

ARE POPLAR PLANTATIONS REALLY BEAUTIFUL?
ON ALLEN CARLSON'S AESTHETICS OF AGRICULTURAL LANDSCAPES
AND ENVIRONMENTALISM

Fernando Arribas Herguedas

Rey Juan Carlos University

(Madrid, Spain)

ABSTRACT

Allen Carlson's aesthetics of nature contends that a deepening in the scientific knowledge of natural objects and environments is required to achieve an appropriate aesthetic appreciation of them. This 'scientific cognitivism' is often presented as supporting the emergence and development of environmental awareness as well as a theory consistent with the requirements of environmentalism that have been set out by Carlson himself. But Carlson's view about the aesthetic appreciation of contemporary agricultural landscapes gives more relevance to their functional fitness for human purposes than to scientific cognitivism. It will be shown here how this different treatment weakens the link between Carlson's work and his requirements of environmentalism.

Key words: Allen Carlson; aesthetics of nature; scientific cognitivism; environmental ethics; agricultural landscapes

1. Introduction

Allen Carlson's 'natural environmental model' has been considered as the most important theoretical framework for the contemporary debate on environmental aesthetics and a driving force in the understanding of aesthetics of nature as an essential element for the formation and development of ecological awareness and environmental ethics. Undoubtedly, Carlson's arguments have inspired fertile discussions and changed our usual conceptions about the aesthetic value of nature. In this article, I will focus on Carlson's view about the aesthetic value of contemporary agricultural landscapes and its connection with the conditions Carlson himself lays out for an adequate environmental ethics, or what I will call Carlson's "requirements of environmentalism".¹ Carlson's scientific cognitivism holds that the appropriate appreciation of the aesthetic value of nature is grounded on the empirical and scientific knowledge provided by natural sciences. This argument is linked to positive aesthetics, an approach which claims that the aesthetic value of nature depends upon the absence of human intervention. Positive aesthetics emphasizes the aesthetic value of 'scenically challenged parts of nature', as Saito puts it (1998b: 101), while scientific knowledge allows us to look at those environments 'for what they are' (Parsons, 2008: 56), and to appreciate 'nature *as nature*' (Carlson, 2009: 41; Budd, 2002: 91). In this sense, ecological value becomes a decisive factor to determine the aesthetic value of natural objects and environments (Callicott, 2003). According to Carlson, thanks to natural sciences and natural history, now we are able to appreciate some previously unnoticed aesthetic qualities of those objects and environments. In short, we simultaneously become aware of their ecological relevance and aesthetic value. Moreover, moral consciousness concerning ecological issues

¹ Throughout the paper, the 'requirements' of environmentalism correspond to Carlson's specific approach to environmentalism (2010) explained and discussed further in section four. According to those requirements, an aesthetics of nature should be 'acentric', 'environment-focused', 'serious', 'objective' and 'morally engaged'. Certainly, this is not an uncontroversial list of conditions and some environmentalists could challenge some of the points included (for instance, the requirement of an acentric position would be rejected by anthropocentric views). Nonetheless, I take for granted this list of requirements given that I only intend to show the inconsistencies between Carlson's approach of the aesthetic appreciation of contemporary agricultural landscapes and his conception of environmentalism, as well as the cognitivist view he applies to natural objects and environments. There is no room here for a detailed discussion about the philosophical consistency of all the requirements.

has progressively been favoured by this fertile relationship between ecological knowledge and aesthetic appreciation (Rolston, 2002). Scientific knowledge has revealed a new world to our eyes, and educated our senses in such a way that now we are more prepared to recognize the aesthetic and moral value of previously neglected objects and environments (Matthews, 2002: 39).

Nevertheless, Carlson sets out a different view about the aesthetic appreciation of contemporary agricultural landscapes. In this case, he overlooks scientific cognitivism and gives more importance to their ‘new formal properties’ and their ‘functional fitness’ to human ends. It will be argued here that this lack of relevance of scientific cognitivism in the aesthetic appreciation of contemporary agricultural landscapes undermines the relationship between Carlson’s model and his conception of environmentalism. Hence, Carlson’s natural environmental model is summarized in section two. His position concerning the aesthetic appreciation of contemporary agricultural landscapes is briefly reviewed and criticized in section three. Then, the relationship between both approaches and environmentalism is analyzed in section four. Finally, the inconsistencies between Carlson’s scientific cognitivism, his aesthetic model for contemporary agricultural landscapes and his requirements of environmentalism, are shown. In this final section, it will also be suggested that scientific cognitivism should be applied to the appreciation of contemporary agricultural landscapes in order to reinforce the link between Carlson’s aesthetics and his environmentalism. In order to show this, two different examples are offered. First, Montagu’s Harrier nest protection is presented as an example of human intervention guided by cognitivist (and preservationist) principles that may be considered as an effort to safeguard natural beauty in strongly humanized environments such as cereal lands. Second, poplar plantations are contemplated as contemporary agricultural landscapes where natural aesthetic qualities persist (though modified by human beings) and should be protected according to cognitivist principles and

