are primarily concerned with the imitation of nature: think of highly geometric French and Italian gardens, or the gardens at the Alhambra, or in Palm Springs, or any botanical garden in the world.

The make-believe charge is also tied to a somewhat gratuitous attribution, to the designer or the gardener, of an intention to deceive the viewer. Clearly enough, for there to be deception, whether or not successful, there must at least be an intention to deceive: but it is not clear that designers and gardeners do ever in fact entertain any such intention (perhaps, again, with the exclusion of some die-hard heralds of the 'picturesque'). True, sometimes they may intend to give a first misimpression, perhaps to set up a certain atmosphere or mood, or to heighten the viewer's attention to what is around her, or to underscore some special design technique used. But such initial misimpression is not the overture of a project of continued deception: to the contrary, hiding human ingenuity partially or momentarily may just be a way of underscoring it, exploiting the same psychological mechanism whereby a word that is crossed out on a board tends to attract more attention than one that is not. The idea that a designer or a gardener is guided by an intention to gull the viewers (or himself? what if the garden is not open to viewers?) into thinking that the

⁹⁰ See T. Richardson, *Avant-Gardeners: 50 Visionaries of the Contemporary Landscape* (London: Thames and Hudson, 2008)

garden is a stretch of nature, barely makes sense - as would the idea that a film director is guided by the intention to pass his movie off as a report of actual events. In both cases, moreover, people, and certainly informed and sober people, will easily recognize that it is a garden, or a film, that which they are dealing with, not nature or actual events. The presumption of a faulty phenomenology on the side of viewers is hard to justify. It seems a bit of a stretch to simply presume that people visiting gardens do not in fact know what they are doing. As said, insofar as experiencing a garden means experiencing a place designed and maintained by humans, the phenomenology of gardens is not at all one of nature.

What of the second side of the make-believe charge, the idea that gardens give a false representation of nature, oversimplifying and indeed suppressing its complexity, uncertainty, liability to change, etc., in short, stripping nature of its “richness”? Here one must simply not buy into the question, because the objective of gardens is not, or at least - but certainly - need not be, that of representing nature. Assuming the contrary, and then criticizing the fact that such representation is partial or pale, is to manufacture a straw-man only to knock it down. But who says that gardens have to be concerned with faithfully representing nature’s richness at all? Even permaculture gardens, which in fact attempt to stimulate and capitalize on complexity, uncertainty, chance, liability to change, and richness, do not and certainly need not have anything to do with representing nature. It is but an undefended preconception, tied to the wilderness paradigm, that gardens, if they must be, must recreate or copy the ‘wild’⁹¹: but a garden is not supposed to be a copy of anything - a garden is simply a garden; and certainly, and by all means admittedly and unapologetically, it is the wrong place in which to look for anything ‘wild’. If it is ‘wild’, that which one wants, it is into the ‘wild’ that one should go.

2. *The say-so charge*

⁹¹ This is a strange preconception, logically speaking: it is tantamount to demanding that buildings, if they must be, should recreate the empty space that was once in their place.

The say-so charge has it that not to keep off nature and rather regard it as a resource for us, to manipulate for our benefit and according to our standards, is a form of human chauvinism. The idea would therefore be that a garden is a place for exploitation, an area in which man exerts his dominion over the environment; and that a gardener's attitude is precisely that manipulative and self-serving attitude that has brought mankind to the present environmental crisis. The upshot of such idea would be that any garden-based environmental ethic is to be discarded *a priori*.

The matrix of this charge is Thoreau's torment at having "the earth say beans instead of grass" around his dwelling, at Walden: by intervening on nature, we bend it to our purposes; by making "invidious distinctions" among natural entities, we devalue them, and try to dominate something that we should rather contemplate with humble awe, from which we should learn, and to which we certainly have nothing to teach. For how can a man presume he can improve on God's work? The garden and the very idea of gardening are epitomes of that arrogant material instrumentalism that Thoreau could simply not tolerate. Nature is a source of spiritual insights (spiritual instrumentalism), and because of that, and because those insights bring forth precisely the recognition that nature is much larger than (human) life, we should value a stretch of uncultivated landscape incomparably more than the most brilliant of gardens. Following on Thoreau's steps, many environmental ethicists would agree that our practical dealings with nature should be guided by a paradigmatic ideal of how we should relate to 'wild' nature, a relation that cannot but be essentially contemplative, if the 'wild' is to remain such. They would thus see the garden as being part of the problem and, perhaps, even as the most poignant embodied metaphor of the problem. On this view, there is little value and no virtue in gardens, just hubris.

Two preliminary points should quickly be made. First, it must be remembered that ours is not an 'anti-wilderness' crusade: we are not here advocating the fragmentation of 'wild' nature (or what is taken to be such) into gardens: the intervention we advocate is on those stretches of nature that have already been touched on. This exculpation is important and legitimate: but still, it is somewhat out of focus now, for the say-so charge does not object to what nature we touch (to where we make gardens) but to the very fact that we touch nature (that gardens are made at all: indeed, that we even think of making them). Second,

we must be careful not to miss the real problem at hand. The say-so charge is not the implausible psychological claim that all gardeners are arrogant, evil, and despotic. Nor is it necessarily the claim that the attitude of control that a gardener exerts onto his garden's nature will spill over onto his treatment of 'wild' nature: we have just said above that the phenomenology of gardens is utterly distinct from the phenomenology of 'wild' nature, and this is so both for the visitor *and* the gardener; indeed, very few gardeners would go around 'wild' forests pruning, re-positioning, or watering trees – and those few would be called crazy by the many. What happens in gardens stays in gardens⁹².

The real charge is that, in using nature for our purposes, as we undoubtedly do in gardens, we necessarily de-value it. Such de-valuation always correlates with, and perhaps invites or even justifies, nature's exploitation, which, according to the charge, is precisely what goes on in a garden. In short, the say-so charge is that a garden is an exploitative devaluation of nature.

In response: to use nature as a material resource is not necessarily to devalue it. It would be, just in case nature was regarded as a material resource *only*. Resume for a moment the analogy to human ethics proposed in the Introduction: I morally devalue my spouse if I *only* value her as a source of pleasure, well-cooked food, and clean bed-sheets; or my friends and kids, if I *only* value them as economical back-ups; or paper-boys, waiters, taxi-drivers, etc., if I *only* value them for the services they provide me with (many times a day). Now, I do value these people as means, but only *in part*; and that need not impair my inclination, disposition, capacity, etc. to also respect them and, on relevant occasions and to differential extents, take up an active role in favor of their life and well-being. From the fact that on occasion I use all these people as mere means it follows not that I treat them merely as means⁹³.

We could say that we treat somebody as a means whenever we make use of his body, abilities, and performances; and that we treat somebody *merely* as a means if we also see him as no more than a fungible tool or instrument, with grand disregard for his particularity

⁹² See D. Cooper, *A Philosophy of Gardens*, (Oxford: Oxford University Press, 2006), p. 101

⁹³ For the distinction see D. Parfit, *On What Matters* (forthcoming), part 2, chapter 9: "As a Means and Merely As a Means". Available at <http://fas-philosophy.rutgers.edu/chang/Papers/OnWhatMatters1.pdf>

and well-being. We can perhaps make this more stringent by dropping the “grand” before “disregard” - so that, in order for us not to be treating somebody merely as a means, our actions must be informed by some relevant other-regarding concern for that somebody’s particularity and well-being, to the effect that, on relevant occasions, we would be willing to go out of our way in order to further such concern⁹⁴. The issue whether I treat these people merely as means is thus not decided just by looking at whether I use them or not: what ultimately matters is how I *see* these people - my particular actions do not necessarily tell the whole story: my attitudes and perspectives must also be taken into consideration. The fact that, on relevant occasions, I use my wife as a cook, my friend as a bank, and the waiter as a waiter, by no means constrains me to regarding them only as a cook, a bank, and a waiter - my reasons to value them instrumentally need not eclipse other reasons I may have to value them non-instrumentally. Moreover, I will not be *exploiting* them, insofar as my using them will do them no harm (at least), and will hopefully (even) be of mutual benefit, whether as a result of an explicitly agreed-upon transaction or not.

We now submit that all of the above applies, *mutatis mutandis*, to our case. We want to deny that a garden is an exploitative devaluation of nature. In order to so, we should note that: 1) insofar as we exclude the gardenification of human-free stretches of nature, the creation of a garden does not exact the destruction of any ‘wild’ nature (or what we take to be such); this garden is thus literally harmless, defusing one major component of the say-so charge, as no exploitative devaluation of that nature (the pre-garden, ‘wild’ nature) has been made; 2) insofar as the non-‘wild’ nature that is then used *in* the garden (garden nature) is not treated merely as a means, but is also the object of altruistic attitudes and actions on the side of the gardener, there is no devaluation of that either; 3) from the perspective of a gardener, her garden plants possess valuable properties (their personal significance to her, for instance), which they would have not possessed had they not been in her garden: not only there may not be any devaluation, here, but there could in fact be an *overvaluation* of such plants. Such overvaluation is what would lead a gardener, on relevant occasions, to go out of her way in order to ensure the existence and persistence of such plants - for instance by working on and nurturing them every day, running out at night to

⁹⁴ Obviously, to relevantly differential extents: I may be willing to die for my wife, but only to devote a half hour to penning down a letter of recommendation for the waiter, or to give one cigarette - but not two - to the taxi driver if he asks politely.

cover them during a hailstorm, handling manure in the summer heat, refusing to sell to real-estate developers the land on which they stand, etc. Was an alien to observe her laboring in the garden from space, it could just as well conclude that it is the plants that are exploiting her.

But if the alien (which, because it manages to see the gardener, but she does not manage to see it, should be assumed to be quite intelligent) was to observe her for a whole day, it would see her eating an apple from one of her trees and basking in the diagonal lights of sunset with a smile on her face; and this may lead him to doubt the completeness of its early conclusion. If the alien observed her for a year, it would see her not just feeding plants unthinkingly, but consistently planning moves ahead and doing quite ingenious things to minimize work and maximize results; and it could begin to realize that understanding, creativity, as well as discipline and resoluteness, are integral parts of what she is doing, and that what she is doing matters *to her* also because of that. If it observed her for fifteen years, the alien would realize that her garden is not just a place in which she works, relaxes, eats, contemplates, studies, expresses her creativity, and tests and strengthens her resoluteness, but a place she cherishes, a corner of her life she is willing to go out of her way for, an element of who she is and wants to be, indeed an element of a life she is oriented to, one that responds to her conception of a life well lived.

The alien's initial impression that plants were exploiting our gardener, has now faded away completely. The opposite idea, that she is rather the one exploiting the plants, does not convince the alien either: for what it sees is, on the one side, a human whose efforts are instrumental to the existence and persistence of some plants - and on the other, those plants being instrumental to the purposes of this human, for food or aesthetical appreciation or spiritual insights or the expression of creativity or the mastery of techniques or the satisfaction of a job well done or the relaxation of mental cramps, etc. The alien sees no exploitation on either side: what it sees going on in that garden is a reciprocally instrumental relation between the gardener and her plants.

We should emphasize that the relation between the gardener and his garden's nature is an ethically relevant relation only in the sense that it molds the gardener's character (*ethos*),

not in the sense that norms and obligations are established *directly* between the gardener and his garden's nature. This, in turn, does not mean that the gardener's treatment of his garden and plants is not governed and punctuated by altruistic attitudes and actions, but only that these are internal to the practice of gardening, not regulations external to it, based, for example, on abstract principles such as respect for life; they are thus self-imposed and, what is most important, self-regarding, insofar as the plants are constitutive elements of her conception of a life well lived. A contribution to such life is the benefit that a garden and the nature in it provide to the gardener, in exchange for the work and the concern, the understanding, ingenuity, as well as the resoluteness that the gardener expends in her garden, which ensures their existence and persistence.

This again seems to present gardening as a self-interested activity, providing new ammunition to the say-so charge. But there can be no selfish outcome- nor process-oriented benefits in a garden, in the absence of non-selfish, altruistic attitudes and actions towards garden plants. Certain kinds of attitudes and actions that would be detrimental to the existence and persistence of garden nature (such as over-cultivating it through excessive fertilization, for instance, or under-cultivating it by abandoning the plot in order to focus on fast-car racing instead) must be foregone by the gardener: so that, although there is an important sense in which gardening is a self-interested activity, the ways in which such self-interested activity can be pursued are decidedly restricted by other-regarding considerations. And this is no more than reaffirming that although gardens are made by men and for men (meta-ethical anthropocentrism), making and conserving gardens entails working for and nurturing nature (substantive non-anthropocentrism). It is the biological requirements of his garden's nature, which set the ways in which a gardener can comport with it, if garden practices are to be of any benefit to herself.

A second claim can be made to the effect that this possibility does not obtain outside the garden and into the 'wild'. This claim should be put in perspective. In the 'wild', Thoreau uses nature as a source of spiritual insights: such spiritual instrumentalism is considered alright, however, because it is eminently contemplative and thus shelters nature from

exploitation. Adopting such hands-off, contemplative stance can intelligibly be regarded as a negative form of altruism. The benefits of spiritual instrumentalism are therefore, metaphorically, indeed mutual – for both humans and nature: for this reason, the wilderness paradigm allows it (and, in fact, it even presupposes it). Such paradigm must, however, refuse material instrumentalism, for any material use made of ‘wild’ nature will entail intervening on it, thereby disintegrating its essential property, namely its being untouched and untamed - unmodified by human activity. As soon as material instrumentalism comes into the picture, the ‘wild’ ceases to be such. Such lack of concern for the ‘wild’ *as wild* means that to use it as a material resource is necessarily to treat it *merely* as a means. Within the logic of the wilderness paradigm, material instrumentalism necessarily articulates into a hierarchical, exploitative devaluation of nature – for the only altruistic attitudes and actions that humans can reserve for ‘wild’ nature are characterized by practical disengagement from it, and benign neglect: as soon as they touch it, the ‘wild’ is longer there. They commit a “crime” for which there logically exists no possibility of reparation. In the ‘wild’, what man gains nature must lose, and vice-versa; for a wilderness-based picture of environmental ethics, the nature-man relation is bound to be a zero-sum game. Insofar as conserving nature is understood as conserving ‘wild’ nature, there are many things we should not do (in principle, not even cultivate a little patch of beans), but there is literally nothing we *can* do.

The wilderness paradigm will have little to say when it comes to all the non-‘wild’ areas on planet earth: it will teach us very little, if we ask what we can do in order to use nature (as we inescapably need to) in a way sustainable, efficient, and fair; and even less if we ask how we may conserve or re-allow botanical biodiversity, in particular, into those areas of the world that no longer are ‘wild’ – a project that cannot be accomplished through benign neglect, but must rather be articulated into positive practices of intervention. The wilderness paradigm provides us with no decisive reasons for engaging in and with such practices and, at the limit, it even forbids them: surely, it discourages all those interventionist attitudes and actions that could be involved in generating and sustaining them - for what it wants to conserve is primarily the wildness of nature, not its diversity. Such paradigm cannot but engender theories for which it is either man or nature, the value of the one or the value of the other: it is an unfriendly cradle for all those theories that

would rather be interested in how man and nature can be instrumental to one another, once it is acknowledged that our form of life as humans enables and requires the use of nature also as a material resource. Those theories that conceptualize nature as something we should not touch are “purer” only in the sense that they ignore the un-convenient fact that we cannot really avoid to do so.

A garden-based theory of biodiversity conservation is not open to such objection. Gardens are contexts in which, in order to benefit from nature, we must (for we can, i.e. it is logically possible) give something in return. Once the wilderness paradigm is jettisoned, material instrumentalism can not only legitimately be allowed into the picture, but can also be judged in a more fine-grained manner, as more or less permissible, depending on whether it takes an altruistic form (which is what made spiritual instrumentalism acceptable to the Transcendentalist in the first place), or the form of a hierarchic relation of exploitation (as it necessarily must be in the ‘wild’). Note that jettisoning the wilderness *paradigm* by no means entails consigning the ‘wild’ (or what we take to be such) to the “dark forces” of material instrumentalism. Whatever is ‘wild’ can and should continue to be such.

Return now to the say-so charge. In light of what has been said, even if it was true that gardeners say-so to nature, the biological requirements of garden nature restrict the ways in which a gardener can comport with it, and thus say-so, metaphorically speaking, to gardeners in return. If a garden is to flourish, the gardener must adapt to the natural conditions that configure it – for he inherits, and must accept, both the internal dynamics of the plants he grows, and the external dynamics of the wider environmental context in which he works: there is little he can command there. And if sometimes this piece of wisdom eludes him (for instance as he contemplates the luscious marvels resulting from employing a new chemical fertilizer, or even the most environmental-friendly and brilliant of composts) the sun or the rain, the heat or the cold, the wind or the snow, the weeds, the pests, the raccoons or the rabbits will remind him that a garden is a place in which nature can at best be contained, but certainly not controlled. To say that a garden is “under

control” is to make a reliably false claim; the most that can be said is something less: that a garden is “under observation”. Such observation, which can be more or less punctual and consistent, far from being rapacious is rather operatively geared to the requirements of garden nature, to its existence and persistence, and will often counsel the gardener to go out of his way in order to nurture and conserve it.

All of the above shows that the instrumentalism that characterizes the gardener’s treatment of nature is not one that is open to the say-so charge. Undoubtedly, gardens are made, and garden nature is used, for anthropocentric and self-regarding reasons and purposes, material as well as spiritual – but the ways in which this can happen are decidedly and significantly restricted by substantially non-anthropocentric, altruistic considerations relating to the existence and persistence of plants.

We can draw some conclusions. Unlike the wilderness paradigm, a garden-based paradigm is able to accommodate material instrumentalism, paving the way for an environmental ethic geared and attuned to the inescapable necessities and fortunate capacities that our form of life imposes and confers on us. It does so without necessarily treating nature and natural entities merely as means. It does so in a way that is available to people in everyday settings, and those are settings with regards to which, by and large, the wilderness paradigm has little to say. These settings are the overwhelming majority of the settings available on planet earth, in which something simple - not too risky, not too costly - could immediately be done, in principle by anyone, that would help conserve botanical biodiversity.

A garden-based ethic seems, in short, better equipped to negotiate the predicament of both humans and threatened botanical biodiversity than any wilderness-based alternative. Insofar as it can be shown to successfully negotiate the requirements of economic efficiency, social fairness, and ecological sustainability, garden-based ethics and policy should be taken into the highest consideration when discussing our dealings with nature. We shall proceed to show that much in chapter 4.

3. The butt-in charge

That a garden is not a context for hierarchical and exploitative devaluation of nature may be enough to defuse the say-so charge. But it only manages to trigger the next one, which we have called the butt-in charge. All our arguments, distinctions, qualifications, etc., do not manage to placate this one, which is in fact the ‘wildest’ of charges: in making a garden, we may indeed not necessarily be devaluing or exploiting nature – but, when we decide to replace nature with something else (a garden), we certainly do express the attitude that such nature is not worthy of continued unmolested existence⁹⁵. And this is the rock-bottom of human chauvinism, the original environmental sin: believing we know better. It matters not that the objective is conserving biodiversity and providing for the existence and persistence of species and specimens - tinkering and fiddling with nature and its elements remains an affront to it: and an affront is an affront even if it intends or is necessary to the survival of the entities it is directed to.⁹⁶

We could dismiss the butt-in charge offhand, by simply reiterating that no gardenification of the ‘wild’ (or what we take to be such) is here being proposed at all. But doing so would deprive us of a chance to unravel, from another angle, some further tensions internal to the wilderness paradigm. Let us then suppose, for a moment, that we are in fact proposing to convert into a garden a stretch of ‘wild’ nature, so ‘wild’ that nobody has ever even seen it (not because impenetrable, but by lucky chance). Suppose, next, that we propose to do so by taking into consideration all possible ecological criteria: to make things simple, suppose we only propose to rearrange the nature that is already in place, and only in order to stimulate biodiversity (perhaps we want to encourage cross-pollination by placing certain plants next to each another, etc.). Furthermore, the garden will be public, open to everyone’s enjoyment and not only to that of some eccentric tycoon or clique. We proceed with the operation, and once completed, our rearrangement is deemed, by an international

⁹⁵ Parsons describes this accusation in relation to works of Land Art rather than gardens, in *Aesthetics & Nature*, p. 128-140. Many features of the accusation apply as well to gardens, however.

⁹⁶ Suppose two shylocks I’ve had some dealings with have caught up with me and want their money back. They threaten to kill me. I give them a number of excuses for my delay. One of them does not believe me, pulls out a gun and points it to my face. The other one, for reasons I will never know, does believe me, and wants to save my life. He tries to convince his partner to give me an additional 24 hours. They agree to do so; however, the one with the gun wants some fun in return. My savior proposes a number of possibilities, and finally finds one that satisfies his partner: I must strip bare, walk out the alley, and go pick up my daughter at school, as I am. I do it, immersed in the profoundest depths of shame and self-pity. In this case, my savior’s condition is intended for and indeed absolutely necessary to my survival – but, for all that, it is no less of an affront to me.

survey, to be aesthetically just as good, or even better, than its ‘wild’ predecessor was. Because the matter has attracted worldwide media coverage, our gardenification of the ‘wild’ has had the felicitous effect of alerting people to environmental issues, particularly the conservation of botanical biodiversity and its moral intricacies. Some of these people commend the operation on grounds of its many positive consequences and relatively non-disruptive character. Others, however, vigorously condemn it: according to them, no matter how judicious the intervention and what good comes out of it, converting the ‘wild’ into a garden, and ‘wild’ nature into garden nature, expresses an attitude of contempt towards nature, evidently considered as not being worthy of continued unmolested existence in the face of human projects and purposes. And this attitude is the pernicious rock-bottom of human chauvinism, which no felicitous consequences can make any softer.

Some in this second group may maintain that some value has been lost, in converting the ‘wild’ into a garden, if only during the time of the rearrangement and the time it took for the plants to re-establish roots⁹⁷. This would undeniably be true, and all those in the first group would have to admit it. But this is not the way the butt-in charge wants us to look at the issue. The butt-in charge is, in fact, different, and much stronger: according to it, we always act impermissibly when, by transforming it for our purposes, we effectively deem nature unworthy of continued unmolested existence – even if no value at all is lost thereby, and indeed, even if value is in fact gained. Even if we could make the conversion and the re-establishment of roots happen in the span of a nanosecond, and somehow obtain even more beautiful and healthier trees with that, the operation would remain morally impermissible. It is thus the attitude of tinkering and fiddling that is being condemned, not the modalities and effects of doing so.

Suppose that among the converters is a nasty philosopher well-versed in the art of *reductio ad absurdum*. He points out that, following the objectors’ line of reasoning, humans should refrain from any intervention on nature, even those interventions, such as cultivating a little field of beans or building a refuge, which, in accordance with any plausible assessment of our biological needs and form of life, the overwhelming majority of people would deem not only permissible but indeed necessary, unavoidable, etc. If tinkering and fiddling with

⁹⁷ This is a line of reasoning developed by R. Elliott in *Faking Nature*, especially chapter 3 and 4.

nature in order to further our purposes is absolutely impermissible, our treatment of and attitudes towards nature *cannot but be* morally disgraceful. If this is the case, there is no telling anyone that he ought to treat nature differently or have different attitudes towards it, for “ought implies can”.

The objectors may retort by pointing out that growing beans and building refuges are activities so crucial to human survival and quality of life that tinkering and fiddling with nature is, in these and other relevantly similar cases, permissible. However, tinkering and fiddling with nature in order to make gardens that people can enjoy is *not* a relevantly similar case. A garden is not a little patch of land momentarily used to avert starvation: it is a deliberate and in principle permanent alteration of nature made by human just because they can. We can do without gardens, much like we can do without the hotels along the coasts of Italy or Brazil, the new Palm Island facing Dubai, and golf courses across the world.

We should reject these claims (and analogies). But before we do so, it is worth considering the mutated status of the problem at hand. Confronted with the *reductio ad absurdum*, the objectors have been forced - as any proponent of the wilderness paradigm would be, in similar cases - to move their focus away from assessments of attitudes and onto assessments of consequences. They could advance numerous sophistications to make their commitment to attitudes-assessment still seem steadfast (most notably, that how permissible an attitude is depends at least in part on what effects it brings about, though actions still have to be assessed for the attitude they express and not the effects they bring about), but the very fact that they need to advance such sophistications reveals any such steadfastness to be at least partly unwarranted: for it also reveals the recognition of the inescapability of material instrumentalism, as well as of the related fact that the permissibility of human intervention on nature is a matter of degree, to be ascertained, at least in part, with reference to its modalities and effects. At this stage, the converters are on their favorite terrain. They simply have to show that a garden is relevantly different from a hotel, an artificial island, and a golf course; and specifically, that gardens do not just make human life more pleasant and exciting, but contribute to it and its quality in a way

significant, manifold, and irreplaceable - such that human life would be radically impoverished were gardens not to be.

3.1 *Refuting the butt-in charge*

Many gardens 1) contribute to human survival quite directly, by providing the means of subsistence to those who work on them. Throughout the course of human history, gardens have ensured or at least contributed to the survival of millions; and they still do today, especially (though by no means only) in developing and underprivileged countries. In this they differ quite dramatically from hotels, artificial islands, and golf courses. 2) Unlike those, the creation and maintenance of gardens can lead to the conservation of botanical biodiversity. This is good from an ecological point of view, but not only: for insofar as it is agreed that a life well lived should include an increasingly deeper understanding and authentic acceptance of one's station within the wider workings of things, as an individual of the human species capable of and interested in reflecting on his existence on planet earth, and that such deep understanding and acceptance should arguably include the perception of a number of relations (biological, eco-systemic, cultural, historical, aesthetic, ethical) running between oneself and the animate and inanimate nature with which one's life on earth is shared, and (at least episodes of, if not) a general sense of wonder for the complexity and variety of such predicament, the existence and persistence of botanical biodiversity, being one among the conditions for the establishment of such relations, must itself be part of a life well lived; and insofar as such biodiversity can be conserved in gardens, and the latter can provide a significant and unique opportunity for perceiving those relations, gardens can contribute to human life and quality thereof in a significant and unique way. Moreover, and again uniquely, gardens make reasons to conserve botanical biodiversity *personal*, by enabling the establishment of a special relation between a man and his plants (a relation much harder to institute in the 'wild'). 3) Gardens can also enable the study and stimulate the knowledge of the requirements, properties, as well as practical potentialities of plants; such knowledge may not only be interesting in its own right, but it may also prove invaluable to a vast number of people in the world, those, for instance, who could resort to ethno-botanic practices in order to avoid the costs of market-traded

medicines for which there may be natural substitutes; as well as to future experiments in bio-mimicry⁹⁸. Nothing of the sort is done by hotels, artificial islands, and golf courses. 4) Gardens can enable the expression of human ingenuity and skill, the contemplation of intellectually and aesthetically significant products of such ingenuity, and the phenomenological experience of (even) unfamiliar plants in commonly available settings, as made possible by such ingenuity. 5) As argued by D. Cooper, gardens can provide insights on the “ultimate dependence of human activity upon the co-operation of the natural environment” as well as on the “ultimate dependence of the experience of the natural environment upon human creativity”⁹⁹. Such insight may dissolve the opposition between two equally uncompromising views: that human creativity is fully autonomous from nature, and that our experience of the natural world is not in any interesting way a function of our creative engagement with it - two views that equally contribute to the art/nature and nature/culture dichotomies; dichotomies obviously at home within the wilderness paradigm. Hotels, artificial islands, and golf courses, if anything, reinforce these dichotomies – gardens are instead embodied objections to them. 6) Gardens engage those who work on them in a character-molding cluster of activities, which may change or influence the very way in which they look at nature and at human operations and obligations in and towards it. They may thus contribute to the development of an environmental *ethos*, exercised in practice through everyday engagement, and characterized by a co-operative attitudinal set and a variety of environmental virtues (see chapter 3) – virtues which, albeit first developed and mostly exercised in the garden, may ultimately go to the benefit of the environment at large. 7) Gardens can also have a social and educational role, connecting the gardener as well as the visitor to the local culture, by alluding, representing, or exemplifying particular elements of it, countenancing symbolic allusions, encapsulating the spirit of the time, expressing some social preoccupations or sentiments, and the like. At the same time, they can tutor those who work on them in nature’s ways; and in times of environmental distress and preoccupation such as ours, they can provide a positive and inspiring image of how humans can relate to their environment, an image that does not assume the man-nature relation to be a zero-sum game. Social encounters in private and public gardens can foster the coagulation of new dimensions of cultural identity

⁹⁸ See Janine M. Benyus, *Biomimicry: Innovation Inspired by Nature* (New York: Harper Collins Publishers, 1997)

⁹⁹ See D. Cooper, *A Philosophy of Gardens*, p. 136

and, because gardens and garden practices give a transparent and readable cultural form to nature, gardens can enable social agreement as well as disputations on the legitimacy of certain general behavioral and attitudinal propensities of man towards nature. In so doing, they can contribute to the development of a shared public culture of nature.

At least two general considerations should be made at this point. First, we may note how a catalogue of the felicitous effects of gardens includes among them the development and exercise of environmentally virtuous attitudes (both individual and social – point 6 and 7). So from the objector's initial and uncompromising stress on attitudes, we have moved to an assessment of consequences, only to return to attitudes once again, although now on grounds of their own good consequences¹⁰⁰. This suggests that the contrast often drawn between act-centered (consequences) and character-centered (attitudes) assessments of the permissibility of actions is in fact, at least in some cases, much more permeable than usually conceded - and this, in turn, should suggest theoretical openness, as well as the general recognition that it is *not* obvious whether environmental ethics should have as one among its objectives that of deciding which of the moral doctrines is best, rather than attempting to propose a consistent theoretical reconciliation among them whenever useful and possible.¹⁰¹

¹⁰⁰ This dynamics suggests that an evaluation of gardens *as gardens* is best conducted from within a consequentialist framework that includes a theory of virtues. This strategy responds to a general feature of environmental ethics: that it constantly deals with two sorts of value at the same time - on the one hand, the value attributed to nature and natural entities on grounds of their properties, or facts about them, which invites consequentialist thinking; and on the other, agent-centered eudaimonistic and/or perfectionist values, for example those concerning virtuous character and attitudes. So there are always two reasons why acts of environmental degradation are despicable: on the one hand, because they destroy or damage much that is deemed to be valuable; and on the other, because they reveal that some (or perhaps many) people do not meet relevant perfectionist standards. There not only is a disvalue attached to the environmental damage, but also one attached to the lack of virtuousness in the attitudes and motives of those perpetrating it, which is a disvalue discrete and additive. It is perhaps precisely because it brings this double kind of disvalue that environmental destruction brought on by humans is usually considered morally unacceptable in a way in which environmental destruction brought on by tsunami's, volcanoes, earthquakes and asteroids is not. These issues deserve more attention than can here be afforded to them; but for now we may be satisfied with drawing a general, perhaps somewhat obvious, but important conclusion: to emphasize either one value (the natural or the human) at the expense of the other is certainly to miss out on important dimensions of our ethical relation to nature.

¹⁰¹ See D. Jamieson, "When Utilitarians Should Be Virtue Theorists." *Utilitas* 19, no. 2 (2007): 160-83.

In our example, both the converters and the objectors are ultimately willing to admit both consequences and attitudes as relevant to the evaluation of the permissibility of converting a stretch of 'wild' nature into a garden. The point of disagreement is not what theory to follow, but rather how to balance the two in practice – how much weight to put on consequences vis-à-vis attitudes and, what is most interesting to us, what kinds of attitudes are to be seen as environmentally virtuous: the defenders of wilderness would tend to prize contemplative attitudes towards nature; the proponents of gardens would rather tend to prize operative attitudes of engagement. This is not a small difference - we shall return to it time and again, in this and the next chapter.

As it emerges from the list above, gardens do not just make human life more pleasant and exciting, but can and do contribute to it and its quality in a way significant and irreplaceable, such that human life would be radically impoverished were gardens not to be. They are thus relevantly different from hotels, artificial islands, and golf courses.

A second consideration that should be made is, therefore, about the butt-in charge itself: in its attempt to provide a general objection to all disruptions of nature's naturalness, of the 'wild', it ignores such difference, thereby relinquishing the possibility of operating morally relevant distinctions among possible disruptions. In so doing it absurdly equates a garden to a golf course and, with that, it fails to evaluate gardens as the particular things that they are. It condemns them as intrinsically dis-valuable (at least from an environmental point of view) because they instantiate some general property (being expressions of the attitude that nature is not worthy of continued unmolested existence) that is itself deemed to be intrinsically dis-valuable, regardless of the modalities in which the particular objects that possess it are brought about, and of the effects that such very objects bring about in turn. The intrinsically dis-valuable property of being an expression of the attitude that nature is not worthy of continued unmolested existence is indeed a property of any garden, just as well as of any other conversion of the 'wild', such as hotels, artificial islands, and golf courses. If only this property is deemed to be relevant to evaluation, a garden may well

become as morally suspicious and as impermissible as a golf course. But this is really quite absurd. The case is similar to biocentrism's stress on the intrinsically valuable property of being alive, which is intrinsic to all living things, from humans to pathogenic bacteria. In its attempt to provide a general foundation for the value of all living entities, biocentrism relinquishes the possibility of operating morally relevant distinctions among such entities. This also leads to absurd conclusions¹⁰².

What is really being evaluated, in both cases, is a property shared by particulars (in the one case the property is seen as intrinsically dis-valuable, in the other case it is seen as intrinsically valuable), not the particulars that share it. The focus is on whether such particulars belong to given relevant classes, which are deemed valuable or dis-valuable their particularity notwithstanding. But if we are to evaluate particular things as more or less worthy of our choice, it is not enough to simply go thumbs-up (or down) at the acknowledgement that one given property is (or is not) possessed by them – for this gives us sweeping answers that may well be insensitive to a number of relevant distinctions. If a garden is to be evaluated *as a garden*, and not just as one among the many things that “express the attitude that nature is not worth of continuous unmolested existence”, we must isolate relevantly different cases: to do so, we must evaluate gardens also in reference to such properties and facts that make them relevantly different from otherwise similar objects.

The distinctiveness of gardens remains unexplored (and so gardens remain at risk of being equated to golf courses) until a complete catalogue of their intrinsic *as well as* relational properties is provided, and they are evaluated in reference to *all* of these properties. It is the complete set of their properties that make gardens valuable for us and provides us with reasons. As said, among those properties and reasons there may well be instrumental ones, such as those reported in the above list. Gardens are (or at least can be) instrumental, in a significant and irreplaceable way, to a life well lived. Their being thus irreplaceable reveals their instrumentality to be one of a peculiar sort. First, it is focal: it serves a variety of different ends. And second, it is unique. Because no other thing can contribute to a life well

¹⁰² See D. Schmitz, “Are All Species Created Equal?”, *Journal of Applied Philosophy* 15 (1): 57-67.

lived in as many and in the same ways in which gardens do¹⁰³, the latter cannot just be considered fungible and interchangeable means to it, but must rather be seen as constitutive parts of such life, there being no perfect substitutes for them.

4. *Natural and Unnatural Nature: I*

On some widely held views, one major reason for valuing nature, and thus also plants, relates to the property of naturalness, i.e. being naturally evolved, untouched and unmodified by human activity. Such reason will *not* be available in the garden, or it will inevitably be available to a much lesser degree than it is in the ‘wild’. Gardens and garden plants are not natural in this sense. What is meant by this, and what kind and how big of a blow is this to their value?

The naturalness property can be understood in two ways: as a *solid* property of a place or an entity, which is disintegrated in its entirety by any contact, however brief and minimal, between that place or entity and human activity¹⁰⁴; or as a *fluid* property, which admits of mixtures and degrees: on the latter understanding, a place or an entity can be *more or less* natural, according to the modalities in and the extent to which human activity has intervened to make it what it is.

We shall later reject the solid view¹⁰⁵. We do not dismiss it offhand only because it is a useful conceptual polarity against which to delineate the plausibility of its fluid counterpart;

¹⁰³ Note that this is not to say that gardens necessarily contribute to a life well lived *more* than other things: only that they contribute to it in a way significant and irreplaceable. So does the contemplation of wilderness: but the sort of contributions made by gardens and by wilderness are very different from one another. This is especially referred to points 5), 6), 7) on the list, and will be elaborated on in chapter 3 and 4.

¹⁰⁴ Roughly in the same way in which the property of virginity is disintegrated *in toto* by sexual contact, the property of being a minor is disintegrated *in toto* on one’s 18th birthday, and the property of being alive is disintegrated *in toto* at the instant of death. Such understanding of the property of naturalness has sometimes been explicitly endorsed by Katz (1991, 1992a, 1992,b).

¹⁰⁵ As a result of our accepting Jamieson’s distinction (in *Ethics and the Environment: An Introduction*, p. 164) between X affecting Y and Y being a product of X’s influence, two notions all too often improperly conflated. That man pervasively affects nature does not mean that nothing natural is left (while it may in fact mean that nothing ‘wild’ is left) – the naturalness of some place or entity is not completely erased by it being affected, to some degree, by human activity: what truly disqualifies a place or an entity from being natural is its being a direct product of human influence *only*: in all other cases, that place or entity is more or less natural; or more or less un-natural, if you will. Such distinction the solid view cares not for. Failure to take this distinction into account weakens the credibility of such view irreparably.

and because it is a view that often manages to seduce many of us, given its obvious consistency with the wilderness paradigm and its corollary conceptual dichotomies, such as nature/culture, art/nature, etc. - which many of us are simply brought up into. Also, we should note that there is in fact no real conceptual conflict between the two views: for one could indeed admit that gardens and garden plants are non-natural by default, and yet still claim that they can be more or less natural (or *un*-natural, at will) depending on the modalities in and the extent to which human activity has intervened to make them what they are.

If one subscribes to the solid view, and defines what is natural as that which is untouched and unmodified by human activity - and so, very generally, if nature is defined as that which is not culture¹⁰⁶ - one should entertain no doubt when submitting the following claim, which is in fact doubtful to say the least: gardens and garden plants are not at all natural, but thoroughly cultural entities. Such a queer claim follows from assuming that when we talk about the naturalness of nature, we must really be talking about the extreme degree of naturalness - 'wild' nature (when an entity or a place is "really" natural); and thus, that for some place or entity to be natural, it must be 'wild'. This is too strong a sense of naturalness; and, as we shall see, too narrow a sense of 'wildness'.

4.1 *The solid view of naturalness*

On the solid view, even if a Saguaro was planted 200 years ago in a 'wild' area, and just left to the elements, that plant is not natural (nor is the 'wild' area, strictly speaking, any longer 'wild'). All the more obvious is the case of garden nature: if 70 years ago I found a young Saguaro already on the land that was to become my garden, and eradicated it only to immediately re-position it, that plant is, strictly speaking, not natural. The reason is that it lacks a relational property that it used to possess before I touched it: its causal continuity to an evolving series or sequence of biological states produced by natural (i.e. non-human)

¹⁰⁶ See R. Elliott, *Faking Nature*, p. 117: "the distinction between the natural and the non-natural [is] made in terms of the distinction between what [is] and what [is] not a product of culture and technology".

forces *only*¹⁰⁷. The case may be more complicated if I found the Saguaro there, left it just where I found it, and built a garden around it. If I ever watered or fertilized that Saguaro, on the solid view that could already be enough to disqualify it from being natural. But suppose I did not: is then the plant natural? In one sense, yes – but then again, perhaps the naturalness of a natural entity depends not only on the uninterrupted continuity of the history of such entity, but also that of its context and surroundings¹⁰⁸. On the solid view, this definitely disqualifies any possibility for gardens and garden plants to be natural in the relevant sense.

The solid view tells us that gardens do not contain any entity that is natural. On such view, garden plants are effectively artifacts¹⁰⁹. This does signal an ontological feature of gardens, which is fair to point out and interesting to discuss: namely, that they not only do not, but also *need not* contain any natural entities at all: for it is indeed possible to imagine a completely artificial garden made with man-made substrates, concrete stones, and genetically manufactured plants. Though it is easier to eliminate naturalness from stones than it is from plants, it is possible to imagine future technologies employing synthetically engineered DNA to produce and develop complete genetic sequences *in vitro*, creating plants that have virtually no causal connection or continuity with their natural ancestors.

This brings out a distinction, between the non-natural and the non-living, which is often overlooked (also by the solid view) simply because the overwhelming majority of human artifacts are usually non-living entities, such as buildings, watches, cars, paintings, toys, books, etc. Although a genetically manipulated tulip, or a rose resulting from centuries of hybridization, are non-natural, they are nonetheless living things, and a plot planted exclusively with such tulips and roses is definitely a place that enables and requires garden

¹⁰⁷ See R. Elliott, *Faking Nature*, p.125

¹⁰⁸ This claim generates a question-mark circus featuring ontology, phenomenology, and aesthetics. We need not concern ourselves with it here.

¹⁰⁹ This would follow from E. Katz's view as expressed, for instance, in "The Big Lie: Human Restoration of Nature", reprinted in *Environmental Restoration: Ethics, Theory, and Practice*. eds. W. Throop (Amherst: Humanity Books, 2000), p. 83-93

practices, and thus effectively garden, though no natural entities reside in it at all – in fact, tulip and rose-gardens are classics, and most varieties of tulips and roses *are* the results of man-operated manipulation and hybridization¹¹⁰.

Living things such as tulips and roses, even if thoroughly man-made, still enable and require garden practices because their biological dynamics remains to a large degree regulated by the forces of nature - in a way in which lifeless artifacts, not being bio-logical at all, are *a fortiori* not. This distinguishes garden nature, even thoroughly man-made tulips or roses, from other products of human culture, technology, and contrivance, in a way that counsels some qualification for the claim that garden plants are not natural but cultural entities - a sweeping claim entailed by the equally sweeping solid view.

According to a more *fluid* view of naturalness (see below), garden nature would be cultured nature. Even if genetically engineered and placed in the garden by man, tulips, roses, shrubs, trees, etc. still have a life of their own, an internal “wildness”, as it were, a dynamic force that is proper to all that is alive, and which is in an important sense independent from the gardener’s activity, as it follows exquisitely bio-logical patterns not designed by man and on which the latter has ultimately very little control - patterns which, in turn, are responsive to larger natural forces on which humans have even less control, such as winds, sun, rain, humidity, etc.

If it is objected that garden nature is constantly nurtured and maintained through artificial techniques such as watering, fertilizing, pruning, and the like – and thus that its internal “wildness” and dynamic force is in fact never independent from human activity, one must distinguish two senses of “independent”, admittedly with some artifice: the causal and the biological. Even if the former never obtains in gardens¹¹¹, the latter ultimately does in all

¹¹⁰ In G. Parsons, *Aesthetics & Nature*, p. 125

¹¹¹ It does sometimes, however, depending on the plants one is dealing with: for example if I plant a bunch of olive trees or pines or cycads or indeed Saguaro’s that, after three-four years, are rooted and acclimatized well enough that they can, from then on, make do without me – some rain sometimes is enough, and they really do not need much. Some kinds of garden plants can become causally independent from humans quite rapidly,

cases – for although a garden plant lives thanks to human nurturing, it dies in spite of it. Even if the gardener may cause the existence and persistence of her plants, she cannot regulate and control it, except to a very limited degree. Much like a doctor with her patients, a gardener can nurture the life and dynamic force of his plants, but he ultimately does not and cannot command it: he can only, in the words of Lao Tze, “help that which needs no help”. The idea that a gardener commands the nature in his garden is misled and misleading: for the notion of “commanding” hinges quite heavily on the notion of “planning” – and that notion, although often employed in everyday parlance, even among gardeners, is not one particularly appropriate to describe what gardeners do.

Because he deals with living entities that possess a dynamic force of their own, a force which is also responsive to a number of natural factors far beyond his control, one should say that a gardener, rather than planning, *anticipates* (which is the polar opposite of planning) the trajectory of his plants’ life, orienting it gradually in response to the progressive unfolding of specific situations, as determined by his own past decisions, by the internal dynamics of the plants, and by the external dynamics of the natural forces that operate in the locality in question. The objective is, of course, that of orienting the life of plants so as to make it “flourish” – but the “flourishing” of such plant depends on many factors, and the gardener (with his ambitions and skills) is only one of them, albeit important. Only inexperienced gardeners plan the life of their plants: and these are the ones who usually end up killing or weakening the plants in the process of “making them flourish”. But disregarding the particularity of the plant and the locality in question, and pursuing a fixed objective such as making this rose-bush “flourish” as planned (say, like my neighbor’s or those in books and magazines), may in fact constitute an obstacle to a sharp and punctual assessment of the situation at hand. A gardener does not plan and command the life of his plants, but rather anticipates, adapts to, and nurtures it. This approach is primarily a matter of efficacy – however, as we shall see in the next chapter, it also enables and requires the development and exercise of other virtuous environmental dispositions, such as respect for nature and humility before it.

and completely. Some can indeed start producing seeds of their own, and those may fall to the ground and simply germinate new plants. Are then the latter not significantly ‘wild’?

On a rigid reading of the solid view, not only gardens, but even the ‘wild’ nature that is fenced within national reserves, is non-natural. This was a thought entertained by B. Williams, who argued that by putting boundaries around a natural area we somehow manufacture its wildness, and effectively create an artificial environment¹¹². This is true in one sense, but false in another, for although the fences may be artificial, the entities and processes within them keep enjoying causal continuity with their past, evolving and unfolding largely through the action of natural forces; and thus remain quite natural¹¹³.

4.2 *The fluid view of naturalness*

That something can be “quite” natural (as opposed to just natural *or* unnatural) directs our attention swiftly to the fluid view, which has it that the property of naturalness is positional: some one thing is always less natural than another, and more natural than a third, according to the modalities in and the degree to which it has been shaped by human activity. So my garden Saguaro is less natural than a ‘wild’ one that nobody has ever touched, but it is more natural than a Saguaro propagated through tissue-culture and grown by means of aeroponic techniques. On this view, naturalness is to be ascertained by means of comparisons.

Here is what we have so far: according to the solid view, garden nature is in fact garden culture. This position obscures the fact that, although the result of human activity and contrivance, garden nature remains natural, at least to a significant degree, insofar as it continues to be regulated by internal and external dynamic forces that are largely independent from, and indeed quite beyond, the control of humans. On this more fluid view, gardens and garden plants are thus more or less natural. Now, just how natural they

¹¹²See B. Williams, “Must a Concern for the Environment Be Centred on Human Beings?” *Reflecting on nature: Readings in Environmental Philosophy*. Eds. L. Gruen and D. Jamieson. (New York: Oxford University Press, 1994). See also Birch (1990), Nash (1989), Rodman (1977).

¹¹³ See Elliott, *Faking Nature*, p. 125

are depends on the degree of their causal continuity with a past series or sequence of biological states produced by natural (i.e. non-human) forces *only*, and on the extent of their causal dependence on human activity, with regards not only to their origin but also to subsequent maintenance; as well as on the intensity, frequency, and temporal duration of such activity. In other words, a garden plant, which is always non-natural in an absolute, quasi-metaphysical sense, can be more or less natural in a relative sense, according to the degree to which its internal dynamic force as well as the external forces of nature are left free to regulate its existence and persistence.

So a garden, and the plants in it, will be quite natural if all that is done is putting fences around plants that are already in place. For example, if I buy a house on the outskirts of Tucson, just outside Saguaro national park, I may find a few Saguaro's, Ocotillo's, and various other cacti and agave's already sitting on the patch of land that is to be my garden. If I simply fence my property and leave everything as it is, not repositioning nor nurturing the plants ever, those plants are overwhelmingly natural, their life being regulated, only and without interruption, by the dynamic force of nature that is both internal to their bio-logical structure, and external to it in the form of winds, heat, rains, pests, etc.

My garden's nature will be less natural if, besides fencing them, I start nurturing these plants. It will be even less natural if I decide to eradicate them in order to rearrange their position within the garden; and even less if I do not find the plants already in place but I plant them myself instead - even if in observance of a gardening plan that only intends to accord with the natural design of the locality in question, and thus restricts my choices to plants indigenous to the area (so I only use Saguaro's, Ocotillo's, etc. rather than Aloe's Amaryllis, and so forth). It is even less natural if I do not follow such plan and my choices are not thus restricted; and even less still if the plants I choose to plant have been eradicated from the 'wild', at one extreme, or, at the other extreme, propagated *in vitro* rather than from seed, and grown and nurtured aeroponically rather than by more traditional means. And it is even less natural if the plants I use are not the results of natural selection at all, but rather of man-operated crisscrossing, hybridization, and so on - such as many tulips, roses, and a vast number of vegetables - and have thus never even existed in the 'wild'. Also, when my garden's nature, in order to survive and do well, requires continuous intervention

and external inputs in the form of watering, fertilizing, and the like (as it usually is the case when plants that are not indigenous to the locality in question are used), it is less natural than when it is by and large self-sufficient. We can continue moving further down this continuum of naturalness until we reach a fully artificial garden. Even then, though, as said, some naturalness will still be left, because artificial tulips and roses, being alive, have a dynamic force of their own, which follows patterns largely independent from humans, and is responsive to eminently non-human elements such as the rain, the sun, the wind, and so forth.

Garden nature, although not solidly natural, is fluidly so, and is to be distinguished from other kinds of artifacts because it has a life of its own, regulated by natural dynamics (internal and external) that humans can facilitate and/or contain, but which are ultimately beyond their command (remember that a garden can never be under control, but only under observation – a more or less sharp and operatively punctual observation).

Suppose, then, that I have a piece of land to turn into a garden. I find some indigenous flora already on it, say a number of old growth trees. I decide to use these for shade, rather than eradicating them and getting some other variety on the market. I study the natural condition of the place, its exposure to the sun, rate of humidity, soil and water composition, etc., and position a number of other plants - which I have grown from seed or bought from nurseries that I know have grown them from seed - and which can well adapt to such conditions, so that after an initial period of constant nurturing I can let them go down their own path and decrease the frequency and intensity of my interventions. I use little fertilizer, and organic, at the beginning - and later none at all. I punctuate the garden with plants that can take care of at least some pests and discourage weeds from growing, at least a little, so as to reduce my use of pesticides to a minimum (I may even introduce specific bugs and other animals, say chickens, to that purpose). I choose drought- and cold- resistant plants, and rely only on the water from the sky and the heat and light of the sun¹¹⁴.

To do all this, and succeed, I must know a thing or two about plants and the natural conditions I face. This garden is knowledge-intensive. Culture is absolutely paramount to it.

¹¹⁴ In fact, I am planting this garden in accordance to permacultural principles – see chapter 1.

And yet, on the fluid view, the nature in this garden is quite natural - as natural as it can be - and that precisely thanks to culture.

We are not just maintaining that garden nature is half-nature half-culture, (“half the sun, half the hand”, as it were) – for this would not at all dissolve, but rather confirm the nature/culture dichotomy that finds its home in the wilderness paradigm, suggesting perhaps trivial propositions such as “the garden is a mix of...a reconciliation of...mediates between...etc...nature and culture”, with the polar opposition between the latter two remaining firmly in place. We rather maintain that the nature/culture dichotomy, and the wilderness paradigm which harbors it, are both misled and misleading, and that one of the most remarkable features of gardens and garden nature is precisely that they unambiguously put them into fatal crisis. This is connected to point 5) of our earlier list, a point that was originally referred to gardens, but which we can refer to garden nature too – for *both* gardens and garden nature alert us to the following notable facts about our form of life: on the one hand, the “ultimate dependence of human activity upon the co-operation of the natural environment” and, on the other, the “ultimate dependence of the experience of the natural environment upon human creativity”¹¹⁵. We have already said something about the first proposition, and we shall later return to it while discussing garden-based virtues; it is now worth concentrating on the second.

To say (somewhat metaphorically) that human activity is ultimately dependent upon the co-operation of the natural world is only to re-state that our evolutionary prerogatives, and the related biological needs we have as a species, and as particular specimens of such species, make our form of life a non self-sufficient one - an open system, as it were ; one that must be engaged with its environment in order to exist, persist, and flourish. We do, for indeed we must, rely on our environment to an enormous extent, and this is simply a fact about our predicament as humans.

¹¹⁵ D. Cooper, *A Philosophy of Gardens*, p. 125

It is equally a fact about our predicament as humans that we cannot look at the world, nor the nature in it, from a non-human perspective. And the way we see nature is always informed and constrained not only by our biological, but also by our psychological, cognitive, and generally cultural limits - by the descriptive systems and methods we adopt, the metaphors, associations, tropes, and similes that we use, by the criteria we utilize to individuate conceptual links among the things around us, and by the beliefs that orient the adoption of such criteria rather than others. The substantial content of such limits may vary from culture to culture and from individual to individual, even quite dramatically, but that there be such limits at all, and that it is from within the topological boundaries that they define that we look at the world, and the nature it hosts – this is common to all of us¹¹⁶.

Just like the behavior of electrons during scientific experiments on quantum phenomena inevitably owes something to the observational apparatus we employ, so does our experience of and perspective on the world inevitably owe something to the ways we engage with it - not only to the sensorial, but also to the conceptual apparatus that we utilize while negotiating this experience. And such apparatus is life-bound, informed by that “whirl of organism” of which S. Cavell spoke, in a much-quoted passage¹¹⁷, to explain Wittgenstein’s notion of “form of life” - that multifarious and yet shared background that constitutes our very humanity, outside which we cannot step in order to give a more “detached” diagnosis of what goes on in, among, and around us.

By “our very humanity” we mean the complete set of evaluative, deliberative, and behavioral possibilities available to us as individuals of the human species. Such set is the historical result of socio-cultural practices, which in some (and perhaps most) cases stabilized genetically inscribed tendencies. It is also the result of the concepts available to us: I cannot even conceive the features of my own humanity except against a conceptual, cultural, and institutional background that I, for the most part, simply receive. Our very humanity is thus thoroughly cultural: our evaluations, deliberations, and behavior are always conceptually shaped, because conducted intentionally – in other words there is

¹¹⁶ These limits are emphatically not transcendental.

¹¹⁷ See S. Cavell, *Must We Mean What We Say?* (New York: Charles Scribner’s Sons, 1969), p. 52

something we think we are doing, when we engage in them: they are always carried out under a conception.¹¹⁸

Obviously, this does not mean that the world and the entities in it do not exist if not in the conceit and the eyes of human subjects. The world is not literally of our making, but the ways in which such world exists *for us* crucially owe something to our engagement with it - and for this reason and to this extent the world can thus be said to depend on us, and to be “ours”. On this view, nature is there (*haecceitas*), regardless of us, notwithstanding our conceptualizations and descriptions and explanations and phenomenology of it. But if and when we are there, nature will only be for us in the ways we conceptualize, describe, explain, and experience it.

Nature is not some product of ours, spinning out of our minds. As Jamieson puts it, “people lived in the solar system long before they knew about it”¹¹⁹. However, the reality of nature (the ways in which it is real to us - the only entities for which the question “is this real?” arises at all – at least as far as we know) depends on our engagement with it - and indeed there is no such reality, absent such engagement. In order to make the point that our conceptualizations and evaluations of nature are subjective, life-bound in sense historical as well as cultural, we do not need to maintain that nature itself, with its physicality, is but a construction. What is a construction is the physics (and the aesthetics, the philosophy, etc.) through which we describe such physicality¹²⁰. That, as far as we are humans concerned, there ultimately is no distinction between how, due to our engagement, we experience the world, and how the world really is, does not entail that the world does not *exist* absent such engagement. That *we* meet nature always clothed in the colors of our spirit, as Emerson once said, does not mean that there is no bare nature. There are real things in the world, and they do play a role in informing and constraining our conceptual and evaluative systems –

¹¹⁸Such statements are obviously not uncontroversial: in fact, they are eminently controversial. One interesting debate that has recently been devoted to these issues is that between J. McDowell and H. Dreyfus, on whether we always experience the world conceptually, as being “thus and so” (McDowell), or whether we rather “cope” with it through embodied experience (Dreyfus). We limit ourselves to taking McDowell’s side here, without venturing into philosophical territories that are way beyond the scope of our present concerns.

¹¹⁹ See D. Jamieson, *Ethics and the Environment: An Introduction*, p. 165

¹²⁰ Because there ultimately is for us no distinction between how, due to our engagement, we experience the world, and how the world really is, *we* can (in some cases) legitimately talk (and in what follows we shall indeed do so) of *facts* – biological, ecological, physical, historical facts – as *we* have registered them. This does not make such registering any less subjective.

but they play such role only through our experience of and engagement with them. The sorts of conceptual and evaluative systems we have are a product of the kind of beings that we are (with our needs, interests, cares, purposes, commitments, history, etc.), as well as of the ways we interact with our natural, social, and cultural environment(s)¹²¹.

Not only is nature, with its physicality, not an extemporaneous construct of our conceptual pictures, but also the pictures themselves, through which we conceptualize and evaluate it, are not just arbitrarily chosen. We do not produce, but rather receive, not only the worldly things we look at, but also (many of) the ways in which we look at them: descriptive systems, metaphors, associations, tropes, similes, criteria, beliefs orienting the adoption of certain criteria rather than others, etc. Our conceptualizations and evaluations are only partly of our making: what enables them, their pre-condition, as it were, is simply inherited, received. For us to conceptualize and evaluate, there must already be a space of possibilities¹²², defined by certain landmark criteria, in turn configured by a sense of what matters and of whom we are - by “our sharing routes of interest and feeling, senses of humor and of significance and of fulfillment, of what is outrageous, of what is similar to what else, what a rebuke, what forgiveness, of when an utterance is an assertion, when an appeal, when an explanation”¹²³. The preconditions of our conceptualizing and evaluating are by no means transcendental, but rather as life-bound and path-dependent (historically and culturally) as they can be: and for the most part we just receive them, from those before and around us, only to use them as springing boards for further, new conceptualizations and evaluations.

4.2.1 *Roses and Weeds*

Getting closer to our topic, consider the ways in which a quintessentially garden plant, the rose, has become the source and terminal of an eclectic network of tropes, associations,

¹²¹ This thesis has recently been given new momentum by the original evolutionary theory proposed by E. Jablonka and M. J. Lamb in *Evolution in Four Dimensions*. (Cambridge, Mass. : MIT Press, 2006).

¹²² See D. Cooper, *A Philosophy of Gardens*, p. 145

¹²³ See S. Cavell, *Must We Mean What We Say?*, p. 52

viewpoints, narratives, metaphors, symbolisms, etc. of *our* making - ingrained in a complex conceptual web that has ramified through the centuries, becoming part of human culture(s) and informing elements of the very ways in which we look at and make sense of things¹²⁴. Roses have inspired reflections on lust as well as virginity; love, fragility, and nobility; in paintings, they often symbolize such things; in mathematics, a rose is a plane polar curve consisting of three or more equal loops that meet at the origin [$r = a \sin(n\theta)$ or $r = a \cos(n\theta)$]; in Homer, the dawn is rosy-fingered; in my dreams, the future is rosy; in the Bible “the desert shall rejoice, and open as the rose” (Isaiah, 35:1); and then, the rosary; the War of the Roses; Jesus’ crown of thorns; the Rose Bowl; waking up “fresh as a rose”; Marlowe’s three beds of roses, and Stevenson’s idea of marriage, which is *not* a bed of roses; the Rose of the Winds; the rose-water of Asian and Middle-Eastern cuisine; tea-rose walls; Shakespeare’s “*What's in a name? That which we call a rose / By any other name would smell as sweet*”; Thoreau’s facts of life: “*Truths and roses have thorns around them*”; the old and rooted Jewish notion that “from the thorn-bush comes forth the rose”; Dante’s yellow rose of Paradise; T.S. Eliot’s “*Rose Garden*” beyond “*the door we never opened, Down the passage that we did not take*”¹²⁵; people named Rose (or derivatives); and of course, as if to underline by negation (with the only result of further adding to) this multifarious stratification of human viewpoints, images, practices, and ponderings springing from and revolving around this flower, “*rose is a rose is a rose*”....

My conceptualizations and evaluations, however imaginative they might be, I do not conduct in splendid isolation: rather, they reflect historical and cultural developments, and are informed by those of others before and around me¹²⁶. When I look at this rose in my garden, I see an entity shaped not only by nature, but by human culture too - sized-up through hybridization and cultivation to fit the demands of this or that market at this or that time. But I also see an entity that, at the same time, has itself shaped human culture: the source and terminal of a wide and eclectic network of tropes, associations, practices, viewpoints, narratives, metaphors, symbolisms, etc. that have stratified and ramified

¹²⁴This is but a reformulation of a notable passage in M. Pollan’s *Second Nature: A Gardener’s Education*. (New York: Grove Press, 1991), p.90

¹²⁵ *Four Quartets*: Quartet 1

¹²⁶ Emerson puts the matter most poignantly when he says: “Our knowledge is the amassed thought and experience of innumerable minds”

through the centuries, have informed, and still inform, sometimes in quite significant and even solemn ways, our conceptualizations and evaluations of the world as well as of our life and place in it. This rose in my garden, the combined result of millennia of natural evolution and centuries of man-operated crossing and hybridization, encapsulates natural dynamics as much as it encapsulates human sensibilities, past and present, which I have inherited and learnt, and which come alive and operative as I relate to it.

Because the reality of a rose depends on us – on the biological models we use to describe it, on our taxonomies, aesthetic tastes and standards, symbolic projections, the metaphors we construct around and through it, etc. – and because we at the same time simply receive the real rose, with its internal natural dynamics, as well as many of the very ways in which we construct its reality, we should say that our relation to a rose is one of “creative receptivity”. A gardener both receives and creates a rose: he creates it through his work, skills, crossings, etc.; but his creativity is not absolutely free - rather, it is constrained by the internal dynamics of the plant, which he receives and cannot command, but only nurture and facilitate. And he creates the *reality* of such rose as well, through his subjective conceptualizations and evaluations - which, in turn, are not fully arbitrary, but creatively received.

When considering roses, and the extent to which they embody our history, have been and are susceptible to our sensibilities, and even inform (at least some of) our conceptual patterns, it is hard to individuate a possible cut-off point of distinction between nature and culture – or between art and nature, for that matter. These dichotomies, very much at home within the wilderness paradigm, are effectively exploded by a garden plant such as a rose bush. To look at a rose and isolate what is natural from what is cultural about it is simply not possible - for the life of the rose is inhabited by ours, and some dimensions of the life of ours are, thankfully, made of roses.

The above thoughts are obviously by no means restricted to our experience of roses, but rather refer to our creatively receptive experience of nature in general. The cognitive and

evaluative experience people have of many other plants across cultures (say Agave's in central America, Aloe's in South Africa, olive trees in Sicily, and Banyan trees in India), is as "loaded" as the one Anglo-American cultures have of roses. The obtaining of a conceptual web connecting different people (communities as well as individuals) to different plants is ubiquitous the world over. Plants do and mean things for people everywhere. So do animals, mountains, caves, rivers, the moon, the stars, etc. Nature inhabits our life as much as our life inhabits nature.

Although nature in its physicality is simply received by us¹²⁷, it is not the case that there is some core of bare physical experience which we then interpret in terms of our conceptual and evaluative systems, in turn understood as some sort of grid or scheme we can pick up and modify at will, and simply superimpose on things. Rather, every experience already takes place within a vast background of cultural presuppositions, that shared and yet infinitely variable "whirl of organism" that is our form of life. We do not just lay on our experience, as some kind of conceptual and evaluative garnish, our assumptions, standards, beliefs, attitudes, etc: rather, all experience is immediately cultural all the way down – our culture is present, contained, and operative in the experience itself.

Consider now the case of weeds. Weeds are widely thought to be 'wild' and, in everyday parlance as well as lofty poems, they are often used as a synecdoche for wilderness. Much like gardens in a city, due to their sharp visual contrast with buildings, may easily be looked at as touches of nature - weeds in a garden, due to their sharp behavioral contrast with cultivated garden plants, may easily be taken to be 'wild'. Weeds are not planted, and they reproduce, move about, and mutate of their own accord, that is, 'wildly'. When one says that a plant in her garden is a weed, she means that she had nothing to do with its appearance and has nothing to do with its persistence and propagation. She also usually means that it is an invasive and infesting plant (and most probably, she also implies that she is going to fight the invasion). The first is a pronouncement on the origin of weeds, the

¹²⁷ For our conceptualizations of nature, which are historical and cultural constructions, must not be confused with the fact of nature, which a construction is not. We have not fallen into such confusion. See D. Jamieson, *Ethics and the Environment*, p.165

second is simply an operational reading of what they do (operational because the gardener is going to do something in return). The two notions are distinct: the first has it that weeds are 'wild', meaning that they got to her garden without her help; the second has it that they "go" wild, meaning that they propagate without her help. For as strongly as they might be rooted in our thinking, neither of these notions is accurate.

Anyone who takes up gardening will at some point face a choice between becoming a killer of weeds, or let those have their way and mercilessly swallow her plot. Now both Emerson and Thoreau had a soft spot for weeds. They saw them as the most immediate expression of nature and naturalness – and thus at least on a par, in all relevant evaluative respects, with all other plants, including our roses, Agave's, Banyan trees, and Saguaro's. Emerson thought that weeds are plants the virtues of which we have not yet discovered or, more generally, are insensitive to; Thoreau, on his part, did not have the heart to have the soil of Walden "say beans instead of grass". Both condemned the contempt for weeds typical of gardeners as an expression of despicable anthropocentrism. For indeed, by what right do we deem a cultivated rose to be more worthy of respect and attention (or even just more beautiful) than a dandelion or a tumbleweed, brought into our garden by the mighty winds or the industrious insects, and nurtured by the sacred rain?

Gardening not only entails, but is in fact constituted by the elimination of weeds. It is also for this reason - for the anthropocentric selectivity with which they treat plants - that gardeners are often thought to exploitatively devalue nature, and gardens to be aberrations of it. By these lights, one major *negative* feature of gardens, garden nature, and garden practices, would be that the killing of natural nature is necessary to and indeed constitutive of them.

But weeds are not natural nature. To the contrary, weeds are organisms that thrive in continually disturbed, human-dominated environments: adaptive generalists able to prosper in disparate ecological settings, flexible with regards to the resources they consume, and capable of propagating exponentially. The overwhelming majority of them have their needs better met by humans than by nature, and thus enjoy expanding populations, wider spatial distribution, ecological prominence, and enlarged opportunities for further speciation the

more humans penetrate, alter, and work on environments. Though we often look at weeds and see unfettered naturalness, very little of what we are looking at is natural at all. We distribute weeds around the globe, we nurture their reproduction without even cultivating them, and we channel their mutations.

Weeds do not grow in 'wild' forests, jungles, deserts, mountains, or prairies. Generally, they grow in gardens, lawns, cultivated fields, roadsides, rail tracks, abandoned or waste grounds, and the cracks of sidewalks and highways – they grow and flourish wherever *we* are, and follow us wherever we go. Their numbers, flourishing, and adaptive efficiency are tied directly to the extent, frequency, and intensity of man's intervention on environments, by a "the more, the better" sort of function. Had man never moved around or done anything, most weeds would not have moved either: some would never have appeared at all; and was man to withhold completely from action for a long enough time, a vast number of weedy species would disappear.

Emerson had a point when he said that the reality of weeds (as the reality of anything else) is a cultural construct. We do see in weeds what we have been brought up to see. But he bent the point to his own purposes, not only implying that weeds had objective virtues obscured by our faulty subjective perception (thus reflecting a shallow notion of subjectivity-as-a-mediating-screen, which we rejected earlier), but also constructing a *further* reality for them, according to which weeds are 'wild', and a synecdoche for wilderness - and because wilderness is "God's second book", in failing to appreciate weeds we are failing to appreciate God's work; because of such failure, we are oblivious to the fact that in killing weeds while gardening, we are in fact killing plants as valuable (if not more, because 'wild') than the (cultivated) ones we are defending.

Emerson's, like that of other Transcendentalists and quite a number of environmental ethicists, is a romantic vision of nature, to which many are drawn because brought up in accordance to the wilderness paradigm that Emerson himself has contributed to establish. It is this romantic vision that has often disqualified gardens from being the object of serious philosophical reflection on the side of those that care for nature's future. But gardens and gardeners are not enemies of the 'wild' because weeds are killed in and by them, for weeds

are not ‘wild’ at all – Emerson has taught us to construct them as such. Such construct is perhaps fascinating, but it is misinformed, and constructs are not all “just as good” just because they are constructs – those that ignore facts about the real object the reality of which they are constructs of (for instance, biological and historical facts about weeds and the modalities of their diffusion) are not “just as good” as those that do take such facts into account. By “good”, here as always, we mean “good for us”; and because biodiversity is good for us, what is good for us is also that which is good for biodiversity. Allowing weeds to spread in observance of their ostensible naturalness is not good for botanical biodiversity, to which infesting weeds are a direct threat. It is thus not good for us. And it is not “good for nature” either, for weeds are not natural in any relevant sense. A gardener who refrains from eliminating weeds is doing no service to nature, nor is he increasing the amount of naturalness in the world; and a garden (or any other place) in which weeds are allowed to have their way is no more natural than the most carefully groomed of plots. Emerson’s, Thoreau’s, and many environmental ethicists’ contemplative ethic of benign neglect is, from the standpoint of biodiversity conservation, wildly inadequate, and indeed detrimental, for it will in time effectively bifurcate the Earth’s biota into weedy and ghost species¹²⁸; and it will not do much good to us either, insofar as many botanical species that we now see and use as key natural resources (timber trees and fish-breeding mangroves, for instance) will be driven out of functional existence, with a consequent impoverishment of surviving ecosystems. Letting weeds be will enable a surge of pests, parasites, and disease-causing organisms, stimulating further competition for eco-systemic prominence among the weeds themselves, thus reducing diversity even among them. Moreover, not just the ecological, but also the economic costs associated with the benign neglect of weeds will be humongous¹²⁹. And finally, if weedy species have their way, we will lose innumerable botanical species, innumerable possible sources and terminals of intellectual and aesthetical stimulation, and of opportunities for us to deepen our understanding of our place within the wider workings of things. What is most ironic, there will be nothing natural in a world of weedy species.

¹²⁸ Recall S.M. Meyer characterization of ghost and weedy species, as reported in the introduction.

¹²⁹ The economic harm of 50,000 weedy species (including plants, animals, and other organisms) in the US alone currently surpasses \$130 billion per year. See S.M. Meyer, *The End of the Wild*, p. 71

4.2.2 *Wilderness*

Let us extend our point to wilderness at large – following Emerson himself, and Thoreau after him, who consistently used weeds as a synecdoche for it. We shall be brief here, for our point is by now quite predictable: ‘wilderness’ is a human construct. This statement can be substantiated from a number of perspectives – let us turn to ecology and history.

If by ‘wilderness’ we mean the untouched and untamed, that which exists and persists absent any involvement of man – if by ‘wilderness’ we mean that which evolves following natural, i.e. non-human selection *only*, then there is hardly any ‘wilderness’ left on earth. In fact, humans have today become the strongest selective force behind nature’s evolution. Man has now access to even the most remote corners of the earth, and because the effects of his actions, if often indirectly, do have a pervasive impact on ecosystems globally, there is little in nature’s present or future that is or will be ‘wild’, for the impact of humanity now drives biological systems, guiding their course by altering the global climate, transforming landscapes, and through biotic consumption and manipulation.

While ecology tells us that what we look at as wilderness is in fact not such, history tells us that what has traditionally been looked at as paradigmatic wilderness, and has in fact even provided the basic imprint for many later perspectives on nature itself (including those of a number of environmental ethicists), i.e. the American landscape, was also not such, and that the fascinated conceptualizations and evaluations made of it were largely cultural constructions tied to very specific and identifiable historical circumstances.

The newly-arrived Puritans looked at the vast spaces of New England as howling and godless lands, in which man, pulled out of civilization, was likely to lose oneself and one’s faith to the lures and uncertainties of animalism, tribalism, and tree-worshipping. The forests, particularly, inflamed the Puritans’ disdain, and they hesitated not when it came to pushing wilderness back by chopping trees, clearing the way for God’s sight on the New Continent. Also, they wanted to farm, and because the higher glory of God they were eager to preach depended on such farming, clearing forests in order to cultivate their soil was conceptualized as no less than a service to the Lord. In reaction to the Puritans’ disdain for

wilderness, and also affected by a latent or patent sense of guilt for having wiped out much of it and over-cultivated wide swathes of their environment, third- and fourth generation Americans took it upon themselves to redeem nature from culture (much like the Puritans had earlier taken it upon themselves to redeem culture from nature by chopping trees) – and an all-round cult of wilderness was born, penned down, among others, by Emerson and Thoreau, who now depicted wilderness as “God’s second book”, rather than as a threat to God and the book. The very (and newly-acquired) fragility of the American wilderness was a major source of the fascination that came to refer to it: as Tocqueville pointed out, much of the charm of the American forest stemmed from the knowledge that it would soon fall to the axe¹³⁰. Notable anthropogenic damage had already been done to nature, and much was clearly still going to be done in the future. It seemed quite obvious to many early environmentalists that humans were the problem, and that if nature had to be defended, it had to be left ‘wild’, and humans had to be fenced off it (not only the colonists, but the natives as well).

Four major points to be noted, here: first, the firm establishment of a zero-sum game conceptual scenario: the new wilderness-based paradigm, given the experiences that had informed its configuration, conceived and presented the humanity-nature relationship as eminently problematic, a gloomy mono-directional process of defloration and destruction, i.e. exploitative devaluation. Second, the solution found was strictly contemplative: spiritual instrumentalism, beneficial to man’s soul as well as to nature (for it leaves it untouched and untamed), was seen as the only morally acceptable form of instrumentalism, and indeed as an antidote to its unacceptably ruthless material counterpart, as it had been imposed on the vast new land. Material instrumentalism was hypostasized as the root of all environmental evil, with little or no qualifications: so that when it came to nature, the right thing to do was to do nothing, and contemplate: contemplate its majesty if untouched; contemplate its destruction otherwise, with sadness, a sense of guilt, and a certain reproach for humankind. As said, it is a feature of the wilderness paradigm that it allows little or no distinctions to be made between one kind of intervention on nature and another, between gardening and damming. Third, and related, adopting “wilderness” as the guiding notion for structuring human relations to nature has the fatal effect of driving a deep wedge

¹³⁰ See J. Radkau, *Nature and Power*, p. 182

between nature and culture: for the wilderness paradigm wants (and logically needs) man to keep off nature. Because of that, such paradigm fails to deal with “the full range of human abilities, interests, and values, including those that are the achievements of culture” and this makes nature “not our habitat, but some ‘other place’...a facility, like a bank or a car wash”¹³¹. And fourth, the wilderness paradigm nurtures no principled concern for improving the environment already touched, tamed, and shaped by human beings.

4.3 *Why do weeds, wilderness, wildness, and naturalness matter so much?*

Roses, weeds, and wilderness are all things the reality of which is not just out there: it is, rather, a cultural construct. Now cultural constructs are not only informed by our conceptualizations and evaluations (most of which we inherit from those of others before and around us), but, following a recursive dynamics, they also go to inform them in return, a feedback effect triggering new conceptualizations and evaluations, ever original and yet always path-dependent, impregnated by those they have been constructed in reference to. By limiting (in a sense descriptive not pejorative) the ways in which we look at the world, our life, and ourselves, constructs orient further constructs. Successful constructs become authentic background paradigms against which we measure, and after which we often model, our ways of thinking about and experiencing things. They become capable of providing a coherent structure to our ways of looking at and reflecting on the world and our life in it, highlighting some dimensions, and obscuring or excluding others.

To be successful, constructs must be able to encapsulate and shed light on some deep dimensions of our life, and to provide useful ways and resources to conceptualize and evaluate such dimensions. Looking at their success (at least within North-American culture, the cradle of academic environmental ethics), we should conclude that the constructs of weeds/wilderness do accomplish this much. Now we should ask: why do these constructs (albeit based, as we have seen, on various ecological and historical misconceptions) play so strong a role in our way of looking at nature? What are the deep dimensions that they

¹³¹ See W.R. Jordan III, “Sunflower Forest: Ecological Restoration as the Basis for a New Environmental Paradigm”, in *Environmental Restoration: Ethics, Theory, and Practice*. eds. W. Throop (Amherst: Humanity Books, 2000) p. 210

manage to capture and illuminate? Why has wilderness become a paradigm, indeed an informing ideal of our environmental thinking and valuing?

Disparate answer can be given to such questions. Many thinkers of nature converge on the following two, related suggestions¹³²: on the one hand, we are impressed (both cognitively and evaluatively) by nature's internal dynamic force, where by internal we mean something like "autonomous"¹³³ – we are impressed by the fact that nature's workings are largely independent from and indifferent to us. We are impressed by its power, and by the fact that such power is out of our control. This engenders in us mixed reactions, of admiration as well as fear, which are probably among the most basic emotions we have in the face of it. Nature's autonomy is expressed in its 'wildness', and this we have learned to individuate, paradigmatically (though not necessarily only), in weeds/wilderness, and to conceptualize in reference to them.

Another fairly common suggestion is that what is 'wild' in nature correlates, in some suitably deep psychological sense, to the 'wildness' that is in us, and that it is for this reason that 'wildness' exerts such a fascination and influence on our thinking about nature. Not only the power of the nature that surrounds us, but also that of the nature that is within us, is "out of control". We have a mammal body, with a spectrum of biological prerogatives and needs that push us not only to act, but also to think in ways most conducive to their fulfillment and satisfaction. Moreover, a number of our responses to the world are quite beyond that which we can control (or even find words to articulate): our instinctual¹³⁴ searching for the source of a sudden noise, our unexpected strength in case of danger, our previously unseen capacity of concentration during a fire, and the heart-in-the-throat sensation that accompanies moments of tension; our reflexes and proprioception; our sensing when somebody is looking at us; sweating and crying; itching and scratching; breathing; retracting our hands from thorns and cutting glass, and rushing them to hold injured limbs, even when the injury is internal; looking up when telling lies, fear of the

¹³² See D. Jamieson, *Ethics and the Environment*, p. 155; congruent views can be found in the already cited works by philosophers B. Williams and R. Elliott, as well as non-philosophers M. Pollan and J. Radkau.

¹³³ As Jamieson explains, nature is not autonomous in the same sense in which people are. It is not self-willed; it just "does its own thing". See *Ethics and the Environment*, p. 166

¹³⁴ How to articulate the notion of "instinct"? Is or can instinct even be a *notion* at all?

dark, stepping away from the edges of a roof or a cliff, or being unexplainably attracted to them; giving in to sleep; dreaming; our sexual awakening in the spring; the erectile function of men and the irascibility and physical exhaustion of menstruating women; cravings during pregnancy; baldness; birth, sickness, aging, and dying. Our deaths in hospitals, wired to machines that try to extend the sequence of breaths we take, but which just cannot go beyond a certain point – that is perhaps the most poignant image of the ‘wildness’ that is in us, of all that is beyond our control, and ultimately quite mysterious.

It is thus often suggested that we are drawn to what is ‘wild’ in nature because in it we see (again, with some mix of fear and admiration – and whatever this sort of “seeing” may be or be taken to entail) what is ‘wild’ in us – who of nature are part. The raging seas, thunders and lightnings, fires and tornadoes, landslides, weeds: they impress deeply but never truly disconcert us – they are not news, as it were: for both we and them are ultimately embodying and agitated by the same dynamic force; and when we walk in the ‘wild’, when we cross the deserts and forests of Africa, and hike onto its hills, we often have a clear sense of always having been there, of returning to a place we already know. In the ‘wild’, we do not find a way out of our everyday life, but rather a way back into it¹³⁵.

It is because they point to dynamics that we recognize as primordially our own that the constructs of weeds/wilderness have managed to take root in our topology of self, become ingrained in it, and often even model the very ways in which we think about nature - as well as ourselves. In this, they are no different from the rose construct: they help us make sense of our experience on this planet - sources and terminals of a wide and eclectic network of tropes, associations, analogies, practices, viewpoints, narratives, metaphors, symbolisms, etc. that have stratified and ramified through the centuries, becoming part of our cultural identity, informing and inspiring, sometimes in quite significant and even solemn ways, our conceptualizations and evaluations of the world as well as of ourselves¹³⁶.

¹³⁵ Perhaps, we (a-propositionally) recognize ourselves to be the “body electric” W. Whitman sings of in *Leaves of Grass*. On these topic see J. Turner, *The Abstract Wild* (Tucson: University of Arizona Press, 1996).

¹³⁶ See J. Radkau, *Nature and Power*, p. 26 : “If people of a particular period perceive their own nature and the nature around them in a particular way, that does not mean that this type of perception is random and arbitrary. Constructs of nature will endure only if they contain useful experiences” p. 26

4.4. *Leaving it alone*

But the weeds/wilderness constructs are also notably different from their rosy counterpart. Remember that our focus here is the conservation of botanical biodiversity. Now, the (big) difference is that, while constructing nature in reference to the rose-model (and thus in reference to a garden-based paradigm) is conducive to that objective, constructing nature in reference to the weeds/wilderness-model is detrimental to it. Constructs do not just float within the minds of those who create and entertain them: they have effects on our ways to go about our day, and ramify into actions. The way we conceptualize and evaluate things informs and constrains the ways in which we act: structuring our dealings with nature, and botanical biodiversity in particular, in reference to a paradigmatic ideal of ‘wild’ nature leads us to comport in some ways rather than others. Specifically, it leads us to leave nature alone – with the reassurance that this is the good thing to do. What gardens, on the other hand, promote *least of all* is precisely the notion that it is always a good thing to leave nature to its own devices, and that natural systems are self-regulating or even tend to some sort of equilibrium¹³⁷. These are notions typically entertained by people who do *not* work in gardens.

Constructs inhabit our lives, and orient them. That there is no ultimate, un-constructed rock-bottom grounding such constructs does not make them practically innocuous – nor does it mean that some constructs cannot be better than others. Because by “good” we always mean “good for us”, by “better” we accordingly mean “better for us”. The relevant test for the quality and significance of a construct is not its consistency with some rock-bottom “truth”, but its adequacy and usefulness within the context of our lives. Because our lives will be (indeed, they already have been) radically impoverished by a decrease in biodiversity, constructs that orient us to comport in ways that pave the way for a decrease

¹³⁷ Note that this notion is disquietingly similar to the one that economic markets are self-regulating and, if left to themselves, will naturally tend to an equilibrium. The pictures that these notions provide, of ecology and economy, however reassuring, and however attractive they may be for their conciseness, elegance, and generality, are nonetheless gross oversimplifications unworthy of our present academic and generally intellectual sophistication - ultimately, they are ideological calcifications: (all too) restful armchairs for our thinking and policing. We return to this parallel further below in the text.

in biodiversity (such as nature = weeds/wilderness) are not good constructs in reference to which to structure our dealings with nature; or at any rate they are worse than those that will orient us to comport in ways that pave the way for the conservation of biodiversity (nature = roses). The other reason, already noted, why the weeds/wilderness constructs are not good, is that they ignore a number of facts about the real objects they construct the reality of (biological, ecological, and historical facts). In short, such constructs are as misled as they are misleading: they are based on misconceptions, and they reassure us that we are protecting nature by omitting intervention, when all we are really accomplishing by that is consigning botanical biodiversity to the infesting forces of weeds, which we spread around the world simply by being in it. Once we have made clear that nature - even the nature we take to be 'wild' - is inescapably *cultured* nature, and that our relation to it is one of creative receptivity, we must ask whether we still want to structure our dealings with it in accordance to paradigmatic ideals that rather mislead us into thinking that nature is simply out there and, if left alone, will always do what is best¹³⁸.

Because leaving nature alone will have the result of effectively bifurcating the earth's biota into weedy and ghost species¹³⁹, from the perspective of biodiversity conservation the wilderness paradigm - and the various constructs that inform and reinforce it - is not only inadequate, but also remarkably detrimental. And it is also remarkably detrimental from a point of view more specifically ethical: thinking of nature as being "out there", a 'wild' dimension far removed from our daily concerns and activities, an exceptional event rather than a familiar element of our life, orients us towards doing very little for it in everyday settings. The most ethically disquieting feature of the wilderness paradigm is that, because it takes little interest in all those areas already touched, tamed, and shaped by human beings, strictly speaking it only requires us not to litter or throw around cigarette-butts when visiting the great outdoors, or national parks. This is simply too cozy a requirement, effectively shielding us from all responsibility for our day-to-day dealings with the environment - for we do not live in, nor regularly visit, the great outdoors or national parks.

¹³⁸ Note that saying that nature "does its own thing", as we have, is not at all to say that nature "does what is best" - and much less is it to say that it does "what is best for us humans" (which is what "best" is taken to mean here).

¹³⁹ Unless by "leaving it alone" we actually mean what we say: we could do like the scorpions of Utah: mass-suicide in response to scarcity of resources and environmental asperities. Very few, if that, would be prepared to go down this road.

So we fence whatever we deem fence-worthy, and for the rest we just go about our day. In fact, because it is all too often and all too automatically assumed that when we talk about nature what we must be really talking about, what matters, is ‘wild’ nature, we are effectively fencing nature, and its value, *out* of our lives (especially when those are lived in cities), and just getting on with them, with an unashamed meat sandwich in one hand, and the wheel of our asphalt-devouring cars in the other. One should thus wonder whether, despite contrary proclamations and appearances, the wilderness paradigm is not in the end way *more* anthropocentric than the garden-based alternative we are advocating here.

True, our lives are complicated, and we do have a lot of preoccupations already - and putting day-to-day gardening on top of them entails an increase in the level of demandingness of our environmental ethic. It is not obvious, however, that cultivating one’s own plants be more demanding than never eating meat, never driving, or revering life. Even if it was, however, in advocating a garden-based ethic of biodiversity conservation we are prepared to bite this bullet, in the conviction that, at least at the level of individuals and local communities (including cities), our environmental problem is not (only) that we do too much *to* nature, but rather that we do too little *for* it.

It is crucial that the thought that all we need to do for our environment is to refrain from doing anything at all is, at least in the context of biodiversity conservation, be discarded; and we are arguing that gardens are the best places for people to acquire and internalize such insight, as well as to learn and to defend the (biological, ecological, aesthetical, economical, ethical) value of botanical biodiversity, by making its conservation a day-to-day as well as a personal issue. Gardens are not only those of the rich in Palm Springs or Saint Tropez; nor do they need to be private: a garden, *latu sensu*, is every place in which human culture can be put at the service of botanical biodiversity – and this is nearly any place on earth. Everyone can garden, even the poorest, so long as public policy takes an interest in pursuing biodiversity conservation not (only) by imposing regulations, but by facilitating virtuous practices that take into account the needs as well as the possibilities of all.

We have said that: 1) constructs are not random and arbitrary just because they are constructs: they are historically and culturally responsive encapsulations and elaborations of important dimensions of human experience. Nor 2) does their being constructs make them practically inconsequential: they direct our attention to some dimensions of the world around us, as well as of ourselves, and to some aspects of such dimensions, highlighting some and obscuring or excluding others; and they also provide us with ways to look at such dimensions. They thus orient our attributions of salience to certain aspects of the situations we confront rather than others, informing and constraining the ways in which we think and go about our practical life. Nor 3) are constructs shielded from comparative evaluations: some constructs are better than others, because they better take into account facts about the real objects the reality of which they are constructs of, and because they better serve our needs, interests, cares, purposes, commitments, etc. Nor 4) are constructs insulated from revision, rejection, and eventual change - when they are shown to be misinformed, as well as inadequate or even detrimental to the fulfillment of such needs, interests, cares, purposes, commitments, etc. Genealogical articulations of their rise and development (even if brief, as those we have dedicated to the constructs of roses, weeds, and wilderness) can be instrumental to a more punctual assessment of the beliefs and points of view that have gone to inform them: and by showing these to be misconceived, and/or inadequate or even detrimental to the purposes we set for ourselves, such articulations can clear the way for and orient us to new ways of looking at things, new models in reference to which to articulate our reflections on the world as well as ourselves, and new practical solutions for how to comport in our day-to-day dealings with both.

4.5 *Not leaving it alone*

The adoption of a garden-based paradigm will relax the polarity between ‘wild’ and ‘humanized’, ‘contaminated’ and ‘uncontaminated’ nature, as well as the focus of ethics and policy on the latter (“fence it and leave it alone!”) to the neglect of the former (“well, we might as well keep on drilling and damming and building, now”). It will allow just about everyone to work in order to conserve biodiversity through hands-on engagement,

rather than just leaving the task to state officials and their top-down regulations. As we shall later argue, this may have notable, felicitous educational results, fostering the development of a new, more involved and more dynamic culture of nature than the one offered by the wilderness paradigm. Or rather, cultures of nature: for a garden-based paradigm will stimulate the provision of *local* answers to biodiversity loss, tailored to specific circumstances – renouncing univocal, one-fits-all solutions, doing justice to the vibrantly multifarious complexity of the problem, and generally fostering a flexible mentality regarding environmental problem-solving. It will also allow us to quite frankly and unapologetically incorporate, among our environmental objectives, present and future benefits to humans, including, among others: 1) the satisfaction of basic needs of subsistence on the side of the poorest - for cultivating gardens can bring them food, medicines, and chances for local trade; as well as 2) provisions to future generations – for the shade of a tree I plant today, and all the benefits connected to the existence and persistence of such element of biodiversity, will extend onto my progeny. Such things the wilderness paradigm, with its ostensible non-anthropocentrism, discourages us from doing, both in theory and in practice. A garden-based approach will therefore at least provide a possibility for the golden triad of ecological sustainability, economic efficiency, and social fairness to obtain – while its wilderness-based counterpart will not even do that much. A garden-based paradigm pulls botanical biodiversity from “out there” to “right here”, making conservation everybody’s business, and a day-to-day as well as a personal issue.

It is now worth considering whether, by jettisoning the wilderness paradigm in favor of its garden-based alternative, there be something of importance that we lose. Specifically, do we renounce opportunities for perceiving and conceptualizing the ‘wildness’ of nature? Its rock-bottom ‘naturalness’? And opportunities to dwell in awesome admiration of it? Do we lose sight of that dynamic force, independent from our control, which all things in nature, including ourselves, inescapably embody? By jettisoning the paradigmatic notion of wilderness, do we lose an indispensable tool for encapsulating and reflecting on some basic dimensions of our life and experience?

We have already answered these questions in previous passages – and the answer has been and still is decisively in the negative. Remember that ‘wildness’ can refer both to a place in which no human activity occurs or has ever occurred, as well as to a *quality* of nature, a quality that from such activity is wholly independent. Now the garden is obviously not a ‘wild’ place, but that does not mean that it has no ‘wild’ qualities, or that ‘wildness’ plays no role in it at all. By consistently engaging with her plants and soil, and against weeds and pests, the gardener observes their biological independence, their internal dynamic force at work, and learns to wonder at the autonomy of nature as much as she could in a ‘wild’ place, albeit in a way quite different. By observing the spontaneous generation of seedlings around a mother-plant, or by finding that same mother plant unexplainably dead one morning after twenty years of “flourishing” persistence; by experiencing the gifts of a mild summer and the annihilation connected to a rigid winter; by witnessing the tree slowly bend its trunk so as to avoid the edge of her roof and aim for the light; or the same tree disintegrate the foundation of her house with its roots, or the roots penetrate deep into her sewage-pipes in search of nutrients; and most of all, by realizing (what no gardener can fail to realize) that both mortality and regeneration are everyday affairs beyond her control – this is how a gardener gets a clear sense of the ‘wild’ naturalness of nature, of its ultimate independence from and indifference to our plans, techniques, self-assurances, purposes, predictions, and efforts. A sensible gardener will drop all ambitions to plan the unfolding of the life of her trees, and rather focus on anticipating it; she will renounce the project of keeping it under control, and adjust herself to keeping it under punctual operative observation. She will acknowledge that the dynamics of nature cannot be commanded, and that its ‘wildness’ can at best be contained and/or facilitated. Fear and admiration would be fitting responses to such acknowledgement.

But a gardener learns these things in a day-to-day, un-romantic, slow-motion manner, as it were, rather than through an eventful, overwhelming, snapshot-like experience as she would instead in the ‘wild’. No metaphysical mumbling is required, no sublime attunement, no especially refined sensibility: just the performance of ordinary, everyday activities, as St. Augustine submitted in book IX of the *Confessions*:

“When all is said and done, is there any more marvelous sight, any occasion in which human reason is nearer to some sort of converse with the nature of things, than the sowing of seeds, the planting of cuttings, the transplanting of shrubs, the grafting of slips?”

A gardener learns the ‘wildness’ of nature in a certainly less grandiose, and yet somewhat sharper way - because thoroughly operative - than does a contemplator of the ‘wild’: observing the details of botanical and natural phenomena and gaining acquaintance with them (that is, direct, non-inferential, knowledge of some facts about X, where X is not a merely logical entity¹⁴⁰); reconstructing processes; tracking causes; attempting to tune and tap into the ‘wildness’ of her plants and surf on their independent biological dynamics - “helping that which needs no help”.

In the garden, we do not necessarily renounce our perceptions of ‘wildness’, and by jettisoning the wilderness paradigm we do not give up an indispensable encapsulation and conceptualization of the basic, if mysterious dynamic force that sustains us as well as the rest of nature. Perceptions of these things remain available to us, albeit in ways different than they are in the ‘wild’. In the garden, we learn nature primarily with and through our hands, and only secondarily with and through our intellect and heart.

The importance of the intellect in the appreciation of wilderness is a firm point for many philosophers who wish to disenfranchise themselves, at least to some extent, from the more emotional and romantic dimensions of the wilderness paradigm. Accepting and/or assuming a sharp distinction between the two, they try to couple feelings with propositional knowledge, as provided, for instance, by the sciences. For instance, R. Elliott (in *Faking Nature*, p. 96) holds that: “...knowledge of the particular circumstances and determinants of the creation of a natural area shapes the wilderness lover’s responses to, and appreciation of, that area. For example, an understanding of the geomorphological forces, the climatic factors, the ecological progressions, and so on, that explain an area’s present condition, will often intensify our aesthetic appreciation of the area.....the responses people have to forests, deserts, oceans, wild rivers, and so on, are not merely raw, emotional responses”¹⁴¹. Similar views are entertained by H. Rolston III (1975, 1986 and 1995). In other words, the

¹⁴⁰ See H.P. Grice, “Personal Identity”, *Mind* 50 (1941): 330-50

¹⁴¹ See R. Elliott, *Faking Nature*, p. 96

appreciation of the 'wild' is not itself truly 'wild' – knowledge intervenes to show us where to look. Appreciation of nature in the garden, on the other hand, does not result from the sum of propositional knowledge plus “raw” emotional responses, seen as two distinct elements that interact (somewhat mysteriously) to inform our contemplation of nature.

In a rather Deweyan mood, we want to say that learning nature through the hands by working in the garden, grasping it physically and understanding it manually, dwelling in its tangible characteristics as revealed by and through a relational acquaintance enabled by everyday engagement, is rather an experience involving an a-propositional and operative penetration of its ways, which is not straightforwardly cognitive, nor affective, nor cognitive plus affective - but rather always cognitive-cum-affective, because what a gardener learns is primarily the role that the nature in her garden has in *her* life, in which it is practically, cognitively, and affectively enmeshed: what it does and what it means *for her*. Particular gardens, and particular plants, are not just entities with certain botanical properties and physical configurations: they are the particular things that they are through the particular ways they engage the gardener. Garden nature, unlike its 'wild' counterpart, is near to the gardener, a nearness appreciated through a tactile familiarity with it. Books of science and flights of the emotions are operatively irrelevant to her, who learns nature primarily through hands-on experience of its prerogatives and possible uses, and develops a personal perspective on the meaning of such experience within the context of her life. The contemplation of wilderness may provide instants of oneness with nature, but no such everyday nearness, for our emotions and understanding, or some sum of the two, do not get the 'wild' any closer to us: it remains “out there”. But in the garden, nature gains its significance from how its physical presence *right here* enters and influences the parameters of one's daily life. Moreover, whereas the contemplative character of the wilderness paradigm, which calls for our intellect and heart to connect to the solid naturalness of nature, excludes and severs (at least in principle) any connection we might make with it through the work of our hands, the operative character of its garden-based alternative, which calls primarily for our hands to connect to the fluid naturalness of nature, does not exclude or sever any connection we might make with it through our intellect and heart.

In abandoning the wilderness paradigm, not only do we not lose much that is of relevance to our life, but we also gain insight on notable aspects of it. Specifically, gardens and garden nature present us with a very clear instantiation of the intimately co-dependent, recursive relation that connects the world, and the nature in it, to our experience – a relation which may be described as one of creative receptivity¹⁴². In the garden, the unity or “oneness” that many claim to experience in the ‘wild’ does not obtain: for a gardener is hardly ever lost in contemplation or rapture – she is doing things, aware that if she does them not, no one else will, not even (in fact, especially not) nature. Gardens, and the plants in them, are living bywords of the relation of co-dependence that we entertain with our environment and, much more generally, the relation of creative receptivity that we, as subjects, entertain with the world at large. Gardens are “intimately and delicately depending on the physical environment”¹⁴³ and, one may add, with their inescapable deference to misadventure and chance, they put our delusional ambitions of control over nature to a very tough and indeed fatal test.

5. *Natural and Unnatural Nature: 2*

Garden nature is not natural in the sense in which ‘wild’ nature is supposed to be: solidly untouched and untamed, uncontaminated by human activity. Nothing forbids us to consider such lack of naturalness to indeed be a value-subtracting property: after all, being naturally evolved, independently from and indifferently to us, is one property of (at least some) nature that undeniably exerts a deep fascination on us, especially when reinforced by considerations aesthetic, and which often does indeed play quite a role as one evaluative standard we use when considering nature. But the wilderness paradigm, and the solid view that finds its home within it, make of such property not just one, but the only, the ultimate,

¹⁴² To be an instantiation of something is an eminently relational property. An instantiating item necessarily bodies forth what it is an instantiation of to somebody. Instantiating can here be taken as synonym to embodying and exemplifying, as well as “being an epiphany of..” (See D. Cooper, *A Philosophy of Gardens*, p. 147). In saying that gardens and garden plants instantiate the intimate co-dependent, recursive relation that connects the world, and the nature in it, to our experience – a relation of creative receptivity – we do not only mean that in the garden, and in the case of garden plants, nature depends on culture and vice-versa, but also that gardens and garden plants refer us to, that is, instantiate/embody/exemplify/are epiphanies of, precisely such very co-dependence. This feature of gardens concurs to support claims about their distinctiveness, irreducibility, and irreplaceability within our life. Gardens are especially appropriate instantiations of the notable fact that our form of life is characterized by our relation to the world, and the nature in it, being one of creative receptivity.

¹⁴³ See M. Miller, *The Garden as Art* (Albany, NY: SUNY Press, 1998), p. 274

or at least the primary standard both of the value of nature and of the permissibility of our attitudes and actions towards it. Within such paradigm, those attitudes and actions that do not leave nature alone are considered impermissible by default. This does not square well with the purpose of conserving botanical biodiversity. The benign neglect that the wilderness paradigm and the solid view are bound to recommend as *the* virtuous environmental practice will in fact condemn thousands of botanical species to extinction. The loss of such species in turn condemns us to a future bereft of many spiritual, intellectual, practical, and material resources - a prudential concern which has ecological, economic, scientific, aesthetic, experiential, and ethical dimensions. Insofar as it is agreed that a life well lived should include an increasingly deeper understanding and authentic acceptance of one's station within the wider workings of things, as an individual of the human species capable of and interested in reflecting on his existence on planet earth; and that such understanding should also include the perception of a number of relations (biological, eco-systemic, cultural, historical, aesthetical, ethical) running between oneself and the animate and inanimate nature with which one's life on earth is shared, and (at least episodes of, if not) a general sense of wonder for the complexity and variety of such predicament, we can legitimately worry about biodiversity loss forcing us into a life lived not as well as it could have been. Prudence thus tells us to abandon the wilderness paradigm and the solid view of naturalness, and to adopt a garden-based paradigm, and a consonant fluid view of naturalness. This has a number of consequences: first, the nature/culture distinction ceases to mark a sharp dichotomy – for the fluid view allows that there are degrees of naturalness; it does not concede to the confusion between “X affecting Y” and “Y being a product of X's influence”, thus steering clear from the thought that wherever human activity impacts on nature, the natural is transformed completely to the artificial (as entailed by the solid alternative, which, accordingly - and quite queerly - has to describe gardens and garden nature as thoroughly cultural not at all natural objects¹⁴⁴).

¹⁴⁴ The solid view has even more implausible implications: on any solid understanding of the natural as that which is completely unmixed with human activity, I am not natural, being thoroughly man-made (perhaps as a result of a conscious and intentional decision of my future parents, who chose one afternoon rather than another for my conception). Every human being in the world would therefore not be natural: a thought that would probably generate uneasiness in many. The general notion that naturalness depends crucially on the absolute absence of human intervention also entails that on awakening as a giant insect in *The Metamorphosis*, Gregor Samsa is in fact awakening as more natural than he was before he went to bed, for no human activity has intervened to make him a bug (except Kafka's), whereas some human activity did intervene to make him a man.

Nothing prevents those subscribing to the fluid view from attributing intense value to naturalness, nor from saying that, other things being equal, the botanical biodiversity within a garden, and the garden itself, are more valuable the more they are natural (the more they accord with the natural design and the local surrounding flora, the less they rely on external inputs such as irrigating pipes and chemical fertilizers and pesticides, and so forth). But with that, the property of being naturally evolved and uncontaminated by human activity becomes just one among many of the possible valuable properties that plants (as well as whole gardens) may possess, rather than *the* one property they must possess in order to be valuable at all¹⁴⁵. And with *that*, in turn, the door is opened to relative assessments and weightings of the property of naturalness against other properties: whence it follows that the (relative) lack of naturalness of gardens and garden plants may well be compensated by other valuable properties these may possess. Because one thing can be as valuable as another though the reasons for attributing such value may vary between the two things, gardens and garden plants may be as valuable as fully natural, indeed ‘wild’ areas and plants, but for reasons different, relating to different and differently valuable properties they possess. In what follows, we provide a catalogue of those.

5.1 *Impersonally valuable properties of gardens and garden nature*

Here are some valuable properties of gardens and garden nature that may concur in doing such job of compensation. For example, 1) just that of being part of an effort towards the conservation of botanical biodiversity: their existence being instrumental to the maintenance of a highly valuable representative range of plant species. Such value gardens and garden plants possess especially *today*, in a time of unprecedented precipitation of the pace and magnitude of biodiversity loss. The garden I make, and the plants I put in it, though natural perhaps only to a very limited degree, possess the valuable property of contributing to biodiversity conservation.

¹⁴⁵ Some supporters of the property of naturalness make claims more subtle – for instance R. Elliott (in *Faking Nature*, p.81) maintains that although the property of being naturally evolved is not valuable in isolation, it nonetheless intensifies the value that derives from other valuable properties. With this claim we have no difficulty to agree.

2) Someone impressed by naturalness as a value-adding property may argue that, other things being equal, botanical biodiversity is more valuable if conserved by natural forces than it is if conserved by human gardening activities and skills. Even if one was to grant what is false, i.e. that nature *today* will by itself conserve the present *palette* of botanical biodiversity, one still has to admit that natural processes are often dramatically slow, and usually characterized by high degrees of uncertainty. The (relative) lack of naturalness of garden and garden plants may thus well be compensated by their possessing the property of enabling human creativity and ingenuity to speed up and/or ensure the effective conservation of endangered species¹⁴⁶.

If and when I accept that much biodiversity loss is the direct and/or indirect result of activities of mine in conjunction with those of others (such as driving, eating meat, damming, poaching, drilling, leaving the water running while brushing teeth, etc.), from which activities I have in various ways benefited, I will see another valuable property of gardens and garden nature, one which goes beyond their simply contributing to biodiversity conservation: 3) being part of an effort towards restituting to nature some that we have taken from it for our benefit. I can make restitution for my partnering with everybody else in activities leading to the loss of botanical species by contributing to the conservation of other species, in my own or in a public garden¹⁴⁷. The garden and the plants in it, though natural perhaps only to a very limited degree, possess the valuable property of being

¹⁴⁶ Moreover, the value-subtracting lack of naturalness may be mitigated by the passage of time and the related re-appropriation of the site or the entity by the forces of nature. A tree I just planted is arguably less natural than the same tree fifty years later, for its internal natural dynamics, as well as external natural conditions, have notably concurred, during those fifty years, towards making it the tree that it now is. As said, a vast number of garden plants will in time become causally independent from human intervention. Also, just how value-subtracting is the lack of naturalness is determined by the magnitude, intensity, and frequency of such intervention, rather than the mere fact that such intervention has occurred. A garden that just involves seeding and weeding, or simply the fencing of a plot on which plants already stood, is more natural than one involving a high degree of technical manipulation.

¹⁴⁷ Clearly, such act of restitution cannot be factored into a preliminary assessment of the eventual permissibility of other environmentally unfriendly acts on my side. In other words, I cannot build a house right on a shore, ruining its beauty and integrity, and killing or damaging the biodiversity that exists on it, just because I plan to make a garden there. And I cannot justify or be excused for my overconsumption of meat and obsession with plastic bags just because I garden, either. There is no suggestion being made here that gardening excuses one of whatever other environmentally-unfriendly compartments she may otherwise pursue. To the contrary, there will soon be a suggestion that garden practices enable and require the development and exercise of environmental virtues that will benefit the environment at large, by making the pursuit of such compartments less ready and agreeable an option in the eyes of one.

restitutions I make to nature for having treated, and still treating it, in partnership with my fellow human beings (my progenitors as well as contemporaries), merely as a means¹⁴⁸. Moreover, by working in and on them, and especially if those gardens and plants are located on an environmentally already damaged site and are parts of a project of renewal, I am exposed to a firsthand experience of the complexity of the consequences of human interventions on nature (both those I remedy, and those I now perform), and this may make me less likely in the future to endorse or condone attitudes and actions that amounted to treating nature merely as a means, for I have seen and touched the actual harm that may be caused thereby. If, on the other hand, my interaction with nature is restricted to those ‘wild’ parts of it that are untouched (for instance, national parks), I get no such exposure¹⁴⁹.

4) Gardens allow people to indulge in, or re-discover, what has been a definite trait of human relations with the environment for millennia, and has always had an immensely important role in mediating between culture and nature - that is, ritual and performance¹⁵⁰. Wilderness-based environmentalism has always been extremely concerned with the results of human intervention on nature, but it has expressed practically no interest in the processes of intervention, nor in their implications for people, both those intervening and those observing them intervene. There is a performative aspect of gardens and garden practices, a ritualistic way to go about them, which on the other hand restitutes importance to processes, symbolic gestures, goal-directed repetition, and personal interpretations of what is happening and/or being done. Such performative aspect helps us negotiate, individually and communally, our relationship with our environment; and it is one of the

¹⁴⁸ I may well be saddened by the thought/fact that the best I can do by way of restitution is to grow plants that do *not* possess such value-adding property, or which possess it only to a very limited degree – that I, and all others, cannot conserve nature *as natural*, and that naturalness is a valuable property that is largely lost when we attempt to conserve species in a garden. There is an obvious difference, between preventing and repairing environmental damage, including decreasing trends in botanical biodiversity. One dimension of such difference is precisely that in the latter case (at least some) naturalness will inevitably be lost. Such loss is something of a fixed cost: but it is the cost of doing business, quite literally: if through our activities we drive botanical species to extinction in their natural settings, and yet still care about conserving them, we may well have to content ourselves with somewhat less natural surrogates. If, as economists and wise grandpa’s are fond of saying, there is “no free lunch”, then we should not be indignant if (one among) the price(s) we pay for the benefits we reap from treating nature merely as a means is the loss of naturalness of the nature that we do manage to conserve.

¹⁴⁹ This is a point made in connection to restoration practices by A. Light, “Ecological Restoration and the Culture of Nature”, in *Environmental Ethics: an Anthology*, p.409

¹⁵⁰ See W.R Jordan, “The Sunflower Forest”, in *Environmental Restoration: Ethics, Theory, and Practice*, eds. M. Throop, p. 214

enabling conditions of what, in chapter 4, we shall describe as garden-based therapeutic virtues.

Connected to the above four points, is the following: 5) gardens are not only part of an effort towards conservation of, as well as restitution to, nature - but they also are clear, physical, and positive statements of one's (or more generally, our) participation in such very effort; in other words gardens, and the plants in them, are operative and participative affirmations of our (very human) concern for the present and the future of botanical biodiversity; they are, as it were, speech-acts, not in the trivial sense of their making "social" or "cultural statements" regarding our relation to biodiversity and its elements, or our prerogatives, responsibilities, etc., in reference to them; but in the deeper sense of "militating against and triumphing over a condition of speechlessness¹⁵¹". Gardens give us (everyone) a say in matters of conservation; and the often elusive and indeterminate features of our relation with, obligation towards, and political discourses about the conservation of botanical biodiversity, receive in and through them definite articulation: thus a garden, and the plants in it, though natural only to a very limited degree, possess the value-adding property of enabling us to overcome the speechlessness to which the circumstances of biodiversity loss (which, to a remarkable extent, we simply and silently receive from those before and around us) tend to relegate us - and thus of politically including us, at least with respect to this issue, extracting us from a practical as well as intellectual apathy that is inimical to any weighty political enterprise, such as biodiversity conservation undeniably is. We do not only act *in* gardens, but also *through* them, and such acting gives us a voice that in fact enables the articulation of *people's* (my own) politics on the matter - in the absence of which we risk lapsing from a democratic to an elitistic model of conservation, according to which states, international organizations, offices and officials presume to be the caretakers of an ever-more-biodiversity-deprived crowd that, apart from the loud shouts of some protesters (scientists, artists, practitioners, activists, philanthropists, etc.), is largely silent on this issue. In politics, silence is assent, and the space for speech left vacant by us will quickly be filled by people paid to do so, who may then use such assent to conserve power rather than plant species.

¹⁵¹ R.P. Harrison, *Gardens: An Essay on the Human Condition* (Chicago: University of Chicago Press, 2009), p.45

The claim presently under discussion is that the (relative) lack of naturalness of gardens and garden plants can be compensated, from an evaluative point of view, by a constellation of other valuable properties such entities possess notwithstanding, or rather precisely on grounds of, their being entities brought about, nurtured, and preserved through time by humans in humanized places. If this is the case, lack of naturalness will be shown not be a fatal blow to the value of gardens and garden nature.

Note what the claim presently under discussion is *not* meant to entail: that there is no significant conceptual distinction between nature and culture, or their respective products; that naturalness does not matter from an evaluative point of view; that naturalness can be replicated or restored in full by humans in humanized places; or that human intervention necessarily improves on the value of (previously) natural areas. In short, there is no defense here of the idea that gardens and garden plants are, from an evaluative point of view, much the same as their ‘wild’ counterparts; nor is there a defense of the idea that gardens and garden plants are, from an evaluative point of view, somehow “better” than their ‘wild’ counterparts. Rather, what is being defended is precisely the idea that there is a distinction, albeit fluid, between nature and culture, ‘wild’ areas and gardens, and thus that the lines along which their products and elements must be evaluated should sometimes accordingly diverge.

This is another way to refuse the idea that, at least in the context of biodiversity conservation, the solid view can usefully be employed as the sole, ultimate, or even just primary tool for evaluating ‘wild’ and non-‘wild’ places or entities of nature *vis-à-vis* one another. With such refusal, space is made for relative and critical weightings of the value of their different properties, and thus for fluidly comparative evaluations of them. For this reason, we submit that, other things being equal, the notable value-subtracting property of gardens and garden nature, i.e. (relative) lack of naturalness, can be compensated by a constellation of other value-making properties that are possessed by them, and *not* to their ‘wild’ counterparts.

Gardens can 6) be instrumental to human survival quite directly, reliably, and consistently, by providing the means of subsistence to those who work on them. A natural area can do so only episodically: I may pick some fruits from the trees, and eat seeds and roots and leaves as I walk through one, or while I am lost in it, but as soon as I decide to dwell and get organized to have these fruits and seeds and roots and leaves always ready at hand (risk-averse people will certainly want to do that much), I will effectively be gardening, and thus will, in all relevant senses, and certainly as far as I am concerned, be in a garden, and no longer in a natural area. If an area is to stay natural, I must by and large refrain from directly, reliably, and consistently *ensuring* my survival in it. Head-on non-anthropocentrism could in principle even object to my being in that area in the first place; and those who care for the preservation of the naturalness of natural areas may easily find it fitting to order my expulsion.

7) Gardens can contribute to the conservation of botanical biodiversity. What should again be emphasized is that exploring our multifarious relations to botanical biodiversity is one component of a larger ethical enterprise, which has a strong perfectionist component (see chapter 4) - aiming at, among other things, an increasingly deeper understanding and authentic acceptance of our station within the wider workings of things,, as individuals of the human species, capable of and interested in reflecting on our existence on planet earth. If such existence took place on a plant-less planet, or on a planet hosting just one monumentally widespread species (a certain conifer, for instance), botanical biodiversity would matter not at all to such enterprise: but our life takes place on *this* planet, which does host botanical biodiversity, and a proper reflection on *this* life (ours), and hence on ourselves, has to take botanical biodiversity, indeed the very fact of there being plants and there being a diversity of them *at all*, in serious consideration: for it is one defining feature of life as we know it, much like the fact that we breath and blink and get hungry and sleep.

There being some place in the universe in which lemurs, orchids, and humans can dwell side by side (Madagascar) may - as far as we know - well be a case unique; surely, it is at

least quite special. The perception, exploration, and penetration of those relations running between oneself and the animate and inanimate nature with which one's life on this planet is shared can legitimately inspire a sense of wonder for the peculiarity, the complexity, and the variety that characterizes our human predicament. The persistence of botanical biodiversity, being one among the pre-conditions for the obtaining of (at least some of) such relations, is itself part of such perfectionist enterprise; and insofar as it is one among their properties that they can help conserve such biodiversity, so must be gardens.

It may now be objected that natural areas, if left alone, may too possess the property of contributing to the conservation of biodiversity, and not just botanical but also animal. This may be a strong argument when referred to species that depend on wilderness for their continued existence; however, though many animal species indeed do (wolves and grizzlies are classic examples), much fewer plant species are in the same situation, if only because plants do not need space to roam. So in response, we insist, first, that given the globally pervasive, cumulative effects (direct as well as indirect) of contemporary human activity on ecosystems and habitats, it all seems to indicate that many of such areas may in fact be exposed to a decrease in biodiversity and a proliferation of weeds; and second, that when it comes to conserving plant species, benign neglect and gardening intervention should not be seen as mutually exclusive, but rather complementary policies. Indeed, benign neglect may work in specific cases: and when it does, it is definitely a policy to be encouraged, if only because it requires the expenditure of less efforts and resources. But it is important to recognize that leaving natural areas alone *need not* necessarily work as a conservation policy in all circumstances (wilderness preservation and biodiversity conservation are, after all, enterprises distinct); and whenever conservation of botanical biodiversity is seen to require positive not just negative efforts, these efforts must be expended, and they shall necessarily be of a gardening kind. We should not systematically entertain the assumption, nor rely on the expectation, that nature alone will take care (or will even be able to take care) of the problem of biodiversity loss; and never forget that the latter is not nature's problem, but ours. What is thus crucial (and especially so today that the effects of human activity penetrate most corners of the world) is that benign neglect be seen as *but one* conservation policy among others, more or less appropriate according to local circumstances – not as an overarching ideology dictating policy.