not only because of their formal properties and their functional fitness to human ends. In poplar plantations it can be appreciated how human intervention modifies natural environments creating new formal properties but, at the same time, we see how fitness to human ends conflicts with the preservation of natural aesthetic qualities. They are examples of environments in which Carlson's approach of the aesthetic value of contemporary agricultural landscapes shows its contradictions in relation to the cognitivist principles he embraces for the aesthetic appreciation of natural landscapes. In sum, the case of the aesthetic appreciation of poplar plantations suggests that cognitivism should not be limited to the appreciation of non-humanized landscapes.

2. Allen Carlson's natural environmental model

Carlson's natural environmental model is mainly based on three interrelated argumentations: positive aesthetics, scientific cognitivism, and the 'art analogy'. Positive aesthetics asserts that the aesthetic value of natural objects and environments depends upon being untouched by human intervention. In other words, not only does nature have inherent aesthetic value, but this kind of value disappears when humans modify nature, even when they try to improve it. According to this view, wilderness has some positive properties like integrity, beauty or the power to generate awe. Moreover, this view holds that natural objects, environments, and phenomena have intrinsically valuable qualities (Carlson, 2000: 72-74). Positive aesthetics is often linked to ethical judgments about the inherent goodness of natural objects and processes. In other words, it may be said that wilderness has aesthetic value because of the kind of thing it is; that is, it has value for its own sake and human action tends

to undermine that value. According to this, the loss of aesthetic value is usually connected to moral wrongness.

As noted, Carlson's model is also grounded on scientific cognitivism, which considers scientific knowledge as the basis for the correct aesthetic appreciation of nature (Carlson, 2000: 85 and ss.). According to it, the development of scientific disciplines such as geography, biology, geology and ecology helped to reformulate the notion of the sublime and other traditional views about the aesthetic value of nature like the idea of the picturesque. Many other thinkers have emphasized the relevance of scientific knowledge provided by ecology for the aesthetics of nature (Elliot, 1982; Rolston, 1995; Saito, 1998a and 1998b; Eaton, 2007; Parsons, 2008). Science gives us more chances to know the natural world and therefore to discover new objects and environments which deserve aesthetic appreciation. As Rolston (1975: 101) put it, 'we see beauty now where we could not see it before' because we are steadily rewriting our knowledge of the world in light of ecological concepts, such as unity, harmony, interdependence, or stability.

Finally, the 'art analogy' rests on the relationship between the aesthetic appreciation of nature and the aesthetic appreciation of art. Carlson contends that the appropriate aesthetic appreciation of natural objects and environments demands the support of a sufficient knowledge of their properties and circumstances, just as the correct appreciation of art requires a deep knowledge of the categories of art criticism and art history (Carlson, 2000: 102-125; 2009: 11-12). This analogy reinforces the relevance of scientific knowledge in the natural environmental model and, accordingly, supports objective appreciation. In other words, the correct (objective) categories to aesthetically appreciate the natural world can only be provided by natural sciences (Carlson, 2000: 88; Matthews, 2002: 39). According to this, there is a correlation between the categories which allow us to understand the world and those which enhance our ability to aesthetically appreciate it. Natural qualities such as 'order',

‘regularity’, ‘harmony’, ‘balance’, ‘tension’, or ‘resolution’ are objective qualities we also appreciate in artworks. Therefore, not only do art and science have common goals, but scientific activity may also be described as a sort of ‘aesthetic endeavor’ (Carlson 2000: 93). In a sense, scientific activity is a discovery process through which some perceptual categories are enlarged to aesthetically appreciate nature. This process takes place only if science has previously unfolded certain qualities of natural objects and environments. Additionally, the natural environmental model ‘recommends [...] that, as in our appreciation of works of art, we must appreciate nature as what it in fact is, that is, as natural and as an environment’ (Carlson, 2000: 6).

In sum, according to Carlson, there is a strong link between the development of natural science and the aesthetic appreciation of nature. Science has encouraged us to perceive and value the aesthetic qualities of previously overlooked objects and environments, such as mountains, rainforests, or marshes. For example, the aesthetic qualities of living beings like reptiles or insects have been increasingly revealed as biology has provided more knowledge about them. Therefore, ecology is a necessary step in the development of the positive aesthetics approach, because it provides a transdisciplinary and objective knowledge of the natural world similar to that provided by history of art and art criticism in the realm of art appreciation. Only that objective knowledge allows us to appreciate nature ‘on its own terms’ (Saito, 1998a; Carlson, 2009: 12).