There is another sense in which gardens can help conserve botanical biodiversity in a way in which natural areas cannot. We have said in chapter one that biodiversity loss can be conceptualized as a collective action problem. These sorts of problems are insidious on at least two fronts: first, no one in particular is imputable with the overall accumulation of negative effects, though all are responsible for it; second, and more important for our present purposes, no one in particular has any decisive reason to positively contribute to the alleviation of the quandary. Natural areas are the perfect contexts for both these dimensions of the problem to obtain: if some inhabitant of Socotra eradicates some ‘wild’ plants from its hills and eats or sells them, he cannot legitimately be imputed with the overall loss of biodiversity there, though he is no doubt also responsible for it (as is the man purchasing those plants from him); also, no inhabitant of Socotra (including our eradicator) has any reason to positively contribute to the alleviation of such loss by managing, nurturing, or restoring specimens: in a natural area, everyone must leave all elements of botanical biodiversity alone: but no one in particular has any reason to manage and/or nurture any of them.

In a natural area, reasons for conservation are impersonal. Things are different in a garden, where special, personal relations are established between particular persons and particular plants. We have argued that, absent a general morally relevant property shared by humans and botanical entities (such as rationality, sentience, or having a perspective), the latter can only be valued in a way that will give one decisive reasons to conserve by virtue of what they mean and do within the context of her life. By these lights, there are non-selfish, outcome-oriented prudential benefits for the agent, connected to her exercising altruism towards her garden plants.

Such personal relation is much harder to institute with plants found in ‘wild’ natural areas. Doing so is, of course, neither logically nor practically impossible: for one may well develop a relation of partiality with, say, the ‘wild’ Saguaro’s punctuating the landscape of an area he has grown particularly attached to by repeatedly visiting it, staging episodes of his life in it, etc. But most of us do not normally do so, if only because most of us have of natural areas only a sporadic and episodic experience. Because most of us normally do not

entertain a personal relation with any plants found in natural areas, most of us have no prudentially sound reasons to conserve them. But things would be different if these same plants were elements of our gardens, plants with which we had entered a temporally extended relation, and towards which we had developed a personal attachment; which had come to inhabit our life, in a way we were oriented to preserve: then there would be prudential benefits to their conservation: for one would be conserving things that make her life go better from her own perspective. We shall soon return to this point.

Another dimension of this idea is the following: in the garden, the prudential costs of losing particular elements of botanical biodiversity, and the prudential benefits of their conservation are borne directly by particular people (those who garden, and, to a lesser extent perhaps, those who visit them regularly) – and it is by this route that gardens can help alleviate the collective action problem of biodiversity loss, by changing its very physiognomy: in the garden, the loss of botanical biodiversity ceases to be a collective, and becomes a personal problem.

If biodiversity loss is conceived, and structured by policy, as a problem to be confronted in gardens, just who it is that will be conserving which plants will swimmingly become an issue quite determinate; moreover, the costs of enforcing conservation practices will be low - in natural areas, on the other hand, such costs will be close to infinity (as they are now), for people's reservation price for managing and nurturing plants that do not have any significant role within the context of their life will in general be sky-high - with the result of ultimately entrusting the hands-on dimension of positive conservation to the supererogatory availability of volunteers, which, considering just what is at stake, seems to be a policy quite poor, unimaginative, and risky as well.

8) Another most notable thing gardens can do for people is providing them with opportunities to learn the causal properties of elements of botanical biodiversity. From the perspective of conservation, it is of invaluable consequence just to know what given plant

species can and cannot do, what growing conditions they can and cannot stand, when and how they can most easily be propagated, etc. Gardens and garden practices enable the accumulation of knowledge of the biological features, requirements, and behavioral characteristics of plant species. With that, comes a corollary knowledge of their nutritional and medicinal potentialities. The latter is not only intellectually rewarding, but it may in many contexts ameliorate, and in some even save, human lives.

City people watching ethnographic documentaries often marvel at the level of sophistication that traditional communities showed in their treatment and use of plants: ancient Meso-American communities, for instance, had punctual knowledge of the growing and propagating needs and habits of Agave's, as well as of ways to process and transform them so as to obtain food, clothes, building materials, drugs, inebriating substances etc. The same is true when it comes to Aloe's in South Africa, palms in tropical South America, maize in Peru, Saguaro's in Arizona, and olive trees in Southern Europe. Such sophistication is not the result of a primarily contemplative attitude towards botanical biodiversity, but rather of an extended experiential (and quite experimental) process, definitely of a gardening kind, through which generations of people have penetrated the life of these plants and related it to their own – allowing these plants to increasingly penetrate their lives in turn, to the point that any description of these people's lives and culture would be deficient and incomplete, absent a mentioning of these plants, and a description of what they did and meant for them.

Gardens and garden practices require hands-on experience of botanical specimens. The gardener's way to learn the causal properties of plants, much like that of Meso-American traditional communities, is trial-and-error: he learns through the hands, physically grasping the intricacies of the fragment of nature he cultivates, and manually understanding the way it functions; he dwells in its tangible characteristics, as revealed by and through a relational acquaintance enabled by everyday engagement, and involving a primarily a-propositional and operative penetration of its eco-systemic, biological, nutritional, medicinal, economical features. This puts a gardener in the position of an active participant in all of the causal sequences that take place in his piece of land and involve the botanical specimens he cultivates: such position is very different from that of a contemplative observer.

Highlighting the distinction serves as groundwork for responding to the following objection: ‘wild’ natural areas, too, may provide people with opportunities to learn the causal properties of plant species: after all, the theory of evolution, no less, was inspired by observation of the fauna and flora present in ‘wild’ areas. This is true: natural areas are inexhaustible receptacles of knowledge, which can be disclosed through contemplation and studious observation. What, however, distinguishes a gardener from a contemplative observer, is not his having access to some knowledge that is precluded to the latter *in principle*, but rather *in practice* - because the reasons why, the attitudes with, the actions through, and the methods by which a contemplative observer learns the causal properties of plant species are quite different from a gardener’s; and accordingly, the way in which such knowledge becomes available to a gardener is different from the way in which it becomes available to a contemplative observer. The learning of such properties is indeed open to both; but while the latter learns what plants do and can do *people notwithstanding*, the former has access to another sort of knowledge, one based on manual operative engagement and relational acquaintance – a knowledge precisely of what plants can do *given people*¹⁵²: not (only) the ways in which they function, but the ways in which they function if and when nurtured *by people*; and what motivates the gathering of such knowledge is an interest for how these ways can be significant and useful *for people*. Such knowledge (as well as the relation of acquaintance that enables it, and the consistent practical engagement that sustains both), need not (neither logically nor practically) be of a rapacious kind - in the garden, it rather has a facilitating, managing, and indeed altruistic character. Moreover, it is remarkably less elitistic than its contemplative counterpart, which is primarily fit for people who can afford a time for contemplation and possess enough erudition to make the most of it. The gardener does not just contemplate, but rather, as St. Augustine wrote, “converses with the nature of things”. Now if biodiversity conservation has to be not just a negative, but a positive effort, as we maintain, it must enable and it will require such

¹⁵² As well as what people must do given their involvement with plants: to use R.P. Harrison evocative words, whereas (the contemplation of) ‘wild’ areas and plants *indicates* to people the ways of nature, (an operative engagement with) gardens and the plants in them is able to *intimate* those: in gardens, we confront the deeply-involving *fact* of plants’ causal properties, rather than our contemplative renderings of those. See his *Gardens: An Essay on the Human Condition*, p. 20

conversations. A gardener is thus in the position to learn the causal properties of plants in the way most appropriate and conducive to the enterprise of biodiversity conservation.

One more thing should be noted, though obvious: gardeners and cultivators will also be able to contemplate natural areas and plants without necessarily feeling any compulsion to intervene on them: they will probably rather observe what a given species can do in its natural conditions, and from that extract information conducive to its cultivation in gardens (how big it gets, what kind of soil it thrives in, what is the annual rainfall to which it is exposed, how much and how strong wind it can take, what are its strategies of propagation, etc.) They will often also marvel, with no less enthusiasm than contemplative observers, at such causal properties, and perhaps with a bit more awareness, for they will no doubt measure up these properties against those possessed by the same species when cultivated in gardens - for 'wild' plants can be remarkably different from their garden counterparts: bigger or smaller, stronger or weaker, greener or bluer, weirder, etc. Very few gardeners would decline a hike into the 'wild' (unless very urgent work had to be done in the garden, perhaps), and not see it as a unique opportunity for learning; and it is very plausible to imagine that, often times, it was and it is precisely in virtue of their interest for garden-based cultivation that people travel to observe the causal properties of 'wild' plants and of the natural area in which they grow.

9) Gardens can enable the ingenious expression of human creativity and skill, the contemplation of significant products of such ingenuity, and the intellectual and phenomenological experience of even unfamiliar plants in commonly available settings, as made possible by such ingenuity. Regarding the first and second of these properties, suffice it to say that they are obviously not possessed by natural areas, in which no human ingenuity finds application, and thus no significant products of it can be contemplated. It is worth expanding on the third, however. Two dimensions of it are particularly interesting at this juncture: 1) the fact that gardens can bring people in contact with unfamiliar plants coming from all over the world, enabling intellectual and phenomenological experiences

that would otherwise remain unavailable; 2) the fact that the availability of such experiences is itself valorized by its having been enabled by human ingenuity. These points refer us to issues quite significant in connection to both biodiversity conservation and theories of natural value. Let us discuss them in turn.

4a.) No matter the reasons and devotion of the fans of naturalness, it is a fact that many New Yorkers would never have seen nor touched a bromeliad had it not been exposed at the Botanical Garden in the Bronx. It is also a fact that, had I not grown one in my garden, I may never have seen and touched a *Dendrosyces Socotrana* or an *Aloe Polyphylla*. No matter where one lives, most elements of botanical biodiversity grow naturally elsewhere, and usually quite far away. Gardens expose and open us to the phenomenological experience of entities that would otherwise not be parts of our lives, staging such experience in commonly available, even quite comfortable settings. It is undeniable that gardens bring botanical biodiversity closer to people, indeed right to their doorsteps; they allow people to see botanical entities that would by nature remain unseen by them - to touch and eat, to observe and study, and, what is most important, to grow them.

Now what is being valued here is the fact that gardens make plants available for people to experience and, ultimately, to enjoy (in the most general sense of the word). This is a position as anthropocentric as any can be: let us see how far it can be pushed before it rightly fires the indignation of non-anthropocentric enthusiasts of naturalness.

Suppose everyone is ready to allow that, as long as they are artificially propagated (grown in nurseries, or from one's own seeds, cuttings, or tissue bits), it is a valuable thing that unfamiliar plants are made available for people to enjoy, in and by gardens. After all, no 'wild' plants have been abducted to make that possible, no natural areas have been robbed; while people's curiosity, aesthetic sensitivity, and intellectual involvement have been stimulated in ways they would not have been, absent these gardens. Such stimulation, of things which are here assumed to be themselves valuable, comes at no cost to 'wild' nature, in this case. But just how valuable is it? What if it did come at a cost? How valuable (and how permissible) is my having a phenomenological experience of given unfamiliar plants, if the only way for such experience to obtain was, say, to abduct these plants from the

‘wild’, and rob natural areas of specimens, ultimately for the furthering of my enjoyment? In short, just how anthropocentric are we talking, here?

One could get very abstract and intangible, in trying to respond to these questions. But we shall eschew speculation for the moment, and rather try to confront them from the perspective of a (moderately discerning) gardener. The latter knows that ‘wild’ plants are protected under local as well as CITES regulations, and their commercial use is accordingly restricted. He also knows that regulations get increasingly restrictive the higher the level of endangerment to which the species in question is exposed. Among the legislator’s objectives is limiting indiscriminate collection from the ‘wild’, which could negatively impact botanical populations, especially those with confined distribution and low density. No objective could be more meritorious; and it is also a true and positive fact that CITES regulations do distinguish between ‘wild’ endangered plants and artificially propagated plants that belong to endangered species: while the former must (predictably) be left alone, the commercial circulation of the latter is allowed, provided a conspicuous amount of paperwork has been processed. Gardeners may now begin to advance their disagreements.

First, protecting endangered species through benign neglect rather than positive management may in reality help assure endangered status, and in some cases even lead the species in question to extinction as a result of wider changes in contextual eco-systemic conditions: *Pachypodium Brevicaule*, for instance, a highly endangered plant from Madagascar, the stands of which have been decimated in recent years in order to fuel smuggling practices, is today fiercely protected within fenced areas, in which even the collection of its seeds is prohibited. The relatively few specimens left in the ‘wild’, however, can no longer count on the services of a number of varieties of butterflies that used to pollinate them, some of which have been forced to migrate, while others have themselves gone extinct; as a result, ‘wild’ populations of *Pachypodium Brevicaule* (a ghost species, part of our extinction debt) will in the future disappear.

Second, CITES regulations do not in fact make it impossible to buy and sell ‘wild’ specimens: they just increase the level of economic resources and bureaucratic sophistication needed to do so. Anyone who establishes enough contacts with appointed

officials can in time become able to trade in 'wild' botanical species – he may, for example, collect specimens from the 'wild', simply park them in semi-fictitious nurseries for the time deemed legally sufficient for them to be considered artificially propagated, consult congenial bureaucrats (often appointed on grounds political, rather than for their preparation in matters of ecology), and happily ship them around the world. The result is that the trade of 'wild' botanical species is simply transformed from a possibly perfect competition to a bureaucratized oligo- or monopoly: only the few who have enough time, space, networks, and funds, will be able to collect and sell 'wild' specimens. Alas, this by no means ensures the conservation of the species in question.

Our (moderately discerning) gardener will just marvel at the number of officials and the amount of paperwork involved in protecting species that could simply be propagated in gardens, *in-* and *ex-situ*; especially because he knows that specimens and areas so benignly neglected (note that CITES as well as local regulations countenance prohibitions on collecting and trading seeds not only in the case of *Pachypodium Brevicaule*, but quite routinely) are nonetheless exposed to the maneuvers of those who can pull the right strings.

The day *Pachypodium Brevicaule* is no longer able to survive a world emptied of its favorite butterflies, the gardener will be saddened not just by the loss of the species, but by the thought of all that could have, and has not, been done to conserve it. In between draconian legislation restricting collection, and absolute permission to raid natural areas like kitchen-cabinets, is a number of possibilities that seem quite obvious to her: 1) Protect 'wild' specimens, especially of endangered species, while allowing quotaed seed-harvesting. 2) When possible, establish *in-situ* propagation programs using those very seeds; save some in seed-banks; and sell those in surplus to horticultural interests. Try to provide all such steps with a strong educational dimension, privileging learning-by-doing. 3) Allow and promote *ex-situ*, garden-based propagation of non-invasive species. 4) For species with long generation span and low recovery rate, allow quotaed harvesting of 'wild' specimens with the objective of ensuring the later collection of their seeds; in doing so, impose age and size limits. 5) Allow the collection of all 'wild' specimens if an area is destined to clearcutting, cementification, or development in general; impose a fee on nurseries and individuals interested in commercially propagating the botanical species

involved, and use the resulting funds to further fuel local conservation projects. 6) In underprivileged or developing areas, provide land to needy individuals and communities that commit themselves to conserving endangered botanical species; provide them with basic information and training, as well as seeds, cuttings, or seedlings of the plants included in the conservation program; and otherwise allow these individuals to garden their land for their own purposes.

The nucleus of the gardener's perspective on the issue is thus the following: leave natural specimens where they are (except in the extraordinary cases mentioned above), and get from them seeds to work with. Then simply grow more of (and/or teach people to grow) the given plant in gardens (remember that gardens may be articulated just on the fringes of the 'wild' natural areas in which seed-providing specimens dwell). Orient the paradigm of biodiversity conservation away from over-restrictive negative policies (if *Pachypodium Brevicaule*, and with it so many other plant species is, by the lights of our best ecological science, obviously destined to extinction if left alone, the policy is over-restrictive), and towards positive policies of localized management. Avoid bureaucratized centralization of biodiversity conservation programs, and rather devolve them (to the largest possible extent) to individuals and communities, enabling and facilitating the congruence of such enterprise to the fulfillment of their economic needs and opportunities.

Resuming now our initial question: how valuable, and how permissible, is my having a phenomenological experience of a given unfamiliar plant, if the only way for such experience to obtain is to abduct this plant from the 'wild', and rob natural areas of specimens, ultimately for the furthering of my or somebody else's enjoyment? The answer is: very valuable, and absolutely permissible, if these plants were otherwise to face extinction or destruction – in other words, if furthering my or somebody else's enjoyment through the abduction of specimens coincided with conserving the whole species, or at least preserving particular specimens of such species from being destroyed. Were these plants not in such predicament, the value of my enjoyment would be outdone (and its permissibility would be revoked) by the loss of natural value previously possessed both by the (now abducted) plant, and the area that hosted it: as well as by the disvalue inherent to my missing on an opportunity to develop and exercise the environmental virtues of respect,

humility, curiosity, patience, ingenuity, and perseverance, which would be enabled and required by my growing my own plants (these are just some among the virtues that gardens and garden-practices enable and require). A gardener does not need ‘wild’ specimens, and is happy to leave them where they naturally belong, if only she can have their seeds to grow (or cuttings, tissue, etc.); she will be patient enough to learn how to, and then to effectively grow them into her own plants, taking the initiative of bringing about, nurturing, and conserving new botanical elements, and following through on such project resolutely, finding ways for it to work out, i.e. industriously learning to cultivate the given plants under the given set of local conditions. All of the above is in line with the idea that the a gardener’s curiosity and industriousness are compatible with the conservational principles of fans of naturalness, insofar as the creation of new elements of botanical biodiversity, or an elective intervention on existing ones, does not jeopardize (or rescues from jeopardy) the existence and persistence of ‘wild’ specimens and species.

10b.) The availability of unfamiliar plants and of their experience in gardens is itself valorized by its having been enabled by human ingenuity. A gardener may look at a given unfamiliar plant present in his plot, and at the fact of its presence, as valuable precisely because ascribable to his efforts and accomplishments as a cultivator, for example his successful propagation of it from seed or cutting in a set of environmental conditions (those characterizing his garden) highly different from the one in which that plant would naturally grow; and so may, of course, the visitor enjoying the experience of such plant in that garden. Value is thus attributed to the plant, as well as to the garden hosting it, also on grounds of the value attributed to the attitudes, choices, actions, and practices that are called for to bring both about - roughly for the same reason given by a New Yorker when asked why the (now destroyed) Twin Towers were of value to him: “Because *we* put them up. No one would have thought they could stand right there, practically on water; but we believed in the project, and worked so skillfully to accomplish it, that in the end we managed”¹⁵³. We often display a mix of hope, courage, faith, self-confidence, and certainly resourcefulness, in taking on tasks and pursuing projects that nature seems to have put beyond our powers; and it is all too human to take pride in successfully meeting hard

¹⁵³ James Costa, private conversation on the Hudson Bank, while gazing at the space left empty by the fallen buildings.

challenges such as flying planes, building telephone networks beneath the oceans, eradicating polio, flying to the moon, growing one's own Baobab tree, or saving a species from extinction. Such human hope, courage, faith, self-confidence, resourcefulness, and pride, are not things for which 'wild' nature has necessarily foreseen an accommodation; and thus they are things which we must make room for in its midst¹⁵⁴.

Room for such things is indeed made by the successful cultivation, and hence the presence in one's own garden, of unfamiliar plants the experience of which would have by nature remained unavailable to one. Because it is not easy to grow in a given place plants not naturally geared to growing there, and the chances of failing are quite high (as they were when the Twin Towers were being put up), having succeeded in doing so is itself a valorization of the given plant as well as of the garden hosting it, one that springs from the value of those garden-practices that manage to enable the presence of such unfamiliar botanical element in such familiar human setting. It is by actively participating in the cultivation process of an element of botanical biodiversity that one can come to realize just what its existence and persistence are truly up against, when attempting to emerge and succeed onto grounds that are not their own, and on which *we* have jurisdiction. The presence of such element, and the experience of it now available, are thus valuable *to us* also because made available *by us*.

It is only by becoming operatively aware of the obstacles that soil composition, weather conditions, animals, parasites, etc. pose to a growing plant, that we can begin to realize the value of such plant effectively being there growing, rather than not. In gardens, we most usually become operatively aware of the obstacles that such variables pose to botanical elements that are cultivated in a place *other* than their natural location; and if this place is effectively the only one in which we will ever have a chance to observe these plants (for the 'wild' is usually so far away), what we will become operatively aware of is ultimately the obstacles these variables pose to our own phenomenological, intellectual, aesthetical, economical etc. experience of these plants *tout court*: we become aware of what it takes for a Saguaro to become part of *our* life, to be there with us; and by entertaining the attitudes

¹⁵⁴ See R.P. Harrison, *Gardens: An Essay on the Human Condition*. (Chicago: University of Chicago Press, 2009), p. 41

and performing the actions that are necessary to such inclusion, we individuate and appreciate the value residing in the ingenuity of the human practices bringing its experience about – a value which, in turn, goes to reinforce the value attributed to the objects of such practices (the plant), as well as to the context in which such practices take place, and by which they are enabled and required (the garden).

Note that we are describing a source of value as anthropocentric as can be, and the exact opposite of naturalness. We are effectively arguing that one among the reasons for valuing a Baobab grown from seed in a garden, as well as the very garden that hosts it, is precisely the fact that it is *not* natural to have a Baobab grown from seed in one's own garden, but is rather the result of skillful human practice; that the experience of such plant is, in one sense, won from nature; and valorized by the fact that, absent humans (one particular human, in this case: the gardener in question), such experience would have never been available, or at least not so easily available, to most people. After all, man holds nothing dearer than those things he brings or maintains into being through his own cultivating efforts, such as kids, fortune, and reputation; and there seems to be no reason for this inclination to become a source of shame when it comes to environmental matters, and the conservation of endangered plant species especially. In gardens, such inclination can easily be pampered.

11). Gardens can provide us with insights on the “ultimate dependence of human activity upon the co-operation of the natural environment” as well as on the “ultimate dependence of the experience of the natural environment upon human creativity”. This point has already been elaborated in previous pages. Gardens were looked at as physical instantiations of that relation of “creative receptivity” that characterizes our experience of the world and the nature in it. It is now worth briefly looking at point 5) from a different, distinctly socio-cultural perspective¹⁵⁵; one which will also re-surface in the next chapter.

¹⁵⁵ What follows draws on R.P. Harrison's recent *Gardens: an Essay on the Human Condition*..

Many of us today (mostly in developed, but increasingly also in developing countries) are socio-culturally driven by and towards a self-reinforcing mechanism of increasing production & consumption, inspired by an ideal of infinite supply for an ever-growing demand¹⁵⁶. As the more increasingly establishes itself as the better in our eyes, one distinct tendency develops, which it is one valuable property of gardens to prevent, contest, and reverse. We have already called attention to the peculiar similarity running between the paradigmatic notion of the ‘wild’ in environmental ethics (and in our thinking about nature in general), and the paradigmatic notion of a ‘free market’ in classical economic theory. Such suggested similarity obviously deserves far more accurate exploration than it has been and can be afforded here; but let us say this much: the constructs ‘wild nature’ and ‘free market’ are similar in that both nature and the market are conceived as self-regulating systems, with which it is not necessary to interfere, and indeed it is much better *not* to interfere. As self-regulating systems, they are also often conceived as tending towards some real, if elusive, state of equilibrium; and ideally such state is one in which things work themselves out, without our help (at most, with the help of technology developed by us), and yet overall to our benefit.

There is an eschatological dimension to the constructs of both ‘wild nature’ and ‘free market’: they both gesture at a situation in which things take care of themselves, without husbandry on our side. We are often portrayed as simply benefiting from all that, while dedicating ourselves to things like “self-realization”, unencumbered by the nitty-gritty of everyday nurturing intervention, be it on nature or on the market. Moreover, and most importantly, the constructs of ‘wild’ nature and ‘free’ market end up having a strong prescriptive/normative edge: valuing the market or nature is to leave the latter ‘wild’ and the former ‘free’. These are the attitudes and actions called for, in the expectation that both nature and the market will take care of themselves; and, we like to believe, of us too.

Today, a vision of infinite supply for an ever-growing demand has become a weighty informing ideal for many. The remarkable extent to which we have chosen to abandon ourselves to it must somehow be legitimized: often, we postulate the impossibility of our progress (economical, technological, military, medical, etc.) being fundamentally finite,

¹⁵⁶ For a critique of such ideal see D. Jamieson, *Ethics and the Environment: An Introduction*, pp. 208 ff.

and more than that, fundamentally *insufficient*: we refuse to acknowledge that, whatever our achievements as a species, cosmically speaking we are late newcomers and we shall always remain young novices; and we hinge the sort of life we have chosen to live, as devoted producers and consumers, on the expectation of a restful state to which our progress will indeed have sufficed at last, and in which things will “work themselves out”, and we shall be able to comfortably dwell in “an increasingly infantilized state of sheer receptivity”¹⁵⁷ from which pain, effort, work, inconvenience, and concern will have been eradicated, like weeds from a garden. Craving for more, and attempting to legitimize such very craving through a belief in some ultimate validating state of sufficiency and rest, triggers the dream of a place/time in which “all desires are gratified, all pain is abolished, the curse of Adam is overcome, and human beings have no other responsibility than to be unfettered consumers of goods, entertainment, information, and pleasure”¹⁵⁸. Whatever the costs encountered on the way to these ideologically calcified fantasies (be they biodiversity loss, dictatorial regimes, or the submission of households and whole countries to the schemes of few speculators), they will never be too dear, for no price is too high for a ticket to paradise.

The image of humanity engaged in nothing but sheer receptivity is ultimately a bleak and diminishing one. What restful equilibrium-state fantasies of this sort fail not only to underline but even just to take into account is the extent to which human “self-realization” is tied precisely to those things from which these fantasies promise to release us: positive activity, effort, work - as well as inconvenience, concern, and even suffering. For it is part of our life as humans, finite beings on a planet of finite resources, to nurture and sustain through our work and concern those things that make our life valuable to us, and to learn what those things are from the pain and inconvenience that their absence or limited availability cause us. Not to accept such predicament, and rather strive to overcome it by structuring our approach to the world in reference to a fantasy of sheer receptivity and no concern, does not ultimately serve our purposes, because no room is then left for our

¹⁵⁷ See R.P. Harrison, *Gardens: An Essay on the Human Condition*, p.164. Italics mine.

¹⁵⁸ See Harrison, p. 165. As Harrison suggests, this is in fact more than just a responsibility: it is an actual obligation, if it is true that the very same banks that sponsored unfettered consumption up to 2008 through various mindless financing tools, and crashed pathetically thereafter, have swiftly been saved by states exacting money from citizens through compulsory taxation.

creativity, no hospitable place for the operative prerogatives of our very humanity to unfold. While a life of no concern, like a spontaneously flourishing wilderness, may be lush and luxurious, and perhaps even delightful, it will so be at the cost of making our activity superfluous. A life of sheer receptivity is for us, much like it was for Elvis at Graceland¹⁵⁹, a still and sterile life; and although all our desires may be satisfied in and by it, *we* may well not be, for some among our best prerogatives (our curiosity, our capacity to devote ourselves to things we find valuable and care for, and our creativity, ingenuity, and resoluteness in pursuing and defending them), would be forcefully sedated. For as much as, in the midst of our daily preoccupations, we may fantasize about a carefree state of plentiful and restful enjoyment, such state would not be one in which we would be flourishing: it would rather be a boring and unfulfilling place, in which to park, and ultimately to dismiss, our humanity. D. Wiggins has put the point thus:

“If we cannot recognize our own given natures and the natural world as setting any limit at all upon the desires that we contemplate taking seriously; if we will not listen to the anticipations and suspicions of the artefactual conception of human beings that sound in half-forgotten moral denunciations;...if we are not ready to scrutinize with any hesitation or perplexity at all the conviction (as passionate as it is groundless, surely, for no larger conception is available that could validate it) that everything in the world is in principle ours or there for the taking; then what will befall us? Will a new disquiet assail our desires themselves, in a world no less denuded of meaning by our sense of our own omnipotence than ravaged by our self-righteous insatiability?”¹⁶⁰

No garden thrives spontaneously; no garden is ever finished. Gardens always require nurturing and industrious activity, precise and punctual response to the requirements of the plants they host, and to the conditions posed by the seasons and the larger environment. Gardens enable and require us to take care of those things that are of personal value to us, and to expend our efforts in order to keep and sustain them. They thus unambiguously situate us in a dimension of work and concern, one in which we deal with, rather than just enjoy nature; in which we must always give in order to take, and in which our curiosity,

¹⁵⁹ This most poignant simile is Jamieson's.

¹⁶⁰ See D. Wiggins, *Sameness and Substance Renewed*. 2d ed. (Cambridge: Cambridge University Press, 2001), p. 242.

ingenuity, and resoluteness must consistently be exercised. Such dimension is not one of sheer receptivity; but rather one of very active engagement with entities the life of which, much like our own, includes splendor as much as inconvenience, unforeseen turns and debacles, decay, and death¹⁶¹; entities which, if she wants to enjoy and keep within the landscape of her life, a gardener must *learn* to value, by nurturing and defending them through ingenious activity, through her work and concern.

The notion of creative receptivity thus also describes our situation as finite beings on a planet of finite resources, in which work and concern must unrelentingly animate the pursuit and defense of things we find valuable, lest we lose them. Such situation enables and requires the exercise of some among our best prerogatives (our curiosity, our capacity to devote ourselves to things we care for, and our creativity, ingenuity, and resoluteness in pursuing and defending them). A situation of creative receptivity leaves space for such traits of our humanity to unfold; one of sheer receptivity, on the other hand, sedates them, and may leave us pretty satisfied, and yet ultimately quite bored and unfulfilled - much like Elvis at Graceland.

A gardener would suggest us to accept the fact that the pursuit and defense of things we value requires the expenditure of our work and concern - both as a description of our predicament, and a prescriptive orientation for future action (one of considerable socio-cultural momentum - see chapter 5). Plant species and specimens are valuable to us humans, both as individuals and as a species, for a number of very good reasons. If we wish to keep such valuable things within the landscape of our life, we must work actively, unrelentingly, and resolutely in view of such objective, through such very human means as our gardens, our culture, our science and technology, our constructs and metaphors, our laws and institutions, our discourses and narratives about our own relation to *our* environment. A gardener would remind us that this is not an unfortunate situation; for were we not enabled and required by our situation to nurture things we value in order to keep them, and keep benefiting from them, we humans would be some sort of superfluous beings indeed. Our gardener would conclude by asking us what reason have we got to believe that

¹⁶¹ Such material is different from the one with which artists are concerned, which can be made to fit their requirements, and is in principle sheltered from mortality - and for *this* reason, if any, gardens are not straightforward works of art.

nature should thus self-regulate so as to nosh such superfluous being¹⁶².

Gardens tell a thoroughly human story: the story of our manipulation of the environment, of our work on it, and of the aesthetical, scientific, philosophical, social, cultural, economical, etc. ideas and structures that have animated and informed the ways in which such manipulation has been conducted. Gardens recount *our* past, present, and future relation to nature: they do not, in any meaningful sense, give order to nature - rather, they enable and require some orderly expression of our relation to it¹⁶³. When designing, cultivating, or visiting a garden, we encounter the many stratifications that human intervention and utilization has laid on land. Each of those stratifications responded to precise and historically specifiable (aesthetical, scientific, philosophical, social, cultural, economical) circumstances, structures, ideas, and choices; each has altered the land we now come to confront. Such confrontation inevitably puts our life in contact with the lives of those who were there before us, as we trace remnant signs of their activity all over the plot and in the composition of the soil; and it gives continuity to theirs, to their intergenerational work and concern¹⁶⁴. Such contact and continuity are things many of us value, often quite highly: we cherish our past, and we wish it to remain present with us; and by designing and cultivating a garden, we make a place our own, and its past becomes relevant to our present, and stays present with us; as well as available for outsiders to visit, and for future generations to take over. Designing and cultivating a garden is one of the ways in which we enter that partnership “not only between those who are living, but also between those who are living, those who are dead, and those who yet have to be born”, of which E. Burke famously spoke. The narrative of their work and concern, the incidence of human skill applied onto the environment, are not only disclosed but also perpetuated by our gardening efforts on the land that once was “theirs”, and soon enough will again be so.

¹⁶² Paradoxically, these reasons could only originate in an anthropocentrism ‘wild’ indeed, and quite wishful; one easily shattered by the following joke: Mars meets planet Earth; Earth is not doing very well. “What is it?”, asks Mars. “I got *Homo Sapiens*”, says Earth. “Don’t worry. It will pass soon”, says Mars, and goes on orbiting around the Sun. Philip Reuchlin, private conversation

¹⁶³ See R.P. Harrison, *Gardens: An Essay on the Human Condition*, p. 48

¹⁶⁴ Note that this is not to say that gardens are perennial memorials, immortalizing the work, skills, and ideas of their makers, or defying the persistence of time. See R.P Harrison, *Gardens: An Essay on the Human Condition*, p. 39

Gardens also recount our future relation to nature. Or better, of course, they recount a *possible* future relation: one not of sheer, but rather of creative receptivity, characterized by our positive effort to conserve what it is in nature that we value, be it biodiversity at large and/or elements of it, untouched landscapes, clean air, or a human-friendly climate; and in the process to exercise, and thus also to conserve, our best human prerogatives, our curiosity, our capacity to devote ourselves to things we care for, and our creativity, ingenuity, and resoluteness in pursuing and defending them. Such relation is not characterized by carefree self-indulging on our side, nor is it based on our self-sacrifice: but on an operative concern for those things we see as valuable, and we wish to maintain available for ourselves. In the garden, that of creative receptivity is a prudentially sound relation with plants and land; it is, as we shall argue in the next chapter, a virtuous relation: in times of environmental distress and preoccupation such as ours, gardens can thus provide a positive and inspiring image of how humans can relate to their environment, an image that does not present the man-nature relation as a zero-sum game.

A narrative of creative receptivity stands contrary to the narratives of practical disengagement (and, as we have suggested, self-sedation) counseled by the wilderness paradigm. Being cultural constructs, such narratives are susceptible of comparative evaluations; and as said, some constructs are better than others, if and when they better take into account facts about the real objects the reality of which they are constructs of, and because they better serve our needs, interests, cares, purposes, and commitments. Constructing our relation to the environment as one of creative not sheer receptivity means taking well into account the fact that we are finite beings on a planet of finite resources, who must (and luckily can) manipulate and use such resources in order to survive and ameliorate their lives; and who must concern themselves with, and actively work towards their conservation, so as to ensure their continued availability, rather than hope for them to re-stock and thrive spontaneously.

When we say “use”, “resources”, “availability”, we refer to material as well as spiritual forms of instrumentalism. The extinction of species, and environmental degradation in general, entail the loss of not only goods and services, but also opportunities for aesthetical,

scientific, intellectual, experiential, and ethical stimulation; opportunities for developing and exercising an increasingly deeper understanding and authentic acceptance of our station within the wider workings of things, through the perception of a number of relations running between ourselves and the elements of nature with which our life on this planet is shared. The perception of such relations is part of a life well-lived, and so is the exercise of our best human prerogatives: our curiosity about the world, our capacity to devote ourselves to things we care for, and our creativity, ingenuity, and resoluteness in pursuing and defending them. In fact, the perception of such relations enables and requires the exercise of such prerogatives, and vice-versa.

Such relations, their perception, and the exercise of such prerogatives are by no means characterized by sheer receptivity on our part. They are rather characterized by that same creative receptivity that characterizes one's activity in gardens. The (relative) unnaturalness of gardens thus recounts a narrative that better takes into account facts about who we are, about our form of life, about the world we live in - a more authentic narrative. Because it is also better able to serve our need for, interest in, care about, purpose of, and commitment to the conservation of botanical biodiversity than is a wilderness-based, practically disengaged, and self-sedative one of sheer receptivity, it is overall a better narrative in reference to which to structure our future relation to our environment.

In between the past and the future, stands the present of gardens, and with it the narrative of our present relation to nature. Unsurprisingly, it is not a particularly relaxed nor amiable one. Gardens are places, and garden practices are explorations of place. They are also exploration of the life of different specimens and species, in that place. Such life prospers to the extent that the vagarious particularities of place and plants have been grasped, and garden-practices have adapted to such particularities. But all too often today the thought of gardens brings in that of lawns – and lawns (much like intensive agricultural monocultures) rather prosper to the extent that the vagarious configuration of local conditions has been successfully overcome. Lawns also mean fewer plants, as well as high reliance on external inputs, and thus ecologically unsound amounts of irrigation, chemical pesticides and fertilizers, and oil-dependent machinery. They enable and require very little gardening, however (except perhaps mowing once a week): very little curiosity, creativity, ingenuity,

perhaps just a bit of resoluteness. Lawns, quite assuredly, evoke control over one's surroundings; but such control is achieved through homologation, by rendering such surroundings predictable, and eliminating any variety and diversity they may host - rather than by mastering it. Control, enjoyment, very little work, and no concerns: as enticing as it may sound, this is a boring and economically as well as ecologically very costly narrative.

Homologation and predictability in composition and choice of plants, as well as increasing artificialization of environments and maintenance methods, are often the rule also in city parks and public green spaces, in the gardens of residential projects, hotels and airports, on corporate roofs and front lobbies, etc. All those places recount a story of no effort, no concern, no unforeseen turns, no decay; one in which there is no need for gardening, substituted by the employment of technological means and external inputs. Such gardens gesture at ideal states of enjoyment without concern; and they never fail to expose the pathetic lack of depth that would characterize such states. These mannerist, "formulaic gardens", are ultimately mere attempts to "cute up"¹⁶⁵ - not to learn and negotiate our surroundings. They rarely include local flora; they never are attentive, not even in part, to ecological suggestions; they are strictly ornamental, leaving no room for the cultivation of edibles; quite reliably, they are unconcerned and uninvolved with the conservation of plant species. Worst of all, they often fail to intrigue and engage the constituency, and give the general impression that very little can be done in and through gardens; they demean them into grotesque Arcadian snapshots, into visual and spatial negations of buildings, useless luxuries - and often leave people regretting not having voted for someone who would have rather used those spaces to create additional parking lots. If the sophisticated spaces of Versailles, so often cited as the exemplification of all that is wrong with gardens, could be seen as recounting a gourmet narrative of anthropocentric hubris and domination over nature, many gardens today rather recount a fast-food narrative of estrangement, of delusional comfort achieved through economically and ecologically costly practices of homologation; and of denial of the unpredictability of our environment and the elements that compose it - of both their power and fragility. Needless to say, such narrative is most inhospitable, and indeed detrimental, to the enterprise of biodiversity conservation. It is a narrative, despite appearances, quite consistent with the wilderness paradigm, which

¹⁶⁵ These are R.P. Harrison's formula's.

recounts a deep wedge between us, our humanized environments and human operations on the one side - and nature, its 'wild' areas and operations on the other; and which assumes that, once there is a city in place, the magic is lost anyway, and we can do no better than "cute up". See L. Wittgenstein:

"It is very *remarkable* that we should be inclined to think of civilization – houses, trees, cars, etc. – as separating man from his origins, from what is lofty and eternal, etc. Our civilized environment, along with its trees and plants, strikes us then as if it were cheaply wrapped in cellophane and isolated from anything great, from God, as it were. That is a remarkable picture that intrudes on us."¹⁶⁶

The quote expresses primarily surprise and curiosity, rather than regret, towards this "remarkable" socio-cultural/conceptual phenomenon. Why should our constructs of nature, and of our relation to it, imply that our civilized environments and operations be necessarily isolated from "anything great"? Why is such self-inflicted estrangement so widely accepted, and so often assumed? The reason is, of course, our inadvertent reliance on the wilderness paradigm, and the romantic idealization of nature that fuels it. Wittgenstein, who was once a gardener, is here surprised and curious - as only someone who takes no such paradigm for granted can be.

As gardeners know, that "remarkable" picture is *not* the only available one; and luckily, lawns and cute terraces are not the only available design options. We have mentioned permaculture as an example of the possible pathways that garden composition and maintenance may take. Xeriscaping (a design technique which only employs water-wise plants) is another. Restorative gardens are today no longer considered senseless; and medicinal and vegetable gardens are even becoming fashionable in high circles. All those pathways presuppose the exploration of places and of the properties of plants; and all of them call for and recount a narrative of hands-on, active engagement with nature, punctuated and sustained by our work and concern. The story recounted by corporate rooftop gardens may indeed be widely on offer, but it is not one we necessarily need to buy.

¹⁶⁶See L. Wittgenstein, *Culture and Value*. Transl. D. Winch. (Chicago: University of Chicago Press, 1984), p. 50

6. *Personally valuable properties of gardens and garden nature*

We can now move onto the last section of this chapter: properties of gardens and garden plants that are valuable from the agent's own perspective for reasons eminently personal. It is this class of prudentially valuable properties that provides individuals with decisive reasons to conserve plant specimens and species in their gardens; and which strongly contributes to compensating for their value-subtracting (relative) lack of naturalness. Such properties we may call narrative, for they all have to do with the individual's articulation and preservation of her own identity; and they are all upshots of the special, personal relation that comes to be instituted between a gardener and her garden and plants.

Given that, from the perspective of a visitor gardens and garden plants do not generally possess any narrative properties of such kind: for this reason those who merely visit a garden do not have decisive, prudential reasons to conserve it nor the botanical elements in it. However, it is only accurate to say that they *usually* have no such reasons. To say that visitors of gardens cannot *in principle* develop a special, personal relation with given gardens and plants is not accurate; as it is also not accurate to say that those who contemplate natural areas and 'wild' plants cannot develop the same sort of relation. A contemplator and a visitor can of course visit places and entities regularly (in the 'wild' or in somebody else's garden), stage important episodes of their life in and around them, and so on; by doing so, they may well establish a special relation with them. It is thus not obvious, nor in principle necessary, that narrative properties of a personal kind be unavailable to visitors and contemplators, leaving them with no reasons to conserve the places and entities they visit and contemplate. Let us dwell on this issue briefly: what follows refers to contemplators of natural areas, but it can be applied, *mutatis mutandis*, to visitors of somebody else's garden, for the conceptual dynamics at work is the same.

It is much harder to institute a personal relation with a natural area, and with the 'wild' plants in it, than it is with one's garden and cultivated plants (as it is much harder to institute a personal relation with a garden one merely visits, and the plants in it, than it is with one's own garden and plants). However, it is in principle *not* impossible for such relation to be instituted: natural areas and plants (as well as other people's gardens and

plants): I may be so attached to a specific natural area of Arizona and its plants, or to the Boboli Gardens of Florence and their plants, or to my best friend's garden and its plants, that I would see their degradation and death as a personal issue, and would be willing to travel there, volunteer to conservation projects, etc.

The narrative, value-making relational properties of gardens and garden plants we are about to discuss are the *personal*, the *transformative*, and the *projectual*. Though they presuppose a special relation running between an agent and places and/or entities, they do not presuppose such relation to be based on the agent's active, hands-on engagement with them: one may well entertain a personal relation with particular natural areas and 'wild' plants (for instance, the hidden lagoon forty minutes out of town, and the semi-aquatic plants around it, which one routinely visit every time we feel stressed) based purely on disengaged contemplation, and which may well provide sound prudential reasons to conserve such areas and plants. But, first, that will happen only in very few and special cases. And second, although particular natural areas and gardens can both recount one's personal story (at least to oneself), the stories they will recount will be very different. A personal relation based on contemplation will be qualitatively different from one based on active engagement: the modalities in which it will be instituted will be different, and so will be the ways in which it will be maintained. In other words, while a personal relation may well be established by one both with one's own garden and with a natural area, the building blocks of such relations, the content of the narrative of their institution and maintenance - the lived experience, as it were - will be very different in the two cases. In the garden, it will be a relation characterized by the lived experience of one's hands-on activity and creative receptivity; in the 'wild', it will be one characterized by the experience of one's disengaged contemplation and sheer receptivity¹⁶⁷.

Narrative properties of a personal kind may well be seen as decisive prudential reasons to conserve in *both* cases: however, in one case such reasons will refer to a narrative of consistent everyday work and active operative concern, and to reasons, attitudes, and

¹⁶⁷ Lest the 'wild' ceases to be such. In entering natural areas, we are often warned not to touch anything; not many of us believe we are thereby being robbed of an essential component of our experience of the place (much like in a museum). We are happy to go about contemplate, "threading lightly on the surface of the earth".

actions internal to such narrative; while in the other they will inevitably have to refer to a narrative of eventful epiphanic experiences (the narrative of our visits to “the great outdoors”, for instance) during which the value of natural areas and plants is disclosed to one through sheer receptivity, so powerfully as to transform our attitudes and dispositions in nature’s favor, and provide reasons to conserve from then on, even long after such epiphanic experience has passed.

A gardener and a contemplator can both value given places and entities for personal reasons; even equally. But their ideas of *how* such places and entities are to be valued, of how one should approach them, what attitudes and actions are called for in order to understand their value, will differ: get your hands dirty, on the one side; clear your mind and open your heart, on the other. A gardener need not attribute value to given places and entities more, nor less, than a contemplator (nor does a visitor need to attribute more, nor less, value to a garden than does its gardener); the two need not disagree on *why* it is worth attending to them either (they may agree, for instance, that it is for reasons relating to their narrative properties of a personal kind); but given the different lived experiences that inform the special relations respectively established, they will certainly entertain different perspectives on *how* it is worth attending to them – and how it is worth attending to valuable things is a major component of understanding their value.

The value-making narrative properties of a personal kind presented below are artificially severed from one another for purposes of conceptual elucidation. They are in fact connected in multiple and recursive ways, and the cut-offs here operated may in principle be refined, changed, or perhaps even eliminated in some cases. But when we try to reduce one of such properties to another, there always seem to be some conceptual residue left. This is the reason why in what follows we dwell on differences rather than minimum common denominators.

6.1 *Value-making narrative properties of gardens and garden-nature: personal*

Such properties are possessed by already existing gardens and plants. I regard my garden and garden plants as important to myself. I see them as sources and terminals of a narrative I recognize as my own, which includes the entertainment of certain attitudes (for instance, I may encounter psychic obstacles in causing or allowing my garden and plants to be harmed not dissimilar in feeling from those I would encounter against harming or allowing myself to be harmed – a prudentially sound altruistic attitude) and the performance of certain actions (I may wake up at five every morning, pull weeds out every day, dwell in tracking the causes of growth or decay, etc.), which have contributed, along with many other factors in my life, towards making me the particular person that I am. Of such narrative that garden and plants are irreplaceable, constitutive parts.

We share a history together: I have seen the garden and the plants grow thanks to my engagement with them, and both their growth and my engagement have followed a particular path, and have included particular episodes that populate my memory - I remember when the place was just a dump, and when I first designed it and chose the plants for it; the time I had to run out at night to cover and protect them from a hailstorm; the many evenings I have passed sitting in it, constructing philosophical riddles as I watched the shadows lengthening onto my house with the setting sun; the time I unsuccessfully tried to grow papaya's; the afternoons spent with my son trying to teach him the names of plants, etc. There is a sense in which the history of this particular place and entities embodies my own, or at least a chunk of my own, and recounting the one is to recount the other.

Because they share a history with me, the garden and the plants are also familiar to me: they are things I know and I know how to negotiate, lodged in my life and my daily practices, and which give to this life and practices a sense of continuity. An interruption of such narrative, whatever its reasons, would cause disappointment and a sense of detriment and loss on my side; whereas a prolongation of the garden's development and the plants' life I see as beneficial to myself; and to achieve it, I entertain certain attitudes (say, patience) and perform certain actions (say, shoveling and watering) rather than others (say, carelessness and fast-car racing). The life of this garden and these plants thus give shape, at

least to some extent, to my own. In a word, they and I “share fate”: I have a personal stake in them. In fact, I regard them as constitutive elements of my basic organizing self-conception, and thus of my idea of a life well lived: I would not be prepared to trade them in for some exact or even bigger and better versions of them: I value them in their particularity, and thus also on grounds of what makes them different from all other relevantly similar objects, and to trade them in would be to devalue such particularity (as well as my own).

One big difference between them and all other relevantly similar objects is, in fact, that *I* made this garden and *I* grew this plants; their existence and development required *me* to entertain certain attitudes and perform certain actions, and concurred to making me the particular person that I am (one, for instance, who sees his relation to nature as being characterized by creative rather than sheer receptivity). It in part because of them, and my experience and relation with them, if today I am whom I am, and I look at the world the way I do.

Now some clarifications. My valuing the garden or the plants is not reducible to my valuing the relation I have with them. I may of course value that too, but not for any general reason such as that it is good to have relations, so that any one will do. I cannot take the particular sources and terminals of the original relation out of the picture, exchange them with others, and still have the *same* relation obtaining. If I trade the garden I made or a Saguaro I grew with another bigger and better, I will always relate to this one (also) as, for instance, a good marketing shot rather than a good cultivating effort of mine, a piece of luck, etc., and I will thus have different attitudes informing my evaluations of it. Moreover, the familiarity that characterized my relation with the original garden or plants (a familiarity I may have reasons to value for its ability to confer a sense of continuity to my life) will be gone, along with the familiar particulars and the familiar actions and practices those called for; the new garden or plants would not be impregnated by all the lived experience (mine) that impregnated the originals: they may be bigger and better, but they would also be much “colder”, as it were, at least for a while.

Note that “coldness” is a distinctive feature of the corporate rooftops gardens criticized above, in which the focus on “cutting up” spaces is also characterized by a very low degree of tolerance for aesthetical flaws, and plants and spaces are kept “under control”, and constantly replaced and reworked. A gardener who entertains a personal relation with his garden and plants, on the other hand, will entertain an attitude of congeniality towards variety and accidents, and will not replace his plants anytime they are marked by pests or burned by frost, or rearrange the garden anytime a new trend in garden design becomes fashionable. Because he values his garden and plants in their particularity, he also values their vagariously caused distinctiveness, and may thus not be necessarily inimical to the accidents (hailstorms, pests, etc.) that to such distinctiveness may contribute. Even negative aesthetic traits of his garden and plants he may thus see as worth-preserving, as part of the package that makes such particulars the particulars that he personally cherishes; and cherishing them personally, as the particulars they are, calls for an attitude of loyalty on his side, and precludes certain actions, such as replacing aesthetically imperfect specimens as soon as a chance for something bigger and better is offered¹⁶⁸.

It may be objected that valuing particular things for such personal reasons, insofar as it leads one to forego opportunities for bigger and better things, is irrational. This is only so if the idea one has of rationality is of “the more is better” kind, entailing abstract accounting of value rather than qualitative assessment of the particular things valued. Such idea is eminently open to criticism, and needs to be justified before it can be used as a conceptual standard. But the objection could be reformulated thus: valuing particular things for such personal reasons may be inimical to ameliorative change. However, conserving what is valuable does not entail not creating or not welcoming new and better things, so long as the original ones are left intact. A gardener who values an unproductive olive tree for personal reasons will not torment himself about planting a new and more productive one next to it. Torment will only arise when planting the new one will require destroying the old. But even then, the value-making narrative properties of the older tree will only be one reason not to replace it. The gardener may value, say, familiarity more than productivity, and so the personal significance of the olive tree could give him a stronger reason to conserve the

¹⁶⁸ See G. Cohen, “A Truth in conservatism: Rescuing conservatism from the Conservatives.” <http://sites.google.com/site/politicaltheoryworkshop/GACohenConservatism.pdf?attredirects=0>

old plant than could productivity give him a reason to replace it with a new one: but that does not mean that productivity gives him no reason at all. There may well be a lower threshold of productivity (or ugliness) under which a gardener would not be willing to go, no matter how much he values the familiarity and history of his olive tree. Valuing things for personal reasons does not logically forbid ameliorative change: it only provides reasons against rushing to destroy old things any time “more” may be obtained thereby. So the more the gardener values the familiarity and history of his tree, the more unproductive it will have to get before he replaces it – but he will, at some point: although he may not have the heart of just tossing it into the dumpster, but will rather prune it drastically and try to re-establish it in a different spot; he then will shovel, fertilize, and water it with unchanged concern; and if that fails, and the plant dies, he may still want to conserve the lifeless trunk as a memory, maybe make a stool with it, etc.

It is true, however, that valuing particular things for personal reasons entails, at least in most cases, looking at them as having no perfect substitutes, i.e. being irreplaceable. It may thus be objected, next, that attributing personal value to things ultimately entails subscribing to a thesis about the incommensurability of value. It is clear from the above paragraph that this need not be the case. Familiarity and attachment are not incommensurable with productivity: that some valuable thing X is irreplaceable by some other valuable thing Y does not logically entail incommensurability between the value of the thing X and the value of the thing Y. To the contrary, some sort of commensuring must have gone on, if it is finally decided not to replace X with Y¹⁶⁹.

Also note how all this does not reduce to valuing longevity as such. I may well refuse trading the garden I planted three years ago with an older one, and my young Saguaro with a much older and complex specimen. That I value objects and entities also on grounds of a shared history does not mean that the more history they have, the more personal significance I will attribute to them: they must share that history *with me*. So rather the contrary, perhaps: the more I value them (for whatever reasons), the more history they will have: if I have independent reasons to keep my garden and plants (say, economical

¹⁶⁹ See G. Cohen, “The Truth in Conservatism”, section III (“Objections”).

reasons), then their longevity will be a by-product of this. Such longevity of theirs, but not longevity as such, may well be valuable to me.

One more objection would be that anything at all can be personally valuable in the sense defined above. This is an objection regarding the unspecified boundary of the class “personally valuable things”. This objection is not easy to dismiss. It should be noted, however, that it is not only outcomes but also processes that can be personally valuable: the practice of conserving specimens and species in gardens is one such process. Such practice one may come to regard as important to oneself. Now, because such practice may result in the development and exercise of new, virtuous ways to be in and look at the world, and to an increasingly deeper and authentic acceptance of one’s place within the wider workings of things, it will arguably be extremely valuable in the perspective of those who engage in and with it. However, this only seems to dislodge the objection to a second level: other practices, such as growing kids, could also bring such perfectionist, process-oriented benefits. What must be shown, then, is that the sort of understanding and acceptance, and the sort of virtues that garden-practices enable and require one to develop and exercise can only be developed and exercised in gardens and by engaging in and with garden practices. There is one virtue, which satisfies this condition and is also recursively related to our developing and exercising an increasingly deeper understanding and authentic acceptance of our place within the wider workings of things, and that is Democritean cheerfulness. We shall discuss it in the next chapter; and so we must postpone our response to the “boundary” objection till then.

What would be the situation if I was dealing with a natural area? I may establish a special, personal relation with it and any ‘wild’ plants in it: it is possible that a given desert area, or a given ‘wild’ Saguaro, may come to mean very much to me (through my regular frequentation of them, my staging significant episodes of my life in and around them, etc.), and become sources and terminals of a narrative I recognize as my own, coming to share a history with me, and becoming familiar elements in the landscape of my life. I may personally value these places and entities very much, as well as my experiences of them,

and the relations I have with them; I may also value the contemplative attitudes and respectful actions (or omissions) they call for, and I may even see all these things (objects, experiences, relations, attitudes, and actions) as constitutive elements of my basic organizing self-conception, and thus also of my idea of a life well lived. If this desert and its Saguaro's were threatened by human interference (say, real-estate development), I would be personally concerned, for specific irreplaceable elements of my basic organizing self-conception, not just some random places and plants, would be threatened as well. I may thus have decisive reasons to protect and conserve them, out of a prudential concern for the protection and conservation of my own identity.

However, developing such special relation with a natural area and the 'wild' plants in it is something that only very few people do, for only very few people are in the condition to frequent such areas and plants regularly¹⁷⁰. That developing such relation will be easier and more frequent in gardens is quite obvious. Prudentially sound reasons to conserve an area or given plants will thus more easily and more frequently be available to one, if such area is one's own garden and such plants are one's own plants.

But suppose such relation is in fact instituted. What I personally value are those areas and those plants *as natural*. I value my experience of them as such (if I was at some point informed that I was in fact in a garden, I would feel I had been shortchanged¹⁷¹), my relation with them as such, I know what attitudes and actions valuing them as such calls for, and indeed I value those attitudes and actions, and not others. If these areas and plants were in peril as a result of real-estate development, I would have no problem protecting them by leaving them alone myself, writing scientific articles or poems about their valuable features, marching through the streets, lobbying, etc - this may work, in some (rare) cases. However, threats to this area and these plants may come not just from the direct interference of humans, but also from 1) natural processes, such as droughts or pests, as well as from 2) the multiplying effect that natural processes may have on human interference: the threat these

¹⁷⁰ It may be objected that regularity of frequentation is not a necessary element in the equation: I may well develop a special attachment to Death Valley by visiting it just once. But in that case, such attachment would in fact be the result of the transformative power of Death Valley. See below the section on transformative properties.

¹⁷¹ See R. Elliott, *Faking Nature*, p. 88

places and entities would face may be related to global warming, or to the extinction of other species, for instance. In this case, leaving these places and plants alone would be to consign them to assured degradation and extinction.