3. The aesthetic appreciation of agricultural landscapes

Carlson has suggested three different criteria to appreciate the aesthetic qualities of contemporary agricultural landscapes: First, certain formal elements such as colour or lines;

second, the concept of ‘functional fitness’; and last, a modified version of the art analogy. As noted later, these three criteria are not related to scientific cognitivism.

After describing the deep changes that have altered rural environments throughout the world, particularly concerning agricultural intensification, Carlson recognizes that contemporary agricultural landscapes are ‘dreary’ and ‘monotonous’; they also negatively affect ‘the vitality, stability and integrity of our environment’; and he finally claims that it is understandable that rural landscapes of the recent past seem more valuable to us than the present ones (Carlson, 2000: 182-183). These remarks are consistent with an ecologically-based aesthetic appreciation, because traditional rural landscapes have usually had a lower ecological impact than the more recent ones, and contributed to a greater extent to biodiversity conservation (Brady, 2006). Nevertheless, Carlson does not explain why scientific cognitivism is replaced by the three mentioned criteria.

Formal elements and the concept of functional fitness are interrelated. After giving us an overview of the formal aspects of contemporary agricultural landscapes, machinery, and management systems, Carlson holds that we should transcend their expressive qualities in order to appreciate them as ‘functional landscapes’. As he puts it, ‘functional landscapes are those created or molded by humans in order to achieve human goals. Such landscapes are typically deliberately designed to perform the functions necessary for fulfilling relatively important goals’ (Carlson, 2000: 186-7). Thus, to be aesthetically appreciated in the right way, modern agricultural landscapes should be contemplated as ‘designed and necessary landscapes’ (Carlson, 2000: 187). We should value their efficiency to reach certain goals and the human ingenuity applied to them. In sum, the aesthetic value of an agricultural landscape ‘depends in part upon how and in particular how *well* it is designed’ (Carlson, 2000: 187). The relevant point here is that, inasmuch as the aesthetic value of any functional object is judged in terms of its success to perform the function for it was designed, we should not

forget that '[i]n agriculture, years of trial and error together with the pressures for production have resulted in landscapes that can be appreciated as paradigms of good design – crisp, clean, and uncluttered in appearance and expressive of ingenuity, efficiency, and economy' (Carlson, 2000: 187). This may also be said with regard to machines and buildings. Formal aspects and functional design depend each other: 'Such machines and buildings not only express the virtues of good design, but possess a style, grace, and elegance seldom exceeded anywhere else' (Carlson, 2000: 187). But there is another relevant factor in the appreciation of contemporary agricultural landscapes: they should also be aesthetically appreciated because they are 'extremely necessary'. Following an argument advanced by Yi-Fu-Tuan, who stresses the idea of 'seriousness' in the aesthetic appreciation of the environment, Carlson emphasizes that new agricultural landscapes 'cater to the biological processes of life' and 'are necessary for our survival' (2000: 188). According to Carlson, modern agricultural landscapes are designed to satisfy the biological needs of human beings and do it rightly. Therefore, this is a clear sign of seriousness. The final conclusion for Carlson is evident: even though 'some details' may justify those doubts, the 'main trends' of the new agricultural landscape, 'its massiveness, mechanization, and monoculture, are probably necessary, and perhaps inevitable, in our modern world' (2000: 189). The controversial point here is that Carlson does not question the social formation of 'human needs'. It implies that the functional fitness standard is not subject to scientific (ecological) consideration to assess the environmental impact of contemporary agriculture. In short, the functional fitness principle takes for granted a strong productivity-based notion of efficiency and ignores essential sustainability tenets such as the limits to growth. If Carlson applied scientific cognitivism to the analysis of contemporary agricultural landscapes, the result would be completely different.

Nonetheless, it is essential to note that the concept of functional fitness should not necessarily be at odds with scientific cognitivism and ecological sustainability. For instance, Carlson himself has applied the idea of functional beauty to living organisms:

[M]any of the parts and traits of living creatures can be said to have functions in the sense that those forms have been naturally selected in virtue of performing certain tasks. When living creatures are functionally beautiful, certain of their aesthetic qualities emerge out of, or depend upon, these functions. This is most apparent in the case of the aesthetic quality that we refer to as ‘looking fit’ (Parsons and Carlson, 2008: 120).

Similarly, Carlson has defended the relevance of functional beauty for the aesthetic appreciation of natural environments and inorganic nature:

Inorganic things, such as rocks, rivers, and mountains, along with living things, do belong to larger ecosystems. Further, ecologists commonly recognize, and study, the important roles that they play within these systems [...]. In *this* sense, we can, and do, describe non-living nature as functional (Parsons and Carlson, 2008: 125-126).

Here, being functional means that something plays a decisive role in a specific ecosystem. When we know the functions of the different elements of an ecosystem, these acquire a different aesthetic appearance (Parsons and Carlson, 2008: 127). Further, that knowledge allows appreciating the aesthetic qualities of non-scenic nature. In this sense, functional beauty is understood from an ecological point of view and considered as a crucial element of an appropriate aesthetic appreciation of living organisms and nature. But, in the

case of contemporary agricultural landscapes, functional fitness is only delimited according to the achievement of *human ends*, rather than natural selection or ecological sustainability.

The third criterion to appreciate contemporary agricultural landscapes is a different version of the previously mentioned analogy between the appreciation of art and the aesthetic appreciation of nature. According to Carlson, just as futurist and cubist works of art were misunderstood and disregarded when they were created, because they were judged according to old-fashioned aesthetic standards, the aesthetic value of contemporary agricultural landscapes is not yet appreciated enough. Thus, a new mentality needs to be developed so that they can be appreciated on their own qualities without being compared with the traditional ones. In other words, we should be more familiar with agricultural landscapes in order to appreciate them in the right way. We need to assimilate the new criteria to grasp their formal qualities and their functional fitness. As it can be seen, the art analogy here is invoked in a completely different way as it was in the aesthetic appreciation of nature, since natural history and scientific knowledge do not play the role of history of art and art criticism in the realm of art. As Carlson maintains, ‘in order for the works of a new movement in art to be appreciated on their own terms, however, not only must the movement mature, but so too must the eyes and minds of those who view its products’ (Carlson, 2000: 184). In sum, in this case the art analogy is not supporting scientific cognitivism but favouring a view according to which our aesthetic appreciation of agricultural landscapes depends more heavily upon cultural or historical (subjective) factors.² Just as the formal criteria to appreciate works of art change over time, standards to appreciate agricultural landscapes do, and the same can be said about the fitness of landscape designs to human ends. But, as we will see further, it does not seem

² It may also be argued that the art analogy does not work here because contemporary agricultural landscapes eliminate traditional ones, while new art currents do not destroy previous artworks and we can continue admiring them. It is obvious that the expansion of mechanized agriculture triggers *irreversible* environmental impacts. Moreover, cubist or futurist art was deliberately conceived as a challenge to ‘conventional’ art and this is one of the reasons why they are valued. On the contrary, formal properties of contemporary agricultural landscapes are not deliberately pursued. They are only an unintended and harmful result of technical efficiency.

that the objective principles of scientific cognitivism can be compatible with these three arguments. This would be possible only if contemporary agricultural landscapes did not have any natural properties demanding protection, but obviously that is not the case. The problem here is that, according to Brady, ‘it may be possible to find the new agricultural landscapes aesthetically appealing, but he [Carlson] underestimates the moral pressure placed on aesthetic appreciation, where that pressure may make it difficult to approve of a type of activity that we know to be harmful’ (2006: 8). Brady contends that the development of the ‘new mentality’ that we need to appreciate contemporary agricultural landscapes has its limits in the moral principles involved in the idea of sustainability. Thus, only some agricultural methods, such as organic farming, or some traditional practices, such as hedge-laying or stonewalling, may establish the ‘direct connection to the land’ and the ‘nurturing and participatory relationship’ that sustainability requires (Brady, 2006: 9).

4. Carlson’s scientific cognitivism and environmental ethics

Carlson has traced back the intertwined development of nature aesthetics and environmentalism (Carlson and Lintott, 2007: 1-21) and linked the natural environmental model to sustainability, environmental ethics and environmentalism (Carlson, 2001a, 2007 and 2010; Carlson and Lintott, 2014). Other authors have pointed out the relevance of Carlson’s scientific cognitivism for the growth and development of environmental awareness (Matthews, 2002; Hettinger, 2005). Carlson provides three different arguments to support this relationship. First, he claims that sustainable landscapes are aesthetically preferred to non-sustainable landscapes once we know how to distinguish them (Carlson, 2001a). Second, Carlson argues that Rolston’s work is a good example of how aesthetic values provide strong

grounds to the main principles of environmental ethics (2007). And last, he explicitly contends that scientific cognitivism is the aesthetic approach to nature that best meets the requirements of environmentalism (2010). In what follows, these three arguments will be briefly summarized. As I said, they reinforce the conviction that scientific cognitivism inherently endorses the principles of environmental ethics and the requirements of environmentalism. But in the next section, it will be argued that Carlson's view of contemporary agricultural landscapes contradicts those principles. More precisely, it will be claimed that the natural environmental model fails as a basis for the sort of environmental ethics Carlson supports inasmuch as it is only relevant for the aesthetic appreciation and protection of a particular kind of natural objects and landscapes (untouched nature, national parks) and neglects contemporary agricultural landscapes and other humanized environments. In a similar way, Thompson has pointed out that positive aesthetics does not provide objective reasons to aesthetically prefer pristine nature over humanized environments and therefore the qualities of the last ones are less valued or even ignored (Thompson, 2007).