Now, I know how to value these places and entities as natural, and I know and value the attitudes and actions that would be called for to protect their naturalness from despoliation due to human interference: leave them alone, and get others to do the same. But things may be more complex if it was not humans, but natural forces such as droughts, or pests, that which was threatening those areas and plants; in this case, if I am a non-anthropocentric contemplator, and even if I was somehow in the position to prevent it, I would have to let the destructive process unfold, lest I sabotaged its naturalness and, with that, the naturalness of the place and the plants (and of the world and the universe etc.) Even if the outcomes of such process were bad for me, for I would lose things I regard as important to myself, I would still (have to) value the process on grounds of its naturalness.

If, on the other hand, I am an anthropocentric contemplator, I may want to intervene, but I would have to devolve such intervention to others, for I know nothing about the practice of eco-systemic conservation of desert areas or how to cultivate a Saguaro (though I may well be a Nobel physicist, a passionate geologist, or a very sensitive poet). I thought the way it was most worth attending to these places and plants was by contemplating them, so I personally lack all manual acquaintance with them, and I am un-habituated to both the attitudes and the actions that hands-on engagement would call for. Suppose I do devolve such intervention (I may even advocate in the public square that other contemplators do the same¹⁷²): as a result, the place and entities are saved, by gardeners of sorts.

However, because what I valued was this area and these plants *as natural*, along with the attitudes and actions called for by valuing them as such, it is not even obvious that, once they have become objects of human intervention, I will still value the place and entities as much or in the same way as I did before; nor indeed is it obvious that I will value the

¹⁷² They may. But would they have any reason to? Is it sensible to think someone obligated to conserve given particulars just by the fact that such particulars are personally valuable to somebody else? It may be, if the two were involved in some sort of special relation with each other, and thus had non-selfish prudential reasons to exercise altruism.

attitudes and actions called for by valuing them as they are now - places and entities humans have decided to spare and take care of from now on. Because I valued them as natural, it is plausible to think that some of the reasons that made that natural area and its plants personally valuable to me were related directly to their naturalness (such as the systematic sense of absolute safeness I attained every time I beheld their unshakable and self-contained persistence, for example). In fact, their naturalness may itself have been of personal value to me. After humans have magnanimously decided to dispense their mercy on this area and these plants, those reasons cease to be available. I may not be able to upgrade my approach to the place and the plants: perhaps I regret having to bump into fences; or meeting operative gardeners around the area and the plants (much like I would regret seeing operative medical doctors surround my father, or myself, who were once strong men). At the limit, I may even end up losing all of my personal attachment to them, though I may nonetheless still be generally glad that the place and the plants have been saved.

Now, what would happen if it was neither humans nor nature threatening my slice of desert and my Saguaro's, but a powered conjunction of the two, say global warming? I would know that, even if I was to leave everything alone, these areas and plants, and the processes threatening them, would not really be all that natural anyhow. I could resign to this and, given that some naturalness has already been (and will further be) lost anyway, accept that the special relation I entertain with these areas and plants may, in these circumstances, give me reasons to *positively* intervene for their conservation, through practices of a broadly gardening kind. I no longer bother about the loss of naturalness, I just want to keep what is of prudential value to me. But what then? I still do not know how to do it, and not only in the sense that I do not know how to garden - for global warming has mutated the situation also in this other sense: because these areas and plants are no longer solidly natural, and less and less fluidly so, I no longer know how to value them. That is, insofar as my valuing them was previously operationalized by entertaining attitudes and performing actions the source and terminal of which was their naturalness, I am unequipped for valuing them now that such naturalness is gone: I ignore the ways in which it is most worth attending to natural areas and plants once they cease to be thus natural. Hence I fail to understand, and indeed to accept, their value *now*. The situation is similar to one in which I meet, after a long time apart, an old friend of mine whom I used to value for his resourcefulness and

manual ability. Valuing him for these reasons called for certain attitudes on my side (such as confidence and optimism), and some actions (such as inviting him to camping, but not to my philosophy classes). Now suppose that, due to the abuse of narcotics, my friend has lost all sensibility in his hands, and all his problem-solving capacities as well. Now, much like in the case of global warming I was willing (indeed I had no choice but) to forget about naturalness altogether, I am now willing to forget about my friend's resourcefulness and manual ability (here too, I have no choice, if I want to conserve the friendship); I am also willing to look further, for *other* reasons to value him, related to other valuable properties of his, such as, I now learn, his sensitive soul. But it is not enough that I recognize that he has such valuable property, and that I in fact regard him as valuable on because of that: I must also learn to *actually* value him because of that - that is, I must now learn to value him for his sensitivity rather than resourcefulness, and that will call for certain attitudes (tact, for instance) and actions (opening up to him, letting him open up to me, etc.) on my side, rather than others. I must thus learn to entertain these attitudes and perform these actions, if I am to understand the "new" value of this person. And if I am an untactful, emotionally unavailable man myself, understanding the value of this person will be much harder now than it was when I could approach him as a resourceful and manually gifted guy. I may give up on him (perhaps camouflaging my failure in valuing him now with ostensible sorrow in seeing him like this); but I may also refine, and perhaps even change, my approach to him.

Now in the preceding case, the one in which my favorite desert area and the Saguaro's in it were saved from drought at the cost of their naturalness, I ultimately wasn't ready to approach them as non-natural valuables and, though glad that they had been conserved, I personally gave up on them. In the case of threats relating to global warming, in which naturalness is no longer an issue (for neither the place and plants, nor the processes leading to their eventual despoliation are natural), I may on the other hand be willing to refine, and perhaps even change, my approach to this area and plants. I must value them as inescapably non-natural things; and if I nonetheless want to keep them among the valuables in my life, I am now to attend to them and to understand and accept their value as such. I must thus revise and change my attitudes and actions in and towards them; I must learn what it is to value areas and plants that are always un-natural to some degree, the existence and persistence of which is not unshakable nor self-contained, and which indeed require human

intervention through time if they are to exist and persist. In short, I must stop contemplating these areas and plants, and start cultivating them.

What conclusion can we draw about the possibility that establishing and maintaining a special, personal with given natural areas and 'wild' plants may give people decisive reasons not only to admire, but also to actively protect and conserve them? First, that it will only be realized in very few and special cases. And second, that unless the threat such areas and plants are exposed to is directly related to physical human intervention on them, (at least some) naturalness will always be lost in the process of conserving them: the naturalness of the place and entities, as well as the naturalness of the threatening process. This may be a problem for those who valued their special relation with places and entities also for reasons related directly to their naturalness: while non-anthropocentric contemplators may drop the possibility of intervening altogether (to preserve at least the naturalness of processes), anthropocentric contemplators may want to intervene (or devolve intervention), and indeed do so, but they may well be unable to adjust their attitudes and actions in and towards these places and entities once such intervention has taken place and the evaluative circumstances have changed due to these places and entities no longer being natural. In this case, those places and entities may well be conserved, but their personal significance in the eyes of one may decrease, or even be lost altogether. Finally, in case the threat to these places and entities was related to the multiplying effect of natural as well as anthropogenic forces, as in the case of global warming, and the property of naturalness ceased to be evaluatively relevant anyway, the possibility of my special, personal relation with them providing me with decisive reasons to conserve would only be realized if I was willing and able to revise and change the attitudes and actions that characterized my valuing such places and entities when they were natural, into attitudes and action that are appropriate to the valuing of places and entities that natural no longer are - not self-contained and unshakably persistent, but rather under constant threat; which *need* human intervention if they are to persist. In this case, in order for my special relation with them to provide me decisive reasons to conserve them, I must be willing to cultivate, not just contemplate, these places and entities - and thus to radically change the attitudes and actions characterizing my special relation with them.

6.2 Value-making narrative properties of gardens and garden nature: transformative

A further value-making narrative property of my garden and garden plants that may contribute to compensating for their (relative) lack of naturalness, is the transformative. To spare words, we shall henceforth speak loosely of transformative value.

The notion of transformative value was first introduced (without being thus labeled) by B. G. Norton in reference to nature at large¹⁷³, and recently elaborated and adopted as a theoretical cornerstone of a philosophical case for biodiversity conservation by S. Sarkar¹⁷⁴. Roughly, the transformative value of an entity is the capacity that the experience of such entity has to alter one's attitudes and subsequent actions (with nature thus becoming "a teacher of human values", in Norton's words). On a wide reading of the notion (as originally proposed by Norton), the transformative value of an object (nature, biodiversity) would in principle be capable to alter one's whole perspective on things ("the limits of one's world", as Wittgenstein would have it). It would be an *ethical* experience, insofar as one's *ethos* would be reshuffled by it, and perhaps even deeply changed.

Suppose that on my way to a conference I happen to witness (or find myself otherwise involved with) a tornado; or see a small leafy plant triumphantly cracking through a 12-inches concrete sidewalk. I am profoundly impressed by the overwhelming power of nature, with that tornado, and its unrelenting incisiveness in "doing its own thing", with that asphalt plant. Suppose further that I am someone who thinks and acts on the presupposition that nature can be dominated by humans: in fact, I was about to present a vehement paper at the conference arguing just that. But my tornado and leafy plant experiences have triggered

¹⁷³ See B.G. Norton, "Environmental Ethics and Weak Anthropocentrism", in *Environmental Ethics: An Anthology*, eds. A. Light and H. Rolston III, p. 163-174

¹⁷⁴ See S. Sarkar, *Biodiversity and Environmental Philosophy: An Introduction*. (Cambridge: Cambridge University Press, 2005).

a radical re-examination of my whole take on such matters: my talk at the conference will be very different from what it would have been had I not had such epiphanic experiences. Perhaps I am indeed so impressed, that the my whole perspective on the man-nature relation is transformed. I now look at things in a wholly new way, and thus act on wholly new presuppositions and intentions. In other words, I gain a momentous insight that enables and requires me to revise my ways to be in and look at the world.

On a more restricted reading of the notion, espoused by Sarkar, an object (nature, biodiversity) has transformative value when its experience is able to alter one's demand values. So I may go on a cruise to Madagascar, experience the wonders of biodiversity there, and be transformed. On the way back, I am then informed that many of the species that so moved my intellect and affections back on the island are well on their way to extinction. Next year I book a cheaper cruise, and devolve the money spared to finance some Madagascar-based conservation group. Due to my experience of it, I now demand less comfort and more biodiversity.

We espouse a wider reading of the notion of transformative value than does Sarkar. On our view, what is transformed is whom one is; on Sarkar's, what one wants. We are closer to Norton's own view, on which the plurality of nature's values was boldly proclaimed, and such values were situated on a sort of continuum, ranging from the values of consumer society to prudential, aesthetic, altruistic/moral, perfectionist, generally ethical, indeed even spiritual values.

Sarkar's "modest" proposal is arguably animated by the intent of giving some measurability to the elusive notion of transformative value, by keying it, ultimately, to one's market behavior. The preoccupation with measurability is obviously related to the fact that transformative value arises in the context of individual experiences, and such experiences may be hard to communicate to others in all their vividness and momentum when arguing the case of conservation. If such case is to be grounded on nature's transformative value, it seems that such value should at least be intelligibly communicable, and thus interpersonally

available. But transformative experiences resist description (at least to a degree): Sarkar's proposal attempts at remedying this problem by individuating a good proxy indicator for the transformative value of nature in our demand values.

It is however important to point out that, though transformed demand values may be a reliable indicator of the modalities and extent of one's transformation, they can be no more than that: the transformation of my demand values is an upshot of my overall ethical transformation, not the other way around. What is transformed are not just the things I want and how much of them I want, but the very criteria I adopt when screening what I want. What is ethically relevant is not the transformation of my market behavior, or the setting of "higher amounts that I would be willing to pay for...", but my adoption and entertainment of new habits, motivational propensities, constructs, beliefs, expectations, cares, commitments, projects, aspirations, ideals, dispositions, and evaluative standards - whole new attitudes, and my performance of whole new sorts of actions. Though this is probably Sarkar's own view, his "modest" formulation of transformative value leaves the real depth of ethical transformation only implicit.

We may now set the above issue aside, and note that both the wide and the restricted reading of the notion of transformative value suffer from the following conceptual weaknesses when employed normatively:

1) transformations can be positive or negative: if I like the experience of biodiversity in Madagascar, I change my demand values and/or my whole take on things in its favor; but if I do not, if during such experience I am chased down the mountains by enraged and maddeningly cunning baboons, bit by a paralyzing snake, poisoned by a plant I eat, or see my parents devoured by delirious lemurs, I may change my demand values and/or my whole take on things in its disfavor, and act accordingly. Even experiences much less dramatic than those, such as being targeted by mosquito's all the while, being unable to sleep comfortably at night, or not finding any Coca-Cola signs anywhere, may trigger negative reactions on my part. This is known as the directionality problem.

2) Anything can have transformative value, including Saguaro cacti, a solitary plant cracking through the asphalt, heroin injections, sunsets, reproach, the death of others, dreams, dates, etc. This is known as the boundary problem.

3) Some people will have transformative experiences, some too many; others will have few, some none at all - depending on opportunities, circumstances, sensibilities, moods, and a wide variety of other factors. Moreover, not everybody will be, nor will be willing to be, equally moved by those experiences; some may be more receptive and enthusiastic, others may be shut off or feel it is too late for change.

4) With specific regards to one's treatment of the environment, the transformative value of nature may be unable, by itself, to perform the normative function it is assigned: it is unclear whether epiphanic experiences (which cannot, after all, take place every day) can be thought of as sufficient and sufficiently reliable propellers of environmental-friendly behavior and dispositions in quotidian practices and throughout the course of one's whole life, in disjunction from other elements such as ethical reasoning and training and habituation (if only because the memory of such experiences fades with time).

5) Even if we could rely on epiphanic experiences to sufficiently and consistently provide us with decisive reasons to conserve, it seems that we will have stronger reasons to conserve species that have more transformative value over those that have less.

These are powerful objections; we shall soon discuss them, and see whether they hold in the case of gardens and garden nature as strongly as they do in relation to natural areas and 'wild' plants. Before doing so, we should note that the transformative value of nature, albeit often a-thematically, has always been a major topic in environmental ethics (and indeed in philosophy at large, in art, in religious thought, etc.): the notion that experiences of nature and natural entities have the power to influence and/or change our *ethos* is at the core of

that spiritual instrumentalism which, recall, remains operative (and accepted) whether the stance taken is an anthropocentric or a non-anthropocentric one.

There is a sense in which the wilderness paradigm is based on the unexpressed premise that nature has transformative value: the latter is precisely what Thoreau was pointing at when recounting his ethical experience at Walden, what the fathers of modern environmental awareness were counting on when promoting the institutions of national parks and people's frequentation of them, and what the theory of Deep Ecology implied by maintaining that the 'wild' is "a sort of asylum for re-orientation where a relational self ideal can take form", and experiences of it are necessary if one is to dismiss the "assumed but inaccurate bifurcation between self and nature"¹⁷⁵ (thus, it seems, they are necessary to living a life that is more "in the truth", and because of that, arguably better lived).

In general, no matter the theoretical creed, few environmental ethicists would challenge the idea that the 'wild' is a site for spiritual revival, moral rejuvenation, and sudden inspirations; and that "wilderness helps us put our "civilized" life in a new perspective...and helps us discover what is really important and essential to our existence"¹⁷⁶. Let nature present itself to you unfettered (just go to Death Valley, climb a mountain, or have a look at a 'wild' Baobab tree), and you'll never be the same again – everybody agrees that the 'wild' is big on transformative value.

In order to give nuanced responses to the five objections above, we should begin by registering that the ways in which our experiences of natural areas and 'wild' plants may lead us to attribute transformative value to their objects are different from those in which our experiences of gardens and cultivated plants may lead us to do so. This is to say that different aesthetics of nature may trigger different sorts of ethical transformations.

¹⁷⁵ See M.P. Nelson, "An Amalgamation of Wilderness Preservation Arguments." *Environmental Ethics: An Anthology*. Eds. A. Light and H. Rolston. (Malden: Blackwell, 2003) p. 425.

¹⁷⁶ See M.P. Nelson, "An Amalgamation of Wilderness Preservation Arguments," p. 418

A gardener confronts nature in a day-to-day, un-romantic, slow-motion manner, observing the details of natural phenomena, and gaining Gricean acquaintance with them; reconstructing processes; tracking causes; attempting to tune and tap into the ‘wildness’ of her plants and surf on their independent biological dynamics. His experience of nature is primarily manual; he dwells in the tangible characteristics of the land and plants he cultivates, and his confrontation with them is eminently operative. Though they may well accompany them, propositions of science and flights of the emotions are ultimately irrelevant to the operations of a gardener (think of P. Sellers’ ataraxic character in *Being There*), who experiences nature primarily through hands-on, goal-directed engagement, and develops a personal perspective on the meaning of such experience from within the context of his own life.

The experience that a gardener has of nature certainly transforms his *ethos*: for one thing, he becomes more patient, for he learns to respect the reasons of the season; and gets a clear grasp of the deep fact of life that not everything - flowers, fruits, happiness, rest - is available all the time; and that one must take care of things, if things are to go well for one. Even though he has no choice but to respect the reasons of the season, however, a gardener experiences nature not only as something that “does its own thing” (which he does), but also as something with which things can be done, provided certain attitudes are entertained, and certain actions are performed, and not others. A gardener lives out a narrative of operative practice, in which he adjusts his conduct in accordance to the needs and requirements of his plants; of such narrative, he (with his human prerogatives – his curiosity, ingenuity, and resoluteness) is a protagonist as much as are these plants themselves (with their biological prerogatives). This is a narrative of creative receptivity.

In the next chapter, in which we shall delineate a theory of garden-based environmental virtues, we shall more extensively articulate the ways in which a gardener’s practices can deeply transform his *ethos*, and in a way that will positively reverberate on his attitudes and actions in and towards nature at large.

The way in which a contemplator of natural areas and ‘wild’ plants experiences the transformative force of nature is of course very different. His is an eventful, possibly overwhelming experience. It is an episodic, and an epiphanic sort of experience, in which one’s station within the wider workings of things is suddenly made clear to one.

A celebration of the transformative value of ‘wild’ nature is constitutive of the wilderness paradigm. This is so whether the proper model for nature aesthetics is thought to have an extensive “thought component” and a primarily contemplative (and thus somewhat detached) sort of character (as maintained, for instance, by science-based approaches to wilderness experience); or a very limited thought component and a total-engagement sort of character, so that one undertakes “a sensory immersion in the natural world that reaches the still uncommon experience of unity”¹⁷⁷.

The contemplative and the total-engagement models encapsulate two very different ways of experiencing nature, and thus nature’s transformative power, but they are fundamentally similar in that on neither of them does one *cultivate* nature: thus in neither of them does one creatively contribute to giving shape to the transformative experience itself: rather, one merely undergoes it. To this extent, both these models of nature aesthetics refer to a narrative of sheer receptivity. In neither case, of course, receptivity is *absolutely* sheer: in both cases we enable the experience by and through our subjective perspective; moreover, on the contemplative model, one brings to one’s experience of nature (at least) a certain background scientific knowledge¹⁷⁸ and/or aesthetic sensibility, while on the total-engagement model, one brings to the experience (at least) one’s affective and intellectual willingness (and ability) to “let go” in the face of sensory stimulation and the overwhelming a-propositionality of nature’s presence. But in neither case does one help bring about *the objects* of such transformative experience, that is, the bearers of transformative value; these are merely encountered.

¹⁷⁷ For these distinctions, and a discussion of the various models, see G. Parsons, *Aesthetics and Nature*, p. 86. The quote is by A. Barleant, cited in Parsons, p. 81 ff.

¹⁷⁸ See A. Carlson, *Aesthetics and the Environment: the Appreciation of Nature, Art and Architecture* (London: Routledge, 2000), p. 50: “If to aesthetically appreciate art we must have knowledge of aesthetic traditions and styles within these traditions, then to aesthetically appreciate nature we must have knowledge of the different environments of nature and of the systems and elements within those environments”.

The gardener's aesthetics of nature, the way he experiences it, is very distant from both the contemplative and the total-engagement model. That this is so in the first case is obvious; regarding the second, note that on that model we are supposed to allow ourselves to be enveloped by nature, physically losing ourselves in it, touching and smelling, and (perhaps even) eating it – we are supposed to annul any dualistic attitude and *merge* with the nature around us (a merge often described as thoroughly devoid of any thought-component). However, when we *work* on land and plants, the palimpsest of our projects, of our own objectives and interests, and the strategies of our methods dominate our experience to an extent that disallows not only contemplative detachment from them, but also any merging with them.

Cultivation is not the sort of engagement intended by the total-engagement model of nature aesthetics; for the latter, we engage with the plants and the areas *as we find them*, and “on their own terms”, just as we do on the contemplative model of nature aesthetics. In neither of those cases does one help bake the transformative pie, as it were – just eats it: on the contemplative model with forks, knives, and monocles, on the total-engagement one with one's hands, and indeed rolling on the table. Within a narrative of sheer receptivity, the object of experience, the potential bearer of transformative value (say a place, or a plant) is simply encountered, but not made, nor cultivated, and its transformative force thus ultimately imposes itself on us; and this is perfectly consistent with the wilderness paradigm, according to which the transformative force of the ‘wild’ will take us, and our evaluations, by storm.

A gardener helps bake the transformative pie, and eats as he bakes. His aesthetics of nature is not contemplative, but rather countenances very physical engagement; and yet such engagement is never “total”, for it always has some very specific practical end in view that inhibits the gardener from merging with the nature he works on/with. The nature a gardener experiences does not suddenly impose itself to him (rocking his ethical world, as it were), and the transformation of his *ethos* is not the result of inspiring episodes, but is rather internal to the everyday practices that constitute his experience.

Nature's transformative value as experienced through sheer receptivity in the 'wild' cannot but ultimately refer to some "special" sort of experience: of nature's awesomeness, of its being mathematically and dynamically sublime, of our own disappearing in the face of it through detached contemplation or sensory merging, etc. In the garden, on the other hand, it is nature's absolute mundanity, as discovered through the creative receptivity that characterizes one's everyday physical and purposeful engagement with its needs and requirements (and ultimately with its powers and fragility), that to which its transformative value finally refers. In the garden, nature's transformative value is not the upshot of some eventful experience, but is rather internal to one's everyday practices¹⁷⁹. We should thus say that, while in the 'wild' we may have transformative experiences, in the garden we have transformative *practices*. Garden nature, unlike its 'wild' counterpart, is always near to the gardener, a nearness appreciated through tactile familiarity and purposeful engagement. It gains its transformative significance from how its physical presence, a presence he does not just encounter but helps bring about, enters and influences the parameters of her daily life.

Now consider the five objections listed above. Note, first, what is not being objected to: that things may have transformative value – other labels may be provided, but it is quite safe to affirm that some things we experience, sometimes, truly transform our ways to be in and to look at the world - and that nature at large, or biodiversity, may well be among them. But how do they change it, positively or negatively – and so, do we value them more, or less, following the experience? And aren't these "things" potentially *all* things? And who and under what conditions has those transformative experiences? And can we rely on them to sufficiently ground our obligations to conserve? And if we can, will we have more urgent obligations to conserve species that have more transformative value than others that have less?

¹⁷⁹ This shelters a garden-based notion of transformative value from the charge of intuitionism and irrationalism to which its 'wild' counterpart remains always open.

Note that we shall not attempt to rebuke those objections to the notion of transformative value on a *general* level: we shall discuss their resolution only in relation to gardens and garden plants – that is, we shall argue that the notion of transformative value is equipped to survive the above general objections when applied to gardens and garden plants. If it turns out that when so applied the notion is not subject to objections that are instead fatal to it when it is applied to ‘wild’ places and plants (and the above ones arguably are), then perhaps it is not the concept of nature’s transformative value that is weak, but rather the paradigm that it refers to that cannot support it.

Our experience of ‘wild’ nature, and of its eventual transformative powers, is characterized by sheer receptivity: we encounter the object and undergo its experience. Our experience of nature in gardens, on the other hand, is characterized by creative receptivity: we contribute to the existence and the persistence of the botanical element, and purposefully configure our everyday experience of it in response to its needs and requirements, as well as our own objectives. The directionality objection contests the fact that experiences of nature (or botanical biodiversity) may be positive or negative (on a continuum), and thus may transform us, and our evaluations, positively or negatively with regards to their object(s): following transformative experiences, we may change our attitudes and actions in nature’s (or biodiversity’s) favor just as easily as we may in its *dis*-favor, depending on the experience. If the transformative value of nature and/or botanical biodiversity is to provide us with decisive reasons to conserve, it must be positive. And thus positive must be our experiences of them.

In other words, we should be able to *select* our experiences of nature and botanical biodiversity. Within a narrative of sheer receptivity, as is the one that characterizes our experience of ‘wild’ nature and ‘wild’ botanical biodiversity, this selection is out of the question: we take nature on its own terms, and merely expose ourselves to its experience, with no jurisdiction on whether this will be congenial to us or not. Within a narrative of creative receptivity, our experience of nature and botanical biodiversity is something we help configuring, and we have jurisdiction on (and knowledge about) what sorts of objects will our experiences refer to. It is therefore much more likely that our garden experiences of

nature and botanical biodiversity will lead us to attribute positive transformative value to them.

This is not to say that in gardens we can pick-and-choose the elements of nature we like and only deal with those – bending nature to our whims through petty domestication. This is very far from being the case. Weeds, unwanted and ever more numerous, punctually populate gardens triumphantly, and a gardener deals with *them* way more than with her chosen plants. In no way does she domesticate weeds; nor pests, hailstorms, floods, winds, heat; nor indeed the internal dynamics of her chosen plants. When she plants a garden, she knows that all of the above will be objects of her experience of nature and botanical biodiversity too. All these things are out of control, and experience of them may well not be congenial to her.

Gardens and garden nature do not have positive transformative value because our experiences of them are under control, and thus can always be made congenial to us, but rather because they are not the objects of transformative *experiences*, but of transformative *practices*. Their transformative value is not tied, as it often is in the case of natural areas and ‘wild’ plants, to epiphanic events, but is rather internal to such prolonged practices. Even if some (or perhaps many) of the discrete experiences that compose these practices are negative, the practices themselves may still be attributed positive transformative value overall. Even if such practices include (more or less) negative experiences of nature and biodiversity, such as my having to pull out weeds every day, witness the death of my plants, have worms crawl into my shirt and thorns stuck into my hands, all those experiences need not make the transformative value internal to the practices that my garden and garden plants call for any less positive in my eyes. Indeed, part of their positive transformative value will be related precisely to my finding ways to respond to the negative experiences I may have in and with them. And part of it is related precisely to their intimating me that nature is not a menu for my choice, from which I may just pick and choose what I like – that it is demanding, and quite treacherous (though that is not even the right word, for nature is no person that has made an agreement with me); and that if I wish to have access to all that I find valuable in it, I must consistently, unrelentingly confront its needs and requirements through my work and concern.

Regarding the boundary objection, i.e. that anything at all may have transformative value, we may follow Sarkar when he argues that an object should be said to have transformative value when it triggers transformation *systematically*: possible normative pronouncements grounded on the transformative value of some object must refer to its *systematic* transformative value, to oneself through time, and/or to different persons at different or at the same time. Obviously this is no more than a stochastic solution: because transformative experiences are often very personal (though they may well be shared - say, watching the sun rise with a bunch of friends), it is conceptually impossible to rule out the option that a blade of grass or a random stone will have the strongest transformative value to one in given situations. We wish not to deny this point (which is, in a way, quite fascinating), but rather to buy it in full, and indicate one very specific “given situation”: within the boundaries of a garden, there is no difficulty in attributing normative weight to the transformative value of nature - the reason is that gardens and garden nature are objects of transformative practices, and such practices are systematic, and systematically involve the same objects. Because anything in a garden is part of such practices (from my favorite rare plant to the most wicked of weeds) anything in a garden - and of the course the garden itself - can have transformative value to those that in such practices are involved. If botanical biodiversity is to be conserved on grounds of its transformative value *in gardens*, there is no boundary problem – for gardens themselves have boundaries.

This is of course but a weak response. Again, a fuller response will only be available once we have discussed the perfectionist dimension of the value of gardens and garden plants, and the development and exercise of virtues that garden practices enable and require.

Who and under what conditions has transformative experiences? Can some people be more sensitive to them than others, and can they perhaps be too sensitive? Is there a specific outer atmosphere or a specific inner state that are especially conducive to such experiences?

And if conservation is normatively grounded on nature's and biodiversity's transformative value, will only those who experience such value have decisive reasons to conserve?¹⁸⁰

It is clear that the above objection is quite strong when the transformative significance of nature or biodiversity is thought to be experienced within a narrative of sheer receptivity that takes place in the 'wild'. There, transformative experiences have an epiphanic character, and seem to be connected to sudden realizations - and this, it seems, would make an ethic of conservation based on transformative value dangerously reliant on some unspecified form of intuitionism, and/or perhaps even irrationalism. Moreover, it would make it remarkably elitistic, for not everyone will have a chance to experience natural areas and plants and, even among those who do, not everyone may be open to, or ready for, or capable of being transformed positively by them. If personal reasons to conserve 'wild' nature and biodiversity relate to its transformative value only, it may well turn out that only very few people will end up being involved in the conservation enterprise.

It is also clear that such objection is way less strong when the transformative significance of nature or biodiversity is thought to be experienced within a narrative of creative receptivity that takes place in gardens, and to be internal to the extended practices into which such experience articulates through time: that is, when the experience of the transformative power of nature and biodiversity has a much less accentuated epiphanic character, and is rather internal to one's daily routine. In this case, it seems that no unusual event, no particular metaphysical mumbling, no scientific background knowledge, no peculiar atmosphere or inner state, no alert and refined sensibility, no bodily merging, no special attunement of any kind is required of one in order to experience nature's transformative force - just the carrying out of daily practices: these do not provide illuminations about the nature of things, but, as Augustine had it, "conversations with it". Such much more mundane way of experiencing the transformative value of nature and biodiversity is in principle available to all those who dwell in the practices to which it is internal, and such practices are in principle available to all in gardens. We can thus retain

¹⁸⁰ If so, should these "inner states" be stimulated in everyone? Should the experience of nature's or biodiversity's transformative value, and one's taking on obligations to conserve, be promoted by distributing, for instance, psychotropic substances to people, or by training them in the art of meditation? Should everyone perhaps a right to travel to the 'wild', say, every ten years?

the idea that the transformative value of nature and biodiversity can be one strong reason to conserve them, and yet steer clear of its possibly elitistic (as well as intuitionist and irrationalist) implications.

This swimmingly leads us to a rebuke of the objection that transformative value cannot do the required job of sufficiently and reliably providing us with decisive reasons to conserve nature and biodiversity. It is indeed doubtful that epiphanic experiences (which cannot, after all, take place every day) can be sufficient and sufficiently reliable propellers of environmental-friendly behavior and dispositions in quotidian practices and throughout the course of one's whole life, in disjunction from other elements such as ethical reasoning and training and habituation (if only because the memory of such experiences fades with time). Now, the wilderness paradigm does have space, within its recipe for moral progress, not just for epiphanic experiences but also for ethical reasoning, and indeed, on the contemplative model of nature aesthetics, the two may well stand in some sort of recursive, self-reinforcing relation to each other. Within such paradigm, however, the role of training and habituation is severely restricted: there is place for them only insofar as one trains and habituates oneself to *receive* nature's transformative force most appropriately (say, through contemplation + ethical reasoning, or through total-engagement + a-propositional merging); but there is no place for them if what one trains and habituates oneself to is *contributing* to such transformative force, by acting on/with nature through certain practices. Now of course a *garden*-based paradigm is way more hospitable, and it is indeed to a large extent constituted by, training and habituation through and to certain practices. Therefore in gardens the transformative value of nature and biodiversity can not only sufficiently and reliably propel environmental-friendly behavior and dispositions in everyday practices and throughout the course of one's own life, but is *itself* propelled by the extended carrying out of such everyday practices.

The last objection (5) points out that grounding our obligations to conserve on transformative value may lead us to attribute differential urgency to the conservation of areas and plants according to the differential transformative value they may have in the eyes of one. Such objection applies, in one sense, also within a garden-based paradigm, for obviously one's own garden and plants will have more transformative value for the gardener than any other area or element of botanical biodiversity. It does not apply, however, in another sense, that is, *within* the garden, for two reasons: first, because the transformative value of nature and biodiversity is there internal to a practice; and all the plants in a garden are objects of such practice, all will have transformative value from the gardener's perspective, a centennial olive tree as much as a rose bush, and a Saguaro, indeed, as much as weeds, though for different reasons – weeds are a special case, in this connection. We return to it when discussing Democritean cheerfulness.

Second, in the garden the value-making narrative properties of nature and plant species and specimens that may provide one with decisive reasons to conserve them, are not restricted to the transformative. Other valuable narrative properties (the personal and the projectual) will *also* provide decisive reasons to conserve. If one entity scores low on transformative value, it may well score high on the others. Thus in the garden the equation (more transformative value) = (more urgent obligations to conserve) does not hold as tightly as it does in the 'wild'¹⁸¹. Note, also, how we differ from Sarkar on this point. He ultimately concedes that elements of biodiversity have more or less transformative value “signally” on grounds of their “intellectual interest”. On our view, there are “interests” way more personal than just the intellectual, grounding the transformative value of gardens and garden plants, as well as of garden-based practices of conservation, in a gardener's perspective: and those relate to the ways in which such objects and practices have come to be informing elements of her basic organizing self-conception, inviting whole new attitudes and whole new sorts of actions on her part – which have contributed and keep on

¹⁸¹ Where, according to Sarkar, elements of biodiversity have more or less transformative value “signally” on grounds of their “intellectual interest”. It is clear how far we are from Sarkar's conclusions: for there are “interests” way more personal than just the intellectual, grounding the transformative value of gardens and garden plants in a gardener's perspective – related to the ways in which those have come to be informing elements of her basic organizing self-conception, inviting whole new attitudes and whole new sorts of actions on her part – which have contributed and keep on contributing towards making her the particular person that she is. By these lights, their “intellectual interest” is only one among the many factors that may lead one to attribute transformative value to nature in a garden.

contributing towards making her the particular person that she is. By these lights, their “intellectual interest” is only one among the many factors that may lead one to attribute transformative value to nature and natural entities in a garden.

6.3 *Value-making narrative properties of gardens and garden nature: projectual*

A major value-making narrative property of gardens and garden nature, which may compensate for their (relative) lack of naturalness, and provide individuals with prudentially sound, and decisive reasons to conserve them, is the projectual. To spare words, let us henceforth speak loosely of “projectual value”.

This is a value related to doing well in following through on one’s commitment to a project. When I set up to make a garden, or place plants in one, I embark on enterprises the proper furthering of which is valuable in its own right, apart from any other valuable properties the garden and the plants in question may otherwise possess. The value of a project (*praxis*) goes beyond that of attaining its objects (*poiesis*), countenancing not only a commitment to act so that they are attained, but also a commitment to act so as to see to it that the commitment to attaining them is not abandoned, neglected, or poorly operationalized.

Some projects, like that of going to the movies with a friend next week, are of limited relevance within the context of one’s life, and thus fail to become significant elements of one’s basic organizing self-conception. Others, however, gain such prominence as to become constitutive elements of it: usually, these are extended in time, and call for the consistent exercise of certain attitudes and the consistent performance of certain actions on one’s side, at once orienting and colonizing one’s life. If my project is translating *Finnegan’s Wake* into Italian, my days will be defined by it, for many years; if my project is ensuring a happy life to my children, I will have to adjust my whole life to it, etc.

These sorts of projects may be called “identity-conferring”¹⁸²: (at least some of) the attitudes and actions of one who entertains them are *consistently* geared to their furthering; and she cannot think of herself in disjuncture from a commitment to them. For a gardener, her garden and her plants are the objects of one such project: her days are defined by it; certain attitudes and actions are consistently called for on her side; and her commitment to consistently exercising these attitudes and performing these actions is part of her very conception of whom she is and wants to be. A gardener’s life is not one in which there merely happens to be some gardening: it is, to a considerable extent, a life constituted by it, for a gardener deals with living entities, and must follow the seasons with punctuality and precision - she cannot stop gardening at will, lest the biological basis of all that she sees as valuable in her garden be lost. Gardening is, and must be, a resolute choice.

But avoiding the biological deterioration of her garden and plants is only one reason for her not to abandon her commitment to the gardening project, and the attitudes and actions it calls for. Another (related but independent) will be her desire/need to justify the time and effort already devoted to it (i.e. to legitimize her past); another will be her desire/aspiration to prove to herself, as well as others, that she is one who does things well (i.e. to assert her present) and ceases not attending to what she starts (i.e. to characterize her future). On this view, a project has, so to speak, both an external and an internal stake: while the external corresponds to the end it purports to accomplish (say, a beautiful garden), the internal has to do with “doing things well” - with the quality of one’s overall appreciation of what is enabled and required by the project, and with one’s consistency, efficacy, and punctuality in practically responding to it.

The internal stake of a project marks the space of projectual value, which the objects of such project possess precisely because they are constitutive of it. Doing well those things that are enabled and required by a project one has resolved to is different from just doing or getting the things towards which such project is geared - for the latter need not enable and require any actualization of one’s character (I can always just buy a completely finished, beautiful garden, and pay someone else to attend to it). It is this difference that establishes a zone of ethical interest..

¹⁸² See <http://plato.stanford.edu/entries/integrity/>

Their being integral parts of an identity-conferring project will give the gardener prudentially sound, and decisive reasons to conserve her garden and plants, over and beyond whatever other reasons (aesthetical, economical, etc.) she may otherwise have had to do so. To a certain area and to particular elements of botanical biodiversity, accordingly, is attributed a value they would have not been attributed with, had they not been objects of a particular gardening project. Because such value is directly related to the role such area and entities have within the context of her life and her basic organizing self-conception, a gardener will have decisive *ethical* reasons to conserve them.

Value-making projectual properties may seem an exclusive of gardens, but it is in fact not impossible for natural areas and ‘wild’ plants to be attributed with them as well, for a project need not entail one’s active engagement with its objects, but may also be fully contemplative in character. When it comes to given natural places and given ‘wild’ plants, science is one such project: one may devote his life to their contemplation and to the assembling of scientific observations about them, and such project would extensively inform and deeply influence his basic organizing self-conception. Art is another: one may devote his life to painting or photographing a given area or given plants, at different times, in different lights, in different years, etc.¹⁸³ Another yet is mysticism: one may devote his life to penetrating the inner essence and/or the cosmic power of an area or a plant, etc. All such eminently contemplative projects may well be identity-conferring, and all may well entail the development and exercise of a special, personal relation between the scientist, artist, or mystic, and given areas and plants; and so they all may, in principle, provide them with decisive reasons to conserve such areas and plants.

So suppose I am a botanical scientist interested in the observation of *Puya Raimondii* in its one and only natural setting, the *Cordera Blanca* of Peru; or a photographer interested in shooting these area and plants in ever-changing lights, say exactly every six months at the

¹⁸³ Or to planned and carefully recorded idle walks through a natural area: a number of artworks situated between Conceptualism and Land Art are explorations of one’s practically disengaged phenomenology of nature.

same hour of the day. Suppose further that I study *Puya Raimondii* only, all my life (this may well be required of me, as a botanical scientist, given this plant's slow growth); or that I have decided to devote all my photographic skills to the shooting of just one specific bunch of them, as they grow through the years. Now both are obviously projects of mine, and both will entail the entertainment of certain attitudes and the performance of certain actions, and not others, on my side, if they are to go down well; and their going down well, their being carried out with a certain "professionalism" on my side, as it were - with precision, intellectual honesty, creativity, resoluteness, a certain rate of productivity, etc. - is something I regard as important to myself. Because the significance of my project to me countenances not only a commitment to act so that its objects are attained, but also a commitment to act so as to see to it that the commitment to attaining them is not abandoned, neglected, or poorly operationalized, I am not willing to fake data, or take pictures of two different plants and pass them as two pictures of the same plant at two different stages of growth, or renounce my trips and camping time on the mountain on grounds of a cold or some other virus, a broken arm, or the worried and silent reproach of my wife and kids¹⁸⁴. My *Puya Raimondii* project is a constitutive part of whom I am, a cornerstone of my basic organizing self-conception; if I renounce it, there is a chance I may become unclear, as B. Williams famously put it, on "why I should go on at all".

My *Puya Raimondii* project has nothing to do with bringing such plant about or cultivating it and/or the area on which it grows. Because it does not actively participate in the life of the plant nor in the functioning of the wider ecosystem that hosts it, as it would if I was cultivating it in my garden, it could be said to be *parasitic* on those. Therefore, possible impediments to the furthering of my scientific or artistic project may come not only from anything that may hinder my punctual acting with it in view (say, my worried wife and kids), but also from anything that may threaten the life of the plants or the proper functioning of the area in which they grow. Suppose such threat is at some point actualized. I have personal reasons to conserve the area and plants, for my project, and with it my basic organizing self-conception, are parasitic on them.

¹⁸⁴ In this case, I may borrow the lyrics of Carl Perkins in "Boppin' the Blues": *I love you baby, but I must be rhythm-bound*

This case is similar to the one confronted when discussing the case of personally valued particulars. About it we should say, first, that it will only present itself to the few who are in the position to pursue eminently contemplative projects involving natural areas and ‘wild’ plants: scientists, artists, and mystics – making the larger project of biodiversity conservation remarkably elitistic, and consequently weaker. And second, that the only situation in which no naturalness will be lost obtains if the threat such areas and plants are exposed to is directly related to physical human intervention on them (in the form of, say, cattle grazing): in which case I can conserve the objects of my project, and thus the project itself - and thus, constitutive elements of my basic organizing self-conception - by leaving them alone and getting, in some way, everyone else to do the same. If the threat, on the other hand, is related to a natural process (say, an unexplainably dry season), at least some naturalness will always be lost in the process of conserving: the naturalness of the place and entities, and/or the naturalness of the threatening process. Non-anthropocentrists who attribute projectual value to given places and entities for reasons related directly to their naturalness (that is, whose project involves contemplation of these places and entities *as natural*) may drop the possibility of intervening altogether; and not just (nor indeed primarily) in order to preserve at least the naturalness of the threatening process, but rather because their project would inevitably be ruined anyway, irrespective of whether the areas and plants were destroyed by nature or conserved through human intervention. Similarly, anthropocentrists who do not care much for the naturalness of the threatening process, but to whose projects the naturalness of the area and plants is significantly relevant or even essential, will see their projects deprived of one of their constitutive or even essential features. If my project is studying and photographing *Puya Raimondii* in its natural habitat, and such habitat is at some point in need of being sheltered from the pernicious effects of an exceptionally dry season, by and through human intervention of a broadly gardening sort, my project either collapses (if I consider the science and aesthetics of *Puya Raimondii* and *Cordera Blanca* to be much less interesting or important *now* that they are no longer natural), or it needs to be drastically reformulated into one featuring relatively un-natural areas and plants. Such reformulation may result more or less difficult to me, according to the degree and extent to which naturalness was constitutive of my contemplative project, and the contemplative project was in turn constitutive of my basic organizing self-conception.

If the threat to *Puya Raimondii* was neither human (herders) nor natural (a dry season) – but related to the multiplying effect of natural forces on ecologically pernicious anthropogenic factors, as in the case of global warming, and there was thus no realistic way in which the naturalness of its objects could still be a feature of my project, the possibility of projectual value providing me with decisive reasons to conserve given places and entities would only be realized if I was willing and able to change the attitudes and actions that a “professional” furthering of my project called for when the latter featured natural areas and plants, into attitudes and actions that are appropriate to a project now featuring relatively un-natural, threatened areas and plants, which *need* human intervention if they are to persist. In this case, in order for projectual value to provide me with prudentially sound, and decisive reasons to conserve, I must be willing to reformulate my project - for it to include, besides collecting scientific data and taking pictures, actively conserving the sources of these data and the subjects of these pictures, by and through garden practices. With that, (many of) the attitudes I entertain, and the actions I perform, will have to change too; and, in time, so will my basic organizing self-conception.

Projects have ramifications that extend into the future and turn out to be defining (to a greater or lesser extent) of the course of one’s life¹⁸⁵. Placing a plant in a garden, or indeed planting a whole garden, is a move that exposes me to a certain sort of future life, enabling and requiring a resolute commitment on my side to the entertainment of certain attitudes and the performance of certain actions, to a constellation of practices and habits, and indeed aspirations, evaluative standards, etc., which will effectively make my life a gardener’s life.

¹⁸⁵ Things that are not objects of my decisions are deliberately irrelevant, being not a matter of choice but of chance. These are not things one goes for but rather deals with - matters of moral luck in a very general sense. They do influence one’s *ethos*, but they do not do so following one’s exercise of it. My having been baptized, for instance, though it has ramified within the context of my life and made me a certain person and not another, says nothing about whom I am unless and until I decide to follow through on it in some way (going to church, taking communion, etc.) – making it an identity-conferring project of mine. Same thing if I inherit a garden, or a nursery. Projectual value is, as it were, activated by me, through an evaluative and deliberative exercise.

In the context of such life, certain events will be more likely to take place than others: for example, I may be more likely to visit parts of the world that host a vast or interesting amount of botanical rather than marine biodiversity, and perhaps move to one of them in order to plant my dream-garden there; but also, eat some things rather than others, read some books rather than others, approve of some governmental policies rather than others, meet certain kinds of people, raise my children in a certain place, teach them certain things and instill in them some aspirations rather than others, etc.

One may imagine backward-looking evaluations of a project - of any plant I planted in my garden, and of my garden as a whole: my decision to go for these things, I now see, has ramified in ways that have given a definite shape to my life (effectively making me a gardener); I thus evaluate them (during, say, some kind of end-of-a-life evaluation), considering whether the life they have shaped is one I can regard as well lived.

With that in mind, as I embark on an identity-conferring project I want my present decisions to be justifiable to all stages of my future self. In going for a garden or a plant, I thus take into consideration the possible role and significance that these things I am now going for may later have. The orientation I give to my life now, by embarking on such projects, is not one I later want to look at with regret, but rather with satisfaction (Spinoza's *acquiescentia in se ipso*): I want my future self to be reconciled with my present one, which, by the time I am on my death-bed, will obviously be past. I thus want my present evaluations and deliberations to be coordinated to what I anticipate may be my future ones; and thus those to be coordinated with my past ones.

Although I do not yet know what will happen during my life, and I thus cannot quantify the projectual value of a plant or a garden as I plant them, I do know that they will have some, and that lingering thought confers to them a value now, which I take into consideration as I decide on whether or not to pursue them, bring them about, nurture, conserve them, etc. A thing's expected projectual value can thus have a role in my *present* evaluations and deliberations regarding that thing, a role based precisely on my expecting it to figure in my end-of-a-life evaluation. I do not want my future self to object to my present decisions, and I keep such concern into consideration as I take those decisions. I anticipate, best that I can,

the kind of life I will live by taking some decision, and consider whether this is a life I may later regard as having been well lived.

When, at t_1 , I decide to create a garden or place some plant in it, I anticipate not only some future outcome (the way those will look when fully grown, for example), but also the extent to which the process of getting to such outcome, and then of maintaining it, will penetrate my daily practices, and the way in which it will do so. I thus also anticipate the sort of attitudes and actions that such process will require of me, and, at least to some extent, the sort of person I will in time become, as a consequence of doing the gardening that a garden and/or a plant will enable and require of me. In choosing to garden, I open myself to certain future pathways of behavior, and certain sorts of concerns, while renouncing others. At t_1 I deem such opening and renunciation worth going for, thinking that at t_4 , time of my end-of-a-life evaluation, I will take my lived experience of the ramifications of that choice to confirm its having been a good choice.

Staging the t_4 scenario on a death-bed is of course a dramatization. The death-bed is assumed to be the ultimate (in all senses) future standpoint, one which has clear and final view over all the turns that events have taken, and from which a final report on the ethical value of a project can thus be produced from one's best-informed perspective. But I do not need to be dying to reflect on the value of a project within my life up to a given moment t_2 : ten years after I planted my garden or placed a given plant in it, I look at myself and at the person I have become following my choice at t_1 , and take stock of the role that these objects have taken on within the context of my life. At t_2 , I evaluate the ramifications of my t_1 choice: my life is now one in which I routinely wake up at 5.00 a.m.; in which punctuality, precision, and order in my work are a matter of life and death for the objects of it; in which I am silent most of the time; in which time is spelled out by seasons and biological requirements rather than minutes and schedules; in which the elements are a constant preoccupation, and water an *idée fixe*, etc. Also, I have travelled to Madagascar but not to the Sahara, and I am now more inclined to move to Cape Town when I retire, to grow a garden there, rather than Sweden (foregone social benefits notwithstanding); I have

been growing and eating my own food, which has influenced my diet, my health, and my finances; I have spent the money spared on fruits and vegetables on books of philosophy, becoming a strange sort of jolly Wittgensteinian; I have met certain people rather than others; I have changed, revisited, or confirmed (at least some of) my beliefs about nature in light of my experience as a gardener, as well as my way to approach it. Because I have chosen to garden, I am a very different person than I would have been had I chosen to drive fast cars, open a restaurant, be a professional assassin, an actor, or undertake a diplomatic career: what I regard as important to myself is seeds, soil, water, plants, and tools; not curvy tracks, cutlery, the state of my guns, my Irish accent, or the search for *le mot just* at dinner parties.

The person I am ten years after creating a garden, and after ten years of maintaining it, is one I have effectively allowed myself to become, by taking one decision (create the garden) rather than another (fast-car racing): at t_2 , I evaluate whether this in fact is the sort of person, living the sort of life, which at t_1 I wished to allow myself to become; and if it is, or it is even better than I expected, and the object of my decision thus turns out to have positive projectual value up to that moment, I decide at t_2 to confirm my t_1 choice, and resolutely keep on gardening my way onto t_4 .

At t_1 I took a decision having in view certain possible beneficial ramifications of it. By sticking to that decision at t_2 , I legitimize my past, confirm my present, and anticipate and further orient my future self. I see t_2 as a continuation point of my original decision's ramifications, and by keeping on gardening I ensure that the sequence of choices thus made, the practices thus carried through, the attitudes thus entertained and actions thus performed, do indeed keep on ramifying towards the prospect that I approved at t_1 .

Note that such prospect had my approval at t_1 also on grounds of projectual considerations, some of which referred not to t_2 but to t_4 : I went for a garden because I anticipated the ethical value that, on my death-bed, I may have attributed to such decision, if and when I had considered the life I lived following it not with regret but with satisfaction. This entails that it is not only my t_1 but also my t_4 self, orienting my t_2 self in its evaluations and choices. By these lights, it seems that what informs my present evaluations of a project, and

my eventual decision to pursue it, is (at least in some cases) nothing less than a concern for my life as a whole. If that is so, this much follows: not only is conserving diachronic intrapersonal consistency one *reason* (if not the objective) to conserve things one sees as valuable; but it is also one *condition* for attributing certain sorts of value to things. Separable selves, it would seem, have no point of reference for attributing projectual value to objects and practices; and thus lack one important justificatory basis for conserving and for sticking to them, respectively. This implies, next, that insofar as valuing an object calls not just for admiring but also for protecting and conserving it (as is the case with threatened botanical biodiversity), valuing such object must indeed call for a resolute choice in its favor - as opposed to pre-commitment or consistent planning, for each of those still assumes intrapersonal diachronic separability when it comes to both evaluation and practical deliberation.

Forward- as well as backward-looking projectual evaluations are conditional on one's diachronic deliberative consistency, and the only choice mechanism by which the latter is assumed is resolute choice. The conservation of a natural area and the 'wild' biodiversity in it, however, enables and requires no resolute choice on one's side, but only a sophisticated mechanism of pre-commitment to leaving them alone, epitomized by our fencing our activities out of them. Conserving a natural area and the 'wild' plants in it necessitates no internal commitment to conservation on the side of an agent (and thus no resolute choice in their favor), but only the voluntary establishment of external constraints on one's action. A policy of benign neglect, the only one able to conserve given areas and plants *as natural*, is a quintessential case of pre-commitment: in order to enjoy the continued benefits we see as being provided by areas and plants as (if and when) natural, we preventively tie our hands in order to constrain future inconsistent, exploitative choices we may make regarding them (for instance, drilling the area, or collecting and selling the plants). At t_1 (say, the day in which a given area is accorded the status of national park), we impose voluntary constraints on our choices at t_3 (say, the day we visit it), which at t_3 we re-encounter as involuntary, solidified elements of the constellation of external circumstances to which we must now (then) respond. So even though we would, at t_3 , be inclined to abduct a 'wild' plant from

that area to bring it home with us, we clash against our t_1 decision to conserve it, a decision which has been operationalized and secured by fences, custodians, and indeed state regulations and police enforcement.

Here are three remarkable drawbacks of the above mechanism: first, it is alienating, for it quite clearly limits an agent's liberty (this may not be such a bad thing when the liberty limited is that of unconsidered sack-lunch tourists or illegal plant-collectors, but it is a problem when it is that of people indigenous to the area, who have for centuries used its plants as food and medicines); moreover, very few people (and certainly none from the indigenous population) have ever explicitly pre-committed themselves to such constraints, which, usually, are rather state regulations one is merely born constrained by. Conserving natural areas and 'wild' plants thus always entails the loss of individual liberty that is typical of Hobbesian solutions to collective action problems.

A second drawback of pre-commitment is the ultimate irrationality, for it entails not only limits to one's liberty, but also the costs of enforcing such limits – which would be saved by a resolute chooser who simply had it in herself not to abduct plants from the 'wild'. Drawbacks 1) and 2) are corollaries of the zero-sum game scenario that is implicit in the wilderness paradigm, according to which nature's gain is conditional on man's loss, and vice-versa.

A third drawback is slightly less apparent, but ultimately way more momentous for the enterprise of conservation. A mechanism of pre-commitment such as the one characterizing the conservation of natural areas and 'wild' plants need not, and indeed does not, assume agents at t_3 to bear any deliberative relation to their choice at t_1 : we simply "deposit our will in an external structure"¹⁸⁶, so that when we get to t_3 certain choices are simply not available to us. The range of choices, and thus attitudes and actions that are open to us at t_3 , need not be deliberatively connected to our choice at t_1 , t_2 , nor indeed to any future ones to be made at t_3+n .

¹⁸⁶ See E.F. McClennen, *Rationality and Dynamic Choice*, p. 158

The assumption of people's diachronic intrapersonal separability is working in the background. The 'wild', it seems, is a quintessential place for separable selves. We have suggested that separable selves lack may lack any reference for attributing value to particular things on grounds of a concern for their life as a whole; they are thus precluded from attributing projectual value to such things, thereby lacking (at least one) important justificatory basis for *conserving* them. A separable self benefits from finding particular things at t_3 , *not* from conserving them at t_2 or t_3+n . And indeed, pre-committing in favor of a natural area and/or the 'wild' plants in it is *not* pre-committing to *conserving* them at any intervening t_2 time, but only to *leaving them alone* when encountering them at t_3 . Whatever happens at t_2 and after t_3 is, from the perspective of the individual agent, utterly disconnected from her choices and actions (and is thus not, arguably, her responsibility in any normatively relevant sense); for she has not pre-committed to bringing about or maintaining any particular state of affairs involving that place and plants: she has simply pre-committed to leaving the place and the plants *as she finds them at t_3* , whatever it is that she finds. There is thus no pre-commitment to making sure that she finds this or that species, but only to leaving alone whatever species happens to be found (however weedy). It follows that what she resolves to conserve at t_1 may in fact be a very different thing from what she in fact winds up conserving at t_3 , confirming the lack of coordination between her diachronic choices, as well as its cause: the deliberative insignificance, when it comes to conserving specimens and species, of any but her (pre-committing) t_1 and her (pre-committed) t_3 choices. This is why the conservation of specimens and species may indeed be a lucky upshot of a pre-commitment to leaving them alone, but *not* the objective of it: if it was, such pre-commitment would have to enable and require certain choices and actions also at t_2 and t_3+n - but the conservation of natural areas and 'wild' plants *as natural* does not: I get to a natural area at t_3 , I see whatever there is to see, while external constraints make sure that, during my visit, I do not contribute to the extinction of any of the species I find there (whatever those may be, including the weedy ones). I thus honor the pre-commitment made at t_1 (though, has said, that may well have been a commitment to leaving alone species other than the ones I effectively end up leaving alone) - and then leave: I "thread lightly on the surface of the earth".

A gardener does not commit herself at t_1 to leaving alone whatever she finds at t_3 : to the contrary, she commits at t_1 to intervening at t_2 in order to conserve a very specific state of affairs all the way to t_3 (a particular arrangement of particular elements of botanical biodiversity, chosen and brought about at t_1). A gardener thus commits herself to conserving specimens and species through time. When I place a Saguaro in my garden at t_1 , I do so also on grounds of considerations about future benefits at t_3 of having it there - knowing and accepting that, in order to have it there at t_3 , I must keep it there, and that requires my conserving it at t_2 , and thus my making certain choices, entertaining certain attitudes, and performing certain actions, and consistently not others. A gardener's diachronic choices are deliberately connected, and coordinated. A garden is no place for separable selves. This is fortunate, because insofar as valuing an object calls not just for admiring, but also for protecting and conserving it (as is undoubtedly the case with threatened botanical species), valuing such object must indeed call for a resolute choice in its favor: if we are separable selves, we benefit from admiring things, but not from resolutely conserving admirable things.