As noted, the first argument holds that sustainable landscapes are aesthetically preferred to non-sustainable ones. The aesthetic preference for a landscape, Carlson contends, is usually determined by the sense of sight, though our knowledge about its ecological features is also relevant. Thus, four possible cases can be distinguished when two hypothetical different landscapes are compared:

[I]f we consider the possibility of two landscapes, one sustainable and one not, as well as our knowledge of (or our beliefs about) the sustainability of these two landscapes, together with the previously introduced distinction between such landscapes either having the same look or having different looks, the upshot is four different possibilities: (1) the two landscapes look the same and we do not know which is which, (2) they look

different and we do not know which is which, (3) they look the same and we know which is which, and (4) they look different and we know which is which (2001a: 33).

Carlson dismisses *Case 1* because it cannot be decided whether being sustainable affects our aesthetic appreciation of both landscapes. *Case 2* is relevant neither, but Carlson suggests that it could be significant in a different sense, ‘for it directs attention to another important research question: That of whether or not sustainable landscapes have, *in virtue of their being sustainable*, a particular kind of appearance’ (Carlson, 2001a: 34-35). Concerning *Case 3*, Carlson contends that if one of the landscapes is preferred, it is not because of its aesthetic qualities, but because of different reasons (moral, economic, etc.) (2001a: 34). However, he reconsiders *Case 3* in light of scientific cognitivism. This broader conception makes possible to go beyond the sense of sight as the main criterion to assign aesthetic value and contemplates environmental values as crucial factors for the aesthetic appreciation of nature. Therefore, we would prefer a sustainable landscape even though it looks similar to a non-sustainable one. In other words, once we know that one of those similar landscapes is sustainable, its aesthetic value *changes* significantly for us. In Carlson’s words, ‘given that we know (or have the relevant beliefs) about the differences between two different landscapes, such landscapes may express different things to us *even if they look exactly alike*’ (2001a: 37).

This conclusion about *Case 3* is a consequence of the analysis of *Case 4* (that in which there are two different landscapes and we know which is which). Here, Carlson argues that ‘it may plausibly be thought that people do indeed *aesthetically* prefer *sustainable* landscapes. That is to say that in this case people might well be said to have preferences that are actually aesthetic in nature and are actually for landscapes in virtue of the fact that they are sustainable’ (2001a: 35). Carlson uses several examples to show how aesthetic values and qualities are determined by environmental values. The main conclusion is that ‘concerning

two landscapes that look different and of which we know (or believe) that one is and the other is not sustainable, we can plausibly be said, in light of our knowledge (or our beliefs), to aesthetically prefer (the look of) the one that is sustainable' (Carlson, 2001a: 35-36). The point here is that ecological knowledge is essential to appreciate aesthetic value and to prefer sustainable landscapes rather than unsustainable ones. In Carlson's words, 'aesthetic preferences are a function of what is expressed in the light of both our seeing and our knowing' (Carlson, 2001a: 36). This is a good instance of the 'less narrow understanding of aesthetic preferences in which they are taken to be preferences not simply for the look of things, but also for what such things *express* to us in light of our knowledge (or our beliefs) about why they look as they do' (Carlson, 2001a: 36).

If we analyze the aesthetic appreciation of contemporary agricultural landscapes in light of these arguments, many significant conclusions can be drawn. As we know, they are characterized by the employment of machinery, chemical fertilizers, herbicides, pesticides, genetic engineering, etc. These features involve a different formal appearance of contemporary agricultural landscapes when compared to traditional ones, where we can see boundaries, hedges, paths, small plots, a variety of crops, plenty of animals, and weeds. All these features of traditional agricultural landscapes provide aesthetic and moral reasons to protect them (Brady, 2006: 7). Therefore, most of the times we are able to discern traditional (sustainable) landscapes from contemporary ones at first sight, and, consequently, *Cases 1, 2 and 3* are not relevant for our analysis.³ Therefore, *Case 4* is the most relevant because traditional and contemporary agricultural landscapes usually look different and *we know* that the first ones are more sustainable. It is very important to point out that, according to Carlson,

³ An exception would be those few cases in which sustainable agriculture may not show different formal qualities *at first sight*. But even in such cases, Carlson's view about the role of sustainability in aesthetic appreciation of nature would support the preference for sustainable agricultural landscapes. It is noteworthy to remind that, when *Case 3* is reconsidered under the light of *Case 4* analysis, Carlson affirms that 'we can plausibly be said to aesthetically prefer landscapes that express their sustainability even if they look no different from landscapes that do not' (Carlson, 2001a: 38).

we appreciate sustainable landscapes more than unsustainable ones *once* we know which is which (*Cases 3 and 4*). Therefore, according to Carlson's argument about the influence of sustainability on our aesthetic appreciation, traditional agricultural landscapes should possess more valuable aesthetic qualities than contemporary agricultural landscapes.