One important reason to conserve admirable things is their projectual value, which is one sort of value that can be attributed to them only on condition of intrapersonal deliberative consistency, that is, out of a concern for the whole of one's life - a prudential disposition that present choices be justifiable to all future stages of one's self. Gardens garden plants, and garden practices do have this sort of value. As said, when, at t_1 , I decide to make a garden or place some plant in one, I anticipate some future outcome (the way those will look when fully grown, for example); but I also anticipate the extent to which the process of getting to such outcome, and then of maintaining it, will penetrate my daily practices, and the way in which it will do so. I thus also anticipate the sort of attitudes and actions that such process will require of me, and, at least to some extent, the sort of person I will in time become, as a consequence of doing the gardening that a garden and/or a plant enable and require. In choosing to garden, I commit to being that person, and open myself to certain pathways of behavior, and certain sorts of concerns, while renouncing others. At t_1 I deem such opening and renunciation worth going for, thinking that at a later time t_4 I will take my lived experience of the ramifications of that choice to confirm it having been a good choice. In maintaining my garden and conserving my garden plants, I honor my past

decision to bring them about; but such decision I took also on grounds of projectual considerations, i.e. a concern for my future (end-of-a-life) evaluation of past decisions: it is thus not only my t_1 , but also my (projected) t_4 self, which orients my present self in its evaluations and practical deliberations consistently, at both t_2 and t_3 .

If there is a clear case in which it is maximally beneficial, and thus eminently rational, to stick to one's commitment to conserving elements of botanical biodiversity, that is if and when such elements are in one's garden. Because such maximally beneficial commitment is in that case internal to a freely adopted plan, it is less costly to conserve biodiversity in one's garden than it is in any situation in which external mechanisms of enforcement have to be put in place for such commitment to be honored, as is the case in natural areas. If and when botanical biodiversity is conserved in and through gardens, savings obtain in both individual liberty and resources, while there are gains in individual autonomy; moreover, one's commitment to conservation, being deliberately consistent, is solid through time ($t_1 + t_2 + t_3$) rather than episodic ($t_1...t_3...$). A gardener's resolute choice is an intrapersonal solution to the interpersonal collective action problem of biodiversity loss: in the garden, the problem of biodiversity loss is given a new physiognomy, ceasing to be a collective, and becoming a very personal one, to be accordingly confronted through a resolute internal commitment rather than an episodic, enforced acquiescence to rules.

In gardens, reasons to conserve particular plants at t_2 , and reasons for honoring such obligations, are eminently ethical, motivated by an authentic concern for one's life as a whole: for whom one is, as a result of certain past decisions about whom one wanted to be; and for whom one effectively wants to allow oneself to become, as a result of resolutely coordinating one's present and future decisions to those past: thus letting one's commitment to the objects of such decisions, and the attitudes and actions such commitment calls for, continue ramifying within the context of one's life, further contributing to its distinctive particularity - a particularity which, during one's end-of-a-life evaluation, one would not want to look at with regret, but rather with satisfaction.

It should be emphasized that choosing resolutely is, for a gardener, primarily a matter of efficacy. That is, gardens and garden plants will not work out their best unless one

coordinates one's present evaluations and practical deliberations to those past and future, remaining a deliberately consistent, internally coherent, unified self through time.

Again, such consistency is an upshot of my resolute choice to garden, not the primary objective of it. But insofar as conserving an internally coherent, unified, and readable self is seen by one as a valuable benefit, it seems such upshot provides a further reason motivating one to consistently conserve botanical biodiversity in one's garden: for in doing so, one also conserves one's basic organizing self-conception - whom one is, was, wanted and is oriented to be; what one does; and how one does it. Such benefit, it seems, is less readily available to the separable selves that conserve botanical biodiversity in natural areas by leaving it alone, for doing so requires no resolute choice to consistently act in favor of botanical biodiversity, but only a pre-commitment not to (episodically) act in its disfavor.

'Wild' separable selves, who pre-committed at t_1 to conserve a given natural area and the 'wild' plants in it by leaving them alone may, at t_3 , well end up leaving alone areas and plants other than those they had pre-committed to conserve: this is because what happens at t_2 to the areas and the elements of botanical biodiversity they pre-committed to at t_1 bears zero deliberative relevance for such selves, which have not committed to conserving a specific state of affairs involving them, but only to leave alone whatever state of affairs they happen to find them involved in; including, at the limit and paradoxically enough, states of affairs in which these elements do not exist at all anymore, have been destroyed or gone extinct, and all there is are weeds. This clearly does not mean that 'wild' separable selves may experience no regret in the face of (botanical) biodiversity loss: in fact, they may experience as much regret as does a gardener, and perhaps even more. All of us, when walking across the hills of Afghanistan or a recently cut-down forest area in Brazil, will regret the loss of the botanical biodiversity that once was there. But the sense of regret one experiences in the face of (botanical) biodiversity loss within a natural area is different from the sense of regret experienced by a gardener in the face of (botanical) biodiversity loss within her garden: most notably, the former is not accompanied by the experience of psychologically costly agitations such as bewildered self-disconnection, guilt, shame, and self-resentment that instead characterizes the latter. If selves are separable, as conservation in the 'wild' assumes, then there can be no self-disconnection, for no connection(s) was

ever there to begin with; there can be no guilt, for even though botanical species and/or specimens have been lost by t_3 , one has broken no previous commitment to the effect of conserving them at t_2 (for no such commitment was ever made) – to the contrary, one may well be honoring one's t_1 pre-commitment to leaving them alone precisely as one ascertains their loss; there can be no shame, because even though botanical species and/or specimens have been lost, so long as one's t_1 pre-commitment to leaving them alone at t_3 has been honored, such loss has not been as a result of one's dynamic inconsistency in living up to one's own freely taken decisions, i.e. one's weakness of character; and there is no resentment towards one's earlier self for pointing a way one was in fact unable to follow, and to one's later self for not following it: first, because separable selves are arguably not accountable to, or concerned for, one another; and second, because even if they were (for some suitably deep philosophical reason), the way that one's earlier self pointed to at t_1 (pre-commitment to benign neglect at t_3) was not in fact one the agent was unable to follow - most probably, it was one that he did in fact follow.

When biodiversity loss occurs in a natural area, and one acknowledges it, she does not experience self-disconnection, guilt, shame, or self-resentment. Only in case such loss is known to be anthropogenic, she may (perhaps) experience those agitations *qua* member of the species that has brought such loss about – a species disconnected from its natural roots, guilty of suffocating them, a suffocation shameful and passable of resentment (perhaps also the resentment of future generations): but these are not agitations that will keep one awake at night: for they are agitations of one who may perhaps feel responsible, *qua* member of the human species, for the loss of species and specimens – but who knows she is not at all *imputable* with it, for she has not resolutely chosen to conserve them at t_2 , but rather only pre-committed not to destroy them at t_3 . Whatever has happened at t_2 that has caused the loss of species or specimens was not the result of her personal shortcomings, but it was either a fact of nature, and thus no one's shortcoming, or the result of the cumulated activity of humans, and thus everyone's shortcoming (and here one may include oneself). But of course, there are strong considerations supporting the idea that one is especially responsible for, i.e. imputable with, what one does, rather than for what others do. And one's personal contribution to the loss of 'wild' botanical specimens and species is generally quite negligible.

One may always safely assume having participated in some chain of events leading to the loss of 'wild' biodiversity - perhaps in a very indirect manner, by choosing to eat or purchase one thing rather than another; and thus one may always safely assume having been, to a greater or lesser extent, responsible for it, jointly with others before and around oneself. But because in the context of a collective action problem such as 'wild' biodiversity loss it is impossible to disentangle one's specific responsibilities from those of others, there is simply no way in which an agent who honors, at every relevant episode, her personal pre-commitment to benign neglect (and thus "does her part") can possibly be *imputable* with the biodiversity loss that may nonetheless occur. In fact, not even an agent who does *not* do her part is ever imputable with it.

In a garden, on the other hand, one is most certainly imputable for the loss of elements of botanical biodiversity: for one has not pre-committed at t_1 to letting things be at t_3 , but has rather resolutely chosen at t_1 to actively conserve things at t_2 . Such resolution cannot possibly be honored and still elements of botanical biodiversity be lost; while it is perfectly possible that one's pre-commitment in the 'wild' be honored and still botanical elements be lost. A gardener can, of course, lose plants: indeed, that is the most common thing happening in gardens. But it happens for failures of cultivation: because one fails to tailor one's choices and actions to the particularity of the unlucky plant, failing to provide for its existence and persistence in the way it required. These may be errors of over- or under-cultivation, for which one is directly imputable. Because a resolute choice to garden is not one to garden in abstract, but to garden particular plants, and to do so well (where "well" means "precisely as those particular plants require"), when one's plants are lost one may properly be said to have failed in following through on such resolution, and the attitudes and actions it called for: she should have been more patient, handled the plants more delicately, worked every day and not every other day, read more monographs about the species, go see it in the 'wild', ask around, etc. A gardener's resolution is not an internal commitment to just work, but to work on and with particular plants; it doesn't matter if I wake up and shovel all day - if no plants live, I am clearly not honoring my resolute choice in their favor (remember that process-oriented benefits are in gardens parasitic on outcome-oriented benefits). Because one resolutely commits in favor of particular plants,

one cannot possibly be said to have honored one's commitment when those particulars are lost. In dealing with those (now lost) particulars, certain attitudes were entertained, and certain actions performed, and not others: and those performed were the wrong ones, so wrong were they, that the plant is dead.

In one case only, perhaps, a gardener whose plants have died can still be said to have honored her resolution to garden, and that is when they die as a result of truly unforeseeable natural events, such as a massive hailstorm or frost, or the passage of locusts: otherwise, insofar as a gardener commits to her garden and plants, she commits to anticipating (as opposed to planning) all that may happen to them in the particular locality in which she operates - and such attitude of anticipation will counsel certain precautionary actions at t_2 , failing to perform which will amount to failing to honor one's resolution at t_1 in favor of one's garden and plants.

The sense of regret one may experience in the face of (botanical) biodiversity loss in the garden obviously resents of the fact that, in it, one is (in the overwhelming majority of cases) directly imputable with such loss. Losing botanical biodiversity in the garden will cause a hurtful sense of detriment to the gardener, who will lose things that are of personal value to him, and witness the truncation of (one of) his project(s). This is probably not the way in which a gardener wants his decision to garden to ramify within the context of his life - accompanied by self-disconnection, shame, guilt, self-resentment, and regret.

Projectual considerations, therefore, including a concern for entertaining attitudes and performing actions that will avert such negative psychological agitations, will diachronically and consistently motivate a gardener to the conservation of the botanical biodiversity that is in her garden. Conservation of the 'wild' botanical biodiversity that is found in natural areas, on the other hand, is pursued through a mechanism of pre-commitment that is perfectly consistent with the assumption of intrapersonal diachronic separability, which crosses considerations about the projectual value of areas and plants out of the list of possible reasons to conserve them.

7. *Understanding and Acceptance*

Not only is the experience one may have of natural areas and ‘wild’ plants more limited, quantitatively, than the experience one may have of gardens and garden plants. More importantly, the sort of understanding of one’s station within in the workings of things that such experience may foster is incomplete in a way that may discourage one from taking on obligations to conserve. It is thus inferior to the understanding that may be fostered by the experience of gardens and garden plants in that 1) it ignores facts about ourselves as well as the world that the latter better takes into account, and 2) it is less congenial to the enterprise of biodiversity conservation than the latter is.

As an individual of the human species, I am not and I have never been a mere observer or contemplator: it is part of my situation in this world that I do very practical things, such as eating and working, in order to survive and live comfortably (as seen, this is no unfortunate situation, given that it also enables and requires some of my best prerogatives to unfold). This makes my contemplative experiences of the ‘wild’ certainly special - but precisely because they are so special, basing my understanding of my station within the wider workings of things on such experiences may ultimately lead me to forsake basic (if more mundane) aspects of whom I am. I have a functional body, with which I confront my environment - not just a mind and a heart: any understanding I may get of my place within the wider workings of things that ignored *this* would be remarkably out of line with the facts of my life, and as implausible and unfocused as an understanding of physics that ignored gravity. If during a visit to the ‘wild’ I happened to get lost in it, I would soon have to come to terms with the calls of my body, and actively work in order to respond to them, perhaps even by killing and consuming some elements of nature. Of the latter, in general, I am not just an emotionally available scrutinizer: I (much like everybody and indeed everything else) am an active force operating in it¹⁸⁷.

Furthermore, the wider workings of things are not just spectacles “out there” to be contemplated, insulated from one’s everyday choices and actions, as visiting the ‘wild’ may

¹⁸⁷ See R. Sandler, *Character and Environment: A Virtue-Oriented Approach to Environmental Ethics*. p. 72-73

perhaps lead one to think; but processes, which to one's choices and actions are not insensitive but rather highly responsive: the biosphere will be troubled by my car engine, and the amount of environmental damage, to both animate and inanimate entities, which is done by my eating this steak is quite considerable (as well as easily quantifiable). Of course, that contemplating areas and entities untouched and untamed by humans may lead one to forget this fact does not mean that the wilderness paradigm is oblivious to it: to the contrary, it is constitutive of such paradigm (from both a conceptual and a normative point of view) that what I gain, as a human, nature must lose. The wilderness paradigm is perfectly equipped (and never fails) to underscore the negative consequences of our choices and actions onto/for our environment.

What it is not equipped to underscore is the more positive fact that, if I plant seeds no more than half an inch wide, and nurture them consistently, I can bring to life and sustain botanical particulars that did not exist on this planet before my arrival: my resolute choice *not* to leave nature alone, and my related acts of intervention on it, can also have positive consequences for the environment, and botanical biodiversity especially..

The experience of growing plants in a garden bodies forth the following fact: when I relate to nature, I am not dealing with a closed system to which I am in principle external, as a contemplator of the 'wild' who simply encounters its *heacceitas* may be led to think; rather, I am participating in the dynamics of an open system which, besides the elements of nature I confront, also includes not only me and my operations, but the external energy provided by the sun and transformed into matter through photosynthesis – a process of transformation to which, by planting a seed and nurturing it, I can visibly contribute. Whereas a closed system can only be depleted by an external entity that transforms its matter into energy, an open system can be replenished by any entity that operates in it, insofar as such entity finds a way to transform the open flow of available energy into matter. This is where a wilderness-based and a garden-based paradigm of environmental ethics diverge most dramatically: precisely in the different sorts of understanding of one's station within the wider workings of things that they respectively enable and require - a matter-transforming predator within a closed system in the first case, an energy-transforming co-operator within an open system in the second.

If planet earth was indeed a closed system, clearly its provisions would gradually be exhausted in unhesitant accordance with the second law of thermodynamics. But super-terrestrial amounts of energy are pouring down on earth every second since its beginnings, directly from the sun. We may try to transfer such energy directly to our electricity switches and sockets: in the future, this may be done through solar technology; but we can also transform this energy into new matter *already now*, through methods consolidated by millennia of human practice - by gardening.

Photosynthesis creates new plant matter: on such eminently natural process we can intervene in ways beneficial to both ourselves and our environment. For by gardening we create *new* resources; and this need not even be limited to edibles: massive and intensive field-cultivation of *Jatropha Curcus* for bio-fuel is dramatically unsustainable, but twenty plants of *Jatropha Curcus* in each garden across the world can be very sustainably cultivated, and if organizations are put up locally in order to process these (cumulatively) billions of plants, and locally redistribute their output as usable energy, we may have made one step beneficial to us as well as our environment, starting precisely in our backyard. Note that this is not to say that natural resources can be wasted freely as long as the sun also rises and one rises with it to garden; but rather that our present environmental quandaries are less related to the fact that we intervene on and use nature, than they are to the fact that we do not do so cleverly enough. An increasingly deeper understanding of our station within the wider workings of things should not conceptually and normatively repudiate our occupying such very place, as the wilderness paradigm of nature ultimately does; it should rather allow us to authentically accept it, reconcile with it (*acquiescentia in se ipso*), and learn to operate from within such station more “knowingly”.

The understanding of one’s station within the wider workings of things that is available in a natural area is very different from the one that is available in a garden. The difference, of course, descends from the different modalities of one’s experience of nature in the two different contexts. One’s experience in the ‘wild’ unfolds in reference to a narrative of sheer receptivity, within which one does not participate causally nor deliberately (see previous section) in bringing about and/or maintaining the elements of nature that surround

one, and only dwells on the contemplative perception of the manifold relations that she finds already in place between those and herself, without establishing new ones. One's experience in the garden, on the other hand, unfolds in reference to a narrative of creative receptivity, within which one is causally and deliberately implicated with the elements of nature that (come to) surround one, and thus not only dwells on the contemplative perception of those relations that run between herself and the animate and inanimate nature with which her life is shared, but also contributes to establishing new ones.

It should then be noted that transformative experiences of 'wild' nature do not guarantee an *increasingly* deeper understanding of one's station within the wider workings of things. Unless one is a (resolute) scientist, artist, philosopher, or mystic of nature, who develop their understanding of their place in the world by *regularly* frequenting the 'wild', there is no guarantee of a *bonum progressionis* there¹⁸⁸ - of a positive trend in understanding: after I have had an experience of 'wild' nature that has disclosed to me (perhaps with unprecedented poignancy) aspects of my situation as an individual of the human species on this planet, and I go back to my daily routine in my city, town, or village, this understanding (much like my proficiency in a foreign language that I fail to exercise consistently) may also slide into the background, or even be lost completely (*malum regressus*), as the memory of the experience fades off with time and I am once again submerged with human preoccupations such as showers, cars, brunch, the economy, etc. Or I may be stuck at a stationary level of it, fixated at the understanding I achieved in and through a particular 'wild' experience (or sequence of them), unexposed to any further stimuli that may lead me to refine or reconsider such understanding.

¹⁸⁸ The general point is found in Brentano: "Let us think of a process which goes from good to bad or from a great good to a lesser good; then compare it with one which goes in the opposite direction. The latter shows itself to be preferred. This holds even if the sum of the goods in one process is equal to the sum of the goods in the other. And our experience in this case is one that we experience as being correct" (quoted in R.M. Chisholm, *Brentano and Intrinsic Value*. (Cambridge: Cambridge University Press, 1986, p. 71). When Dean Martin said that he pitied those who wake up sober in the morning, for that is as good as they are going to feel all day, he was expressing much the same point: it is not just the final sum, but also the trend, that matters.

In a garden, on the other hand, my understanding of my station within the wider workings of things is made increasingly deeper in, by, and through consistent practice. As I resolutely carry on my gardening project through time (and as the variety of the plants that are objects of this project, and of the situations I confront enlarges), at any continuation point I come to confront countless possible combinations of three factors: my previous choices and actions, the internal dynamics of plants, and the external dynamics of the wider environmental context in which I operate. Dealing resolutely with all such combinations (which are, in a way, problems to solve) affords me continuous opportunities to increasingly deepen and refine my understanding of my place in the world, to “converse with the nature of things”.

Growing plants enables and requires consistent fine-tuning of one’s knowledge of their biological, behavioral, ecological, medical, etc. properties, as well as a grasp of the dynamics of soil in one’s locality, of the workings of the macro-ecosystem surrounding these plants (weather, climate, seasonal changes, etc.) and of the micro-ecosystem that around them comes to revolve (worms, pests, insects, bats, birds, etc.); as well as of the timings that regulate the plants’ life and all those other processes, etc. What is most important, it enables and requires one to become aware of how entertaining certain attitudes and performing certain actions rather than others relates to all that goes on with and around such plants, and, with time and practice, to calibrate the attitudes and actions one entertains and performs so that these entities of nature exist and persist in a humanized environment. Thanks to one’s experience in a garden, one will also realize how hard it can be for plants to live a life that is causally implicated with human choices and actions - as the life of all plants in the world ultimately is today, given the magnitude and pervasiveness of the effects of human activity on the planet’s habitats - and that punctual nurturing on one’s side is required if that is to happen.

To sum up: as an individual of the human species, I do not experience the natural world only contemplatively, through my mind and heart, but also physically through my hands. The natural world that I experience, moreover, is not a closed system that is merely out there for me to contemplate or depredate, but an open one in the workings of which I

always significantly participate through my choices and actions. Even if inspired by the most sincere fascination for the undeniably mysterious, and mysteriously close, strangeness of nature, any understanding of my station within the wider workings of things that conceptually forsakes and normatively deplores these facts is ultimately a poor rendering of both my situation and of the positive (for myself as well as nature) potentialities of such situation. Finally, to characterize my understanding of my place within the wider workings of things as the result of transformative episodes rather than (deliberatively connected) everyday practices, is in principle to waive any concern for that *bonum progressionis* that, given equal depth of understanding within the course of two lives, makes the one that contains it a life better lived than the other.

The understanding of one's place in the world that is made available by the experience of natural areas and 'wild' plants is also less congenial to the enterprise of conserving botanical biodiversity than is the one made available by one's experience of gardens and garden plants. If the nature that is of value is only "out there", untouched and untamed, and I must by definition be external to it (i.e. not causally implicated with it) *if* it is to be of value, then my experience of it can either be contemplative, or it must otherwise by definition/default/logical necessity be predatory, of it and of what is most valuable in it. By these lights, one is a predator of nature simply insofar as one is a predator of naturalness; and one is a predator of naturalness by default, being an individual of that species in opposition to which naturalness is defined - the human. Within the wilderness paradigm, to value, respect, protect, and conserve nature I must lay my hands off it, and approach it contemplatively; because, however, I am not *only* a contemplator, that is tantamount to saying that to value, respect, protect, and conserve nature from within such paradigm, I must effectively, and quite inauthentically, renounce quite a bit (the non-contemplative bit) of my humanity. What is even more remarkable, it seems that I should renounce the non-contemplative bit of my humanity precisely on grounds of, and indeed thanks to the other, contemplative bit of it, which allows me to detach myself from myself, as it were, and to transcend my (at least partly predatory) station within the wider workings of things.

The wilderness paradigm is a paradigm for selves that are separated in many senses: from their environment, from their bodies, from their future and past deliberative incarnations, from big chunks of their own humanity, from their own station in the wider workings of things. It is no wonder that the assumption of intrapersonal separability is often characteristic of the philosophical, ethical, and political solutions to problems involving environmental commons that are provided from within such paradigm (usually Hobbesian pre-commitment).

It is also no wonder that, while most people in the U.S. (where most pro-capita environmental damage is done, where the wilderness paradigm traditionally and most vehemently colonizes environmental thinking, and where environmental ethics has been born as an academic discipline) declare themselves to be very or fairly concerned about nature's future, and yet fail to live, and, what is worse, often fail to even attempt to live environmentally considered lives. And such discrepancy is not even something most Americans are unaware of: nearly half of them (48%) describe themselves as concerned for and sympathetic to the environmental cause, but inactive with regards to it. The situation is not much different in Europe¹⁸⁹.

If our conceptualizations, evaluations, and practical deliberations are constructed from within a paradigm according to which the only, ultimate, or even just primary valuable property of nature is naturalness, such discrepancy, and our clear awareness of it, should come as no surprise: most of us do indeed value and care for the environment, and probably for botanical biodiversity as well - but since what is most valuable and most worth conserving about it is its naturalness, inaction obviously seems the right way to go. Moreover, if valuable nature is only, ultimately, or even just primarily "out there", it is only to be expected that, in general, I worry not too much whether my everyday practical choices (my driving, eating meat, sprawling out of town, etc.), which after all take place *right here* where little or no valuable nature is to be found, are not really coordinated with my evaluations, in being geared to nature's favor. And of course how big a damage can my car, my steak, my purchasing this brand of coffee rather than that, and my leaving the water

¹⁸⁹ See R. Sandler, *Character and Environment*, p. 116.

running while I brush my teeth *really* do, to what I have learnt to conceptualize as monumentally timeless, self-contained, and indeed causally uninvolved with me at all?

In commenting the statistical findings above, in his *Character and Environment* R. Sandler reminds us that:

“The practical efficiency condition claims that an adequate environmental ethic must encourage policies, practices, and lifestyles that are environmentally sustainable and non-degradative”.¹⁹⁰

If there is a field of ethics *born* to deal with practice and solve real problems, that is environmental ethics. Any position within the discipline that is incapable to meet the practical efficiency condition is useless to nature and thus of scarce interest to us as environmental ethicists, no matter how fascinating and sophisticated such position may be. Now Sandler thinks that “the dissociative state of Americans’ environmental concern and behavior raises questions about how efficacious environmental ethics can be” - *at all*. This peak of gloom in an otherwise quite optimistic book (which indeed includes optimism among the environmental virtues it catalogues), should again come as no surprise. All along Sandler’s book creeps a silent, implicit, perhaps even unintended dissent from the wilderness paradigm - a dissent never thematically brought to the fore; there is some intuition, on his side, of the fact that environmental ethics traditionally puts exaggerated conceptual and normative weight on naturalness and contemplation¹⁹¹, but the author cannot bring himself to explicitly break away from such tradition.

¹⁹⁰See R. Sandler, *Character and Environment*, p. 116

¹⁹¹ In some such passages as these: “Environmental virtue is not limited to character traits that enhance our experience in environmental contexts – for example openness, appreciation, receptivity, love, and wonder. Traits such as temperance, fortitude, commitment, optimism, and cooperativeness, which are favorable to effective efforts for securing environmental goods, resources, and opportunities, are also environmental virtues” (p. 6); and “Character traits such as commitment astuteness, discipline, attentiveness, discernment, fortitude, creativity, courage, self-control, cooperativeness, patience, solidarity, perseverance, and optimism are [therefore] crucial to efforts to achieve and maintain protection of environmental goods. Virtues of environmental activism have been somewhat overlooked and underappreciated by environmental ethicists in comparison with other environmental virtues. For those [of us] raised on North American environmentalism in particular, it is tempting to contemplate our environmental heroes as walkers in the woods or hikers of the mountains. The image is of an individual with personal excellence flourishing in harmony with and appreciation of wild (or near wild) environments. So when we think about environmental virtue, it is easy to become focused on virtues that are operative in these contexts – e.g. wonder, love, openness, receptivity, humility, and mindfulness. However, those provide only a partial picture of what makes our environmental heroes environmentally virtuous” (p. 49).

Though he intuitively feels it is broken, because he sees no alternative to it Sandler ultimately fails to step outside the wilderness paradigm. He is accordingly led to suggest that the stats prove the inefficacy of environmental ethics *in general* (and thus, sadly but surely, its demise - hence the gloom); but in fact, they only prove the inefficacy of the paradigm in reference to which most of the environmental ethics that Sandler considers is and has been constructed. It is the wilderness-based paradigm to which environmental ethics traditionally refers, not environmental ethics itself, that is practically useless, and of scarce (philosophical, political) interest therefore; whence the need to step outside the circle of belief and understanding that by such paradigm is fostered, and reflect on alternative (garden-based) perspectives.

It is important, for nature's future and thus our own, that our pro-environmental attitudes and evaluations are reflected into our everyday deliberations and actions. Within the wilderness paradigm, such coordination obtains in the quite paradoxical sense that our pro-environmental attitudes and evaluations call for *no action*. The dissociation of our environmental concern and behavior is thus not the result of us not following through on our pro-environmental attitudes and evaluations, but rather of our doing so perfectly well, given the particular attitudes and evaluations that they are (and thus, it is in fact no dissociation at all): it is the very attitudes and evaluations fostered by the wilderness paradigm that lead us not to do anything for nature. Environmental ethics is thus not necessarily inefficacious: there is no need to give up on it, there is only a need to change the paradigm in reference to which we think of it.

The understanding of one's station within the wider workings of things that is made available by experiences of natural areas and 'wild' plants is a recipe against pro-environmental practices and actions, particularly when it comes to conserving botanical biodiversity. The understanding made available in gardens may remedy this problem (and, if it is true that environmental ethics must be useful if it is to be at all, also shelter the discipline from Sandler's gloom). The experience of nature one makes in gardens fosters an understanding of oneself as a causally implicated, energy-transforming co-operator within an open system. A drastic attitudinal change is internal to such experience, away from contemplation of the threatened things we value, and right into operative intervention to

conserve them. Such attitudinal change is not brought about by arguments, or epiphanic experiences (as it must be in the 'wild', if the latter is to remain such) - but it is rather internal to actively engaged, causally relevant practices one can be trained and habituated into: and because of that, there is no doubt about one's attitudes and evaluations being coordinated to one's deliberations and actions - for indeed, it is not one's attitudinal change that translates into changes in individual behavior, but rather the latter that translates into the former. A garden-based ethic is a more practically efficacious environmental ethic, at least when it comes to conserving botanical biodiversity, than any wilderness-based one; and not because it is more sophisticated, but because, when it comes to conserving plants, the very practice of gardening them is more efficacious than any theory of conservation.

Sandler suggests, next, that a lesson to be learned from the stats is that the practical-efficacy condition must be interpreted "reasonably". We should say, first, that it is not clear what is there to be *interpreted* in a condition of *practical* (not theoretical) efficacy: either the environmental ethic in question succeeds in doing what it purports to do, and that includes moving people to act, not just to think, in certain (pro-environmental) ways, or it does not - this is all there is to practical efficacy. If the purpose is conserving plant specimens and species, in particular, any ethic that discourages one from doing the one thing that most obviously will conserve them, that is, gardening them, does not work. And second, even if there was any room or need for *interpreting* a condition of practical efficacy, there would still be no reason to interpret it *reasonably*: for it is not the case that "no theory of environmental ethics is going to have an overwhelming effect on people's environmentally related behavior", as Sandler says: it is only the case that no theory of environmental ethics that is constructed in reference to a paradigm that individuates value only, ultimately, or even just primarily in whatever humans have *nothing* to do with (that is, 'wild' nature) and do *not* do (intervening on it) is ever going to have such effect¹⁹². Whether we should act in, on, and with nature *at all* is, for any environmental ethic constructed in reference to the wilderness

¹⁹² In "Moral Intuitions, Cognitive Psychology, and the Harming vs. Not-Aiding Distinction", *Ethics*, 108 (April 1998), 463-488, F. Kamm has observed (though in reference to our treatment of humans - and particularly humans-on-trolleys - not nature) that if our baseline, the background *status quo* that we aim to preserve, is what would have been *without* our intervention, we will always worry *less* about not preventing

paradigm, never a settled question: any environmental ethic constructed in reference to such paradigm, and which is evaluatively focused only, ultimately, or even just primarily on the property of naturalness, will always have to first justify practice and action to *itself*, and only then will it be in the position to attempt motivating *people* to practice and action; and if and when it will get to the stage of motivating people, it will have no instruments to do so - for it has very little practical side, if not only, ultimately, or (hopefully just) primarily, benign neglect - that is, taking *no* action.

On the other hand, any environmental ethic constructed in reference to a garden-based paradigm, which individuates value (primarily, but not necessarily only, nor indeed ultimately) in what we have something to do with (humanized nature) and in what we effectively do (intervening on it in certain ways rather than others) may well indeed have such overwhelming effect on people's behavior; because such will be an ethic not about any constellation of principles that only, ultimately, or primarily command to leave nature alone (which is a different, and conceptually as well as normatively much deeper problem for conservation, than having principles that *do* command active engagement for the purposes of it, but which are then not followed through on by people due to weakness of will); rather, it will be about a constellation of engaged practices *to begin with*. In the literal meaning of these words, a garden-based environmental ethic of conservation will thus be a *practical ethic*, one which will do justice to, and indeed be based on, the intimate relation between practices and values: it will, in J.S. Mill's words, be an "experiment of living".¹⁹³

Constructing our environmental ethic of biodiversity conservation in reference to an understanding and acceptance of ourselves as a causally-implicated operators within the open system that is our natural world - an understanding such as the experience of gardens and garden plants makes available to us - will lead to ethic(s) that are practical also in the following sense: they will not only generate awareness about relevant issues of

losses than we will about causing them. This is precisely what we do when we think nature along the lines suggested by the wilderness paradigm; clearly, this is a poor recipe when it comes to the conservation of botanical biodiversity, for the sake of which we must worry equally about both.

¹⁹³J. S. Mill. "On Liberty". In *Collected Works of John Stuart Mill*, p. 261

conservation, but also dramatically raise the salience that such issues will have for us. It will emphasize the role that plants have and can have within the context of our lives, and the manifold and irreplaceable ways in which they can enrich them. Conserving plants in gardens is to conserve things that one regards not just as important in general (say, for humanity at large), but as important to oneself. The personal relation that characterizes conservation in gardens promises a tight coordination between our [attitudes + evaluations] and our [deliberations + actions]. Such coordination is also remarkably facilitated by the fact that taking it into the garden will remove behavioral barriers to conservation, by making the defense of elements of botanical biodiversity an everyday enterprise, not too difficult, risky, or costly for anyone.

A garden-based environmental ethic of conservation is one adequate environmental ethic. That is mainly thanks to the fact that the understanding of one's station within the wider workings of things that is made available by the personal experience of a garden and garden plants is attentive to important dimensions of whom we are, of the natural world we inhabit, and of the ways in which we can and do relate to it. That a garden-based environmental ethic of conservation is adequate, however, is not enough to establish it as superior to equally adequate alternatives that may at some juncture be proposed. But the case for our garden-based ethic does not rest on its practical efficacy only. The fact that a garden-based ethic of conservation is adequate also in virtue of the value-making narrative properties of gardens, garden plants, and garden practices, underscores the more important point that such ethic is able to capture the complexity and variety of ethical dimensions implicated in our dealings with our environment, and the botanical biodiversity that is in it; and it does so more fully and authentically than does its wilderness-based alternative. Moreover, a garden-based environmental ethic of biodiversity conservation is able, as we shall soon argue, to provide positive arguments for an original, substantial, and far-reaching virtue theory.

Chapter 4 : A Garden-based Virtue Theory

1. *Experiments of living*

We submit that to engage in garden practices is to engage in a character-molding cluster of activities, which may orient the very view one has of nature, and of one's role and obligations in and towards it, in a way that is conducive to the furthering of one's ethical task of making for oneself a life one can regard as well lived and, in the process, also to the conservation of botanical biodiversity. The value of garden practices is thus twofold: on the one hand, such practices are conducive to the existence and persistence of specimens and species; on the other, they are conducive to the development and exercise of good environmental character, which is the perfectionist dimension of a wider ethical task of an essentially eudaimonistic nature.

The existence and persistence of botanical biodiversity, the material as well as spiritual uses we make of it, and the garden-based practice of conserving it we regard as *constitutive* elements of a life well lived: we conceive the latter as including things that are provided for by botanical biodiversity, and by our multifarious experiences of and relations with it, in ways in which they cannot be provided for by anything else - things such as 1) survival and species continuation, 2) enjoyment and the avoidance of pain, 3) the well-functioning of one's relationships with animate (including humans) and inanimate (including plants) nature; 4) meaningful and autonomously chosen experiences, undertakings, projects, and the like, as well as 5) an increasingly deeper understanding and authentic acceptance of one's station within the wider workings of things. These we may call the eudaimonistic ends, without venturing in establishing any fixed hierarchy among them.¹⁹⁴

Insofar as garden practices can contribute to one's ethical task of making for oneself a life one can regard as well lived (in the ways discussed in the two preceding chapters); and, in the process, to the existence and persistence of botanical specimens and the conservation of species, garden practices are (environmentally) virtuous practices. The character traits they

¹⁹⁴ See R.Sandler, *Character and Environment*, p. 28

mold (which are shown in, by, and through one's attitudes, evaluations, deliberations, *and* actions) are to be seen as virtuous insofar as they are conducive to the attainment of the above ends. This makes the theory under discussion an eudaimonistic as well as a consequentialist theory of (environmentally relevant) virtue¹⁹⁵. This view recognizes no ethical end other than making for oneself a life one can regard as well lived; accordingly, it distinguishes a character trait as a virtue, and acting as virtuous acting, only insofar as it is of assistance to one in making such a life for oneself.

It may be objected that such consequentialist take on what makes a character trait a virtue and acting virtuous acting is 1) egoistic, 2) calculative, 3) unacceptably anthropocentric. Such objections can be denied:

1) In the garden, there is little chance of furthering one's conception of a life well lived, unless one effectively conserves-by-nurturing the life of plants: for there to be any selfish benefits in a garden, there must be non-selfish ones as well. These result from exercises of altruism, as said;

2) even though the considerations relevant to the question of what makes a character trait a virtue, and one's acting virtuous, are of a consequentialist nature, in that all is finally measured in reference to the trait's and the acting's conduciveness to the furthering of one's conception of a life well lived, this debars not the exercise of any such trait to be primarily expressive of one's (environmentally) virtuous take on the situation confronted, rather than selected because eudaimonistically productive. In other words, a disposition to express, say, gratitude, in and through one's attitudes, evaluations, deliberations, and actions, to the soil and plants in one's garden may be virtuous ultimately because it is conducive to meaningful experiences of communion with nature, or to improvements in one's understanding of one's station within the wider workings of things; nonetheless, someone acting gratefully toward

¹⁹⁵ A theory of virtue (VT) is to be distinguished from an ethics of virtue (VE); here are a few notable differences: a) VT looks at virtues as means, VE as ends. A consequentialist VT, as the one we propose here, judges character traits for their consequences (material as well as spiritual; and to oneself as well as other entities, including people and plants) - while VE judges them in reference to an ideal of virtue, or of what the virtuous man would do in the circumstances; b) for VE, one must not only act in accordance with virtue, but from virtue; not so for VT; c) the latter, unlike VE, need not hold that virtues are intrinsically worth having, or that a life that exhibits virtue is *pro tanto* a better life. Indeed, for VT the virtues, including the environmental, are valuable *only* insofar as they dispose the agent to meet well the opportunities and requirements of the world; they are worth nothing in abstraction from those opportunities and demands.

the land and the plants does *not* thematically aim at these things: she rather responds to a history of benefit she shares with the land and the plants, and aims at operationalizing an appropriate acknowledgment of *that*; not at improving her long-run eudaimonistic score – 3) the meta-ethical stance of a virtue theory should not be confused with the practice of living virtuously: even if the theoretician’s validation of the virtuousness of given character traits and modes of acting ultimately refers to inescapably anthropocentric considerations, the considerations that an agent takes as reasons for acting may well be (substantially) non-anthropocentric - for instance, they may all refer to the needs and requirements of plants in a garden: a virtuous agent is responsive to features of situations, not to features of this or that virtue theory¹⁹⁶.

A further consideration is in order: although what makes a character trait a virtue, is, quite monistically, its conduciveness to the attainment of (any combination of) the eudaimonistic ends, the virtue theory here presented is still pluralistic regarding what may qualify as virtuous acting across environmental contexts and themes. What acting virtuously will amount to will always depend on the agent’s particular conception of a life well lived, on the features of the particular practices by and through which he chooses to further such conception, on his level and depth of understanding, appreciation, and acceptance of what such practices enable and require of her, and on the contextual features of the particular situation in which he finds himself engaging in and with such practices. There is thus no *one* way of acting virtuously in environmental matters and/or contexts: different people may wonder at nature, be environmentally farsighted and efficacious, cooperative, resolute, considerate, and respectful, in many different ways.

In what follows, we shall present a garden-based theory of (environmentally relevant) virtue, and discuss the garden as a context for practices that are 1) conducive to the furthering of one’s ethical task of making for oneself a life one can regard as well lived; 2) conducive to the development and exercise of environmentally virtuous character traits -

¹⁹⁶ Solomon, in *Internal Objections to Virtue Ethics*, p. 439 makes this point quite clearly: “...It is not the theoretical account either of the point of the virtue [of justice] or of its role in the overall economy of practical thought that is supposed to guide action, but rather the virtue [of justice] itself”.

non-calculative sources of behavior which may favorably impact not just on the gardener's treatment of the nature on his own plot, but also on his treatment of nature at large.

1.1 *Preliminary reflections on virtues and gardens*

Before we begin cataloguing the traits that make a character formed through garden practices an environmentally virtuous one (where virtue must characterize one's attitudes towards, evaluations of, deliberations about, and actions in, with, to, and for nature), it is important that we give some further specification to the sort of virtue theory that is being presented here.

We may start by reflecting on the notion that a garden-based environmental ethic is a practical ethic, what Mill called an "experiment of living". This signals the fact that the development and exercise of auspicated attitudes, evaluations, deliberations, and actions is not to depend on the agent subscribing to any abstract moral principle or ideal (including any ideal of the virtuous person), but will rather be *internal* to the practices adopted by one: just the carrying out of such practices is proposed as being conducive to the development and exercise of auspicated attitudes, evaluations, deliberations, and actions.

Of course, if I walk around a plot of land and mindlessly pop seeds into the ground, shovel wherever it may, prune unboundedly, or place plants randomly, unconcerned with what time of the year it is, if there will be enough water for those plants, if the soil is free from fungi, and so on, I am carrying out certain garden practices, and yet little or no virtue seems to be developed and/or exercised thereby. I can also carry out the practice of playing backgammon under an obliterating narcosis that impairs me from telling a picture from a sound, or cook while I sleep, casually write nouns and adjectives on a crossword, or direct a movie without employing and manifesting any of those capacities and attitudes, such as inventiveness, foresight, precision, synthesis, and so on, which are widely thought of as integral to the *proper* performance of such practices, and indeed expected from anyone who claims to seriously engage in and with them. In other words, even if I was to win a sequence of backgammon games under an obliterating narcosis purely by chance (thus

indeed achieving the external stake of playing a game of backgammon - that is, winning), my adversaries, all the observers, and even myself when sober would be right in saying that I did not know what I was doing, in the sense that I did things - moving pieces on a board - with no understanding, appreciation, and indeed no acceptance of what the practice I was involved in and with called for on my side (that is, I was unconcerned with the internal stake of my doing). The practice of playing backgammon, writing a book, talking to people, even listening to music and making love - in fact *any* given practice, always enables and requires one to employ and manifest some specific constellation of capacities, to entertain certain attitudes and perform certain actions, if one is to seriously engage in and *with* it. If one is to do so, one must *understand* (perhaps a-propositionally, and rather procedurally/operationally), accept, and resolutely follow through on what these practices, as the particular practices they are, enable and require of one, adjusting one's ways accordingly¹⁹⁷. So when we say that just the carrying out of given practices is conducive to the development and exercise of auspicated attitudes, evaluations, deliberations, and actions, we intend those practices as being carried out with an understanding, and indeed an acceptance, of their particularity.

As said, what will be auspicated as virtuous will be so auspicated insofar as it is conducive to one's attainment of certain combinations of eudaimonistic ends, responding to one's conception of a life well lived. So we need not suppose or propose the implausible: that garden practices be undertaken and maintained out of a thematic concern for developing and exercising (environmentally) virtuous character traits. Rather, garden practices are undertaken for the sake, and may be justified on grounds, of a plurality of eudaimonistic ends, such as survival, bodily and mental health, sociability, enjoyment of beauty, intellectual engagement, construction of meaning, scientific observation, autonomy/freedom/independence, spiritual inspiration, etc - things that anyone who picks up gardening may (for whatever personal reasons) regard as important to oneself. It is in the process of consistently furthering (any one or any combination of more than one of) such ends that (environmentally) virtuous character-traits are developed and exercised.

¹⁹⁷ Note the connection of the above discussion to the notion of projectual value earlier proposed, and to the related idea of there being a certain professionalism in doing, exercising, preserving, and refining which is the internal stake of an action.

In a garden, attaining any one of the above ends (or any combination thereof) is conditional on ensuring the existence and persistence of specific elements of botanical biodiversity: conserving botanical particulars is, therefore, *constitutive* of garden practices that are undertaken and maintained for the sake (and justified on grounds) of a concern for any one (or any combination of more than one) of the eudaimonistic ends: success in conserving botanical particulars is a necessary (albeit not sufficient) condition for such practices to attain such ends.

As one resolutely penetrates garden practices and objects through training, habituation, and reflection, one learns and habituates oneself to entertain the attitudes and to perform the actions such practices call for if the existence and persistence of one's garden and/or plants are to be furthered, i.e. if botanical particulars are to be conserved - and thus if such practices are to even have a chance to succeed in furthering the eudaimonistic ends. To say that conserving botanical particulars is, in the context of a garden, constitutive of the enterprise of furthering any (combination) of one's eudaimonistic ends, is to say that practices geared to the conservation of botanical particulars are instrumental in a way in which no other practices can be to the furthering of a gardener's conception of a life well lived. As one penetrates them through everyday engagement (which is the sort of resolute engagement gardens and plants call for), such practices in turn penetrate one's basic organizing self-conception, further orienting and shaping one's attitudes, evaluations, deliberations, and actions, and ultimately making, of one's life, a gardener's life. Such practices may eventually be valued not just as conducive to any (combination) of the eudaimonistic ends, i.e. as means, but also as *constitutive parts* of one's very conception of such ends.

A garden-based ethic is a practical ethic, in that it holds that the development and exercise of (environmentally) virtuous attitudes, evaluations, deliberations, and actions is internal to one's proper performance of certain practices. It does hold that a life well lived is one in which virtues are developed and exercised; but not that such life is one in which one thematically *aims* at developing and exercising virtue; and much less that it is one in which

one aims to do so *in order* to attain some final end like “a life well lived”, to which the development and exercise of virtues would then be a mere means. A life well lived is here understood not as an end-state result to achieve, but as a historical one to construe, by living well (so that each evaluatively and deliberatively relevant continuation point is a *case* of living well): pursuing resolutely such things one regards as important to oneself (objects, experiences, relations, projects), given the particular specimen of the human species that one is - with a particular biology, psychology, socio-cultural situation, an individualized biography, and a unique way to look at and be in the world; in the process ensuring one’s life, and not hindering the perpetuation of one’s species; providing for enjoyment and avoidance of pain; fostering the well-functioning of one’s relationships with animate (including other humans) and inanimate (including plants) nature, and the meaningfulness of one’s experiences of both; doing so autonomously, and with an understanding and an acceptance of the attitudes and actions that valuing and doing given things calls for, and developing and exercising such very attitudes, and performing such actions with curiosity, ingenuity, and resoluteness - in short, making for oneself a particular life, which creatively builds on the received limits of one’s self: a life at which, both as one lives and as one dies, one can look with satisfaction, with *acquiescentia in se ipso*, i.e. self-reconciliation.

A life well lived is a personal achievement. It is an achievement not causally brought about by, but which rather coincides with, the development and resolute exercise of virtuous ways of valuing and doing things. Accordingly, it is a hard, and a long task - the task of a lifetime. One is not born virtuous, and one does not aim at becoming virtuous in the same way in which one aims at maximizing utility or respecting the moral law, *thematically*; but rather one learns virtuous ways of valuing and doing particular things as one resolutely and reflectively engages in *practices* involving such things, practices that reveal to one what attitudes and actions he is enabled and required to entertain and perform, if he is to value such things as the particular things that they are; and thus whom he is required to be, if he is to regard those things as important to himself, as irreplaceable components of his conception of a life well lived, and thus (at least partly) definitive of what living well amounts to, for him, at any point in time. It is one’s conception of a life well lived, and one’s understanding and acceptance of what the practices one engages in and with so as to

further such conception enable and require of one at any continuation point, which *there and then* illuminate certain attitudes, evaluations, deliberations, and actions - and not others - as ethically salient to the situation. If certain features of certain situations consistently call for attributions of ethical salience to certain attitudes, evaluations, deliberations, and actions, and not others (say, the needs of plants in garden situations consistently calling for patience and perseverance, for waking up at five every morning, or not leaving the land at crucial times of season, even if offered a all-paid-for trip to Vegas), it is expectable that such attributions may become *habitual*, and in time (and, importantly, as one receives sequential confirmations of the eudaimonistically beneficial effects of such attributions) solidify into definitive trait of one's typical way of looking at all relevantly similar situations - especially if all the while consistently nurtured by and through everyday engagement with such practices and their objects.

So, in our case, it is a gardener's individuation of operative salience in specific situations - those involving the conservation of botanical particulars - that enables and requires the development and exercise of (environmentally relevant) virtues in and through *practice*. Everyday exercise of such virtues (that is, continued training in and habituation to them, coupled by reflection on, we should say, the virtues of such virtues in one's own perspective - that is, on their conduciveness to the furthering of one's own conception of a life well lived), in turn, goes on to reinforce the gardener's distinctive way of looking at and being in the world. As garden virtues become increasingly definitive of a gardener's life, operationalizing them at any continuation point becomes a matter not just of honoring the particularity of garden practices, but of oneself.

Virtuous acting in gardens thus results from a conjunction of one's ability to individuate the opportunities and requirements posed by situations on one's behavior, and one's resoluteness in coordinating one's behavior to such individuations. Because the practice of gardening is engaged with in view of further objectives one regards as important to oneself, namely (any combination of) the eudaimonistic ends as it can be obtained by engaging in and with such practice and its objects, it is plausible that, external impediments

notwithstanding, resoluteness will indeed be tightly bound up with individuating ability, so that one's very understanding of what matters to the situation will, at any continuation point, have the motivational force of silencing any *other* reasons one may have (say, an impelling desire to race fast cars, or one's own laziness) to *not* follow through on such understanding and appreciation. It is thus her conception of a life well lived, that which orients the gardener in her individuations of salience; and it is the objective of furthering such conception that which motivates her to resolutely follow through on them. Both operations are imbued with understanding, of what matters to oneself, of what matters to situations, and of what one is enabled and required to do in given situations if one is to attain and/or maintain what matters to oneself (in the only way one can - by and through engaging, at each continuation point, in and with particular practices, which have particular objects).

The understanding proper to a gardener's virtuous acting may be characterized as a multidimensional set of knowledge, skills, and abilities that enables one to do well with plants in a humanized environment. This suffices to establish it as a goal-directed (thus *latu sensu* strategic), operational understanding, which comprises of elements abstract - such as the management of ideas about what is going on around one (interpretation), what should be done by one in response (evaluation and deliberation), and what one is doing (self-monitoring); as well as elements physical - such as the management of concrete objects, namely plants, soil, water, etc. A gardener's understanding of the objects of his practices, and of the practices themselves, comprises memory, factual knowledge, problem-solving ability, and procedural knowledge of how to act. There is also a slightly more elusive element of perception, related to but distinct from memory and factual knowledge: for instance a gardener may sense troubles and opportunities with his garden and plants by decoding impalpable cues such as new sprouts and vegetation, change of color, texture, or posture; as well as changes in external natural conditions such as wind, humidity, etc. - cues which may appear much less obvious to, or even go completely unnoticed by, the untrained visitor; however, these sorts of de-codifications are not leaps of intuition or magical moments of empathy with plants and the natural elements: to the contrary, they can only take place against the background of, and in reference to, a gardener's cumulated

experience with and knowledge of general facts about plants, as well as of very specific facts about his specific plants.

By these lights, virtuous acting is, at least in gardens, a form of expertise (and, as such, it can be taught and learned). A virtuously-acting gardener must not only apply his factual and procedural knowledge, but also monitor himself as he does so, as well as evaluate situations, anticipate moves, assign priorities, in short devise and implement *strategies* to further his conception of a life well lived by fulfilling his enduring goal of conserving particular plants. An experienced gardener has more factual and procedural knowledge than a novice, and more refined, efficient, and efficacious ways to organize and apply it strategically. His habitual familiarity with the practice and acquaintance with its objects allows him to devote greater cognitive resources to the absorption, elaboration, and use of new information. Because he entertains a (prudentially sound) relation of partiality with his garden and plants, which are things he regards as important to himself, the pursuit of his enduring, virtue-eliciting goal is systematic, elaborate, and accurate; he is personally motivated by and to it, because such pursuit is partly definitive of his basic organizing self-conception: it is a goal he sees himself as working towards, which confers continuity, meaning, and direction to his life; the particularity of which life he thus *also* conserves, as he engages in and with garden practices - as much as he conserves the particularity of the garden and the plants.

It is fair to note that calling a garden-based environmental ethic an “experiment of living” is to accept that the adequacy, and thus the merits of such ethic, are not assessable *a priori*: they are not settled matters of principle, but rather practical attempts, the success of which always remains open to empirical scrutiny. If surveys showed that garden practices are in fact *not* conducive to conserving specimens and species, nor to the development and exercise of good environmental character; if it turned out that there is in fact no distinctive contribution that garden practices, as the practices they are, give to one’s ethical task of making for oneself a life one can look at with self-reconciliation, then we will not be

able to salvage our garden-based ethic by appealing to any abstract principle or analytical truth that it illuminates or that illuminates it.

Mill was aware that not every experiment of living is worth trying. There are “things the experience of which has shown not to be suitable or useful for any person’s individuality”¹⁹⁸: and we must avoid proposing those as modes of life worth experimenting from an ethical point of view. We must rather propose ways to be in and look at the world that human experience has shown to be distinctly suitable and useful to us. Empirical/historical evidence of the suitability and usefulness of garden practices to humans, luckily, is not scarce.

2. *A Catalogue of Garden Virtues*

In what follows, we shall attempt to distinguish, describe, and (at least to an extent) categorize various sorts of garden virtues. The present theory is pluralistic with regards to the varieties of garden-based, environmentally relevant virtues. It individuates eight main constellations, overlapping at various points: virtues of environmental engagement, virtues of sustainability, virtues of respect for nature, virtues of communion with it, land virtues, virtues of environmental stewardship, virtues of environmental activism, and therapeutic virtues¹⁹⁹. Many of the virtues fall into more than one constellation; some are quite apparently related among themselves, forming readable clusters; and some seem more basic than others (at least when it comes to environmental matters), so that developing and exercising the latter seems conditional on developing and exercising the former. To these extents, virtues may be connected to one another - perhaps, even each with all; but that there be any unity of them, and/or that there *need* be any such unity, is a claim we do not make, and thus need not defend.

We shall first name the virtues and present a schematic overview of them; subsequently, we shall characterize and illustrate them, and how they can be developed and exercised - more or less at length according to cases - by means of examples taken from ordinary

¹⁹⁸ J.S. Mill, *On Liberty*, p. 281

¹⁹⁹ The scheme of virtues here presented is modeled on (but, as it will become apparent, significantly alters, deepens, and supplements) that proposed by Sandler in his *Character and Environment*.

gardening. The results of such enterprise are bound to be somewhat sketchy; but they will be solid enough for a perspicuous representation of the virtues in question to become available, and thus hopefully an object for future refinement. We shall note the connections obtaining among virtues in a garden situation; we shall also ask of any virtue whether its development and exercise may be enabled and required in non-garden situations - paradigmatically, the 'wild', but also any other whatever - *just as well*, or whether developing and exercising such virtue is enabled and required by garden practices *peculiarly*. We shall also explore the ways, if any, in which any given virtue, though first developed and for the most part exercised in a garden, may be extended beyond it, and become relevant to a variety of environmental issues other than the conservation of botanical biodiversity.

1) Among the virtues of *environmental engagement* we find:

[wonder, curiosity, ingenuity, cautiousness, mindfulness, efficacy, timeliness, adaptive efficiency, commitment, consistency, perseverance²⁰⁰, patience, optimism, hope, humility, self-irony, cheerfulness, self-mastery, cooperativeness, vitality]

2) Among the virtues of *environmental sustainability* we find:

[temperance, self-mastery, humility, curiosity, ingenuity, cautiousness, mindfulness, efficacy, timeliness, adaptive efficiency, ecological sensibility, cooperativeness, optimism, hope]

3) Among the virtues of *communion with nature* we find:

[wonder, curiosity, aesthetic sensibility, gratitude, trust, care, familiarity, patience, cheerfulness]

²⁰⁰ Commitment, consistency, and perseverance are notions obviously related to the notion of resoluteness: in fact, they are meant as *articulations* of that very notion, and presented as a cluster. We avoid including resoluteness itself as one among the virtues in order to avoid confusion, given the specific, technical use we have made of the notion so far.

4) Among the virtues of *respect for nature* we find:

[care, compassion, non-maleficence, ecological sensibility, patience, humility, gratitude, loyalty, solidarity]

5) Among the *land virtues* we find:

[wonder, curiosity, ecological sensibility, aesthetic sensibility, gratitude, loyalty, solidarity, humility, cautiousness, mindfulness, optimism, trust, hope, care, familiarity, commitment, consistency, perseverance, considerateness, cooperativeness, loyalty, restitutive justice]

6) Among the virtues of *environmental stewardship* we find:

[benevolence, commitment, consistency, perseverance, cooperativeness, considerateness, solidarity, cautiousness, mindfulness, efficacy, trust, justice]

7) Among the virtues of *environmental activism* we find:

[commitment, consistency, perseverance, cooperativeness, gratitude, loyalty, courage, discernment, astuteness, justice, restitutive justice, optimism, trust, hope, solidarity, adaptive efficiency, efficacy, timeliness, curiosity, ecological sensibility, care, self-irony, cheerfulness, vitality]

8) Among the *therapeutic virtues* we find:

[wonder, gratitude, commitment, consistency, perseverance, self-mastery, humility, familiarity, curiosity, optimism, trust, hope, patience, vitality, self-irony, cheerfulness, serenity]

Gardens practices are conducive to the development and exercise of all such virtues. The eight constellations of garden based virtues must be distinguished. Virtues of environmental engagement are reliable dispositions to virtuous acting (as defined) when it comes to exploring (manually and otherwise) the life and particularity of living natural entities (given animals, given plants), and the particularity of non-living natural entities (a piece of land, some rock formations); as well as to securing the opportunities for the benefits (material as well as spiritual) such explorations may provide. Virtues of sustainability are reliable dispositions to virtuous acting when it comes to exploring,

promoting and securing the well-functioning of larger (fluidly) natural systems, such as whole gardens and at the limit entire ecosystems, and the continuing availability of the goods and services they may provide. Virtues of communion with nature are reliable dispositions to virtuous acting when it comes to enjoying and be benefited by (in a primarily non-material but rather spiritual way) the natural environment. Virtues of respect for nature are reliable dispositions to virtuous acting when it comes to exploring (manually and otherwise), promoting, and securing the existence and persistence of living natural entities, as well as the particularity of non-living natural entities such as rock formations, and of larger natural systems, such as whole gardens and at the limit entire ecosystems. What distinguishes virtues of respect for nature from virtues of engagement and sustainability is, signally, the substantial non-anthropocentrism that characterizes them. Land virtues are reliable dispositions to virtuous acting when it comes to exploring (manually and otherwise), promoting, and securing the integrity and stability of the natural systems, such as whole gardens and at the limit entire ecosystems, one inhabits or otherwise finds oneself dealing with, and to harmonizing one's such inhabitation and/or dealings to the wider workings of such systems. Virtues of environmental stewardship are reliable dispositions to virtuous acting when it comes to appreciating the ways environments and/or natural resources (including species) function as public goods, maintaining them as such, and seeing to it that the benefits provided by such goods are justly distributed²⁰¹. Virtues of environmental activism are reliable dispositions to virtuous acting in the social and political arena when it comes to promoting and securing the existence and persistence of living natural entities, as well as the particularity of non-living natural entities such as rock formations, and the particularity, integrity, and stability of larger natural systems, such as whole gardens and at the limit entire ecosystems. Finally, therapeutic virtues are reliable disposition to virtuous acting when it comes to acquitting oneself of whatever psychological and/or spiritual agitations one may harbor within oneself, as a particular individual of the human species.

As we shall see, some of the virtues modulate to address different beneficiaries within different constellations: the virtue of solidarity, for instance, addresses only non-human natural entities when seen as a virtue of respect for nature, while it in principle addresses all

²⁰¹ See J. Welchmann, "The Virtues of Stewardship", in *Environmental Ethics* 21 (4), p. 411-423

the members of the natural system one inhabits (including both non-human and human natural entities) when seen as a land virtue, and only humans when seen as a virtue of environmental stewardship. The virtue of cooperativeness, likewise, a virtue of environmental engagement as well as of environmental activism, modulates into cooperativeness with non-human natural entities and/or systems in the first case, and into cooperativeness with fellow humans in the second. Many more similar cases will be noted as we go along.

One last thing that should be emphasized before we do, however, is that the figure of the gardener is not here being hypostasized as an environmentally exemplar virtuous figure. We do not index environmental virtues to the specific population-section that is composed of gardeners the world over, or to some of these gardeners in particular, living or dead, to which section or individuals one should then always refer when thinking about and acting in environmental matters, through some sort of “what would a gardener do?” deliberative test. This is no garden route to environmental virtue: for it runs contrary to the basic idea that garden virtues are internal to garden practices: there is no form of garden virtues available to those who simply fantasize about what being a gardener may enable and require of one at any given point, and then somehow calibrate their comportments to that fantasy. Rather, we wish to investigate how one’s *actual* engaging in and with garden practices can contribute to the development and exercise of environmental virtues on the side of *anyone*, including and especially those who do not do any gardening (yet). Garden virtues are not those belonging to some ideal gardener, but those enabled and required of anyone who *in fact* engages in and with gardening: anyone who subscribes to participating in such “experiment of living”.

2.1 Wonder

Wonder is a virtue of environmental engagement, a virtue of communion with nature, a land virtue, and a therapeutic virtue. Wonder before nature, Plato tells us, stands at the origin of philosophy itself - and by that he meant science as well. We wonder at things not just because we do not know what to think of them, but also because we do not know how to think about them. And if there is one thing that has certainly been accomplished by the best deliverances of contemporary scientific inquiry, such as quantum theory in physics and the inflationist modification of Big Bang theory in cosmology, is that they make us wonder much *further*. They keep us on our toes.

A disposition to wonder before nature has been considered a basic environmental virtue since the inception of environmental ethics as a discipline. Many have been inspired by Rachel Carlson's writings, in which wonder was presented not just as an important, but indeed as a pre-eminent virtue. The suggestion was to "turn again to the earth, and in contemplation of her beauty to know of wonder and humility"²⁰². A disposition to wonder before nature is a gateway to much spiritual challenge, exhilaration, joy, and satisfaction - things that undoubtedly are eudaimonistically quite beneficial. But human wondering is beneficial to nature as well, for it is a gateway to love, gratitude, and care for that which is found wonderful²⁰³. Wonder is thus also an enabling activator of other important virtues, and one who finds things wonderful is not likely to entertain a disposition to destroy them²⁰⁴.

Wonder may be accompanied by awe but is not to be conflated with it. To be in awe is to be overwhelmed by that which is awesome, in a mode of sheer receptivity; but to wonder at things is also to maintain an active, indeed quite inquisitive disposition to understand them, to orient oneself in and among them - to "find one's way around", as Wittgenstein would have it. Wonder takes place in a mode of creative receptivity; as such, it requires of no sublime experiences, as does awe. One can wonder before a young plant, the shape of a stone, or the pernicious prerogatives of some parasites, without experiencing any awe or thinking them awesome at all.

²⁰² Quoted in D. Jamieson, *Ethics and the Environment*, p. 91

²⁰³ Sandler p. 50

²⁰⁴ Or such dispositions may be operationalized ritually, and thus cleansed away communally - as in rituals of sacrifice in which we kill our idols.

A disposition to wonder before nature is obviously one that may be developed and exercised in the 'wild'; indeed, that experiences of 'wild' nature will make us wonder is something the wilderness paradigm undoubtedly counts on. But the regularity of blooming and harvest, the turning of seeds into specimens, the laboring of bugs in the soil, the first new sprout after winter, a spontaneous hybridization, the destructive force of the winds, and even the sudden death of some plants - all such things, and innumerable others, can inspire wonder before nature in gardens just as well; and, because experiences of such things in gardens are way more commonly and easily available to most people than are experiences of 'wild' entities and places, wonder before nature is a disposition that can be inspired way more often and more easily in gardens than it can be in the 'wild' - if perhaps less grandiosely. So, insofar as the basic disposition to wonder before nature is one the development and exercise of which is to be most widely encouraged, gardens are the best contexts in which to do so: whereas the sporadic experience that most people have of the 'wild' makes wonder before nature more of a momentous event than a reliable disposition of character. In the garden, one is always in the position to wonder before nature; one has the time to do so; and one is easily motivated to do so, by everyday confirmation of the multiple ways in which doing so can contribute to the furthering of one's conception of a life well lived in that situation . In gardens, one habituates oneself to wondering before nature, and before all elements of it, even the most infamous of pests - indeed, one is not only *enabled* but also *required* to develop and exercise such wondering disposition, if one is not to underestimate the complexity of the natural entities and processes one is engaging with.

2.2 *Curiosity*

Tightly connected to wonder is curiosity. Curiosity is a virtue of environmental engagement, of sustainability, of communion with nature, a land virtue, a virtue of environmental activism, and a therapeutic virtue. A disposition to be curious about nature and natural entities, a willingness to linger in exploration (manual and otherwise) of their functioning, properties, structures, history, symbolic meanings, etc., and a readiness for

thinking matters through when it comes to them, are all components of an environmentally virtuous character.

For E. Burke, curiosity stimulated the activity of the mind on all matters, and was one among the three roots of human activity (the other two being pleasure and pain). Curiosity is not peculiar to humans, and many animals (especially higher mammals such as dogs, monkeys, and most notoriously cats) manifest it in their behavior. Animal curiosity, however, usually extends only to physical objects in the immediate surroundings; human curiosity, on the other hand, is also stimulated by objects distant and/or unknown (what lies beyond the Pillars of Hercules?) and issues metaphysical (what, if anything, is the ultimate substance of the universe?) For humans, curiosity is a motivating pre-condition for investigation, learning, knowledge, and purposeful activity in general.

Being curious about nature is one good reason to defend it; in the case of botanical biodiversity, it is indeed one among the very main reasons to conserve it. Though the virtue of curiosity towards the natural world can be developed and exercised both in gardens and in the 'wild', curiosity in the 'wild' is usually contemplative and/or speculative, while curiosity in the garden is operational, goal-directed, and experimental. In the garden, we are curious not just about what nature does, but also about what we can do with it; and about how we are to do it. Curiosity in the garden is about trying things out (seeds, plants, water-regimes, hybridizations, etc.) and see what works and which works best. For this reason, when developed and exercised in a garden, curiosity is a virtue of environmental sustainability, and tightly connected with ingenuity, and indeed creativity. Curiosity about the ways in which nature and natural entities work is, most notably, at the basis of experimental bio-mimicry, one among the most imaginative and promising field for sustainable development²⁰⁵.

As a land virtue, curiosity is to be understood as a disposition to get acquainted and become familiar with all the members of the natural system one inhabits (including living and non-living, human and non-human entities): in this case, it has a definite dimension of openness and sociability. A gardener is not only enabled but also required to be so disposed towards

²⁰⁵ See J.M. Benyus, *Biomimicry: Innovation Inspired by Nature* (New York: Harper Collins Publ., 1997)

the members of the natural system that is his garden, if his work is to capitalize on the opportunities offered by his particular piece of land and his plants, and to succeed in preventing losses due to characteristics of such system, or of elements of it, which he was unfamiliar with or unaware of.

As a virtue of environmental activism, curiosity is to be understood as a disposition to search for information, to inquire about facts, to track causes, etc. In the garden, one inquires about such things as the composition of the soil and the availability and quality of the water, about the features of the plants' original habitats, their behavioral characteristics, reasons for their poor health or death, time of maximum growth, responsiveness to certain combination of nutrients, etc. Outside the garden, one inquires about causes of environmental degradation, about possibilities for environmental protection, about alternative possibilities, etc.; and searches for efficacious social and political pathways to environmental protection and the dissemination of environmental awareness and concern.

As a therapeutic virtue, curiosity is to be understood as a disposition to be interested in what the world around oneself has to offer; to give it a chance, as it were, to be involved with it. Loss of curiosity for one's work, one's art, one's companion, one's city, or one's future can break careers, projects, relationships, ties, and lives. Loss of curiosity for anything but one's own mumblings is often a sign of a troubled soul, and a red flag for oncoming depression. Heroin addicts are often re-habilitated in gardens, and much of that re-habilitation has to do with them re-gaining curiosity about things other than the next fix. Dwelling on an exploration of the needs and requirements of plants can be a gateway to re-gaining curiosity for the world outside oneself, and thus an antidote to excessive self-crunching.

2.3 Ingenuity

Ingenuity is a virtue of environmental engagement, a virtue of sustainability, and a virtue of environmental activism. Ingenuity is of fundamental importance in the garden: it is enabled

and required by the fact that garden practices are always responsive not just to the gardener's own objectives and actions, but also to the turnings of nature itself, as brought about by the internal dynamics of plants, by the laboring of other natural entities, such as parasites and pests, and by the workings of wider environmental conditions such as rain and shine. All such turnings are, to very a significant extent, beyond a gardener's control; admit of innumerable variations and combinations; and may sometimes be quite hard to predict. Nonetheless, gardening amounts to nothing more and nothing less than anticipating and responding to such turnings: to this extent it is, as said, a problem-solving sort of practice.

While acting, a gardener has to negotiate the situation in which he acts, the way nature's turnings configure it at that moment - and for this reason it seems odd to say that he controls and/or dominates nature. Ingenuity seems here to connect with humility: if it is summer, and a particularly hot one, and I try to plant orchids in my garden, I am certainly running against the tide; in fact, I have no way of succeeding: my orchids will die, no matter the amount of water and artificial shade and fertilizers I devote to their cause, and the intensity of my ambition and self-confidence. A first important mark of an ingenious gardener is, therefore, that she does not wish for impossible things, does not run against the tide, and only sets on achievable aims; she does not decide what to do parametrically, disregarding the requirements of the particular plants she is handling, ignoring the features of the seasons, the composition of the soil, the quality of the water, etc.; but rather strategically, taking all such factors into account, lest the project simply fails. There is no haggling with nature beyond a certain point: you cannot grow cacti on a muddy soil, no tulips in a dry patch. In the garden, the acceptance of certain constraints on one's ambitions - of the fact that not all things can always be available on demand; that nature's turnings sometimes require us to renounce some of them - is in turn an exercise of humility, temperance and patience.

A gardener does not control nor dominate nature; and a virtuously acting gardener recognizes *that* as a fact, and as the default position from which to initiate action; he observes nature, and attempts its manipulation in view of his own ends; but in order to succeed in achieving those ends, he has to strategically reckon with ever-changing complexes of natural circumstances largely beyond his control, anticipate them, and in no

way attempt to supersede or oppose them, but rather adapt to them and learn how to turn them to his own advantage. By these lights, it should be clear why ingenuity is a virtue of environmental sustainability.

Ingenuity is a typically humanistic virtue, and it is no surprise that it should be harbored in gardens and not in the 'wild'; it has to do with responsive action and goal-directed intervention, not with contemplation: the idea of "contemplating nature ingeniously" only makes sense if it is assumed that action of some sort will follow suit. In order for ingenuity to even stand a chance to qualify as an environmental virtue, the presupposition (and any temptation to it) that whatever happens naturally is *ipso facto* good, or alternatively beyond good and evil, must be abandoned: the value of whatever is the case must be keyed to anthropocentric standards.

Moreover, and quite more generally, in order for ingenuity to be justifiably seen as an environmental virtue, it must be presupposed that the turnings of nature are not regulated by some sort of teleology, order, or balance, which, by intervening, we humans break; but rather result from infinite chanceful combinations of innumerable factors, which show no set end, order, or balance susceptible of being broken. All ethical theories of the environment that assume, wholeheartedly or only as a regulatory ideal, some natural *telos*, order, or balance, which human intervention cannot but compromise - all those theories that, even in refined and sophisticated ways, ultimately rest on the assumption that "nature always knows best" - all such theories are good candidates for *rejecting* human ingenuity as an environmental virtue.

To the best of our scientific knowledge, nature knows nothing at all, and what it "does" is ultimately the result of chance; and even if it did know what was best, it is quite wishful to think that such "best" would of necessity coincide with what is "best for us" humans, with all our projects and aspirations. Few practices *enable* one to appreciate this fact more poignantly than does gardening. And because in a garden the chanceful workings of nature may just as well, if not much more probably, prove threatening to one's plants, and thus to oneself insofar as one regards such plants as constitutive elements of one's conception of a life well lived, garden practices *require* one to respond to these facts with ingenuity.

There are of course consistent tendencies and regularities in nature, and an ingenious gardener will be careful to individuate them; but he will be so careful precisely because he knows that chance (a bug unknowingly imported from a visiting friend who just came back from some exotic place, or the meeting of the winds hundreds of miles away, etc. ETC.) can channel such tendencies in a myriad different ways, and he must gather all available data useful to anticipating as many as possible of such eventualities, and devise ways to respond to them (which includes not just minimizing losses, but also capitalizing on opportunities - see below) should they realize. The gardener thus understands the deeply historical dimension of nature, its tortuous ways to confirm its tendencies by consistently holding on to contingency.

It is the possibility of unfortunate (for us) contingencies in matters environmental, that establishes human ingenuity as an environmental virtue. Contingency is a negative condition for ingenuity; and keying the evaluation of natural contingencies to anthropocentric standards is a condition for ingenuity to qualify as an environmental virtue. Against a scenery of pervasive contingency not set order, such standards appear at least as legitimate as non-anthropocentric ones, and obviously much more prudent.

Garden ingenuity is enabled and required by natural contingency; and by such contingency not being necessarily eudaimonistically beneficial. An ingenious gardener responds to the problems posed by natural contingency by drawing on past experience, employing farsightedness, and proceeding with cautiousness. A gardener, as any human who assumes no happy ending (and, when it comes to our present environmental quandary, much science tells us we should indeed make no such assumption), anticipates future possibilities, and disposes measures to minimize losses and to capitalize on opportunities. From this, it transpires how ingenuity links with adaptive efficiency: a gardener must be flexible to the opportunities and requirements posed by mutable situations, if he is to turn contingency to his own. All the while, the gardener acknowledges, with humility, that much of his enterprise depends on forces way beyond his control, and on their innumerable possible combinations on any given day. That is no reason to give up on the enterprise, however, for contingencies can also be beneficial; and they will more often be so for the gardener who is

trained to anticipate and adapt his ways to them. There is thus always room for optimism and hope.

Ingenuity, the ability to minimize losses and capitalize on opportunities, is a definite trait of the virtuously acting gardener. It only develops with time and reflective practice; and it is in fact among the most difficult of garden virtues to develop. Perhaps, garden ingenuity as we have described it is what comes closer to that which is commonly referred to as a “green thumb”. Many people bypass the difficulty of developing and exercising said thumb by assuming and/or claiming that “either you have or you don’t”, and not gardening themselves, but rather paying others to do it; by not growing their own plants, and rather buying them already full-size; by not cultivating their own vegetables, but rather purchasing them from the vegetables aisle of a supermarket, impeccably wrapped in plastic, and so on. To this way of going about the difficulty applies Machiavelli’s objection to those who acquire principalities with the forces of others and good luck: that they have little trouble getting what they want, but, because they have not dwelt into the practices but just reached for their objects, will always depend on others and on luck for keeping it; whereas those who grow their own plants by and through their own ingenuity, acquire them with some difficulty, but hold on to them with greater ease.

In special cases, ingenuity overflows into actual creativity. Now it is of course not our place to define creativity, but suffices to say that it may come about in at least two ways: by establishing new connections between two or more existing ideas, concepts, topics, propositions, methods, etc., thus from within the existing limits of some practice, or by redefining the very standards of that practice, by introducing whole new ways of approaching it. The products of creative thinking are usually considered to be both original *and* appropriate to furthering the objectives of the practices.

By creativity we mean a disposition to submit matters to multilateral assessment, to think outside the box, to attempt novelty, to be undeterred by conformism and mannerism. There are two sorts of creativity in the garden, compositional and operational: the first has to do

with the more aesthetic qualities of the design, the originality of the solutions proposed, the way in which diverse plants are arranged together, etc.; the second has to do with the more functional qualities of the realization, the originality of the technical solutions found, the innovativeness of the methods introduced, etc. It is this second sort that most concerns us: creativity in finding ways to make things work. This sort of creativity will, by all indications, be crucial to future efforts at environmental sustainability: if the negative forecasts regarding nature's future are to be believed, changing environmental conditions will require that we (both as individuals, and as a species) manage to rearrange our ways and methods creatively, and to look at things from new angles; interdisciplinarity will be one strength, and what is sometimes called "divergent thought" will be another.

Obviously, not all gardeners are creative. However, it is certain that *operational* creativity, understood as a virtue of sustainability (as opposed to artistic or speculative creativity, for instance), that is, as a disposition to submit matters to multilateral assessment, to think outside the box, to attempt novelty, to be undeterred by conformism and mannerism, is one virtue that can, at least to some extent, be stimulated and learnt; and it seems that engaging in and with garden practices will be more conducive to such learning than contemplative confrontations with the 'wild' can ever be.

In the social and political arena, environmental ingenuity modulates, on the side of the individuals, into an informed, independent, un-ideological, and flexible approach to everyday practices, so as to minimize the environmental damage brought about by them while still making economically efficient choices: insulating houses with vegetation, car-pooling, turning off the water when brushing teeth, putting on a sweater when at home rather than tinkering with the heating system, shutting off the stand-by signal of appliances, etc. Most importantly, the individual's environmental ingenuity in the social and political arena is manifested by and through her choices of consumption: what we buy, what we eat, what we drive, these are all environmentally charged topics. It is environmentally ingenious to re-channel our market choices so as to only purchase food produced within 100 miles radius from where we live, so as to reduce carbon emissions connected to international

transport, while supporting local produce and avoiding the mark-up circus of global supply chains. Because he is in the economically-efficient position to grow food right here, rather than buy it over there; because he undoubtedly eats more vegetables and less meat; and because he eats just the vegetables the season brings, a gardener is in the position to exit, at least partly - and to such partial extent he is in the position to *sabotage* - the everyday loop of meat-consumption, supermarkets, plastic packaging, the drive to and back, etc. Here we see something of importance: the practice of gardening may influence one's choices of consumption when it comes to food, and this is one indirect, but very concrete and far-reaching way in which engaging in and with garden practices can be conducive to environmentally virtuous acting across themes - in this case, with regards to one's treatment of animals and one's climate ethic, among other things. Positive, and far reaching environmental results can be thus achieved, without having to wait for transient political appointees the world over to all agree on the inauguration of a new, environmental-friendly era of reduced emissions and respect for animals.

At the level of groups, social movements, organizations, etc., environmental ingenuity modulates into the devising and pursuit of policies able to combine economic efficiency, ecological sustainability, and social fairness. Such policies should minimize losses in all three dimensions, and be calibrated to the locality of implementation so as to capitalize on the opportunities it provides. Their implementation should depend not, or as little as possible, on politicized support; should be clearly beneficial to all those involved; and fairly so. Environmental activists who disregard the requirements posed by each element of the golden triad of economic efficiency, ecological sustainability, and social fairness, are not acting with ingenuity, and risk reducing environmental debate to ideological stalemate.

2.4 Cautiousness

An integral component of ingenuity, as noted above, is cautiousness. The latter is a virtue of environmental engagement, a virtue of sustainability, and a virtue of environmental stewardship.

As stated numerous times, a garden is a project of sorts. It is a peculiar project, in that it involves and indeed significantly depends on the contingency of nature's turnings. Now such turnings are to a large extent beyond a gardener's control, so that a dimension of uncertainty always characterizes her project. Moreover, such project extends into the future, which adds to the uncertainty; and a gardener may herself recognize the possibility that she may on occasion be unable to garden - she may want to take time to travel, for instance - which adds to the uncertainty even further. To all such uncertainties correspond risks: the most relevant risk in a garden is obviously the loss of plants. For a gardener, this may be a significant risk, given the special, personal relation she entertains with them, and insofar as she regards them as important to herself, constitutive elements of her conception of a life well lived, so that she would suffer their death as a personal loss; and insofar as she regards the practice of gardening as partly definitive of her basic organizing self-conception - so that she would suffer the loss as (at least to a great extent) a personal shortcoming.

Garden practices thus enable and require cautiousness to avoid loss of things one values intrinsically. A gardener must anticipate various possible future contingencies, some among which may prove threatening to her plants (ranging from lack of water to frost to animals' attacks to one's own sabbaticals, etc.), and make provisions in order to minimize losses were those contingencies to realize. In some cases, as with the first storms of fall, she can assign likelihoods to such contingencies, provided she is able to draw on past experience so as to individuate regularities; in other cases, as with frost and her own future travelling schedules, she has to contend with no more than bare possibilities.

When pondering a move in such pervasively uncertain and highly risky scenario, a gardener must be cautious. For example: she may have cultivated a given plant, perhaps an especially hard-to-grow plant, in a pot - so as to facilitate its infancy. The plant is now grown to full pot-size, and it may be time for it to be freed into the open soil of the gardener's plot. This would benefit both the plant, which could use a richer soil, and the garden, which would be made more valuable by the inclusion of such a specimen. The gardener, on his part, would be benefited accordingly, insofar as she regards both her garden and her plant as important to herself. All such expected benefits may be *procured* by

her - by transplanting the specimen. However, doing so presents some risks to the life, well-being, and particularity of that plant: not only does the latter belong to a species of fragile biological constitution, but there is also much uncertainty regarding future weather trends, the gardener is unsure whether his soil is rich enough to support the plant appropriately both in the short and the long term, whether fungi may dwell in the soil that may perhaps be dangerous to it, etc. In short, moving the plant may be generally beneficial if all goes well; but it may also lead to the plant's death, which would be generally not beneficial, but rather quite detrimental. So the trade-off the gardener faces in this case is between *procuring* expected benefits and *securing* from expected losses. Even though she may be eager to proceed, a gardener who regards her plant as important to herself will take the latter option, and defer the transplant to a time in which more information will be available regarding how that plant reacts to transplants, what it needs post-transplant, what soil it best thrives on, what fungi can be threatening to it, etc.; when more stable and congenial weather will bless the land; and when she will have inspected and cleaned the soil.

Thus cautiousness is a disposition to always reckon with the possibility that, under certain contingencies, losses may be incurred; to try and anticipate as many of such contingencies as possible; and to shelter oneself, to the largest possible extent, against such eventualities.

A distinctive feature of a cautious agent is that she does not resolve to action until she has done all that was in her power to preemptively ensure against possible losses. Such disposition is required most crucially when the objects of the possible loss are things one regards as important to oneself: in such cases, one may want to shelter oneself from such eventuality even if the latter is quite unlikely. Once our gardener finally resolves to action, and transplants her precious specimen from its pot into open soil, she will then wait for the most favorable circumstance in which to do so - and in this way she will be in the position to capitalize on them in the most efficacious of ways.

Imagine then a virtuously acting gardener who undertakes the re-styling of a forsaken section of his plot, previously covered by weeds, by positioning a number of plants in it, hitherto grown in pots. She will proceed roughly in the following way: 1) she will gather

information (if she does not possess it already) regarding the plants in question and their growing habits and requirements, and match that information against the features of the land she is to devote to their cultivation, the quality of the water available, the amount and range of weeds dormant in the soil, sun-exposure, etc; as well as against an estimate of the time and work that she will herself be able to devote to them. She does not wish for impossible things, so she only proceeds if the match is indeed a good one; 2) she assesses the costs, present and future, of conducting the operation, as well as the costs involved by the possible loss of plants that from such operation may ensue, and compares them to the expected benefits that a successful transplant may bring; 3) she then compares the results of such calculation with the expected results of some alternative course of action, such as not planting the plants, planting only some and not others, waiting a few months, etc. If she resolves to operate, the already-gathered information will further inform her choice of the modalities of her intervention. But in general, a cautious gardener will make sure that 4) to the largest possible extent, her plants will be able to feed off their new environment, so that future maintenance be kept to a minimum. Achieving that may require some groundwork, such as fertilizing the soil, constructing slopes for plants to absorb more or less water (so that irrigation be less of a problem when one is away travelling), putting up shades to shelter them from the sun, disseminating poisoned sugar to clear the patch of ants and other insects that may try and feed on the yet-to-be-established roots, etc. It may in fact take days, weeks, even months, before a cautious gardener finally positions the first plant in full ground. When she does, however, she positions plants that, storms and locusts aside, stand a significantly good chance to work. And because cautiousness requires that one be cautious not only at times, our gardener will not cease attending to the plants in order to diachronically ensure their existence and persistence. And indeed gratitude and care, to and for the land and plants, may increase her cautiousness as time goes by.

2.5 Mindfulness

Mindfulness is a virtue of environmental engagement, environmental sustainability, a land virtue, and a virtue of environmental stewardship. It is a reliable disposition to take into account the causal networks that preceded one's acting, those that characterize the situation

of acting, and those that may follow on one's acting. It accordingly modulates into the following temporal tri-partition: recollection of the past, attentiveness to the present, and farsightedness into the future.

D. Jamieson discusses the virtue of environmental mindfulness as follows:

“Much of our environmentally destructive behavior is unthinking, even mechanical. In order to improve our behavior we need to appreciate the consequences of our actions that are remote in time and space. A virtuous green would see herself as taking on the moral weight of production and disposal when she purchase an article of clothing (for example). She makes herself responsible for the cultivation of the cotton, the impacts of the dyeing process, the energy costs of the transport, and so on. Making decisions in this way would be encouraged by the recognition of a morally admirable trait that is rarely exemplified and hardly ever noticed in our society”²⁰⁶

The development and exercise of mindfulness would have immensely positive environmental consequences. If our attitudes, evaluations, deliberations, and actions were consistently informed by recollection of past causal networks, attentiveness to present ones, and farsightedness into those of the future, we would, so Jamieson suggests, “make ourselves responsible” not just for the immediate consequences of our actions, but also for their causal antecedents, as well as for their consequences more distant. If we were pondering whether to buy a car, for example, and recollection of the environmental damage caused by its production, attentiveness to the pollution levels of our city and to available alternatives for transportation, as well as farsightedness into the future costs, both economical and ecological, of keeping that car running for years, entered our ponderings, then our decision may be significantly influenced: perhaps, we would buy a much smaller car, or an electric one; perhaps, we would not buy any car at all, and rather bike or take the bus.

By the end of the quote, Jamieson clearly suggests that there is not enough environmental mindfulness around, and thus, arguably, that such is a virtue that we need to learn. Learning mindfulness seems to have two dimensions: first, we must learn what, in fact, the

²⁰⁶ See D. Jamieson, “When Utilitarians should be Virtue Theorists” *Utilitas* 19, no. 2 (2007): 160-83.

(environmentally relevant) causal networks that surround our actions are; and second, we must learn to accept responsibility (“make ourselves responsible”) for them.

The first is a matter of awareness. Many people do not know how deep the most trivial everyday activities - such as brushing one’s teeth, tending a lawn, or using mosquito sprays - cut into nature’s causal networks: they are uninformed about the consequences of using this or that amount of water; or about the environmental damage connected not just with the use, but with the production-process of sprays; many people still ignore that a large portion of our environmental problems is caused by relatively small portions of fillet-steaks, and so forth.

The second is a matter of (perceived) imputability. The reason many people do not take responsibility for the (environmentally pernicious) causal networks that surround their acting is not just that they ignore the facts. Even if they knew the fact (and many, by now, do), there would still be another hurdle on their way to “making themselves responsible” for such facts: environmental degradation (in the form of biodiversity loss, pollution, climate change, and what not) always articulates into collective action problems; it is part of the physiognomy of such problems that an agent, though responsible for his contribution to, say, biodiversity loss and climate change, is not imputable with biodiversity loss or climate change, for these result from the accumulation of the effects of his own actions with those of literally billions of others, dead and living, and from the interaction of the effects of his own actions with the turnings of nature itself, and the myriad possible contingencies by which those are configured. No one in particular, ever, has *singlehandedly* caused a species to die out, or changed the climate; so no one in particular is imputable for these things. Lacking such (perceived) imputability, one lacks a basic reason for “making oneself responsible” for these things in a way not merely nominal - that is, in a way that may in fact imply his revising and/or abandoning his (environmentally pernicious) ways.

Both the issue of awareness and the issue of (perceived) imputability seem quite thorny. It is humanly impossible to figure out and keep into appropriate consideration all causal

antecedents, circumstances, and possible consequences of one's actions. It is also quite unfair to expect people to perceive themselves to be imputable for environmental damage writ large, when they are no more than responsible for small shares of it, with others, and nature itself, doing the rest.

In response: when we talk about mindfulness, we do not mean omniscience, or the ability to master at any continuation point all the innumerable and complex causal networks that surround one's acting; but rather a disposition to reckon with the fact that innumerable and complex causal networks do indeed surround one's acting; that when one brings some change in the world, such change will take one form or another in response to the contingencies and the regularities that configure the functioning of such world: in other words, that anyone's acting reverberates like sounds in space and time, and in accordance with how the hall is configured. There is no need to be aware of all the causal networks in the world, to know that one's acting will enter them, to accept that fact, and to let such awareness and acceptance inform one's acting. And when we talk of mindfulness as including (perceived) imputability, we mean a disposition to reckon with the fact that one's acting does have environmentally relevant causal antecedents, circumstances, and consequences; in other words, that one's own acting always makes a difference, environmentally speaking. What one should perceive oneself to be imputable with is still one's own acting, though, not the cumulated environmental problem.

First, awareness. As already noted when discussing ingenuity and cautiousness, garden practices are always practices of anticipation of future consequences, made possible by the recollection of past experiences, and most ingenuously and cautiously conducted when keen attentiveness to both the opportunities and the requirements posed by the situation in which acting is taking place are taken into account. There is no engaging in and with garden practices in any way that may be conducive to the attainment of (any combination of) the eudaimonistic ends, if one is unable or uninterested in recollecting past causal networks, covering and exploiting all angles offered by the situation of acting, and anticipating (and providing for) all possible consequences of such acting.

Because a garden is an ongoing project extending through time, the range of causal networks that one comes to be aware of by gardening is quite wide: one can become aware of causal networks obtaining in the plants' biology, in soil composition (erosion is very seldom a garden phenomenon), in biotic interactions among plants and between plants and insects or other animals, in the animals' biology, in the availability of water, the succession of the seasons, the effects of pesticides, etc. One can observe the consequences of one's attitudes, evaluations, deliberations, and actions as they diachronically unfold, embodied unequivocally by the state of one's plants; learn that there are certain things one must always be mindful about, for they are necessary, all-purpose means to a wide variety of ends, and what those things are (water availability, for instance, or soil richness); and start thinking in terms of seasons and years, rather than minutes or days, for plants take their own time, and no revolution will hasten their schedules. Farsightedness is required even in the most trivial technical details of gardening, such as whether to put this plant here or there: for plants will grow, and at this or that pace, and in a few years they may become a nuisance to each other, as well as to people; or in more sophisticated cases, such as when attempting hybridizations, or choosing to nurture one's olive trees with one composition of fertilizer rather than another starting *today*, so that in twelve years they will give out the olives one thinks are best; again, choosing to dig weeds manually, and only rarely or not at all use herbicides, mindful of the perniciously cumulative effects their use has on the soil, because one has seen the roots of one's plants already wither and dry for lack of nutrients in the past, etc. Working in and on gardens, and especially if those are located on an environmentally already damaged site and are parts of a project of renewal, exposes one to firsthand experience of the magnitude and complexity of the consequences of human interventions on nature (both those interventions one remedies, and those one now performs). We have already noted that if, on the other hand, one's interaction with nature is restricted to those 'wild' parts of it that are untouched (for instance, national parks), one gets no such exposure.

So much for matters of awareness: the notion that a gardener is more and better aware that (environmentally relevant) causal networks surround one's acting, and of what such networks are, than someone who has never handled plants and observed and dealt with their growth (or lack thereof) is, after all, not so bold. Turn now to (perceived) imputability.

A gardener is directly imputable with the life, well-being, and particularity of her plants, as well as with that of the whole garden. Was it not for the gardener, the latter, and with it the plants that contribute to its configuration, would not be there, looking as they do and functioning as they do. Recollection of the past allows the gardener to recognize the causal networks that have characterized the life of the garden and/or the plants, and how such causal networks are bound up with his own actions, so that the history of the garden and plants is, to a large extent, the history of his own work on it. He will say: "I planted that" - something no one can say in the 'wild'. That change brought into the world that is a garden and/or a garden plant, has been brought about singlehandedly by the gardener. Of course, nature has done its part of the work, and quite a major one at that. But the benefits brought about by nature may not have been the same and/or as many, and may in fact just as well have been damages, had not the gardener been ingenious enough to capitalize on the opportunities nature presented and cautious enough to shelter against the losses it threatened, at each continuation point. Nature alone would not have grown this particular rosebush in this particular place. The existence and persistence of that rosebush are thus largely the gardener's merit. Conversely, the loss of it is his fault. No other human concurred to such loss; there is thus no difficulty in tracking the chain of imputability in the realm of human actions. Also in this case, however, nature itself may have done much of the work; yet, there can be no talk of ill or good fortune; for by acting, one exposes oneself to contingency, beneficial as much as unfortunate, and such exposing of oneself is certainly one's deliberate choice. If the practice I choose to engage in and with is part and parcel of an ongoing, diachronically extended project, as is a garden or a plant's growth, I do choose to expose myself also to unfortunate contingencies that may befall on me a long time from now; just as I am choosing to reap benefits a long time from now, if contingency be beneficial.

It is because one fails to tailor one's choices and actions to the particularity of the plants one confronts (for instance because one wishes for impossible things and fails to reckon with the fact that this plant will not work out in this given place and in these given conditions) that one loses plants in gardens. For these losses one is directly imputable: and not any less, but rather all the more because the practice of gardening is characterized by

pervasive uncertainty: one who engages in and with a practice that involves consistent and long-term uncertainty is enabled and required to deal with such uncertainty: for the latter is constitutive of that particular practice, and attaining (any combination of) the eudaimonistic ends by engaging in and with such practice is impossible if one does not engage all the elements that constitute its particularity. If the practice is characterized by uncertainty, the virtuousness of one's acting cannot be judged in abstraction from considerations regarding how such uncertainty is and has been managed (think of poker, or sailing).

A gardener does see himself as imputable with the life, well-being, and particularity of his plants and garden. If he did not, his practice would be pointless from his own perspective. No gardener thinks of his garden as somebody else's business, or as a place that will be tended by nature alone. Moreover, not accepting such imputability would be to renounce any claim to merit and desert regarding the existence and persistence of the plants and the garden: would be to transform material through one's work, without thereby laying any claim to it, an idea inimical to much of human practice since the beginning of its history; in fact, it would be to alienate one's work *to* nature - but gardeners do not do any such thing.

What a gardener learns, in general, is that none of his actions in, with, and to nature is inconsequential: each of them will be absorbed into nature's course, receiving momentum thereby, and each of them will have further causal ramifications, some of which may not be visible (soil depletion or enrichment), while some may only be visible in time (a plant's death or its healthy growth). There is no way of validating poor gardening by claiming that the forces of nature have amplified the consequences of one's poor acting beyond what one expected - for one is imputable first and foremost with having failed to expect. And one is *directly* and thus *personally* imputable with that, and perceives oneself as such. If one is trained and habituated by everyday practice to look into, and accept imputability for, the causal networks surrounding one's acting, including those networks distant in space and time, it is plausible that she will bring to the collective action problems that unfold outside her garden at least some of the mindfulness that she has developed and exercised in it. For, on the one hand, exercises of recollection, attentiveness, and farsightedness are, to a large extent, a sort of expertise, which accompanies one across contexts (think of chess totem Bobby Fisher, capable - after abandoning competitions, quitting paying taxes, and coming

to be considered a dangerous agitator - to escape and ridicule the American secret-services for decades); and on the other hand, it is to be expected that one will exercise off-garden mindfulness, insofar as one construes the off-garden situations one confronts as relevantly similar to the garden ones she is habituated to. Now, in principle, all situations in which one's acting is of environmental consequence, and these, as the gardener knows, are *all* situations, may be construed by a gardener as relevantly similar to a garden situation, and thus as enabling and requiring exercises of mindfulness. These two considerations support the idea that mindfulness, though first developed and mostly exercised in the garden, may indeed be extended across contexts and themes; informing, for instance, one's choices of consumption, and one's sense of obligation towards future generation.

2.6 *Efficacy*

Efficacy is a virtue of environmental engagement, a virtue of sustainability, a virtue of environmental stewardship, and a virtue of environmental activism. The notion of efficacy is an instrumentalist and consequentialist notion, but it is to be distinguished from the more restricted notion of effectiveness or efficiency.

One achieves an end most efficiently when one minimizes the costs and maximizes the benefits connected to the achievement: most effective or efficient is the most direct, fastest, cheapest way to get from A to B. Features of the situation in which one is acting may sometimes need to be overcome in the name of efficiency or effectiveness: given a plan made at A to get to end B, such circumstantial elements represent what Von Clausewitz called "friction", those unplanned elements that stand between the drawn plan and its realization, the noise of the world while one is doing something one has set out to do. For the sake of efficiency, such noise may often need to be silenced; so for example, if one's end is an orderly garden, and one looks for the most efficient/effective way to eliminate weeds, powerful herbicides (able not just to kill weedy plants but also to sterilize the soil from their dormant and/or invisibly active seeds or cuttings) will be the means of his choice: fast, comparatively cheap, of visible and lasting effects. Also for the sake of efficiency, the vegetables we eat today (at least in cities) are usually cultivated *en masse*,

and intensively, somewhere else, employing techniques cheap and fast, but highly reliant on external inputs such as herbicides, pesticides, and chemical fertilizers, and quite demanding of natural resources such as soil and water.

Efficacy is an instrumentalist and consequentialist notion that has nothing to do with finding the fastest and cheapest way from plan A to realization B. Efficacy *never* recommends overcoming the restraints posed by features of situations: rather, it always recommends capitalizing on such features at any continuation point: finding ways to exploit the changing opportunities posed by evolving circumstances, by individuating the direction in which the situation is spontaneously unfolding and adapting one's acting to it, so as to surf on such spontaneous processes. In other words, most efficacious is the acting that best manages to anticipate and most timely to implant itself within the constellation of processes that characterize the situation in which it takes place, so as to capitalize on such very processes, letting them do most of the work.

In the case of weeds, efficacious ways of going about the problem are: preemptively patching the soil with nets that will impair young weeds from feeding on sunlight, or choosing and using medium-tall vegetation that will achieve the same purpose; choosing and using plants that can do without or with little water in the locality in question, so as to minimize the resources made available to weeds; tilling the soil manually and often, so as to confront weeds when they have more tender roots; introduce plants and animals that will themselves feed on weeds, such as certain beans, and chickens; etc. In the case of growth, efficacy amounts not to causing, but to facilitating it, without shocking natural processes (through the employment of excessive irrigation or chemical fertilizers, for example), but rather accompanying them in their spontaneous course: for the plant's growth is not something that needs to be brought *into* the situation, but is rather already implicated in and by the situation; efficacy in this case amounts to letting the latter unfold, until the plant itself shows signs of activity, such as minuscule new leaves - to which signs an efficacious gardener must be extremely attentive - which manifest its readiness for growth. It is precisely at that point that nurturing intervention is called for, so that the marginal beneficial effect of such intervention on the plant's growth be larger. Wherefore growth is not brought about by the intervention, but is rather the intervention that is being brought

about by growth: the intervention is propelled and propels already and spontaneously operating forces. By these lights, efficacy may likewise call one to act, as well as to defer acting - both patience and timeliness, in other words, would be integral to efficacious acting: one observes the situation unfold, waiting for opportunities, and when presented with them limits oneself to facilitating consequences already on the way, which one has already anticipated, gradually helping “that which needs no help”, so that its spontaneous course be capitalized on. Surfing, again, is an apt metaphor for this.

Because it has to be responsive to external processes, efficacious acting, though it never ceases being goal-directed, cannot be restricted by plans drawn in advance and/or in abstraction from the actual features of the situation confronted, lest the unplanned opportunities its unfolding may offer be overlooked (and thus mutate into opportunity *costs*). In this, it strongly differs from efficient/effective acting, a condition for which is that there be a plan, and that one sticks to it.

It is also not a necessary requirement for acting to be efficacious that it be fast and definitive; and it will only be cheaper in the medium/long run, once the initial costs of adapting to the situation have been absorbed. The focus is not primarily on “closing the case”, as it were, but on exploiting all the opportunities that an engagement with it may present; not on causing one final beneficial effect that extricates one from the situation, but on inducing reticular networks of beneficial, in principle open-ended processes within that very situation, which may keep on bringing benefits in time, at progressively decreasing costs.

Efficacious acting seems an important component of efforts at environmental sustainability, for it is calibrated in reference to the totality of antecedents, circumstances, and possible consequences of one’s acting, and not just to a selected handful of close ones, as is effectiveness; it is discreet, not invasive, and consistent, similar to the work of the gardener who shovels and cleans around the base of her plants, moving the soil, letting it breathe, reactivating the innumerable organic elements that thrive in it and are made dormant by its stiffness: thus facilitating growth, moving things forward without pushing. Efficacy capitalizes on natural circumstances and processes without disrupting them, and starts from

an evaluation of such circumstances and processes rather than from the drawing up of an abstract plan to be followed, whether or not it fits them. It thus also has a dimension of adaptive efficiency, a further virtue that seems crucial to sustainable living in an environmentally evolving world such as ours.

Efficacy is also a virtue of environmental stewardship and environmental activism. The idea of not using what is common is impractical, as well as quite paradoxical. However, commons can be used efficiently or efficaciously: in the former case, the benefits relating to maintaining opportunities for their continued availability may be superseded by those relating to not maintaining them - efficiency in their use does not close the door to their exploitation and degradation. But efficacy in the use of commons does close that door, because it is integral to it that all possible opportunities offered by the common resources be capitalized on, and thus that these resources be not just used effectively for given ends, but also nurtured, favored, observed, and adapted to, so that they may later offer unplanned opportunities for further benefits.

As a virtue of environmental activism, on the side of individuals as well as groups, communities, and organizations, efficacy is to be understood as a disposition to avoid grand face/off's with big antagonists (corporations, governments, etc.), as well as marketable provocations that may make it to the news but may also undermine the credibility of the environmental cause: in short, it will be efficacious environmental activism that which will not turn itself into a spectacle for the antagonists (whatever or whomever those may be in specific cases) to broadcast, but will rather work discreetly, at the margins of political confrontation, so as to model future citizens that will make environmental considerations central to their social and political concerns, their choices of consumption, as well as their everyday activities. Educating people is by far the most efficacious way of protecting nature.

2.7 Timeliness

Timeliness is a virtue of environmental engagement, a virtue of sustainability, and a virtue of environmental activism. It is timeliness that allows the gardener to recognize the moment in which the marginal beneficial effect of her intervention on the plant's growth will be larger, and to seize on it; to be prepared for winter storms by the end of fall; to attack weeds when they're young, etc. Timeliness, by these lights, is an integral component of efficacy: it allows the gardener not to overlook and/or miss on the spontaneous momentum of natural processes, so as to be able to facilitate and capitalize on them (co-operation to mutual benefit).

There is one specific aspect of timeliness that deserves some highlight. Timeliness has to do with taking action, with the present moment in which something is actually done; with not missing on the opportunity to do something precisely at that moment. Timeliness is thus a disposition to cope with the urgency of the present; not to postpone taking the action one has, after surveying the situation, set on to. Timeliness is paramount to gardening. Seasons come, and they go; the right time to intervene efficaciously on this or that plant, once passed, is lost. A gardener must do, as Goethe has it, "every season of the year, every hour of the day, precisely what needs to be done". Moreover, plants live only that long; and any benefit, material and spiritual, that they may provide is temporally limited to their lifespan, and one must be able to seize on it while it lasts.

Gardening is not done out of inspiration, but in response to the present needs and requirements of plants; one cannot let go of one's garden until further inspired. One may wait for inspiration when painting: but not when gardening, for natural processes cease not to unfold meanwhile, setting requirements and opening opportunities to which one's acting must remain geared at any continuation point, if losses are not to be incurred and benefits not to be foregone. Procrastination is no good gardening policy: once a survey of the situation shows intervention to be necessary (for instance, if plants need to be pruned before new vegetation starts; or lemons to be picked before they begin falling from the branches to the ground, etc.), such intervention must be performed at *that* continuation point, and not a later one. In fact, many gardeners often seem frantic in their operations: for so many congenial factors are to obtain for them to be carried on most efficaciously, that

postponing action when they do in fact obtain is supreme garden folly. To do well in a garden, one better always assume that it is in fact already later than one thinks.

In the case of biodiversity loss, that we carry with us an extinction debt is evidence enough that it is already later than we think. But in general: if, after surveying the situation (ours on this planet now) through our science and institutions, we realize that environmental degradation has become a definitive, operative, and indeed snowballing element of it; and if we can find ways, as individuals, groups, communities, or organizations, to alleviate such degradation (and we can: we can garden, eat less meat, use less water, organize our economies on principles of local consumption, invest on education, etc.), we should not postpone picking up on them, thriving on excusing factors such as the unmanageable scale of the problem or the disinterest of others for it. Self-excuses and scapegoating practices are environmentally useless, and devour time and energies that may well be devoted to action instead. We should not wait for a magical moment in which governments and corporations will all go green, and only then take action; the latter should induce, rather than be induced by, political and corporate concern for the environment.

The discrepancy between people's declared environmental concern and their actual behavior, lamented by Sandler, also has to do with lack of timeliness: because the negative consequences of the environmental problem are not all visible at once, we tend to postpone action, and in general assume that we shall cross bridges (the depletion of resources, the extinction of keystone species, climate change, etc.) once we get to them. In so doing, we involve ourselves with providing but remedial solutions to scattered issues; but a timely re-orientation (not too risky, not too costly) of our ways to go about our business on this planet may allow us to deal with *structural* features of the environmental problem, and to avoid having to cross some bridges at all, by choosing other paths (eating more local plants and less imported meat, for instance), so as to have time, energy, and resources to devote to preparing ourselves for those bridges we *will* have to cross (scarcity of resources, especially fresh water, will certainly be one of them; and so may well be the extinction of bees); and to induce our scientific and institutional ground-troops to strengthen such bridges in advance (through our choices of consumption, our votes, the force of informed public opinion - but most importantly, by setting ourselves as an example *to* them, for once). To

recognize that the time to align our environmental practices with our proclaimed environmental concern is now and not later is an exercise of timeliness; and such exercise is environmentally virtuous. Garden practices will teach us that, to get where we want to get, we must always “make a beginning”; and gardens themselves, indeed, will be such beginning.

2.8 *Adaptive Efficiency*

Adaptive efficiency is a virtue of environmental engagement, a virtue of sustainability, and a virtue of environmental activism. It has to do with a particular aspect of the way in which our environmental situation can evolve diachronically, namely the degree to which our acting (both individual and collective) can be adapted so as to continue generating benefits in the face of mutated circumstances, as well as to capture any additional benefits that such change in circumstances may have made possible.

When we speak of benefits, we particularly refer to *mutual* benefits between humans and nature: adaptive efficiency is not here intended as a deontic principle *for* humans, dictating maximization of benefits to themselves at any continuation point - to be obtained, perhaps, with utter disregard for the existence and persistence of natural entities and ecosystems, by adapting the environment to human needs and schemes, transforming and re-organizing nature in more congenial ways whatever the ecological costs of doing so - circumstances may obtain whereby, say, deforestation for the sake of intensive cultivation and/or pastures may prove maximally beneficial to humans: for instance, if there were twice as many humans as there are now, and perfectly functional, albeit fully artificial photosynthetic forests had become available.

Adaptive efficiency is rather intended as a (virtuous) disposition and capacity *of* humans to re-organize *themselves*, their own ways of going about things, individually as well as collectively, so as to establish, or, if it already exists (as in gardens), maintain, a co-operative relation to mutual benefit with their environment; to revise and perhaps even change their own ways of acting in the face of changing environmental circumstances, so as

to avoid losses and to capitalize on the opportunities such changes may bring about. Not only is there no principle of maximization necessarily implied by the above definition; but even if there was, there could still be no maximization of benefits unless it was, metaphorically speaking, mutual; and maximizing mutual benefits with nature cannot possibly entail wholesale conversions of forests into global iron lungs, no matter how much *we* could benefit from doing that in given circumstances. In short, adaptive efficiency has to do with how well we culturally adapt to changing natural circumstances, and not with how well we can transform nature so as to most efficiently adapt *it* to changing cultural circumstances.

Because this all happens in a framework of pervasive uncertainty, we must speak of expected benefits and expected losses. Insofar as the future is replete with risks connected to our failing to keep pace with the changing physiognomy of our environmental problems, avoiding those risks and capturing those opportunities requires that our acting (individual and collective) be *adaptable* to such changes. The possibility that our acting may have to be revised at any point, and even changed by welcoming innovation must, within such pervasively uncertain framework, be accepted and left open; and we must constantly be curious to learn, through reflective experience, how to capitalize on the changing circumstances of the natural environment, and of our own situation in it, were there opportunities to do so.

It is doubtful that much adaptive efficiency can be developed and exercised in the ‘wild’: there, our ways of acting cannot be revised and changed, if the ‘wild’ is to remain such: benign neglect remains all we can “do”. But in the garden, and indeed in any humanized setting whatever, developing and exercising adaptive efficiency is not only possible, but paramount. The garden is *also* characterized by pervasive uncertainty: and there too, we cannot but reason in terms of expected losses and benefits. Now the gardener is mindful that causal networks surround any of his actions, and knows that each of such actions will ramify into various sets of consequences in turn. In order to be able to capitalize on future opportunities for selfish and non-selfish benefits, the gardener must not close off the possibility of such future opportunities to obtain (say, by over-exploiting the soil), and must therefore, if he wants to retain a chance for acting efficaciously in the future, be mindful of

the manifold ways in which things may diachronically evolve, once he sets in motion certain causal networks by acting in one way (using chemical herbicides) rather than another (digging weeds manually).

A gardener must be flexible to adapt his ways to the change, if he is to avoid losses and have a shot at capitalizing on new opportunities: in case of an exceptionally rainy season, for example, he may have to build discharging trenches and configure slopes so as to shelter the roots of his plants from rotting, and perhaps he may decide to make room for a pond in which water may flow, and in which aquatic plants may be grown. He will then have sheltered himself from possible losses, and capitalized on the change in circumstances, in turn opening new possibilities for further benefits: for, besides the chance to explore the life aquatic of plants, a pond may provide fresh refuge in the summer, or may be used to breed fish and learn something about them, or perhaps no fish at all and one may recycle the water fallen from the sky into the pond in order to irrigate one's plants, etc. Digging trenches and creating a pond is, under such change of circumstances, adaptively efficient.

As a virtue of environmental activism, adaptive efficiency modulates into a disposition, on the side of individuals, groups, communities, or organization, not to crystallize their pro-environmental efforts in the social and political arena into positions, strategies, policies, etc., which may render them unable to seize on possible future opportunities for furthering their (environmentally virtuous) objectives; it accordingly also modulates into a disposition to avoid establishing tight relations with political appointees, parties, lobbies, etc. and tying the configuration and implementation of (environmentally virtuous) proposals and policies to their support; so that the furthering of (environmentally virtuous) objectives not be hindered or constrained if and when these entities decide to withdraw such support, or political swing relegates them to secondary roles.

2.9 *Commitment, Consistency, Perseverance*

The virtues of commitment, consistency, and perseverance are presented here as a cluster, and as articulations of the notion of resoluteness, to which we have repeatedly referred in previous chapters. We hesitate to directly include resoluteness itself among the virtues, given the technical use that of the term we have made so far (resoluteness as a strategy for dynamic choice). Commitment, consistency, and perseverance are thus here presented as the *phases* of resoluteness, as it were - commitment “gets us out of bed”, consistency “moves us into action”, perseverance “enables us to follow through”. All three together make for resoluteness: we propose to investigate each in turn, looking at them as sequential modulations of it. In the process of analyzing these three notions, we shall effectively be re-defining resoluteness as a virtue, focusing on dimensions of it that have less to do with rationality and more to do with volition. Commitment, consistency, and perseverance are virtues of environmental engagement, land virtues, virtues of environmental stewardship, environmental activism, and therapeutic virtues.

Commitment as a virtue is obviously not a disposition to *make* commitments, but to stick to them. It is therefore impossible to define commitment as a virtue without also discussing consistency and perseverance. For commitment as a virtue means *being* committed to some project, object, etc. - not just having contracted some commitment at some point, but effectively entertaining the attitudes and performing the actions such commitment enables and requires of one at *each* continuation point. If one *is* committed to some object or project, one is unable to think of oneself as unoccupied with or unconcerned for them; and her commitment countenances not only a commitment to act so that the objects are attained and/or the project accomplished, but also a commitment to act so as to see to it that the commitment to attaining and accomplishing them is not abandoned, neglected, or poorly operationalized at *any* continuation point. When seen as an environmental virtue, commitment is a disposition to invest oneself in environmentally beneficial behavior, to key considerable dimensions of one’s basic organizing self-conception to the fate of our environment, and to see oneself as personally vulnerable to the losses and susceptible of the benefits connected to such fate.

One commits to people, plants, ideals, values, projects, not because one has no doubts about them, or their success, but rather in spite of such doubts. Projects and commitments

extend into the future, and are often characterized by significant uncertainty. One always commits to them given an expectation of some benefits: taking on commitments and projects therefore enables and requires at least some degree of optimism and hope - some sense that one can “make it happen”; that things may, and indeed will work out, if one devotes oneself to them.

By committing to something, one gives an orientation to one’s life, opening onto some sets of future possibilities while foreclosing others. By committing to an object or a project, one makes for oneself a particular life, one in which one will entertain certain attitudes and perform certain actions, and not others. In effect, one chooses and accepts to be a certain person rather than another, to have one life rather than another; and besides such orientation, commitments also give meaning and continuity to such life, allowing one to conceive of oneself as involved in a goal-directed, and thus unitary and readable narrative, as having some clear “reason to go on at all”. When one commits to a person, a country, a bunch of plants, a garden, a cause, an ideal, or any project at all, one also commits intrapersonally: one strikes an agreement between his present and later self, preparing for the latter some particular life rather than another. When one sticks to such commitment at any later continuation point, one strikes an agreement between his present, past, and future self.

Having made a commitment is not tantamount to sticking to it, nor is it a guarantee that one will, in fact, stick to it. For being committed (unlike committing) is costly: it may entail losses in liberty, resources, time, and opportunities. Mutated circumstances, acquired new information, various types of psychological blocks such as laziness and lack of motivation, self-deception, cowardice, weakness of will, fixations and uncontrolled drives, one’s own non-complacency in the face of new opportunities for increased benefits, and conflicting commitments - all such factors, among others, may concur to one’s decision not to bear, or to stop bearing, the costs of a commitment made.

Avoiding that, and sticking to such commitment, is a matter of *consistency*: when one commits to an object or a project, such object or project is judged beneficial by an ex-ante perspective, calling for ex-post attitudes, evaluations, deliberations, and actions that one may well not have entertain or made, had one not committed to them ex-ante. One who

does entertain and make them on grounds of a commitment made, on the other hand, acts consistently; and, we should emphasize, *resolutely*, insofar as the ex-post self is not subject to external constraints posed by the ex-ante self (in which case we would not be talking of resoluteness but of pre-commitment) but is indeed deliberating and acting on grounds of his previous commitment (not of impediments imposed on him by such commitment, but of the commitment itself).

To talk of commitment is to presuppose that one's future attitudes, evaluations, deliberations, and actions can be modeled, shaped, and managed, at least to some degree: indeed, that there can be a chance for something like moral progress or character development. Commitment as a virtue (understood as "being committed") is a void notion in abstraction from consistency. Consistency is a disposition to follow through on one's commitment - to "make a beginning", as said. Deliberative consistency means avoiding possible intrapersonal contradictions: and it is at once a manifestation of *courage*, because consistency may well enable and require one to "re-arrange the space of the inner self", as J. Elster, would put it, to accept and make room for a whole new set of attitudes and actions (commitment to a garden, and/or the environmental case, certainly would), for a re-conception of oneself, and, in fact, for a whole new way and sort of life; and it is a manifestation of *fear* as well, because inconsistency may trigger cognitive and emotional dissonance within oneself, as is the case with people who commit to dieting and exercising but do not manage to bring themselves to actually do so: it may trigger a self-perceived lack of integrity, and consequent self-loathing and/or loss of self-respect. When inconsistency taints the translation of one's commitment into action, a chance to preserve and manage the unity of one's self is lost, and indeed is mutated into an actual threat to such unity: inconsistency is intrapersonally divisive.