But this statement again disagrees with Carlson's view on contemporary agricultural landscapes. According to Carlson, 'there is a natural alignment of our aesthetic preferences with what may be called our ethical preferences [because] those landscapes we aesthetically prefer will typically be ones that express things we ethically prefer', and 'non-sustainable landscapes [...] frequently [...] express vices such as waste, greed, exploitation –things that we rightly ethically despise' (2001a: 38). These vices, as ecological analysis shows, are the vices of contemporary agriculture: it wastes energy and water; it is mainly based on the search for profit; it exploits natural and human substance; and it destroys biodiversity. Therefore, the 'linkage between environmental aesthetics and environmental ethics' (2001a: 38-39) Carlson attempts to create does not work if we accept his conception of the aesthetic appreciation of contemporary agricultural landscapes because, as it can be seen, these conclusions directly challenge the functional fitness principle. If, as Carlson defends, 'genuine aesthetic preferences can be a function not only of the look of things but also of what they express in light of what we know (or believe) about them' (2001a: 36), the unsustainability of contemporary agricultural landscapes should be a sufficient argument to reject the functional fitness criterion and to question the aesthetic value of their formal qualities and design.⁴

The second argument reinforcing the connection between Carlson's aesthetics of nature and environmentalism is his reading of Holmes Rolston's theory of environmental ethics. Carlson has praised the combination of 'science, ethics, and a touch of religion'

⁴ In this sense, it is surprising that Carlson rejects what he defines as 'New Forestry' because it is a sort of apparently 'sustainable' procedure that, in the short term, has 'aesthetically bad results' (2001a: 39). The same may be said about most contemporary agricultural techniques and methods, but in such a case, as we saw in section 3, Carlson praises their 'functional fitness' to human needs.

(2007:104) that characterizes the naturalist tradition of Muir, Leopold and some of Rolston's earlier writings.⁵ Carlson holds that, according to Rolston, ecological descriptions of nature constitute an important source of moral value, because 'science gives one "redescription" of nature that has as inseparable components both facts and values' (2007:106). In other words, aesthetic and moral values such as 'order, humanity, stability, and unity' (Carlson, 2007: 106) are 'objective' values revealed to us through the scientific knowledge of nature. For Carlson, Rolston's ethical theory is also linked to positive aesthetics for it considers that every form of life has value in itself and that untouched nature has intrinsic aesthetic value. Sometimes, Carlson argues, aesthetic values are even more significant than ethical values in Rolston's work. Thus, Rolston maintains that scientific knowledge 'unfolds' the 'deeper beauty' of nature (Rolston, 1995: 383), and even those objects and landscapes apparently lacking aesthetic value have positive aesthetic qualities when contemplated in light of environmental science (Carlson, 2007: 111; Rolston, 2000) because it puts them in a more general context (Rolston, 1988: 239, 241). Carlson's analysis of Rolston's theory underpins this objectivism. According to it, aesthetic values are not 'projected' by the observer to natural objects and environments. For Carlson, Rolston's work tries to build an environmental ethics based on a theory of objective value in which the inherent value of ecosystems plays the central role. Therefore Carlson's model shares with Rolston's theory the strong link between the objective aesthetic qualities of nature and the moral requirement to protect it.

It seems clear that this reading of Rolston's theory is relevant for the aesthetic appreciation of nature and for environmental ethics. But, is it also crucial for the aesthetic appreciation of agricultural landscapes and their sustainability? Unfortunately, Carlson's aesthetic cognitivism does not work here either. We may suppose that, if aesthetic values of natural objects and landscapes are objective, those natural objects and properties still

⁵ For a reading of Leopold's work in a very similar sense, see Carlson and Lintott, 2014.

remaining in agricultural landscapes should also have objective aesthetic value and, accordingly, deserve some kind of moral consideration. Therefore, according to Carlson's and Rolston's scientific cognitivism, traditional agricultural landscapes would have greater aesthetic (and moral) value than contemporary ones. But according to the functional fitness criterion, it seems that those objective aesthetic and moral values are ignored. As noted, Carlson makes a controversial distinction between the set of principles for appreciating natural environments and the criteria for valuing the aesthetic qualities of agricultural environments. But the endorsement of these different sets of principles is not justified because it presupposes that agricultural landscapes, once they have been modified by human beings, lack any kind of natural qualities, and involves that it is no longer possible to appreciate human modified landscapes as more or less natural environments. In sum, if aesthetic and moral concern for ecosystems as a whole is a consequence of widening our scientific knowledge, it seems clear that we should extend our aesthetic and moral concern to all those objects and landscapes affected by specific ecological threats. The point here is that that concern should always be grounded on ecological premises rather than on formal or efficiency-based premises. Just as it is the case concerning swamps or any other unscenic (but ecologically worthy) landscape, aesthetic values of contemporary agricultural landscapes should be linked to their environmental values, that is, to the *natural* objects and properties that they still keep. Therefore, there is again a contradiction between Carlson's defense of scientific cognitivism for the aesthetic appreciation of nature and the justification of the functional fitness criterion for the aesthetic appreciation of contemporary agricultural landscapes, inasmuch as the last one involves the ignorance of very serious environmental damage for natural beings still living there.

The last argument for upholding the connection between aesthetics of nature and environmental ethics is a vindication of the natural environmental model as the aesthetic

approach which best satisfies Carlson's five requirements of environmentalism (Carlson, 2010). The traditional aesthetics of nature (i.e., the picturesque landscape tradition and the formalist theory of art) has favoured 'scenic landscapes' and, as a consequence, 'those environments devoid of effective pictorial composition, excitement or amusement (that is, those not worthy of being represented in a picture) are considered lacking in aesthetic values' (Saito, 1998b: 101). Although this traditional aesthetics of nature has been influential on North American environmentalism, Carlson argues that it cannot be the basis for an environmentalist agenda. On the contrary, an aesthetics of nature must be: 1) 'acentric rather than simply anthropocentric', that is, the 'appreciator must strive for an experience that is not from any particular point of view, human or otherwise'; 2) 'environment-focused rather than scenery-obsessed', what involves that 'aesthetic appreciation must be broadened to include any and all kinds of environments' and to recognize 'that appreciation of nature typically requires embodied participation'; 3) 'serious rather than superficial and trivial', what entails that 'attention must [...] be directed toward what nature really is and the qualities that it actually has'; 4) 'objective rather than subjective', because objective aesthetic values are essential for preservation and protection of nature; and finally, 5) 'morally engaged rather than morally vacuous', what implies that the aesthetic appreciation of nature cannot be isolated from the objective moral values provided by the cognitivist approach (Carlson, 2010: 297-301).

Again, we should pay attention to the implications of this analysis for Carlson's point of view about the aesthetic appreciation of contemporary agricultural landscapes. The natural environmental model is, according to Carlson, the model that best meets these five requirements of environmentalism. But it is dubious concerning contemporary agricultural landscapes. First, functional fitness seems to be an anthropocentric principle inasmuch as it establishes that 'functional landscapes are those created or molded by humans in order to

achieve human goals' (Carlson, 2000: 186-7). Second, Carlson's view about the aesthetic value of contemporary agricultural landscapes is not 'environment-focused' because they are not contemplated as ecologically endangered environments. Third, the idea of seriousness is completely different here, for it is related to the achievement of efficiency rather than to the maintenance of biodiversity or sustainability. Fourth, an actually objective appreciation of contemporary agricultural landscapes would reveal their ecological problems. And fifth, even Carlson recognizes that the most difficult task for the natural environmental model is the requirement of moral engagement (2010: 305). If this requirement is not easy concerning natural objects and landscapes, it is even more complicated regarding contemporary agricultural landscapes, because the functional fitness criterion involves a moral dilemma between the achievement of human goals and the requirements of environmentalism.

5. Do poplar plantations have aesthetic value despite their environmental impact?

As noted in the previous section, the natural environmental model can inspire ecological awareness and encourage environmental behaviour. But it does not seem to be the case with Carlson's view on the aesthetic appreciation of contemporary agricultural landscapes. It has been suggested here that the perception of their formal properties should not hamper the appreciation of their natural values. Moreover, if we actually prefer sustainable landscapes, as Carlson claims, aesthetic qualities of contemporary agricultural landscapes should not be assessed according to the functional fitness principle. These conclusions are deduced from the application of scientific cognitivism to the appreciation of all kinds of environments. In what follows, I will show that, for the purpose of connecting Carlson's work with environmentalism, formal properties of contemporary agricultural landscapes must be

considered in light of their environmental impact (and, as a consequence, some of them will be aesthetically appreciated and others not), while the functional fitness principle should be rejected because of its inherent ambiguity. Carlson has considered contemporary agricultural landscapes as if the preservation of their remaining natural objects and properties were not as relevant as the human goals of efficiency and economic profitability. The consequence is that their new formal properties and their likely functional fitness may conceal the environmental damage caused by contemporary farming on their remaining natural values.