If commitment gets us out of bed, and consistency moves us into action, perseverance enables and requires us to follow through on the beginning made - in spite of occurring difficulties, obstacles, or discouragement: per-severance is, literally, a disposition to "cut through" such occurring difficulties, obstacles, and discouragement. To persevere with regards to a project or an object is not just to work and to keep working on it: primarily, it is to work on oneself, learning to understand and accept the particularity of such object or

project, and to engage with it, with *all* that which it enables and requires of one: the multifarious sequence of challenges (and perhaps defeats) it entails, not just the final benefits one may expect from it. Perseverance is a disposition to accept that objects or projects have dynamics and structures of their own, to which one must learn to adapt if one's practice of them is to further (any combinations of) the eudaimonistic ends for the sake of which one has engaged in and with them in the first place: perseverance thus connects to humility, but also with optimism and hope - and not just about the success of one's engagement, but about oneself, about one's own capacity to engage so that success may ensue. It also connects with patience, with one accepting that a final result, no matter how ambitious, may not be achievable in one grandiose blow, but may rather require tedious repetition of quite mundane tasks; and thus, again, humility, for one is to accept such mundanity and tediousness as *not* beneath oneself.

Perseverance is to stay committed to one's commitment, to suppress or dissociate oneself from attitudes, evaluations, deliberations, and actions one regards as inconsistent to its stability and success. It is a disposition to stand by (and indeed team up with) one's past self, to manage and execute its choices even in the face of future uncertainty, obstacles, setbacks, and one's own volitional weaknesses and impelling desires; and even if it entails starting over, even many times; calling into question one's own ways to go about the object or project, and redefining one's own attitudes and actions from the ground up.

Perseverance is a matter of volition, but it is also a rational disposition, insofar as it is propelled by a recognition that failure to effectively coordinate one's present choices to one's past may result in future losses (including the opportunity cost of missed opportunities); even though the present self, in contemplating the expected benefits of departing from one's past commitment (the benefits of one's own inconsistency) against the present benefits of not doing so, would computationally have to favor the former option. Moreover, a rationally perseverant agent recognizes that, even if no specific episode of inconsistency may be capable of jeopardizing the stability and success of her commitment, the cumulative effect of many inconsistent episodes will indeed do so.

In some cases, perseverance may degenerate from a virtue into to a vice, namely stubbornness: this happens when the volitional dimension of perseverance is disconnected from the rational, and the self as an executive manager ceases to be concerned with what works to the mutual advantage of all relevantly time-defined selves, and accords parametric consideration to those past, even though there is nothing in it (in the object or the project) for those future - if the project is prudentially hopeless, for instance (like that of our repenting father in chapter 1), or has been made so by changing circumstances; or if one's own ways of going about it are inaccurate, inappropriate, ineffective, inefficacious, and so forth, and yet one is unwilling to reconsider and reconfigure them.

We have gone some way into redefining resoluteness, from a strategy for dynamic choice, into a virtue: to do so we have articulated the notion into three sequential components - commitment, consistency, perseverance - which may perhaps even be considered each a virtue in its own right, even though it would be impossible to describe any of the three without reference to the other two. Now a garden, like any ongoing project, and garden plants, like any objects of an ongoing project, enable and require resolute commitment, consistency, and perseverance on the side of one. They do so all the more urgently, because the needs and requirements of living plants intimate to the gardener (not just indicate) certain attitudes, evaluations, deliberation, and actions to be salient at any given continuation point, and not others, if she is to further, by engaging in and with such garden plants and practices, whatever combination of eudaimonistic ends she may be aiming at. We have often quoted Goethe's statement that "from no one is an unruffled consistency required, every season of the year, every hour of the day, more than it is of a gardener" - and that, in the face of whatever obstacles the internal dynamics of plants and the wider environmental conditions may pose. A gardener must keep up with pests, weeds, rain or shine, seasons, contingencies, the needs and requirements of plants, etc.; if she does not, she will simply lose all that she may see as valuable in and around her plot.

In short, resoluteness is enabled and required by garden practices. This is a point we have already dwelt upon long enough. Now it should be noted that resoluteness, understood as a

virtue, is a virtue of a quite peculiar and important sort. The development and exercise of many other virtues, in and through any practice, seem in fact to presuppose one's being committed to, and consistent and perseverant in, any such practice. Resoluteness seems to enable and require the development and exercise of virtues such as patience, efficacy, temperance, cooperativeness, justice, loyalty, optimism, hope; it seems to be a condition for such further virtues to be developed and exercised that one is resolute with regards to the practice that to such development and exercise may be conducive. If that is so, developing and exercising people's resoluteness in relation to the environmental cause is of paramount importance, and should be the first preoccupation of any environmental virtue theory: and if *that* is so, environmental virtue theory must turn to gardens, and not to the 'wild', when proposing contexts and methods for character construction and perfectionist progress; for in the 'wild', no resoluteness can be learned, for no resoluteness is called for - the problem of dynamic inconsistency having been resolved through pre-commitment, by preemptively imposing restrictions on one's (everybody's) future actions, thus circumventing the need to develop and exercise commitment, consistency, and perseverance altogether. Our experience in and of the 'wild' is no good school for such virtues.

In discussing their development and exercise in gardens, we have so far discussed commitment, consistency, and perseverance mainly as virtues of environmental engagement - reliable sensitivities to virtuous acting when it comes to how nature (plants) on which one makes a nurturing intervention is to be treated and handled. But we have also already hinted at their fundamental role as virtues of environmental activism: indeed, we have said that no environmental activism is even imaginable if those who should be the protagonists of it are not committed to the environmental cause, if they have not keyed (at least to some extent) their own basic organizing self-conception to the fate of their environment, and if they are not consistent in implementing their commitment, and perseverant in the face of occurring difficulties, obstacles, or discouragements. If we are to act, socially and politically, in favor of species, clean air and just distribution of natural resources, we must welcome species and clean air and just distribution of natural resources as our *personal* interests, capable of providing us with reasons to buy one thing and not

another, vote one way and not another, live one way and not another; these must be reasons as intensely involving as those provided by our inclination to stay as comfortable as we can - with more than one car each, sky-high indoor heating or outdoors air-co, more meat, more imported strawberries wrapped in plastic, etc. Such inclination is all too natural, perhaps - any animal would tend to stay as comfortable as it can - but it is also socially, culturally, and indeed politically reinforced. Only if the fate of our environment becomes important to ourselves, as individuals and as communities, can the state of dissociation that currently characterizes our relation with it (we care about it but it does not show in action), so gloomily denounced by Sandler, be overcome. Protecting our environment, and on this both a wilderness-based and a garden-based paradigm agree, entails calling into question the way we live, and change it: there are powerful obstacles to such ambitious and lofty objective, problems of time and scale, difficulties psychological, economical, cultural, political, and indeed philosophical; there will be political resistance to such change, sabotages, and notable setbacks too; and discouragement. Only those who are capable of standing by their own commitments and not give up in the face of adversities, uncertainties, and setbacks will be able to even attempt such questioning and change, at an individual as well as a social and political level.

As virtues of environmental stewardship, commitment, consistency, and perseverance are at the core of any strategy that attempts to ensure 1) the appreciation and maintenance of environments and/or natural resources (including species) as public goods, 2) maintaining them as such, and 3) seeing to it that the benefits provided by such goods are justly distributed, by proposing intra-personal solutions to the inter-personal collective action problems relating to the public features of such goods. It will be intrapersonal commitments to stick to interpersonal rules of non-defection and cooperation, that which will provide a solution to the degradation of the environmental commons, avoiding both the Scylla of their captivation by the state (or, generally, the costly enforcement of centralized rules), and the Cariddys of their dissolution into private assignments (or, generally, the costly absence of any rules). Being guided by *internal* rules, a resolute environmental activist makes her commitment largely non-contingent on the behavior of others, and insulates it from one's own dynamic inconsistency.

As land virtues, commitment, consistency, and perseverance modulate into an enduring willingness to bond with the environment one inhabits, and the human and non-human entities in it, even though any individual episode of interaction with them (with people sharing some common environmental resource, or with the plants in my garden, for example) may not be beneficial, or not fully so, not easily so, not at first, or not all at once; an enduring willingness to get to know one's environment and to deal with its particularity, to adapt and respond to the opportunities and requirements it poses, rather than ignore and/or suppress them whenever they seem in the least uncongenial to us, and/or not easily controllable (recall our brief critique of formulaic, corporate-rooftop gardens in the previous chapter). As land virtues, commitment, consistency, and perseverance are closely connected to optimism and hope, to humility and patience; but also, as we shall shortly see, to gratitude and loyalty.

As therapeutic virtues, commitment, consistency, and perseverance modulate into reliable dispositions not only to devote one's work and concern to objects or projects one regards as important to oneself, but also to work *on* oneself so as to learn to value certain objects or projects one *wants* to regard as important to oneself, even though many factors, external or internal to one's topology of self (say, uncertainty, or one's own laziness) may conjure against such re-orientation; as dispositions to stay with obstacles and difficulties always a little longer than one thinks one can or should; to finish what one starts, or at least attempt to, no matter the obstacles and difficulties one encounters; to autonomously orient, and to confer a certain structure on a life that might otherwise be lacking in unity and shape, and indeed in content and meaningfulness, and/or be perceived to be so lacking.

Commitment, consistency, and perseverance are elements of that self-imposed pattern of discipline, that effort at self-mastery, which shelters one's life from drifting away or fragmenting into a patchwork of episodes bound together by merely formal relations of sequentiality, and allows one to indeed *be* someone, rather than merely endure one's life; and which seem to be enabled and required by one's engagement in and with any valuable human practice, be it gardening, writing a book of philosophy, loving someone, educating one's children, eradicating polio, or discovering new continents.

2.10 *Gratitude*

Gratitude is a land virtue, a virtue of communion with nature, a virtue of respect for nature, a virtue of environmental activism, and a therapeutic virtue. Reason for gratitude is a history of personal benefits, though not necessarily mutual concern: un-minded entities such as plants, gardens, and land, can therefore be objects of gratitude. It is a disposition to recollect and recognize past benefits enjoyed, and to acknowledge them in and through compensative action in the present, so that the life (where applicable), well-being, and particularity of the object of gratitude may be promoted or at least conserved into the future.

Any gardener will develop and exercise gratitude to her plot and plants, on grounds of the manifold economic, health-related, aesthetic, intellectual, and perhaps even spiritual benefits they have provided her with. Gratitude, however, is a virtue that may be developed and exercised in the 'wild', too: indeed, in the 'wild' it can take on a quite solemn and cosmic feature - for instance one can be grateful of there being something rather than nothing, of one being there to contemplate it and to enjoy the spiritual benefits such something provides, of living on a physically, biologically, geologically, and aesthetically rich, complex, and engaging planet rather than a barren moon, etc. But such gratitude-inspiring considerations are not foreclosed to gardeners; some other gratitude-inspiring considerations that are available to gardeners, on the other hand, *are* foreclosed to contemplators: namely all those that relate to the material benefits provided by nature and/or natural entities. Moreover, the gratitude one shows to a piece of un-humanized jungle (by treading lightly on it, through benign neglect) is necessarily episodic, as usually are one's experiences of the 'wild', and there is no guarantee that it will inform one's deliberations and actions once one is back in town (for one finds no nature to be grateful to, there, or is grateful to nature for general and impersonal reasons, for non-divisible benefits it provides such as there being air to breathe, sunlight to enjoy, etc.); in the garden, on the other hand, gratitude is manifested in and through action on a daily basis, and on grounds of a recognition of the very personal benefits (material as well as spiritual) one has enjoyed thanks to the existence and persistence of her gardens and plants. In particular, in

considering her Saguaro, her rosebush, her olive trees, or her vegetables, a gardener acknowledges just what a minuscule seed can become, if given time, a couple of cubic meters of good soil, a bit of water, some sun, and some nurturing help. The generosity of nature, in other words, is tangible in a garden, and an everyday acknowledgement of a gardener.

It is equally clear to a gardener that anything that she sees of value in her garden is ultimately dependent on nature's generous (if metaphorical) co-operation; and, insofar as the garden, the plants in it, the practices they call for, the experiences they enable, and the relation one has with them are constitutive elements of her basic organizing self-conception, which includes one's conception of a life well-lived, how dependent are such conceptions, too, on the generosity of nature.

Gratitude is a vice-preemptive virtue: those who are grateful to an object for the past benefits it has provided, and the present ones it still provides them with, can be expected to act in such a way so as to recompense such object; and acting viciously towards a beneficial object (destroying it, neglecting it, etc.) is no recompense to it. For this reason, gratitude is a land virtue, a virtue of communion with nature (a communion which cannot be fully appreciated unless one acknowledges one's own personal dependence, both material and spiritual, on nature's generous co-operation), and a virtue of respect for nature, for no grateful gardener will so act as to jeopardize the existence and persistence of her plants - if anything, she will rather act to promote it.

As a virtue of environmental activism, gratitude can be a strong motivating factor for people: it has long been recognized that religious beliefs that portray the world and the creatures in it as a gift from God, of which we are not owners but temporary beneficiaries and trustees, not just users but also guardians, can often be strong propellers of social and political action in favor of the environment, and much of that motivating strength is due to these creeds' insistence on obligations we take on for reasons of gratitude. In these cases, however, one is in fact grateful to God, and only secondarily to nature and natural entities themselves (one would blow the planet up, if God asked him to). A gardener, however, needs no religious creed to tell him that she is both the user and the guardian of his land and

plants: that recognition is internal to the very practice of gardening, and needs no ulterior validation; its effects onto his modes of acting, moreover, may well also extend beyond his garden.

As a therapeutic virtue, gratitude is to be understood as a disposition to recollect and recognize the good that has been, and to benefit from such recognition in the present, rather than giving in to apprehension for the future. Gratitude for what one already has can also reduce one's want of things one thinks one still has to get, thus contributing to serenity, a paramount therapeutic virtue, as well as temperance, a crucial virtue of sustainability.

2.11 Loyalty

Loyalty is a land virtue, a virtue of communion with nature, a virtue of environmental activism, and a therapeutic virtue. It is a disposition to persevere in one's engagement in and with objects or projects one values intrinsically, i.e. as irreplaceable, constitutive elements of one's basic organizing self-conception - even when such disposition involves a potentially costly commitment to secure, or at least not to endanger, the existence and persistence of the objects or projects one is loyal to.

Loyalty differs from gratitude in that it is a disposition to maintain an association with a valued object, not a disposition to recompense an object for the benefits it has provided and still provides one with. Even though loyalty and gratitude often go together and reinforce each other, they are different attitudes, generating different sorts of obligations. Compensative gratitude is not necessarily associational loyalty: for loyalty presupposes not just the entertainment of a beneficial relation with some object, acknowledged to be thus beneficial; but indeed some significant, and significantly personal, association, i.e. *identification*, with such object: an Italian Communist Partisan may be grateful to the Americans for saving Italy from the German invasion during WWII, and yet not be loyal to the American flag and indeed to anything America stands for, politically and economically; conversely, loyalty may presuppose and imply no gratitude at all: a fourth-generation Italian in New York may be loyal to his Italian roots, and perhaps get into a fistfight with

someone insulting him on grounds of his Italian roots, even though he has never received any benefits from Italy and owes no debt of gratitude to it.

We are grateful to something by virtue of what we got and get from it; we are loyal to something by virtue of what it has made us into. Gratitude turns into loyalty when one is grateful to an object or a project not just for past benefits it may have provided, but for having contributed to making one the particular person that one is, with a particular way of looking at and being in the world, and a particular life therefore. In that case, one is not just loyal to the object or the project, but rather to one's very self, and in exercising loyalty one exercises authenticity.

One is loyal to the objects of such affiliations that become constitutive elements of one's basic organizing self-conception and of one's conception of a life well lived. Our loyalties are grounded on and by the depth of the relations we entertain with such objects or projects. For this reason, even though acting out of loyalty may often mean foregoing opportunities for maximizing pleasure or utility at every continuation point, it need not be irrational, insofar as one attributes value to the preservation of one's practical identity and the furthering of one's conception of a life well lived²⁰⁷. To the extent that one recognizes that engaging in and with some object or project is conducive to the furthering of one's conception of a life well lived in a way in which engaging in and with another object or project cannot be for *her*, one recognizes such objects or projects to be irreplaceable, constitutive elements of one's basic organizing self-conception; and that enables and requires, and indeed justifies, one being loyal to such object or project, even though some costs (including opportunity costs) may be incurred thereby. Loyalty is therefore a conservative virtue, which tends to slow our ready dismissal of objects and projects in the face of their decline, and/or vis-à-vis newly arising possibilities for substitution.

Although loyalty is a conservative virtue, it is not so blindly: obligations of loyalty may well be discontinued, when the object or the project ceases to significantly contribute to one's basic organizing self-conception, or to do so in a way one sees as valuable; perhaps,

²⁰⁷ An act-utilitarian who thinks of a life well lived as of one characterized by maximization at each continuation point may well be loyal to act-utilitarianism as an object or a project for reasons that act utilitarianism as a theory may not approve of - reasons other than maximization, i.e. conservative reasons.

because new information about it has come to light: for instance, I may cease being loyal to my country if I discovered that the war that I was fighting for it was in fact, contrary to what I and my comrades had been told, predatory and unjust - and I wished it not to be fought in my name, and much less *by me*, because in conflict with other loyalties I entertain, such as loyalty to the light I see sparking in the eyes of any man and woman in this world, or to some more abstract ideal of justice and human rights. Of course, there can be no denying that in this case, as in many others, weighting loyalties and prioritizing among them may be remarkably hard and painful, imposing notable psychological costs on one.

There is also no entailment, from the fact that one accords presumptively decisive²⁰⁸ privilege to the objects of one's loyalty (say, one's garden, and the plants in it), that one thereby commits oneself to mistreating all others (say, 'wild' areas and plants), or that one will effectively do so. Loyalties are obviously exclusionary in the sense that some loyalties (to one football team) exclude others (to another football team), but that neither presupposes nor implies the vilification of the objects or projects one is not loyal to (whence there arise the remarkable human phenomena of fair play among teams and supporters, cooperation within the scientific community, and political liberalism): that I am loyal to my garden and the plants in it does not mean that I disparage 'wild' areas and natural plants. Moreover, the particularism of loyalty is quite elastic: as a gardener, I may well be loyal to the particular group of objects formed not just by my but by *all* plants, and to the project of conserving them all - where this may mean not intervening in 'wild', just as it may mean intervening in humanized contexts.

Loyalty as a land virtue should be understood as a disposition to defend and ameliorate the environment one inhabits, and to accept and affirm the extent to which one's topology of self is embedded in it, at a biological, psychological, economical, and cultural level. It is a disposition not to renege one's roots as a natural entity and a cultured human being; and to do so even in the face of costs (including opportunity costs) to oneself. It is a disposition to take personal pride and shame in the fate of one's environment, the natural entities (plants, animals, minerals) that populate it, and the natural factors that configure it (climate,

²⁰⁸ This formula is by S. Scheffler.

resources, geology, morphology, etc.) - where one's environment may be one's garden, one's block, one's neighborhood, one's city, one's suburb, region, country, and, in principle, the whole planet; and to slow our ready dismissal of such entities and the discontinuation of our concern for such factors in the face of their decline, and/or vis-à-vis newly arising possibilities for efficient substitution.

As a virtue of communion with nature, loyalty is to be understood as a disposition to recognize and approach nature and natural entities as things that are our own, and not nobody's; and which contribute to make us into who we are, rather than being somehow *opposed* to that. It is a disposition to identify with the nature and natural entities one approaches, to feel personally involved with their fate, whether in a garden or in the 'wild', whether it be a plant or the biosphere at large - not through some leap of empathy or intuition, but through a reflective recognition of the extent to which one's fate on this planet has been, still is, and will always be constitutively informed by one's environment, by the natural entities and factors that populate and configure it, and by the manifold relations (ecological, historical, economical, cultural, symbolic, ethical etc.)²⁰⁹ each one of us entertains with them - accepting such relations as being as intimate as our sciences and philosophies, mythologies and religions, and indeed that very dynamic force, that mammal 'wildness' that is in us, never fail to remind us; and as being such that we must defend them - if our identity, as individuals and as a species, is not to be drastically jeopardized too. The option of emigrating to the moon and becoming lunar creatures in case of environmental disaster, or to search water on other planets, is in fact *no* option for those who are loyal to planet earth: and excluding this theoretically possible, but quite pathetic, desperate, and painful exit strategy from the list of eligible alternatives will already go some way towards motivating research and development of ways to stay on *this* planet, rather than billionaire space programs for getting out of it. A conservative loyalty to planet earth in times of environmental distress enables and requires us to radically reconsider our whole way to look at and be in the world; flying to other planets, on the other hand, is one among the many possible conclusions (a fairly optimistic conclusion) of a narrative in which we choose *not* to reconsider, but rather to push on.

²⁰⁹ See E. Jablonka and M. J. Lamb, *Evolution in Four Dimensions*, MIT 2006.

As a virtue of environmental activism, loyalty is to be understood as a significant, and significantly personal identification with the fate of one's environment and of the entities and factors that populate and configure it; such identification should be strong enough to stand side-by-side, and indeed to take precedence over other social and political loyalties one may entertain - leading one to oppose, for example, an invasive logging plan or the illegal eradication of endangered plants from the 'wild', even if such activities are being conducted by one's own family business; or to be prepared to abandon, or at least drastically re-question, one's allegiance to some political party on grounds of the environmental policies it proposes (or lack thereof).

As a therapeutic virtue, loyalty is a disposition to recognize and affirm where, and that for which, one stands. Loyalties confer a certain structure on a life that might otherwise be lacking in unity and shape, and indeed in content and meaningfulness; and/or be perceived to be so lacking. The very possibility of self-knowledge may ultimately reside in the possibility of developing and exercising loyalties in reference to and in the light of which one can conceptualize one's self and one's station within the wider workings of things; as well as of reflectively unraveling the features of those loyalties (such as those to one's family or ethnic group) one has *not* chosen, but rather been born into. Loyalties enable and require self-conceptions, and shelter one's life from drifting away or fragmenting into a patchwork of episodes bound together by merely formal relations of sequentiality. A person who is completely devoid of loyalties, and thus unable to conceive of oneself in reference to and in light of any associational allegiance whatsoever, would be living a disturbed, impoverished, and perhaps even unintelligible (both from and internal and an external perspective) ethical life.

2.12 Humility

According to St. Augustine, "humility is the foundation of all the other virtues; in the soul in which this virtue does not exist, there cannot be any other virtue except in mere appearance." According to Kant, humility is that "meta-attitude that constitutes the moral agent's proper perspective on himself as a dependent and corrupt but capable and dignified

rational agent." Now, if we ignore Kant's biblically-inspired stress on the essential corruption of every moral agent (which may perhaps sound sweeter to the ears of proponents of the wilderness paradigm), and rather focus on the notion of every moral agent being essentially dependent, we have enough to delineate humility as an environmental virtue.

Humility is a virtue of environmental engagement, a virtue of sustainability, a virtue of respect for nature, a land virtue, and a therapeutic virtue. On a par with wonder, humility has been considered a pre-eminent environmental virtue since the inception of environmental ethics as a discipline. R. Carlson's suggestion was to "turn again to the earth, and in contemplation of her beauty to know of wonder and humility"²¹⁰. A disposition to be humble before nature is a gateway to much spiritual appeasement, self-acceptance, self-mastery, intellectual openness, curiosity, prudentially-sound cautiousness - things that undoubtedly are eudaimonistically quite beneficial. But our humility is beneficial to nature as well, for it is a gateway to love, gratitude, respect, and care for it. Humility is thus also an enabling activator of other important virtues (and, if we follow Augustine, also a sort of verifier of such virtues' actual virtuousness) - and one who is humble in the face of nature is not likely to entertain a disposition to destroy it. We have pointed out in previous passages the manifold connections of humility with ingenuity, mindfulness, cautiousness, efficacy, adaptive efficiency, perseverance, and gratitude; and loyalty too, connects to humility, for being loyal is to recognize that one is not a free-standing, self-generating self, but rather owes, at least to some extent, one's identity to the objects and projects one is loyal to, and has one's life oriented by and through them.

Humility is crucial to the survival and flourishing of a species such as ours, able to reflectively recognize that its fate is heavily dependent on factors way beyond its powers and control (such as the trajectory of asteroids in space). Nonetheless, it seems, such reflective species is especially inclined, given its developed capacity to alter its environment, to disregard the crucial environmental disposition of humility, and to rather entertain one of domination. Such disposition was denounced, in the last chapter, by the butt-in charge, which has it that to intervene on nature in any way, even to its benefit, is to

²¹⁰ Quoted in D. Jamieson, *Ethics and the Environment*, p.91

deem it unworthy of continued unmolested existence, out of a belief that “we know better” - the original environmental sin: hubris. Human hubris propels environmentally disruptive practices, such as altering the course of rivers, de-forestry, cultivating water-intensive crops in arid places, substituting natural conditions and factors with chemical surrogates, engineering ecosystems, etc. - all practices characterized by a very high (indeed, inhumanly high) degree of uncertainty as to what their consequences, short and long term, will in fact turn out to be, and not just for nature, but also for ourselves as individuals and as a species.

How we engage and comport with nature obviously depends on a variety of biological, psychological, biographical, social, political, economical, ecological, and technological factors. But it also depends on cultural, and distinctly ethical factors - on what attitudes and dispositions we entertain with regards to it. A “we know better” attitude of hubris will lead us to further attempts at domination and control, while a “we don’t know much” attitude of humility will lead us to attempts at prudent anticipation and accommodation. Those who stress the crucial importance of humility for environmental ethics point out that the escalation of our environmental problems has historically been, if not directly caused, at least strongly and consistently correlated with an increase in confidence in the potentialities of our technological advancement; a confidence which, when measured against the environmental quandaries we are today involved with, has ultimately turned out to be groundless - to have been ideologically rather than scientifically substantiated, and to have been, to this extent, arrogant, because founded on ignorance and power rather than knowledge and actual mastery. Our indifference to nature’s future, it is argued, betrays and has always betrayed our self-importance; indeed, it betrays a lack of self-acceptance - i.e. a lack of authenticity: for humility is supposed to entail, at the very least, accurate self-conceiving on the grounds of accurate assessments of one's place in the world - and to the best of our scientific knowledge (which is here in agreement with the doctrine of most religions) we humans have no grounds to uphold the accuracy of an assessment that proclaims us masters of this planet.

It must be noted that, as it stands, this is no accusation against human ingenuity, nor indeed technology and/or technological advancement, as such: it is an accusation against reliance

on technology as a quick and easy fix to remedy environmental problems that are, at bottom, also social, political, economical, cultural, and ethical. The accusation is against the disposition to think and act in nature's disfavor under the assumption that we can always engineer our way out of the damage and troubles we may provoke thereby, subduing the forces of nature to our advantage - whereas, in fact, we do not know exactly what we are up against; lacking humility, we delude ourselves with our dreams of control and domination, which risk dooming us to our own demise.

There is no doubt that the wilderness paradigm relies strongly on the humbling power of the spectacles and forces of nature as a propeller of environmentally virtuous acting; and the epiphanic experiences grounding the transformative value of 'wild' areas, mountain peaks, deserts, waterfalls, and natural plants and animals are usually supposed to be obvious humbling evidence against, rather than confirmations of, our supremacy as individuals and as a species onto such places and entities. And indeed it seems that, if one wants to be exposed to situations that may contribute to her developing and exercising humility before nature, it is into the 'wild' that one should go. No gardener has a quarrel with that.

But it has often been suggested that no humility is developed and exercised in gardens: to the contrary, gardens have often been looked at as exercises and physical embodiments precisely of that manipulative and commanding hubris, which vitiates our relationship to our planet, and is individuated as the root of most, if not all, of our environmental problems. Some gardens are, indeed, amenable to such critique (the Garden of Versailles, perhaps); as are some things we sometimes confuse with gardens, most notably lawns. But the idea that a gardener commands the nature in his garden is, as we have maintained at various points, misled and misleading: for the notion of "commanding" hinges quite heavily on the notion of "planning" - and because he deals with living entities that possess a dynamic force of their own, a force which is also responsive to a number of natural factors far beyond his control, a gardener cannot plan - and thus cannot command - the life of his plants, but must rather anticipate, adapt to, accompany, and nurture it. As already noted, such humble approach (neither enabled nor required by the tending of lawns) is primarily a matter of efficacy: for failure to be humble in a garden, and attempts to force

nature and natural entities beyond or against their own dynamics (over-cultivation), will inevitably result in the loss of things one values.

Once again, in the garden losses are personal - and one learns from them personal lessons. If we grant humility to be the pivotal environmental virtue it is often thought to be, then the first-hand, humbling experience of failure and loss in a garden should be seen as a direct factor of ethical progress, for the only way to respond to it is by adjusting and adapting the attitudes one entertains and the actions one performs to the needs and requirements of plants, and to the wider environmental conditions characterizing the locality in question.

And even when a gardener has learned *that*, still she has to rely heavily on nature's positive co-operation, for garden plants are not just the results of ingenious human labor, but also of the natural dynamics triggered by the sun, the composition of the soil, and the water running through it, in interaction with such human labor; and of innumerable fortunate contingencies that are way beyond a gardener's control, ranging from the absence of locusts in neighboring areas to the mildness of the summer season. A garden plant, and a garden in general, is a human achievement as much as it is a grant of nature: without the coming together of all that is ultimately beyond a gardener's control, there would be no plants and no gardens; and such piece of knowledge will become more and more imposing to a gardener as his career progresses, as nature wrong-foots him through the years, and failures and losses accumulate to remind him that, for as much as he may strive to control, he has never been and he will never be controlling much. The experienced gardener knows, because he has learned through everyday engagement, the limits nature poses to his actions, and the threats it poses to his aspirations; and he accepts them as internal to the practice, and as the starting points for, rather than the ultimate obstacles to, virtuous acting when engaging in and with such practice. Of the experienced gardener is true G.K. Chesterton's remark that "it is always the secure who are humble."

Humility is particularly interesting when seen as a therapeutic virtue. As described in extant personality and social psychology literature, to be humble, far from coinciding with having

long self-esteem, is to have an accurate conception of oneself, to keep one's abilities and accomplishments in perspective (Richards 1992), to have a sense of self-acceptance, even and especially of one's own imperfections, and to be free from arrogance (Clark 1992). Arrogance is described as conducive to separation and/or domination, while humility is conducive to considerateness for others (humans and non-humans), to community with others, and to co-operation - and to all the benefits community with others and co-operation may bring.

Newly-found humility may thus be capable to re-expose a tormented soul to the solidarity and benevolence of others. But it may also be capable to pacify such soul from within, as it were: for through a more accurate assessment of oneself, of one's abilities and capacities, of one's place within the wider workings of things, one may be liberated of the psychological burdens and agitations imposed by too generous and solemn a view of oneself, and discover the joy of *being* oneself rather than the pain of not being whom one fantasizes oneself to be - avoiding the delusions and disappointments, and indeed the "false consciousness", by which such pain would be punctuated. A reliable disposition to look within and around oneself, to see what one's options really are, enables self-understanding, and requires authenticity. Moreover, a humble man has less preclusions with regards to the manifold ways in which things (people and plants, for instance) can enrich his world and contribute to making his life one he can regard as well lived, both as he lives and as he dies. The humble man is in the position to give the world a chance to surprise him; at bottom, he is an optimist.

CHAPTER 4 - Gardens and Society

The environmental challenges we face today are global; but the scenarios in which they manifest themselves and in which they are to be confronted are inevitably local. The localism characterizing both the manifestation of environmental problems and the configuration of environmental solutions enables and requires a heightened social and political participation on the side of individuals and local communities; but for such participation not to result in a mere fixing of “one’s own backyard”, it must be informed by a global perspective: much like a species contributes to the workings of the larger ecosystem from within its ecological niche, environmental problem-solving must be able to tackle the global nature of environmental challenges by and through localized solutions.

Solutions to environmental problems, if they are to be locally global, cannot be based solely on technology and legal regulations, but must rather involve a significant re-orientation of people’s attitudes and everyday comportments, a virtuous upgrading of the quality of their participation. They call, in the words of architect and critic J. Wines,

“for a commitment by societies anywhere to unite in a common cause and connect to the natural environment on a more profound philosophical, psychological, and cultural level. Otherwise, the basic incentives for survival may be defeated by a diversionary proliferation of remedial mechanisms that do not address the deeper social conflict caused by a collective state of denial”²¹¹

We have devoted the last chapter to an exploration of the ways in which an individual *ethos* may be molded by and through garden practices into an environmentally virtuous *ethos*; and we have presented the development and exercise of a virtuous environmental character, and the resoluteness that characterizes such development and exercise, as a possible intra-personal solution to the many inter-personal, collective action problems into which our present environmental quandary articulates. After considering the ethical implications, for an individual, of engaging in and with garden practices, we now wish to investigate the

²¹¹See J. Wines, *Green Architecture*. (Hong Kong : Taschen, 2000), p.11

social and political implications, for communities and societies, of fostering the engagement of individuals in and with such practices by means of policy. In particular, we wish to investigate the extent to which garden-based policies may be able to integrate the three objectives of ecological sustainability, economic efficiency, and social fairness.

Because well over 50% of the world population (with peaks of 80% in Europe, United States, Australia, Canada, and Japan) lives in urban, sub-urban, or semi-urban agglomerates, and because such figures are destined to increase in the future (considering current urbanization trends in China and India), our discussion will be mostly focused on the social and political role that gardens can have in cities, suburbs, towns, and in medium-to-large villages and agglomerations in the so-called “countryside”. This is not due to a lack of concerns for the species (including the human) inhabiting un-urbanized lands, or the fringes of fenced, ‘wild’ areas: we have already made some suggestions, in chapter 1, about how un-urbanized indigenous people could be involved, in a way sustainable, economically efficient, and fair, in garden-based conservation of species and management of natural resources (water, land, seeds, plants, etc.) More importantly, most of what happens on un-urbanized lands and at the fringes of fenced, “wild” areas that is environmentally disruptive (deforestation, intensive monocultures, grazing, etc.), happens in response to demands made in cities, towns, suburbs, and villages; and if the rivers running through such areas are depleted or poisoned, and the air polluted, the causes are to be sought in cities, towns, suburbs, and villages, not within the fenced, ‘wild’ area. There are tons of radioactive waste in the Mojave Desert, and a dramatic scarcity of water: but the waste is not coming from Death Valley, nor is the water going to Death Valley. If a garden-based environmental ethic is able to provide orientation and vision for the future of urbanized life, it will have provided policy-makers with an invaluable tool for confronting the challenges that nature is and will keep posing us as an increasingly urbanizing species. Most environmental damage is done, directly and/or indirectly, in and by urban, sub-urban, and semi-urban agglomerates. Moral, social, and political progress made in and by such agglomerates will reverberate on the fate of both the people and the nature that in such agglomerates are not.

We shall devote special attention to the *design* of future urban, sub-urban, and semi-urban agglomerates: and investigate the various ways in which a decisive inclusion of gardens

into urban planning could benefit both individuals and communities. It will be argued that designing such agglomerates so as to enable garden practices on the side of citizens brings a number of 1) political benefits, among which are inclusion by decentralization, heightened civic engagement and participation, and democratization of environmentally-relevant decision-making and implementation processes; a number of 2) social benefits, related to health, education, community-building, and social identity-formation. A public culture of nature may be developed in and through gardens; shared systems of judgments through which to evaluate environmentally-relevant issues; and a system of socially bonding ritualized practices, meant to and capable of connecting people across boundaries of class, race, religion, ethnicity, gender, nationality, and age, fostering social cooperation, sympathy, and solidarity, and the configuration of a set of shared intentions when it comes to the treatment of nature in humanized environments. Moreover, including gardens into urban, sub-urban, and semi-urban planning may have 3) dramatic economic repercussions: economies based on principles of local consumption may substitute, or at least significantly complement, economies based on global import-export, giving a decisive twist to the process of globalization, the consequences of which twist may be monumental. Consumption patterns may change just as dramatically: vegetable edibles would become readily available to people, curbing environmental costs close to home (such as those related to the transport and packaging of imported goods) as well as far from home (such as those related to converting stretches of nature in South Africa to cultivate strawberries for European markets, employing massive amounts of land, artificial irrigation, pesticides, herbicides, fertilizers, tractors, etc.) Most crucially, meat consumption may drop: such drop consumption would not only reduce the pain of sentient, non-human animals the world over, but it would also have shockingly positive reverberations on people's health; furthermore, it would entail epic cuts in the intensive growing of soybeans (70% of which is destined to the feeding on livestock we feed on) in tropical areas, ensuring the conservation of critical ecosystems, as well as innumerable species; and just as epic reductions in carbon emissions produced by livestock and by the machinery employed to breed and slaughter them - which will limit global climate change. 4) Further benefits accruing from a designed inclusion of gardens into urbanized life will be: partial absorption of carbon-emissions produced in and by urban, sub-urban, and semi-urban agglomerations and their epiphenomena; insulation of houses and buildings (by including roof- and wall-

gardens), with a consequent decrease in energy consumption; absorption of re-utilizable rainfall; limitation of soil erosion; and provision of refuge for animals. Needless to say, botanical biodiversity will be conserved; and the particularity conferred on places by the unique configuration of natural conditions (geologic, geomorphic, climatic, hydrologic, etc.) that define them will be capitalized on, rather than overcome. Finally, but by no means less important, 5) there will be aesthetical benefits connected to a designed inclusion of gardens into planning: cities, suburbs, towns, and villages will be more interesting, beautiful, and relaxing.

While environmental philosophy and policy have been unwilling or slow to recognize a pivotal role to gardens, architects and designers have been enthusiastic and swift. One exemplar and forceful illustration of such attitudes is given by architect E. Ambasz, author of the Fukuoka project, and mastermind behind the project of a “Green Town” for the future of Japanese urbanized life:

“There is a philosophic question here: we have to redefine what is nature and what is man-made nature. In a situation such as the global one, certainly exacerbated in Japan, where a tree exists either because someone planted it or because someone decided to leave it there, it is imperative that we create a new definition of what we mean by man-made nature”.²¹²

Ambasz envisions the “Green Town” as a provider of contexts congenial to the conservation of plants and animals; he has in mind no picturesque rural village, but rather monumental metropolis, the re-instatement of gardens into the design of which will be, in his opinion, a crucial element of environmental restoration of the damages done in the 20th century, and preservation from the damages that may be done in the 21st. In fact, he envisions gardens not as physical fractions of manipulated landscape, but rather as vehicles for the absorption, elaboration, communication, and learning of environmentally and socially relevant situational information.

1. *Decentralizing and democratizing environmental protection*

²¹² Cited in J. Wines, *Green Architecture*, p.72

A focus on gardens as tools for far-reaching environmental policy, and hinges of future urban design and planning, responds to a general strategy of decentralization of environmental protection, decision-making, and policy-implementation. Such strategy departs decisively from top-down approaches that tackle environmental problems mainly through the enforcement of centralized rules, and the entrusting of environmental goods and resources to the protection of state-officials, governmental departments, and the like.

The central administration of environmental protection by means of enforced regulation undermines political inclusion and participation of individuals, groups, and communities: it condemns them to a state of political speechlessness when it comes to environmental matters, undermining their role in such matters, their jurisdiction on them, and thus their interest and concern for them, and for acting cooperatively in their management and resolution. In other words, it may entail deterioration, rather than increase and improvement, of the social capital that could and should be channeled into environmental protection. Coupled with the considerable independence from environmental constraints that modern technology, standardization, and specialization have provided individuals with, such loss of social capital in the constituency may make centralized environmental protection alienating, costly, and inefficacious in any case, no matter how crafty.

Future urbanized life, if it is to be sustainable, economically efficient, and fair, must be inclusive and participatory. An *ecological democracy* is

“government by the people emphasizing direct, hands-on engagement. Actions are guided by understanding natural processes and social relations within our locality and the large environmental context”²¹³

This enables and requires an active and informed constituency, and individuals who, though potentially free from the constraints posed by both community and environment (much like Elvis at Graceland), will “choose and forge new relationships with both”.²¹⁴ It also enables and requires urban planners to provide individuals, groups, and communities with settings and contexts in which to forge such relationships: and gardens (and indeed any garden-like place, in which nature and natural entities are present and live thanks to human work and

²¹³ See R.T. Hester, *Design for Ecological Democracy* (Cambridge, Mass.: MIT Press, 2006) p. 4

²¹⁴ See R.T. Hester, *Design for Ecological Democracy*, pg. 3

concern) are obvious candidates for being such contexts and settings. Urban design must encourage the retrieval, the renewal, and the creation of spaces in which individuals may communally dwell, while acquainting themselves with the workings of nature and natural entities, and experimenting with alternative lifestyles - marked, at least to some extent, by manual engagement, local consumption, and first-hand political jurisdiction; and equipping themselves, through experimentation, confrontation, discussion, and consequent learning, with the tools and skills necessary for replacing standardized, top-down, Hobbesian solutions, with customized, bottom-up, Rousseauian webs of practices uniquely suited to the locality in question. Urban, sub-urban, and semi-urban gardens, whether public, communal, or private, are excellent settings in which to unleash such environmentally relevant socio-political processes. In gardens, individual community members can come together to discuss complex environmental and socio-political issues involving their constituency; and the more such gardens are designed to cover a communally relevant role (such as absorption of carbon emissions, conservation of local species, production of edibles, collection and redistribution of rainwater, provision of environmental and civic education to the youth and of social inclusion and health benefits to the elderly, encapsulation of features and symbols relevant to the social and cultural identity and distinctiveness of the constituency in question, etc.), the more such cooperative practices will be informed by ecological considerations, and characterized by a fair dynamics of shifting externalities.

Between 1643 and 1789, the royal gardens of Paris (particularly the Tuileries) were opened to the public. As M. Conan reports²¹⁵, such opening offered new spaces of communication relatively free from regulations and control, triggered social coagulations from very diverse groups of people, unencumbered discussion, and public experimentation of attitudes and behaviors both towards nature and towards others; when conflicting, such attitudes and behaviors provoked *in-situ* public debate, giving to all those involved an opportunity for a collective use of relatively unencumbered liberty of thought and action, and spanning unplanned social movements and patterns of cooperation.

²¹⁵ See M. Conan, "Royal Gardens and City Life in Paris", in *Gardens, Cities, and Culture*, Eds. M. Conan and C. Wangheng (Cambridge, Mass. : Harvard University Press, 2008).p. 83

To flourish, democracy needs forums for informed confrontation and deliberative cooperation among individuals, groups, and communities - in the household, at neighborhood level, at city level, and then regional, national, indeed global if a global democracy will ever be. Ecological democracy needs such forums to be especially conducive to people learning to focus, discuss, and cooperate on those issues that have general environmental and social bearing for them, critically assessing one another's attitudes and behavior in reference to publicly readable criteria. Because gardens give embodied form to the individual's and the community's relation to their natural environment, they provide a starting point for democratic discussion on such environment, and on one's and other's conception and treatment of it in situations in which it is common, and the benefits and costs that relate to treatment it one way or another are common likewise.

2. Design

In order for gardens to fulfill the ecological and socio-political role here envisaged, urban design and planning should configure them, and incorporate them in the larger urban landscape, so that they may attract and include as many and as diverse individuals and groups as possible: this could be accomplished, for instance, by gathering around them important public and commercial buildings, and in them shops (including those that may sell local edible produces), libraries, cultural and educational centers, movie theatres and museums; it could also be accomplished by designing such gardens in area and locations of particular civic and/or symbolic significance; and also simply by making them aesthetically pleasing and multifunctional enough to become objects of local pride. Hester reports on the case of Matsu Island, off mainland China, where a central park has been transformed into a reticular web of micro garden-plots, on which individuals and families work independently while sharing water, land, tools, networks of trade, and knowledge of cultivation. The elderly can be seen sharing their farming wisdom and their knowledge of local culture and ecology with the young; and in general, informal networks of many kinds are established, which unite individuals and groups into an internally diverse and yet cooperative community, defined by a common pool of resources, a common interest in maintaining

them, and a common pride at their accomplishing that much, and with a profit. What is most impressive, there was no tradition of communal gardening on such scale and at such level of sophistication in Matsu Island, which was under military regime until the very recent past: centering community life on such visionary garden was a conscious design of citizens²¹⁶.

Community life, trust, cooperation, and material and spiritual exchange can be stimulated by settings and contexts that enable and require cross-generational and cross-class ritualized practices and confrontations, such as those involved in gardening while managing common resources in a fair manner. Such ritualized practices can unite people also emotionally, and reinforce social identity by underscoring particular and distinctive features of their history and culture, and of the ecology of their locality.

Gardens should be designed and dislocated so as to reveal such ecology: they should make people aware of the level of interconnectedness at which their actions as individuals, groups, and communities, are involved with multiple dimensions of the environment they inhabit, the natural entities that populate it, and the combination of natural factors that configure it (sometimes, exposing common irrigation systems rather than burying them into the earth may be enough). Awareness of the complexity and extent of such interconnections can *vividly* alert individuals, groups, and communities to the need for stewardship, and provide psychological and ethical incentives to cooperation and, indeed, sympathy and solidarity. Ecological interconnections among individuals in communities, and between communities and their environment, and back between the environment and the individual, can and must be stripped bare by and through gardens; and made visible in commonly available, everyday settings - to all.

Gardens should be designed to be fair: inclusive, accessible, and capable to distribute fairly both the benefits and costs of the environmentally-friendly behavior that in them is to unfold. In a future ecological democracy, not only spaces and resources, but also information, and settings in which to exchange it, should be accessible to all: urban planning should use gardens to partially redress the segregative tendencies that characterize

²¹⁶See R.T. Hester, *Design for Ecological Democracy*, p. 30

urbanized life and routinely respond to class, racial, gender, nationality, physical/mental ability, and age inputs: gardens, then, are to be seen as strategic tools of socialization, to be strategically employed at selected locations, to foster both the attraction and the coagulation of diversity - in and through practices that are largely insensitive to operationally-inconsequential segregative inputs such as those above, and can rather in fact only benefit from the exchange of different perspectives, skills, and techniques. Gardens should not be large and dispersed, but medium-to-small and more densely and uniformly distributed across localities, so that time, money, and other constraints (such as not having a valid driving license, being 12 or 85 years old) may not systematically impair some from sharing in their benefits. Such denser distribution will be collectively beneficial (public gardens already in place in well-to-do areas, such as Vondelpark in Amsterdam, would obviously not have to be dismantled: only, new gardens, if smaller, should mushroom around them), and it will enable and require the work and concern, and thus the ecological responsabilization, of the whole constituency, rather than selected sections of it (if that); and each of these gardens should be open and inviting to all, including (and especially) those who do not work on it and just happen to go through (putting a few benches around may be enough); gardens as pleasant green carpets into local life - so as to enable uncalculated, spontaneous socialization networks among diverse individuals and groups.

Profound inequalities in the distribution of wealth can be criticized; but they can also be defended, and indeed justified, from a moral point of view - non-conclusively, but at least in numerous ways. But whether any latitude is there, and if so how ample, for justifying profound inequalities in the distribution of environmental safety, clear air, water, open spaces, and natural landscapes; as well as of, conversely, polluted air, toxic waste, concrete landscapes, and natural disasters - that is a matter for open debate; but sure there is so far no indication that justifying inequalities in wealth should automatically amount to justifying inequalities in the distribution of such environmental goods and grievances. Absent relevant arguments, dispersing environmental or environment-related public goods and grievances in accordance to differential levels of wealth is morally unjustifiable. The fact that the rich get the park and little waste, and the poor get the waste and little park, may

be a description of the way things go²¹⁷, but it is a long shot away from being a description of the way they *could* go, or a prescription of the way in which they *should* go. Lack of recreation, open spaces, and contact with nature and natural entities may have grave consequences for the health, both physical and psychological, of people (and children in particular). A good starting point to avoid that, while at the same time conserving biodiversity, providing food to people, stimulating socialization, and making for more aesthetically pleasing spaces to inhabit, is disseminating gardens uniformly across urban, sub-urban, and semi-urban centers, taking advantage, or incentivizing individuals and groups to take advantage, of any space available for renewal, reconversion, reconfiguration; and providing ways and reasons for such projects to be networked not only across spatial dislocations, but also across levels of wealth. Social prejudices and hostilities of various kinds may and will punctuate such project of networking; but even if gardens were ultimately unable to connect people and mitigate political, social, and cultural conflicts, at least they would highlight them, and provide good stages for such conflicts to be played out publicly.

Dislocating gardens fairly will involve mapping the distribution of environmental and environment-related resources, and exposing the inequalities that may characterize such distribution. This may enable public assessments and comparisons, as well as critical discussions of issues relating to differential accessibility and exclusivity, on the dynamics of the externalities at play, on possible social segregation, etc. Everywhere in the world, some parts of town are “dangerous”, or “dirty”, or “unfortunate”; and invariably, people are poorer and there are less gardens there: now, urban planning must discourage the idea that gardens are status-symbols for the rich in the pretty part of town, and encourage the idea that gardens are for all, and possibly all together, everywhere in town – the best way to do so being, just as invariably, encouraging the *practice* of gardening anywhere possible, even if through limited means and particularly among the underprivileged, who not only may more directly benefit from it, but may also bring invaluable “make-do” skills, unavailable to those who never had to struggle for survival or work with their hands. This may make for “cheaper”, and perhaps aesthetically less pleasing gardens (whatever that may mean in

²¹⁷ The way things go in this respect have only worsened from the time P. Marcuse made such observations, in “Conservation for Whom?”, in *Environmental Quality and Social Justice in Urban America*, (17-36), ed. J.N. Smith (Washington, 1972)

particular cases); but on the present view that matters not at all: for gardens, before being things to look at and pay for, are places to work in, on, and with; how much money goes into making them, and how pretty they look, is secondary to the fact that people are working in, on, and with them - and benefiting from that in numerous ways. The formal arrangements of gardens (whether it is Italian or British style, for instance, neatly trimmed, or rather romantically “picturesque”) are completely irrelevant to their ecological soundness as well: what matters is the ecological soundness of the gardening methods employed, including choice of plants.

Who will be doing all this gardening? There will be those who will embrace gardening as an identity-conferring project: the gardeners. But then there will also be up-and-coming lawyers, soccer mums, university researchers: for those, perhaps, gardening will take place in weekends, or in the evenings. But there will also be groups of people that may be involved in garden-practices by policy, and consistently: for instance elementary and middle-school children (every school may convert into gardens suitable fractions of its neighborhood, or find gardens already there, and each class in turn may be taken out to work on them, even if only for just 2 hours a week: planting, cleaning, pruning, watering - learning not just the causal properties of natural entities but also the causal and diachronic significance of one’s and others’ intervention on them); newly arrived immigrants (who may be provided with the equipment, and assigned areas or neighborhoods to work on - perhaps on the basis of a system of temporary usufructuary rights on micro-plots - and which they may use to produce goods they could then sell, stimulating general productivity, while exposing others people to different gardening techniques, traditions, and views on how nature and natural entities are to be treated); and the elderly (who may be entrusted both with physical work and with an educational role, being probably the best acquainted with the ecology of the locality in question; and who may benefit from continued physical activity, open spaces, clean air, and social interaction, both in body and soul, to extents which are probably still underestimated at present).

Gardens have long been used as tools of social inclusion. Records abound of the ways in which community gardens (extracted, perhaps, from unutilized backyards or parking lots) have empowered underprivileged individuals and groups in many American and European cities (but also Mexican, Chinese, Indian, Japanese, and South African²¹⁸), by allowing them to take possession of place by using, re-using, and transforming existing spaces through un-coerced and creative, and yet socially unobjectionable, work. That such work be allowed to be creative is especially important, because allowing the underprivileged to express creativity, to improve and restyle, is more inclusive a policy than involving them in fixing and cleaning what already exist and has been spoiled by people often other than themselves - a policy more apt to stimulate a socially-grounded basis of self-respect in such individuals and groups.

It will also be important to design and dislocate gardens in correspondence with areas of historical and symbolic relevance, so as to stimulate a sense of rootedness and civic identification in those who work on or otherwise simply visit them; and never to miss on chances (nor restrain from creating more) to foster in people a sense of *ownership* of the place, and prideful jurisdiction, which may be invaluable in motivating efforts at stewardship on their side, as well as the ritualization of such efforts. Gardens could in this way function as crystallizers of a shared social and cultural identity, rather than red-flags of segregation; and could thus be seen as encapsulating social values of importance to the community, which would change the standards of decision-making when it came to such places - insulating them, and the nature in them, from real-estate considerations, and preserving them as terminals of a shared past, and sources of shared present experiences as well as intentions for the future. This way, particular gardens become repository of the particular set of values that animate a particular constituency, concretized into the urban landscape, available for all to dwell and elaborate on.

²¹⁸ See C. Clumberlidge and L. Musgrave, *Design and Landscape for People*, Thames & Hudson, London, 2007; M. Francis, L. Cashdan, L. Paxon, *Community Opens Spaces: Greening Neighborhoods through Community Action and Land Conservation*, Island Press, Washington DC, 1984; M. Francis and R. J. Hester, *The Meaning of Gardens: Idea, Place and Action* (MIT Press, Cambridge 1990); M. Pasquali, *I Giardini di Manhattan*, Bollati & Bordinigheri, Torino, 2008

The gardens disseminated across urbanities should be highly diverse in their botanical palette and formal composition, not only to avoid the intellectual sedation lurking behind homogenized aesthetics, but also to provide such urbanities with a more resilient urban ecology, able to withstand a wider range of environmental solicitations, and to better make use of any resources available in the locality in question. Gardens should, in fact, function as networked though distinct ecological habitats, dislocated apart from one another, able to support not just sets of plants but all the living organisms that may come to revolve around them: such fragmented dislocation of genetic diversity (and material resources) will limit the negative consequences of natural disasters, pests outbreaks, weeds-spreading, etc. (again, we advise against betting the whole lot on one horse without really knowing the features of the racetrack). Rather than through large contracts, urban landscaping should be negotiated through micro appointments, so that planting choices be tailored to every neighborhood or area in accordance to its ecological specifics (altitude, temperature, humidity-level, exposure, water-access, soil-composition, present vegetation, etc.) Not only in their palette and composition, but also in the sort of activities that they may host, gardens should be most diverse, integrating open opportunities for practices ranging from learning to earning to spiritual yearning. Partly undefined, “unfinished” and eclectic spaces, capable of being turned into stages for whatever social purpose may be deemed of value at any continuation point by individuals, groups, and communities, will facilitate the articulation and elaboration of a variety of practices, perspectives, and tastes, as enabled and required by an increasingly pluralistic society.

Insofar as they are ecologically well-fit to the locality in question, and respond to the other socio-economic criteria already mentioned, highly peculiar gardens, no matter how eccentric and unconventional in their palette and composition, should be encouraged: this may allow for design experiments that could turn out to be of invaluable help in the future (for instance, wall-gardens), and may serve as precedents that (soon enough, if they turn out to work) may become acceptable to the many, and stir further innovation.

Urban, sub-urban, and semi-urban resiliency is only possible if the contexts in which human activities are to take place are well integrated with the ecological specifics of the locality in question. The challenge facing future urban planning is to discover the most efficacious ways to enable human activities to ameliorate our quality of life by surfing on the natural conditions of the places we inhabit, rather than by overcoming them. Careful study of the macro- and micro-ecological patterns that characterize different localities, which by such a challenge is enabled and required, will not only avoid major disasters connected to inhabitation on flood-prone lands, at the bottom of active volcanoes, onto shores, and so forth: but it will also allow inhabitants to capitalize to the largest possible extent on agricultural, recycling, wind, and solar opportunities, and to become more self-sufficient from an economic point of view (see below).

The study of ecology may result unnerving to real-estate developers, politicians, and possibly everyone, given the immense amount of complex information one is to confront, and the still very limited conceptual and experimental tools we have to do so; and it may be quite expensive too, not only for the costs it will impose, but also for the economic benefits it may advise to forego. However, careful ecological examination, and planning that responds to natural conditions rather than attempting to overcome them, will offset such costs by reducing energy consumption, waste production, and the risks of natural disasters; while allowing close-to-home production of food, and the configuration of further economical opportunities (such as eco-tourism), which may easily be discarded if the functional purposes of urban activities are disjoined from the ecological matrix in which such activities take place. For those who find aesthetic homologation distasteful, looking at local ecologies as limits and inspiration for design will have the fortunate consequence of increasing the expressiveness, originality, and distinctness of humanized landscapes.

Future urban, sub-urban, and semi-urban agglomerates will also have to be denser, for two reasons: first, urban sprawling is among the main factors contributing to biodiversity loss, the deterioration of landscape, and the exploitation of natural resources; and second, population, and especially urbanized population, will keep on increasing in the future.

While Europeans also dream of the great outdoors, they are culturally more prepared for smaller houses in smaller cities; many Americans, on the other hand, still see the great outdoors as a stage for individualistic freedom, independence, accountability to and reliance on no one other than oneself - not just a place to dream about, but to go to as soon as one can. Also (in the U.S. as much as in Europe), a purchase in low-density areas is often a sign of accomplishment, a source of self-esteem, an enabler of a sense of privacy, ownership, and security; moreover, children can play, streets are wide, and there is, at last, a lot of parking space²¹⁹.

In general, the density and smallness that will most likely characterize human inhabitation in the future are spoken against by a variety of cultural calcifications as well as psychological factors. Here is when gardens come in: there is very strong evidence that neighborhood gardens, small and bigger parks, green cul-de-sac's, cloisters, terraces, front-and back-yards, shade trees, and so on, sweeten, for most people, the bitter pill of urban densification, overcrowding, and the stress of city life²²⁰. Largely, such sweetening is a result of the aesthetic pleasure that may be derived from looking at plants, and compositions thereof, rather than at concrete, sharp-edged buildings (in fact, dense urban settings can even highlight, by contrast, the aesthetic features of plants and gardens).

Nature can be inspiring, joyful, interesting, and fulfilling in humanized settings as much, if for different reasons and in different ways, as it can in a 'wild' area. We undoubtedly need both kinds of experiences: but if it is true that much moral progress in environmental matters is done and needs to be done in cities, then the care that should be put in making such progress pleasing, joyful, interesting, and fulfilling in cities should be *extreme*. For beauty may well be in the eye of the beholder: but that people have found plants not just useful but also beautiful and joyful throughout the course of human history is more of a statistical fact than a value judgment. Beautiful, inspiring, interesting, meaningful, and fulfilling urban, sub-urban, and semi-urban agglomerates are tools of environmental moral

²¹⁹ See A. Rapoport, *Human Aspects of Urban Form: Toward a Man-Environment Approach to Urban Form and Design* (Oxford: Pergamon, 1977)

²²⁰ See R. and S. Kaplan, *The Experience of Nature: A Psychological Perspective* (Cambridge: Cambridge University Press, 1989); for stats, see also the American LIVES Survey of 1995: *New Urbanism Study: Revitalizing Suburban Communities*

progress: they are worth defending against environmental degradation, and indeed degradation of any sort; they inspire trust in the institutions, and motivate the constituency to accept innovation and change more readily, if ecologically required, for individuals, groups, and communities can *see* (what is often rather obscured, in cities) that something of value will be lost if they do not change the ways they go about things. Familiarity with the object of value strengthens willingness to change, if change is in its favor: even if ‘wild’ nature is shown by philosophical or scientific argument to be the most valuable of natures, those who are utterly unfamiliar with it (with the beauty, joy, exhilaration, and ethical transformations that the experience of it can provide) will be less ready to change their ways of life in its favor, if ecologically required. Because these are *most* people, especially in cities, again it is no wonder if, as Sandler reports, the environmental attitudes and evaluations of most, though generally favorable to the environment and the environmental cause, do not translate into a lifestyle revision, into new modes of deliberating and acting. Philosophical arguments for the value of nature are of little use, if most people have no access to any nature to value, have no valuable experiences in and with nature, establish no valued relations with it, and in general do not know *how* to value it.

Introducing gardens into the design of denser urbanities would also have dramatic ecological effects: in Chicago, for instance, greening roofs alone would provide almost 700 square kilometers of vegetation, which could offset the heat-sink effects of dense concrete design, by absorbing carbon emissions, insulating houses, and thus decreasing the use of cooling systems in the summer; while allowing for biodiversity conservation (of both plants and animals) and local food production (thus shortening the Great Chain of Eating and its convolutedly pernicious environmental effects); and indeed, increasing the real-estate value of buildings and neighborhoods, thus attracting business and investments. In dramatically hyper-crowded Tokyo, roof-gardens are today mandated by law²²¹.

Having to work together, at neighborhood level, for the establishment and maintenance of those gardens or garden-like spaces, also facilitates face to face social interaction among

²²¹ See J. Brooke, “Heat Island Tokyo is in Global Warming’s Vanguard”, *The New York Times*, August 13, 2002.

neighbors, which further alleviates perceived density²²². Also, the limits of urban, suburban, or semi-urban agglomerates could be marked by gardens, rather than shopping-malls and office-buildings, providing agglomerates with permeable boundaries able to further reduce perceived density, while heightening a sense of intimate community.

3. *Economic benefits of garden-based environmental protection*

Gardens and garden practices, if and when stimulated by policy and enabled by planning and design, may have dramatic economic consequences. We have already made, in chapter 1, some general considerations on the benefits connected to an economic system based on principles of local consumption rather than global import-export: an alleviation of the tragedy of the commons, a more efficient and fairer management of common local resources, the development and exercise of a number of environmental virtues that may reorient people's everyday behavior as well as market choices away from environmentally pernicious practices and goods. Garden-based economies of local consumption may be able to provide solutions to extreme poverty conditions in remote villages, by allowing the underprivileged to grow and trade foods, plants-based medicinal products, fabrics, and other goods; but they may just as well provide a sophisticated alternative to the consumptive choices of the privileged in cities, and this will have great and far-reaching consequences for the global environment. The more localities can rely on resources available locally, the least they will depend on imports - the more economically resilient they will be, insulated, even if only partially²²³, from the many uncertainties, fluctuations, and the mark-up circus that characterize global trade. To maximize resilience, local economies have to be tailored and responsive to local ecologies. They must be largely self-reliant, and to be so they must provide a high degree of diversity in landscape, enabling constituencies to shorten the circuit of transfer of as many resources as possible. Reticular,

²²² See Francis, Cashdan, and Paxon, *The Making of Neighborhood Open Spaces*, cited in Hester, *Design for Ecological Democracy*, p. 220

²²³ For it should be clear that we are in no way advocating the bleak and unrealistic option of local autarchy. Gardens are not meant to stop globalized trade of goods and services, but only to limit and reorient it. As already remarked, principles of local consumption only counsel first consuming the locally available, then selling what is in surplus and buying what is in shortage; there is no suggestion to the effect that no buying and selling should be going on. It is of course possible, and indeed highly desirable, that economies based on principles of local production and consumption will demand less out of season vegetables, for instance: but this will happen, if it will, as a matter of course, not because a ban of sorts has been placed on buying (or selling) non-local produce.

networked webs of micro-producers can propel economies of significant scale, and may in most cases be able to cover local demand at market or lower-than-market price. Ecological and economical resilience reinforce one another, in such economies, and contribute to social fairness and cohesion. Gardens can contribute to such economically, ecologically, and socially sound objective decisively. In what follows, we highlight some specific ways in which garden-based environmental protection can be economically beneficial to the constituency that practices it.

One obvious way is the production of edibles; though by that is meant vegetables primarily, gardens may also allow for the breeding of small poultry such as chickens, as well as numerous other animals, except horses, goats, and cows. Short of that, small plots of land can produce surprising quantities of edibles. The food produced in gardens may be locally consumed, and traded locally as well as outside the constituency. There would be immense monetary savings connected with growing rather than buying vegetables. Eating more vegetables and smaller rather than bigger animals (mostly white rather than red meat) will reduce the hyperbolic environmental costs connected with feeding, breeding, slaughtering, packaging, transporting, and refrigerating cows, goats, horses, or chunks thereof. If more vegetables and less meat are eaten, global availability of food will increase; land and water will be less, better, and more fairly used worldwide; petrol will be spared; global warming will be curbed significantly; and fewer sentient animals will be killed. Global dependency on patented seeds and crops will also decrease: agro-pharmaceutical corporations will be undermined, from the demand rather than the supply side, if massive cultivations are replaced by networks of garden-based micro-alternatives (garden plants, once mature, would produce their own seeds, which could be exchanged or given to a communal seed-bank for the whole constituency to share); the use of pesticide, herbicides, and fertilizers (usually patented by the very same agro-pharmaceutical corporations above) will also be curbed.

With guidance from universities, NGO's, and local authorities, medicinal plants may also be grown in gardens. It may be possible to distribute selected seeds and cuttings and establish small neighborhood labs for the study, and the processing of plants; such labs may compensate the growers, process the plants, and then put the products on sale at a lower-than-market price. This may require young university researchers in biology, botany, agronomy, and medicine to come out of labs and provide constituencies with consulting and practical guidance; and social networks to be formed so as to exchange information regarding opportunities and risks related to the medicinal use of given plants, and the ways to best cultivate and process them²²⁴. Much traditional local knowledge will be conserved, by keeping alive ethno-botanical practices in gardens (see below).

Garden-based environmental protection may also have strong repercussions on energy consumption. Seeds of *Jatropha Curcus* can contain up to 46% oil which can be used to produce cheap renewable biodiesel from a plant that can live up to 45 years. The plants biomass can also be burned, similar to coal, to produce dioxide-free energy. The oil can be used raw to produce heat for an oil burning heat system, including cooking and lighting. *Jatropha C.* can also be used to produce bio-fertilizer, medicines, and industrial raw material (glycerin) for soap, cosmetics, etc.

Jatropha Curcus plants may easily be used as hedgerows for gardens, protecting other plants from animals (like any Euphorbia, the plant is lightly poisonous and highly disturbing if eaten), and soil from erosion; while rehabilitating degraded lands thanks to their deep-reaching tap-roots, able to pump minerals and nutrients up from the deeper strata of the soil. This latter fact may be especially interesting when it comes to claiming back impoverished and/or exhausted land no longer fit for cultivation, and may be useful to the

²²⁴ The idea of structuring a system of extension work carried out by universities to help individuals, groups, and communities improve their technical knowledge of cultivation was presented to and approved by F.D. Roosevelt in 1909, as part of the Commission on Country Life Report written by L.H Bailey, dean of the agricultural college at Cornell from the early 1890's to 1915. The (hitherto forsaken) importance of Bailey as an environmental thinker has been very recently brought to light by B.A. Minteer, *The Landscape of Reform*, Harvard: MIT Press, 2006.

conservation of botanical biodiversity. Massive cultivations of this plant would require significant amounts of land, and may result ecologically and socially problematic in many cases, and possibly economically inefficient. Cultivating a handful of these plants (which propagate most easily and even in very poor soil, while not being invasive weeds) in each garden of a medium-sized city, on the other hand, would be socially and ecologically unproblematic (and especially easy, given the robustness of the plant). 2000 plants will produce, depending on the density of plantation, between 3 and 8 tons of seeds. 1 ton of seeds will produce approximately 300 – 400 liters of biodiesel, while the residue can be processed into biomass for further energy. If cultivated as hedgerow, *Jatropha* yields approximately 8-10 kg of seeds per linear meter.

Assuming, speculatively, 3 millions private gardens in Mexico City, to which should be added public and city gardens, forsaken spaces on the outskirts (recall *Jatropha's* ability as a soil-recoverer) and random plots anywhere, it should be possible to easily cultivate cycles of 30 to 60 million plants every forty years, ensuring a steady supply of renewable and clean energy to the city. *Jatropha* seeds and biomass could be collected communally, processed at different levels of locality, and the energy produced re-distributed locally. This would dramatically limit the use of fossil fuels. Current diesel engines can be run on *Jatropha* biofuel with little or no modifications: engines that run a 20% mixture will usually require no modifications, where as using 100% biodiesel will require changing of some rubber parts.

Because *Jatropha Curcus* can only be grown in hot/humid climates, the countries that could make most efficient use of it would mostly be Latin American, Asian, and African: European and North American cities (except perhaps some cities in Florida, Virginia, Tennessee, Spain, Greece, and southern Italy), as well as most Chinese cities, would largely be unfit for the cultivation of this plant. Nonetheless Europeans, North Americans, and Chinese would still benefit from *Jatropha Curcus* being widely cultivated in gardens elsewhere in the world, given the high rate of carbon sequestration that such plants are able to deliver. Conclusive data on such matter are unavailable, however R. K. Henning has estimated that for 2000 plants, each possessing after 7 years of growth about 200 kg of biomass, about 80 tons of dry matter would be obtained. Henning maintains that half that

weight is carbon dioxide, i.e. 40 tons²²⁵ (given the fact that *Jatropha* is a very light wood, there are suggestions that this figure be too high, however). Even though much enthusiasm for the trade of emission certificates has faded with the years, the trade still pays between \$3 and \$4.00 US per ton of CO₂ sequestered, which is about \$150 US for 2000 *Jatropha* plants. Thus, garden-based cultivation of *Jatropha Curcus* in Mexico City could in principle generate (assuming the sequestration services of 30 million adult plants) an additional flow of \$ 2.250.000 related to carbon sequestration payments, which could in principle go directly to the city. This would benefit both the inhabitants of Mexico City (ecologically as well as economically), and those of El Paso, London, Rome, and Beijing, who could go on with their emissions unencumbered and just buy their way out of the damage done (if that is really what they want).

Research on *Jatropha* biofuel as a substitute or a complement of fossil fuels is still in its infancy. But our point here does not depend on how *Jatropha Curcus* will in fact fare as the energy source of the future: rather, the most important thing to note is that a garden-based approach allows problems of scale, such as those connected with intensive cultivation (of anything, from *Jatropha* to maize and potatoes), to be efficiently and efficaciously alleviated, and possibly overcome. Small-scale, garden-based approaches to the cultivation of *Jatropha Curcus*, by fragmenting operations, can allow for safer experimentation, lower the level of investments needed, and make sure that benefits and costs are fairly distributed within the constituency - because they rely on individuals, groups, and communities to *conduct* the operations. There may be something very wrong with agro-corporations buying chunks of Mozambique, South Africa, and Brazil to produce *Jatropha Curcus* for purposes of fuel or carbon-emissions trade: but there is nothing wrong, economically, ecologically, or socially, with the inhabitants of Maputo, Durban, and Sao Paulo growing their own energy in their own backyards, and selling their own carbon-emission certificates as individuals and then as constituencies. Much technological advancement, and possibly a revision of global energy-trade arrangements will be needed to transform garden-based *Jatropha* bio-fuel from a possibility into a reality: but a garden-based approach to its cultivation starts out fair and expects from technology and trade increased efficiency and sustainability; it does not start out unfairly, with land being subtracted from locals by

²²⁵ http://www.underutilized-species.org/Documents/publications/jatropha_curcas_africa.pdf

executives of (possibly foreign) corporations, on grounds of projected dividends the locals will never see, and with the *promise* that technology and trade will eventually/magically provide, through mysterious trickle-down effects and invisible handlings of benefits and costs, not just increased efficiency and (hopefully) sustainability, but fairness as well.

It should be underscored that, even if there was in fact no future for *Jatropha Curcus* as a source of energy at all, a mushrooming of urban, suburban, and semi-urban gardens would foster notable savings in energy consumption nonetheless. Wall- and roof-gardens would contribute to building-insulation, and thus reduce the need for artificial heating and cooling; they, along with private and public gardens, parks, city-limits belts of vegetation, and even single trees, will absorb carbon emissions from cars and public transport; and increased reliance on local consumption, as enabled by and through gardens, will indeed reduce the oil-fueled transport of goods into urban, sub-urban, and semi-urban agglomerates; car trips to and from shopping malls or supermarkets would be reduced too, and so would be runarounds in search of parking spaces, if neighborhood gardening provided increased amount of food and occasions to transact it locally²²⁶.

One more sets of benefits that may accrue to localities that adopted garden-based policies of environmental protection would arguably be related to tourism. Urban, sub-urban, and semi-urban agglomerates boasting distinctive, interesting, beautiful, and ingenuously designed collections of botanical biodiversity would attract the interest of at least all those travelers who visit botanical, public, and open private gardens any city they pass through; and arguably, of many more outside such restricted circle of *aficionados*, for greener cities and towns make for cleaner, more relaxing, lush, and aesthetically more complex and pleasing cities and towns in the perception of many, even among those whom plants-*aficionados* are not. It is hard to imagine that if there were more gardens and plants in NYC, Amsterdam, Rome, Palermo, Lima, Delhi, or Beijing - or in any smaller

²²⁶ As remarked in chapter 1, this line of reasoning may possibly be developed into a counterargument to H. Shue's vehemently asserted position that the distribution of emissions per person on earth be necessarily zero-sum, see H. Shue, "Climate", in *A Companion To Environmental Philosophy*, ed. Jamieson, Blackwell 2001.

agglomerate - tourism would drop rather than rise; especially if such gardens were the objects of avant-garde compositional experimentation; repositories of local environmental knowledge as well as history and culture; and important centers of city life, stages for the encounter, confrontation, and coagulation of many and diverse individuals, groups, and communities.

One more, and huge, economic benefit that garden-based environmental protection and urban, sub-urban, and semi-urban design would bring about, articulates not in profits but in savings, and has to do with health-related expenditures that could be avoided if widespread physical and psychological imbalances/diseases - related to pernicious dietary regimes, lack of physical activity, lack of access to open spaces and clean air, and scarce aesthetical and phenomenological exposure to natural sceneries and entities - were to be *prevented*, by enabling and promoting garden-based policies that increased the quantity and quality of natural sceneries and entities, while inviting individuals, groups, and communities to physically engage their locality, and to consume the fruits (and vegetables) of their labors on it. Accurate figures of the monetary savings that may be realized by preventing such physical and psychological imbalances/diseases are bound to vary dramatically across constituencies and countries, but it is quite obvious that they would be monumental in most cases. Much human suffering would be alleviated as well, through prevention: not just that of the ill, but also the suffering of their loved ones; and that of strangers as well, because preventing such imbalances/diseases would afford hospitals and doctors more time and resources to devote to the treatment of other conditions, waiting lists would be reduced, costs of hospitalization for individuals would decrease, and access to medical care would be made easier for all; moreover, and quite importantly, less pills and medications would be prescribed and assumed, undermining agro-pharmaceutical corporations from the demand rather than the supply side. To realize the overall economic magnitude of this switch, from cure to prevention, it is necessary to go into some more detail with regard to the health benefits gardens and garden practices may bring.

4. *Health benefits of garden-based environmental protection*

Policy adoption of gardens and garden practices as tools of environmental protection would have positive repercussions on health and well-being: there would be benefits connected to a different dietary regime, to increased physical activity, to exposure to open and green spaces, and to mental stimulation and stress-relief.

This is nothing new. There is a long tradition and much psychological literature about the "healing powers that may be found in the physical environment, whether that entails materials such as medicinal plants, the fresh air and pure water of the countryside, or magnificent scenery" (Gesler, 1992: 736). Growing contemporary evidence also supports the view that exposure (both passive and active) and access to green spaces can have a wide range of health benefits (Cox, 2002; Lundberg, 1998b; Burns, 1998; Kaplan and Kaplan, 1998; Ulrich and Parsons, 1992; Freeman, 1984). This includes anything from the consumption of vegetables to certain herbal remedies and drugs obtained from plant extracts, through to planting schemes which take into account the mythical and folkloric powers bestowed on trees and other flora (Cox, 2002; Gesler, 1992) and contribute to individual perceptions of rootedness to place and belonging. Natural open spaces and well-designed green spaces provide a locus for recreation, physical activity, social interaction, relaxation, and are regularly highlighted as having a particularly positive influence on health and well-being (MacArthur, 2002; Gruber, 1986; Steptoe and Butler, 1996; Gordon and Grant, 1997; Calfas and Taylor, 1994)²²⁷.

Let us start with diet. More gardens mean more vegetables and less meat, especially less red meat. Meat consumption, besides having immense ecological costs known to all those who involve themselves in the study of climate change, is widely reported to contribute to cancer (especially colon and prostate), cardiovascular malfunction, heart disease and strokes, gallstones, high cholesterol, diabetes, and obesity. The overall medical

²²⁷ See *Health, Well-Being and Open Space Literature Review*: OPENspace Research Centre, Edinburgh College of Art/Heriot Watt University

expenditures related to the treatment of such conditions are estimated to range between 40 and 65 billion dollars a year in the U.S alone²²⁸. Globally, it is expected that meat production and consumption will only increase, from the 220 million tons registered at the end of the 90's, to the 376 tons expected by 2030: some of that meat will provide precious nutrients to people who are today unable to gather those for reasons of extreme poverty, but most of it will go to constitute a whole new diet for rising middle-classes in developing countries, and fuel a further over-consumptive stretch for the middle and higher classes in developed countries²²⁹. Immense costs, both in medical expenses and human suffering, would be curbed by policies that promoted production and consumption of vegetables over meat - at urban, sub-urban, and semi-urban level.

It is not just eating too much meat that is bad; not eating enough fruits and vegetables is very bad too. In a meat-eater's diet, the two factors often go together, perniciously reinforcing one another. Low fruit and vegetable intake is among the top 10 risk factors contributing to attributable mortality, according to evidence presented in World Health Report of 2003. Up to 2.7 million lives globally (a figure that has probably grown since then, and will continue to grow in the future) could potentially be saved each year with sufficient fruit and vegetable consumption. Fruits and vegetables as part of the daily diet could help prevent major cardiovascular diseases and certain cancers. Eating a variety of vegetables and fruits ensures an adequate intake of most micronutrients, dietary fibers, and a host of essential non-nutrient substances. As well, and most importantly, increased fruit and vegetable consumption can help displace foods high in saturated fats, sugar or salt. Worldwide, low intake of fruits and vegetables is estimated to cause about 19% of gastrointestinal cancer, about 31% of ischemic heart disease and 11% of strokes. Of the global burden of death attributable to low fruit and vegetable consumption, about 85% was from cardiovascular diseases and 15% from cancers. WHO/FAO reports on diet, nutrition and prevention of chronic diseases have recommended intakes of a minimum of 400 g of fruits and vegetables per day for the prevention of heart diseases, cancer, diabetes and

²²⁸ See P. Walker, P. Rhubart-Berg, S. McKenzie, K. Kelling and R. S. Lawrence, *Public Health Implications of Meat Production and Consumption*, *Public Health Nutrition*: 8(4), 348–356 (2006)

²²⁹ See P. Walker, P. Rhubart-Berg, S. McKenzie, K. Kelling and R. S. Lawrence, *Public Health Implications of Meat Production and Consumption*, *Public Health Nutrition*: 8(4), 348–356 (2006). See also *The Way We Eat*, by P. Singer and J. Mason (2006); documentaries such as *Meat the Truth* (www.meatthetruth.nl); and <http://www.nytimes.com/2009/04/28/health/28brod.html>.

obesity. The estimated levels of current fruit and vegetable intake vary considerably around the world, ranging from less than 100g/day in less developed countries, to about 450 g/day in Western Europe²³⁰; in *both* cases, the figure is dramatically low, and garden-based policy can be of immediate help in increasing it.

The physical exercise that gardens and garden practices would enable and require of gardeners, and even that which visitors may expend simply by being in, walking, and jogging through gardens, will also have strong and positive effects on health and well-being. A typical lamentation made in cities addresses the sedentary features of contemporary life, made (extremely if not excessively) comfortable by light-speed communications and easier access to goods and services. Often, it is not the case that people do not recognize the benefits of physical exercise, and/or do not want to move, out of chronic laziness: rivers of human sweat devotedly dispersed onto rambling treadmills in metropolitan gyms testify to people's appreciation of the health-advantages of physical exercise. Most often, rather, there are no or few contexts hospitable and conducive to outdoor physical exercise, at least in cities. Open a stretch of green spaces onto the Hudson river for people to jog through, and you will see treadmill-devotees flooding out of Greenwich gyms and into the sun. Make cities denser, and life in them less reliant on car transportation, and people will at least consider walking around.

Lack of physical exercise is reported to facilitate various physical and psychological imbalances/diseases. Exercise has long been identified as a key target area for policy action, primarily because of its role in the prevention of strokes and vascular diseases (Hardman and Hudson, 1989), but also for the role it can play in modifying some of the risk-factors for obesity, hypertension and raised blood cholesterol (HEBS, 2001b; American Department of Health, 2000; Physical Activity Task Force, 2002; Cooper *et al*, 1999). Regular exercise provides some protection against other debilitating and impairing conditions, such as osteoporosis, non-insulin dependent diabetes, and depression. Regular activity in open spaces, and consequent exposure to cleaner air (as the air will of necessity

²³⁰ See <http://www.who.int/dietphysicalactivity/fruit/en/index2.html>

be, in plants-populated gardens) and sunlight, may also have positive effects on pulmonary functions. Exercise makes important contributions to weight control and, among older people, to the maintenance of functional capabilities and punctual proprioception. In terms of psychological health, exercise relieves anxiety and depression, and contributes to improved self-confidence and self-esteem²³¹. A review by McAuley (1994) identified improvement in overall feelings of self-worth, and improved self-concept in terms of physical attractiveness. Berger (1996) suggested that physical activity is associated with improvements in four broad areas: enhanced mood, stress reduction, a more positive self-concept, and a higher quality of life (see also Hickmann *et al*, 1999; Oxford Brookes University, 2001). Physical activity in the natural environment is reported to contribute not only to an increased life-span, greater well-being, fewer symptoms of depression, but also to increased ability to function better at work and home (Physical Activity Task Force, 2002; Oxford Brooks University, 2001; Skelton and Young, 1999; Mersey, 1991). Outdoor physical activity is widely thought to enable one to escape from the pressures of modern living, achieve an enhanced state of relaxation and refreshment, tackle new challenges, and help reduce anxiety and stress levels (Scottish National Heritage, 2002).

Gardens can also contribute to psychological health and well-being. Gardeners may develop and exercise what we have called, in the last chapter, therapeutic virtues. But visitors too, simply by being exposed to them, and experiencing them aesthetically and phenomenologically, can benefit greatly from gardens. It seems not far-fetched to suppose that the nature we experience, and our experience of it, cuts deep into our psychology, as individuals and as a species. One must accept evidence that the aesthetics of natural and green landscapes can have an important impact upon psychological health: plants, especially, and aesthetically pleasing designs thereof, help to create a more relaxing, intimate and yet non-institutional setting, suitable to introspection and self-gathering; and indeed, in some cases, to actual psychological restoration. Ulrich (1979, 1981, 1984, 1991b, 2002) uses a range of empirical evidence to argue that the benefits of simply *viewing* green spaces or other

²³¹ HEBS Report, 2001b: 1. Cited, as the titles that follow in the text, in *Health, Well-Being and Open Space Literature Review*: OPENspace Research Centre, Edinburgh College of Art/Heriot Watt University, 2003 - www.openspace.eca.ac.uk/pdf/healthwellbeing.pdf.

nature²³² goes beyond aesthetic enjoyment to include enhanced emotional well-being, and significantly reduced stress (Moore, 1981; Verderber, 1986; Parsons, 1991; Ulrich *et al*, 1991; Ulrich and Parson, 1992; McAndrew, 1993 Heerwagen, 1998). Ulrich has also shown that the human body is positively enticed and reacts involuntarily to natural and living elements, whereas artifacts such as houses and streets do not provoke the same quick and strong reactions (Ulrich, 1999; 1993; 1984).

Grahn & Stigsdotter (2002; 2003) have presented results from a study in which 953 randomly selected individuals in nine Swedish cities answered a questionnaire about their health and their use of different urban open green spaces in and close to the city. Statistically significant relationships were found between the use of urban open green spaces and self-reported experiences of stress – regardless of the informant’s age, sex and socio-economic status. The results suggested that the more often a person visits urban open green spaces, the less often he or she will report stress-related illnesses. It was found that distance and access to green areas mattered a great deal to people’s frequentation of them, with people not compensating for lack of green environments in their own residential area with more visits to public parks or urban forests. Accordingly, having access to a garden was found to have an alleviating impact on stress, with significant positive relationship between frequency of garden visits and stress prevention. The results thus indicated that urban, sub-urban, and semi-urban gardens may play an important part in offering psychologically restorative environments, irrespective of the citizens’ socio-economic background, gender or age²³³.

Browne (1992) has shown that elderly residents in one retirement community preferred superior viewing positions and panoramic views, with long vistas framed by plants, in an informal setting with water, grass and trees. This was found to be important not only for aesthetic reasons, but also because plants provided an aide-memoire to previously known

²³² Phrases such as “green spaces or other nature” are as vague and ambiguous as they can be. For our present purposes, “green spaces”, “natural settings”, etc. are to be understood primarily as gardens - places in which there are relatively significant numbers of live plants that enable and require consistent human nurturing. This does not mean that a “green space” in our sense could not include, say, a football court; but it does mean that a football court is not itself a “green space” in our sense. Our “green spaces” are made green by plants; they are places for plants, and compositions thereof, to be cultivated and experienced by people. Being gardens, our “natural settings” are, of course, only fluidly natural.

²³³ See http://www.sl.life.ku.dkwww.sl.life.ku.dk/upload/terapihaven_landscape_planning_stress.pdf

environments, and such recollection, coupled by the observation of the workings of such plants through the seasons, maintained mental activity, sharpened awareness of time, and decreased boredom. Regarding children, there is evidence (Kuo, Sullivan, and Taylor, 2001, 2002) that exposure and physical engagement with nature and natural entities helps combat attention disorders manifesting at a young age; settings of natural greenery seem to reduce antisocial behavior, stimulate creativity and interaction with other children, role- and construction-play, sharpen outward curiosity and relieve inward anxiety, engaging children's dexterity, inquisitiveness, and imagination²³⁴ (and, at any rate, they may be less risky a tactic, and more pleasant and joyful for children, than pill-feeding them through ADD). Regarding the sick, there is little doubt that fresh air, open spaces, and sun exposure, physical activity (when possible) and a better diet - though they may not be enough to *cure* anything - benefit patients greatly and in various ways, physically and/or psychologically; for one thing, because they reaffirm their presence in the world that still unfolds outside their body, and in spite of its torments. Given that, it is no less than flabbergasting that hospitals (especially city hospitals) hardly ever take into consideration gardens (let alone gardening) as a therapeutic aide. Calming, serene spaces, punctuated by beautiful and interesting vegetation, are particularly soothing, and would be of great psychological help, for those under great pain or stress (patients, visitors, and medical staff alike)²³⁵. In general, hospitals are architecturally conceived as containers of sickness and pain rather than receptacles of opportunities for health and relief. There may be wonders of medicine unfolding within the container, but there is little room for ordinary moments of relief in and around it. There is also little occasion for patients to take their minds off their pain and/or relativize it, at least to some extent - perhaps self-ironically: doctors hardened by decades of desperate spectacles may help patients get some perspective on their pain, providing much needed information as well as human empathy; but they are not themselves in pain (or, at least, they usually do not seem to be), and the powers of empathy are made feebler by that basic difference. Doctors may be able to get their patients to relativize, but not with that same self-ironic smile that only the recognition of things way beyond human differences and pains, such as the daily rise and fall of the sun and the growth and flowering of plants, can trigger in those who suffer. When the doctor goes, and the visitors

²³⁴ See R. Moore, "Plants as Play Props", *Children's Environmental Quarterly* 6, no. 1(1989): 3-6

²³⁵ See C.C. Marcus and M. Barnes, eds. *Healing Gardens: Therapeutic Benefits and Design Recommendations*, NY: Wiley, 1998

go, a sick man remains alone in the room and enters the world of pain he only lives in; a garden pulls this man back into a less painful world, from which he has been forced out of and to which he would like to return: a garden reminds him of that world, and indeed gives him a place in it - not so, very sadly, does a hospital room.

Ryan (1997) describes the impact of incorporating therapeutic gardening into reminiscence work for people with dementia, regaining mobility, dexterity and co-ordination after a stroke, to regain confidence and self-esteem, and in the treatment of drug and alcohol problems (see also Mattson, 1992; Ryan, 1992). Interaction with plants and earth enables sensory stimulation, promotes the exercise of memory and the configuration of practical techniques, and requires muscular activity. Gardens and garden practices can help people gain basic operational and social skills, obtain qualifications, and indeed rebuild their lives. They provide something to talk about, a chance for enthusiasts to impart knowledge and for others to learn, induce aesthetic satisfaction, and trigger self-esteem (Ryan, 1992; Browne, 1992; Mattson, 1992; see also Azar and Conroy, 1992).

There is a wealth of literature, and much more will hopefully come by, on the positive psychological effects of exposure to nature and natural entities. The psychological relation we entertain, as individuals of the human species, to the natural environments we inhabit, spans a wide range of vital concerns, both material and spiritual; although most of us are already alert to this fact, courageous theoretical ventures and accurate empirical research is needed to bring out its complexity, and to back up policy-proposals that address the built environment directly as a health factor, and particularly with regards to psychological health. Academic pioneers Kaplan and Kaplan (1989) state that at present, the psychological benefits and pleasures of nature are valued highly on a personal level, but these rewards have little influence in the policy area. This is a view shared by many other theorists, and is attributed to a number of reasons including hesitancy to exert control over private property (through taxation or other means) for the public good, and the scarcity of evidence or documentation to show the psychological importance of natural settings. As a result, existing green spaces are often lost and new ones are not often created.

A clear link between accessible urban green spaces and healthy living must be established in the mind of the general public, politicians, and policy makers. Individuals, groups, and communities need to make a vivid case that their health and well-being is profoundly bound up with the natural design of the place they inhabit; and to do that, they must explore just how bound up it really is (and that will entail exploring how bound up *it can be*, through practices of a gardening kind); conceiving of and committing to nature and natural entities not simply as peripheral amenities, but as a central components of the landscape of their everyday life, and powerful psychological informants of their topologies of self. When seen and valued simply as amenities, nature and natural entities can always be happily replaced by greater technological achievements; when viewed as a web of multifarious relations between oneself and the world one lives in, the natural environment (even if not solidly natural) has no substitutes.

Gardens can teach people to see their environments that way. They have the potential to make a positive and far-reaching contribution to the physical, mental and social aspects of people's health. The magnitude and scale of such benefits will take time to be fully realized, and will depend largely on policy encouraging individuals, groups, and communities, through urban, sub-urban, and semi-urban design, as well as education, to feel a sense of pride about *their* green open spaces: policies that increase their interest, knowledge, and liberty in planning and developing and/or maintaining such spaces, and which give them increased opportunities to do so.

5. *Educational benefits of garden-based environmental protection*

Present environmental quandaries enable and require us to reconsider many driving assumptions behind our economical, political, and social systems, at the level of our urbanity as well as the whole planet; and the ecological democracy made possible through decentralization can only work if the citizens of such democracy possess adequate

information, competence, and intelligence of the environmental issues they are to deliberate about, and of the policies that are on the table for consideration²³⁶.

The role of environmental education is thus pivotal. If coercion can be of use in the short-run, education is what will do the trick eventually, if anything will²³⁷. Any Rousseauian solution to collective action problems presupposes a high degree of informed participation of all actors involved, and inclusive dialogue among them. If people are to make and implement environmentally-relevant local policies, they must know what they are talking about. They must know of present environmental and social conditions, of past successes and mistakes; and must be able to extrapolate bases for prediction from such knowledge; moreover, and most importantly, they must be able to share environmentally-relevant information most efficiently, widely, and fairly. So one condition for future ecological democracies to work, is that the practice of gathering and exchanging ecological information *not be costly* (available only in the form of a university course, for instance).

Ecological information, as produced by ecologists, is complex information, and it is often overwhelmingly difficult for most people (ecologists included) to negotiate it all. Ecological information as produced by politicians, on the other hand, tends to be disseminated by opposition parties, only to be then ignored or even concealed by those very parties when in power; and/or it is often reduced to, and used by parties and candidates, for the sake of ideological branding²³⁸. As things stand today in the overwhelming majority of cases, ecological information is hard to get in two senses: hard to appropriate, and hard to understand. Another condition for future ecological democracies to work, therefore, is that the practice of gathering and exchanging ecological information be made as *easy* as possible for all.

²³⁶ A useful framework in and through which to evaluate the multi-dimensional impact of environmentally-relevant policies, vis-à-vis one another and at any level of locality, is provided by R. Kirkman in his recent *The Ethics of Metropolitan Growth*, Continuum, London, 2010

²³⁷ See L.H Bailey, *The State and the Farmer*, St.Paul: Minnesota Extension Service, University of Minnesota, 1996 (orig. 1908), p.70: "Information and knowledge, however, and even education, do not by themselves constitute reform or progress. We need legislation and broad redirection of economic forces; but education lies behind and at the bottom of all these movements, and without it no lasting progress is possible".

²³⁸ See S.L Popkin, *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*, Chicago: University of Chicago Press, 1994 . For a classic and vehement statement of this and other related denunciations, see G. Debord, *La Société du Spectacle*, 1967

Further, ecological information regarding environmentally pernicious phenomena such as pollution, biodiversity loss, and global warming, will inevitably also include information about the pernicious effects of ecologically unrestrained human (everyone's) activity on the natural environment, about the ultimate dependence of humans onto their natural environment for survival and for much else that they see as valuable, about ecologically-motivated restraints to human action (and economic activity) that will at some point have to be accepted, and so forth. Such information (that they do wrong by virtually anything they do, that they may not be in the position to engineer their way out of this trouble, that nature will require them to give up many of their habits, interests, and ambitions) is not what the majority of people want to hear, especially not from some know-it-all scientist, "blood, sweat, and tears"-like politician, or over-excited environmentalist. One last condition for future ecological democracies to work, then, is that the very practice of gathering and exchanging "distasteful" ecological information be made as *pleasant* as possible for people.

It is our contention that garden-based environmental protection will have remarkable positive repercussions on eco-literacy. It is also our contention that gardens and garden-practices will contribute to the preservation, the elaboration, and the transmission of cultural knowledge (where "culture" means the set of traditions, the linguistic, symbolic, religious, and narrative systems, the myths, traditional skills and rituals, the cuisine and dressing codes, the architectural modules, etc. that characterize the life of the particular community of people inhabiting the locality in question at the time under consideration); while also providing a setting for confronting such cultural articulations with different ones, from within and outside the locality in question. Recall what designing gardens involves: 1) observing and capitalizing on the workings of local eco-systemic patterns; 2) acquiring scientific knowledge about the functional station of different plants within eco-systems, as well as about their biological requirements, levels of endangerment, and adaptive capabilities; 3) protecting and transferring popular knowledge of the nutritional and medicinal properties of plants, and of appropriate ways to cultivate and process them –

being such knowledge usually available as an element of a wider cultural and symbolic system, tied to the locality in question or in any case to some form of specialized expertise cultivated in such locality. 1), 2), and 3) suggest no more and no less than following the golden rule of garden-design, namely “consulting the ‘genius’ of the place”, in both an ecological and a cultural sense. Gardens are cultural products that should also *elaborate* on such genius: they should thus be conceived so as to enable social and educational practices orienting those involved towards a critical and innovative approach to the wider system of meanings and narratives that attach to the place, as well as to the nature that is being preserved in it.

There is a wide consensus that environmental education cannot manage to transmit the actual complexity of ecological systems simply through an inclusion of ecology as a curricular subject in schools; and that it must rely also, and to a significant extent, on field-experience and active, hands-on engagement of people with nature and natural entities, if such complexity is to be understood and accepted as part of everyday life - by children and adults alike. In other words, environmental education must be not simply notional but also procedural - learning by doing; and there must be occasions for updating it regularly throughout the course of one’s life, if it is to keep pace with advances of ecological sciences, of human technology/know-how, and with changes in ecological circumstances. By these lights, gardens and garden practices seem top candidates as settings and methods for environmental education. Consider the following statement by R.T. Hester:

“Just as wild nature teaches, so too does farming...Farming requires an understanding of vital, complex, and invisible processes involving water, oxygen, nitrogen, and carbon cycles. In fact, most of what we need to know to design intelligent cities can be learned from farming. To teach urban ecological science, farms should be integrated into the everyday life of cities...For maximum return on the energy that is exerted in the pursuit of ecological knowledge, provide small, urban farms, and entice the public to grow food. Engage every child in her own food-production”²³⁹

Substitute “farms” with “gardens” and any minuscule trace of implausibility is removed from Hester’s suggestion. Indeed, the idea that gardens and garden practices can teach

²³⁹ See R.T. Hester, *Design for Ecological Democracy*, pg. 344

people about ecology is largely uncontroversial. But it has nonetheless remained inconsequential, policy-wise, at least so far. This should change.

It is often lamented that cultural diversity is, in today's globalized and ever-more-globalizing world, under a similar threat of extinction as its biological counterpart. Garden-based policies of environmental protection can contribute to the conservation of both sorts of diversity, by enabling and requiring an understanding and acceptance of (that is, by educating in) both the ecology of the locality in which biodiversity is being conserved, and the particularity of the culture that is preserving it.

It should be underscored that the inescapably local and localized ecological and cultural information that can be gathered and exchanged in and through gardens would by no means be insulated, nor able to abstract, from the science of larger ecological systems (regional and, on relevant occasions, global) - on the one hand; and would not collapse into some crystallizing consecration of communal habits, creeds, and preconceptions - exposed to no confrontation and open to no exchanges with other cultures and their knowledge and technologies, nor with the sciences that study and further propel such knowledge(s) and technologies - on the other.

On the one hand, ecology is a science of interrelations. Severing regions or localities from one another as objects of study has no ecological basis: of course, one can study localities rather than regions, but an ecological understanding of the former will be truncated, largely unintelligible, possibly (very) inaccurate, and probably useless - unless it also refers to, and fits with, other non-local, non-localized, possibly global ecological information. For the purposes of studying one locality, one will soon have to confront non-local and non-localized dynamics and factors; the situation is similar to studying selected and localized physical phenomena (say, a specific waterfall) without the analysis referring to (if only implicitly) and fitting with larger (indeed cosmic) pictures and theories regarding gravity, mass, energy, and so on. There is no way to understand the local ecology of places, and the particular ecology of particular plants, unless one is able to come to grips with the more

general, macro-ecological factors at work - which are obviously not all local or localized in origin and scope (such as distant headwaters and seasonal dynamics). To design or upgrade any locality, an understanding of the basic natural systems that should support such locality is required: an understanding of the hydrological patterns involved, in particular, can function as a general port of entry to the investigation, and a general decoding device of a variety of other ecological factors, including morphology, topography, and plant and animal life²⁴⁰. Energy flows, the origin of the resources used, the long-term effects of using them in one way rather than another - are all not-just-local ecological topics, which educational gardens and garden-practices would be called on (and be capable of) illuminating.

Global climate change also, may be able to reconfigure any ecological situation, no matter the level of locality - and is therefore one topic to be dealt with when designing or upgrade any place, no matter the level of locality. Luckily, even ecological dynamics as impalpable and esoteric as nitrogen, oxygen, and carbon cycles will become part of people's everyday lived experience, in and through gardens and garden practices. Moreover, gardens and garden practices particularly devoted to the conservation of botanical biodiversity will include plants from many different parts of the world, and it will be necessary to gather ecological information about their original habitats and their behavior there, if one is to stand a chance to cultivate them successfully, or another is to appreciate what is at stake, from a botanical point of view, if and when visiting the garden. So the locality of gardens and garden practices opens and indeed instructs one to the globality of ecology and the diversity of eco-systems.

On the other hand, cultures (no matter how localized) are not impenetrable monoliths, but open systems. Each culture is distinctive and manifests its distinctiveness, or particularity, in its own ways; but the distinctiveness of a culture is partly constituted by the ways in which it differentiates itself from other cultures, how it makes sense of such differentiation, and what it absorbs from and what repels of these other cultures, why, and how. Now, gardens can provide educational opportunities with regards to cultural knowledge in two, only apparently conflicting senses. First, opportunities - for individuals, groups, and

²⁴⁰ See R.T. Hester, *Design for Ecological Democracy*, p. 336

communities - to learn about and dwell on their own heritage (traditional creeds, symbolic systems, language, aesthetic canons, food-choices, craftsmanship, technology, operational methods, botanical palette, techniques of cultivation, ethno-botanic processes and skills, etc.) - thus transmitting, conserving, and indeed protecting such heritage (from, say, the sedative homogenization of form, content, and methods as proposed by pop commercial culture in and through corporate rooftop gardens and shopping malls). And second, opportunities - for individuals, groups, and communities - to juxtapose their own cultural heritage to that of others - to compare, test, amend, or reaffirm it; and also to mix it with that of others, in original ways, when they see fit. An open, eclectic, and critical approach to all cultures, one's own as much as those of others, enables and requires a challenging, but ultimately rewarding (and often downright enjoyable) broadening of one's perspective, a form of self-examination and self-development - at the level of individuals as well as groups and communities. This more "cosmopolitan" take counsels widespread respect for differences, and widespread curiosity about them (no meaningful cosmopolitanism can auspicate, or articulate into, the erasing of cultural differences - when it does, it is simply imperialism in disguise, whether or not it is intended as such).

Localism implies no relativistic insulation. The micro-level ecological education that gardens and garden practices will enable and require will not (and certainly should not) fail to be informed by, refer to, and fit within larger ecological pictures, as provided by the best available science. The micro-level cultural education they will enable and require, likewise, will not (and certainly should not) fail to incorporate whatever revisions and suggestions may be made available by a confrontation with other cultures, their systems of meaning, techniques, and technologies, and with the sciences that study those. A gardener is no scientist, and she does not approach (nor value) nature and natural entities the same way a scientist does. A gardener is not even a fan of science necessarily (and certainly not of the science sponsored by agro-pharmaceutical corporations). But a gardener is interested in what science (and technology) can do for her, that is, for her garden and plants - and, as a gardener, she is not pre-committed not to appropriate or incorporate whatever science and technology can help protect and promote the life, well-being, and particularity of those: to the contrary, she has resolutely chosen to do just that. For the same reason, she will be open to any revisions and suggestions, any new methods and techniques, any new perspective

that other cultures may make available, insofar as these can contribute to protecting and promoting the life, well-being, and particularity of her garden and plants. Curiosity, humility, efficacy, adaptive efficiency - and, most of all, resolute commitment to her garden and plants, make of any gardener a local cosmopolitan.

Gardens and garden practices provide opportunities for learning about local as well larger ecological systems and factors; and for learning about one's own cultural heritage as well as that of others within or outside the locality in question. They thus provide opportunities for ecological and cultural criticisms and responses: and they also provide non-institutionalized and yet communally recognizable settings for such criticisms and responses to unfold. The more garden practices gain the status of locally recognizable rituals, encapsulating specific systems of meanings and sets of alternative views on nature and culture, the better they can function as arenas for the manifestation, unconstrained but peaceful, of economical, political, and social tensions that may otherwise translate into conflict and violence²⁴¹.

The *community gardens* of East Side NYC, for instance, accomplished just that: during the 70's, they gave a place for action to disenfranchised individuals, groups, and communities (mostly Latin- and Afro-Americans), allowing them to bring attention to their metropolitan subjugation and to express their economical, political, and social discontent by peaceful, and indeed even beautiful means, while not renouncing the deeply confrontational provocation that putting trees in place of lucrative apartment-buildings represented in ever-gentrifying NYC already then. Such gardens helped these communities to retain many of their distinctive practices, from the linguistic to the culinary, develop internal solidarity, and solidify their identities from within a quite alien and sometimes oppressive culture; at the same time, they helped them present such very identities, in an uncompromisingly direct and yet non-violent, and indeed quite beautiful way, to "other" New Yorkers.

Perhaps, these community gardens contributed to making the East Side into the Wild Side - to its velvet underground aura of disorder, dirtiness, and unpredictability. In the 70's, city

²⁴¹ The anthropological model here is C. Geertz's analysis of ritualized Balinese cock-fights as expressions and sublimations of social solidarity as well as conflict. See C. Geertz, "Deep Play: Notes on the Balinese Cock-Fight", *The Interpretation of Cultures*, Basic Books Ltd, New York, 1973

planners knew no better than re-directing focus on the “clean” parts of town. In the 80’s, East Side-velvet was deemed to lie way too deep underground for respectable, up-and-coming New Yorkers to put up with it, and few of those born above 14th Street ever went down there - which contributed to further socio-economical segregation; through the 90’s, the velvet was traded for sanitizing blankets, which submerged much of the cultural as well as architectural and botanical diversity of the East Side. Today, city planners and urban designers are rediscovering the manifold virtues of environments that are clean enough to be healthy, and “dirty”, unfinished, and eclectic enough to provide continued learning opportunities for hands-on engagement with nature and natural entities, and for unencumbered and yet peaceful preservation, expression, and communication of cultural diversity. It seems that the easiest and most successful design-strategies to achieve this bipolar aim are transparency (making the ecological workings of the environment in question visibly comprehensible and easy to engage with), and framing (making the cultural workings of the individual, groups, and communities in question readable and unthreatening, because contained in visibly comprehensible settings hosting practices that are visibly comprehensible as well). Gardens, and garden-based urban design, are the epitomes of both transparency and framing. Future urban, sub-urban, and semi-urban landscapes should be designed so as to allow and invite spontaneous interactions with nature and natural entities, sensual exploration of them, easily- and widely- available contemplative observation of them, and imaginative elaborations (individual and collective) of their role in everyday life. Less sanitized (and yet healthy and safe) landscapes only, such as gardens, will do the job.

Environmental education should be introduced into curricular programs at any level of formal schooling, and especially at elementary level. Natural and social sciences can instruct people to the particularities of local ecology and culture, and their interrelations with wider or other ecological and cultural systems. But, as said, environmental education cannot rely solely on the formulation, dissemination, and absorption of scientific principles. Was that the case, the costs (time, resources, effort) of gathering and exchanging environmentally relevant information may be too high for most people, and the process

would be difficult; while the information one would be exposed to may be quite unpleasant - for it would have to recapitulate all the good of nature that has and will further be lost, one's responsibility in the loss, the possibly apocalyptic implications of the loss, the radical demands made on one given such possible implications, etc. - and all that, without seeing or touching any nature or natural entity that may be worth caring for, being allowed no setting for exercising stewardship, no chance to experiment ways of life that one may indeed recognize as at once economically efficient, ecologically sustainable, and socially fair. Under such circumstances, the understanding necessary for an ecological democracy to work would be restricted to few and selected sections of the constituency, if that - which would effectively condemn the whole project to failure.

Ecological knowledge must be made available not just in schools and through books, but must also be gathered and exchanged through hands-on, on-going practices; and these practices must be capable of instructing those who engage in and with them also with regards to their cultural identity; while opening them to cultural diversity. These objectives can be further by exploring "the genius of the place" in and through gardens and hands-on garden practices. Learning local ecology and culture by designing and working on gardens will be a (comparatively) inexpensive, easy, and pleasant way to gather and exchange environmentally relevant information, and thus to involve significantly larger sections of the constituency in environmental education. It has been an accepted refrain of environmental ethics that the more we know about nature - about places, entities, or ecological processes - the more pleasant its experience is for us; the more pleasant the experience, the better disposed are we to further learning. As people experience pleasant places, entities, and processes, and understand their educational import, they demand more of them²⁴². As these places and processes become more and more prominent in the context of their everyday life, and people come to regard them as important to themselves, the more they will devote themselves to them, the more they will learn - and the more protecting these places and processes will become a "personal" matter, encouraging widespread and active participation in environmentally relevant policy-making and implementation. And so let us now, at last, make peace with Thoreau:

²⁴² See S. Galatowitsch, "Ecological Design for Environmental Problem Solving", *Landscape Journal*, (special issue) 1989: 99-107, cited by R.T. Hester in *Ecological Democracy*, p. 340

“A river with its waterfalls and meadows, a lake, a hill, a cliff or individual rocks, a forest, and ancient trees standing singly. Such things are beautiful; they have a high use which dollars and cents never represent. If the inhabitants of a town (we are not in the ‘wild’, now - *ndr*) were wise, they would seek to preserve these things, though at considerable expense; for such things educate far more than teachers or preachers, or any at present recognized system of school education”²⁴³

More ecologically relevant information will be retained if classroom instruction is complemented by hands-on learning and field experience; and the way such hands-on experience is structured and conducted will disclose much about the local culture, and expose it to other cultures, both in the sense of presenting it to them, and in the sense of exposing it to possible reconsiderations, revisions, and alterations that may be counseled or suggested by them. What can be learned in books is insufficient, by itself, as a propeller of the sort of widespread environmental education that is enabled and required by an ecological democracy, because for the vast majority of people the vast majority of ecological concepts acquires vivid meaning only with first-hand experience²⁴⁴ - the latter shows the principles enshrined in ecology books to be hypotheses that apply to the real world and work in it, rather than theoretical positions to be accepted on grounds of charts and graphs. For this reason, more people can be expected to learn about their environment, and about possible ways to look at and be in it, in gardens than in classrooms; a conclusion that is also reinforced by the consideration that learning through pleasant practices, in pleasant settings, from within non-hierarchical or only loosely hierarchical networks of information, and through personal exchanges and participative discussion, is more rewarding to most children than simply being delivered information and told what to do by educators (or, in the case of adults, by legislators).

Before discussing some concrete instances in which the sort of garden-based environmental education that we have in mind has been successfully put to work, we should connect our

²⁴³ H.D. Thoreau, *Journal* - quoted in *Thoreau: A Book of Quotations*, Mineola, Dover, 2000; cited by R.T. Hester in *Ecological Democracy*, p. 340

²⁴⁴ D.W. Orr, *Ecological Literacy: Education and the Transition to a Postmodern World*. (Albany: State University of New York Press, 1992), p. 89.

present view to some classic strands of thought both in environmental ethics and in the philosophy of education. Our suggestions about educating individuals, groups, and communities in and through gardens and garden practices, in both local ecology and local culture, while stimulating social interaction, civic engagement, heightening a sense of community and identity, and a more inclusive and participatory approach to local policy-making and implementation, are not novel: rather, they follow on the track set by one among the most prominent philosophers of both education and democratic life of the last two centuries, notably J. Dewey, and by one most innovative horticulturalist/environmental educator/thinker in American history, L.H. Bailey.²⁴⁵

Throughout his academic career, Bailey was an unrelenting champion of nature study in elementary schools, and the main promoter of the idea of school gardens. He viewed nature study and garden schools as elements of an ambitious enterprise of social reform, and was convinced that education was the key to the resolution of most if not all social ills. Regarding hands-on, garden-based environmental education in particular, he commented:

“In putting the child into intimate and sympathetic contact with the things of the external world, [nature-study promotes the] development of a keen personal interest in every natural object and phenomenon”²⁴⁶

Bailey thought of learning as a process to be driven primarily by “doing and accomplishing”²⁴⁷. Dewey, for his part, had written that any educative process:

“...should begin with doing something; and the necessary training of sense perception, memory, imagination, and judgment should grow out of the conditions and needs of what is being done;.....not an arbitrary task imposed by a taskmaster, but something inherently significant, ...so that the pupil can appreciate for himself its importance, enough to take a vital interest in it”²⁴⁸

Regarding nature study and school gardens specifically, Dewey wrote:

²⁴⁵ The parallel and relation between Dewey’s and Bailey’s ideas of education has recently been highlighted by B.A. Minter, *The Landscape of Reform*. (Harvard: MIT Press, 2006)

²⁴⁶ L.H. Bailey, *The Nature-Study Idea* (New York: Doubleday Page, 1903), p. 15

²⁴⁷ L.H. Bailey, *The Nature-Study Idea* (New York: Doubleday Page, 1903), p. 36

²⁴⁸ J. Dewey, *The Bearing of Pragmatism Upon Education*, cited by B.A. Minter in *The Landscape of Reform*, p. 30

“The attempt is to vitalize the work, so that pupils shall actually get a feeling for plants and animals, together with some real scientific knowledge, not simply the rather sentimental and rhapsodizing of literature”²⁴⁹

And again:

“No number of object-lessons, got up as object-lessons for the sake of giving information, can afford even the shadow of a substitute for acquaintance with the plants and animals of the farm and garden acquired through actual living among them and caring for them”²⁵⁰

“The vegetable garden is the obvious starting point for most city children; if they do not have tiny gardens in their own backyards, there is a neighbor who has, or they are interested to find out where the vegetables they eat come from and how they are grown”²⁵¹

But school gardens could accomplish more than instructing children about ecology, botany, biology, economy, geography, history, mythology, and cultivation techniques. Both Bailey and Dewey auspicated schooling as a preparation for democratic life, and thought of it as an opportunity to educate pupils to the values of such life, to the liberties and to the responsibilities it enabled and required. School gardens provided a chance not only for dynamic hands-on learning, but also for the development and exercise of cooperative dispositions to actively participate in communal, goal-directed enterprises, to be mindful about the work of others and their aspirations, to be constructively critical of inefficacious methods, to be capable of sharing information, as well as a common language of value and common standards of evaluation when discussing alternative courses of action; and to take personal and communal pride and shame in the fate of one’s environment.

About the school gardens in Chicago, Dewey wrote:

“The work is given a civic turn; that is, the value of the garden to the child and to the neighborhood is demonstrated: to the child as means for making money or helping his family by supplying them with vegetables, to the community in showing that gardens are a means of cleaning up and beautifying the neighborhood. If the residents want their backyards and empty lots for gardens, they are not going to throw rubbish into them or let other people do so. Especially in the streets around one school has this work made a

²⁴⁹ J. and E. Dewey, *Schools of To-Morrow*, cited by Minter, p. 30

²⁵⁰ J. Dewey, *The School and Society*, cited in Minter, p. 33

²⁵¹ J. and E. Dewey, *Schools of To-Morrow*, cited by Minter, p. 33

difference. Starting with the interests and efforts of the children, the whole community as become tremendously interested in starting gardens, using every bit of available ground. The district is a poor one and, besides transforming the yards, the gardens have been a real economic help to the people”²⁵²

School gardens can be tools for engaging neighborhoods in and with their locality - with positive effects on human health, urban aesthetics, economics, social capital, civic engagement, political participation, individual character, and community identity. They will also contribute to the development of environmentally sound habits, relevant also beyond garden boundaries (such as recycling: note Dewey’s stress on the only-seemingly-trivial problem of urban rubbish accumulation - a problem that has turned out to be enormous, and to have dramatic environmental, health, economic, social and aesthetic implications, in developed and developing countries alike). Garden-based environmental education can lead to the formation of shared environmental-friendly intentions, to the development of a readable culture of nature, and to the exercise of an efficient, sustainable, and fair scheme of economical and political participation on the side of a competent and intelligent constituency.

Both Bailey and Dewey ultimately expanded their focus from the environmental education of children to that of the constituency at large; and it was gardens, that which provided the bridge from schools into the wider urban, economical, social, and political context.

²⁵² J. And E. Dewey, *Schools of To-Morrow*, cited in Minter p. 35

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