The first point can be easily grasped by means of two examples. Some birds, such as Montagu's harriers, make their nests on arable land and harvesters kill a great number of chicks or leave them unprotected before predators, because most of them are not fully-fledged when cereal harvesting begins. According to Carlson's view, mechanical grain harvest would offer new formal properties which can be aesthetically appreciated (straw lines and packs, for instance). But at the same time, it puts harriers at risk of extinction. The point here is that only scientific cognitivism will allow us *knowing* the existence of that species and how it is affected by mechanical agriculture, as well as to appreciate its aesthetic value. Therefore, there will be a conflict between two different kinds of aesthetic value as well as between the two different approaches Carlson defends for natural and agricultural landscapes respectively. In other words, if we familiarize ourselves with the new formal properties of contemporary agricultural landscapes, there could be a contradiction between Carlson's approach and the requirements of environmentalism as they have been endorsed by Carlson himself. The only way to prevent it is to appreciate agricultural landscapes according to scientific cognitivism, as it is the case in natural environments. In short, we have to give more relative importance to the natural aesthetic qualities they still possess than to the formal properties introduced by humans.⁶

⁶ In this case, many campaigns (mostly promoted by volunteers) are successfully developed to protect Montagu's harrier nests in Spain and other European countries. These campaigns show clearly that some kind of 'applied

The second example is that of poplar plantations. They are also agricultural landscapes where some aesthetic qualities can be appreciated. During the summer, sunlight passes through the leaves of the lined-up trees reminding us a cathedral inside. In winter, we can feel awe when their branches rustle in the wind. The golden oriole sings its enigmatic song in spring while we wait for its glittering flight. It seems evident that these aesthetic qualities stem from *both* new formal properties (i.e., the ‘cathedral effect’) and natural properties (those of trees, the golden oriole and other birds living there). We know that lined up trees are not entirely ‘natural’ because their disposition is the result of human design, but the remaining natural qualities should not be ignored or underestimated. Moreover, natural objects’ adaptation to the new conditions also entails valuable aesthetic experiences. Nonetheless, thanks to scientific cognitivism we know that poplar plantations are not sustainable landscapes: the trees have been selected in order to get faster growing species; soil degradation, the use of fertilizers and pesticides, or the loss of biodiversity caused by the disappearance of native plants and animals are only some of the environmental harms associated with them; and when trees are cut down, the new formal qualities (and the natural values too) suddenly vanish. In this case, the survival of birds depends upon how the plantation is handled (for instance, cutting down must be banned in spring). Again, we see that natural values of poplar plantations should prevail over formal properties unintentionally created by humans if the requirements of environmentalism must be satisfied.

Poplar plantations are also a useful example to see how the functional fitness principle, as it is defined in Carlson’s conception of contemporary agricultural landscapes, is not compatible with scientific cognitivism. They are managed according to the logic that governs contemporary agriculture, that is, the efficient production of goods for human consumption which considers trees only as raw material that should be arranged in lines in order to delve

scientific cognitivism’ is required in order to preserve natural aesthetic values. Moreover, they imply a human effort based on strong moral and aesthetic values incompatible with the goal of economic efficiency and, consequently, with the functional fitness principle too.

the soil and remove weed more easily. That is the case in all the drastically modified agricultural landscapes according to the new technologies of monoculture, genetic engineering, fertilizers and chemical biocides. Therefore, productivity maximization based on ‘good design’ is irreconcilable with the criteria for the aesthetic appreciation of natural environments (characterized by their harmony, stability, and integrity), for intensive agricultural technology is one of the main causes of climate change, erosion, the spread of chemical agents, the destruction of biodiversity and, accordingly, a threat for sustainability. Carlson has recognized these problems (2000: 182-3), but he embraces a fatalist position and accepts the necessity of contemporary agriculture, without a reflection about the socioeconomic roots of environmental destruction caused by agribusiness. He neither contemplates the possibility of changes in consumer behaviour (for instance, a decrease in meat consumption and the subsequent reduction of intensive agriculture, or a decline in the use of automobile transport in order to cut bio-fuels production). In short, Carlson’s view about contemporary agriculture seems to be ‘shallow’ when compared to his ‘deep’ ecologically-based natural environmental model.

Nevertheless, Carlson has insisted on connecting the notion of ‘functional fit’ to ‘an ecological approach’. According to him, the appropriate aesthetic appreciation of human environments must stress ‘ecological ideas as a way of appreciating human environments [...] as integral human ecosystems comparable to the ecosystems that make up natural environments’ (2001b: 12-13). Carlson holds that ‘concerning the natural world, the concept of functional fit is meant to roughly capture the way in which natural environments are composed of many-layered, interlocking ecosystems’ and, eventually, it ‘has to do with the survival [of organisms]’ (2001b: 13). In this sense, the idea of functional fit is strongly related with sustainability. As stated by Carlson, it implies that the aesthetic appreciation of the ‘components’ of an ecosystem cannot ‘be fully appreciated in isolation, but rather each must

be perceived in terms of its fit with larger wholes' (2001b: 13). This could be contemplated as a way to prevent criticism such as that developed here, but the argument fails. When Carlson explores the aesthetic appreciation of human environments in light of the concept of functional fit, he only establishes a sort of argumentative structural analogy. In other words, he does not actually analyze the appreciation of human environments in terms of sustainability. Here, the ecological approach 'means perceiving our human environments as constituted of something analogous to interlocking ecosystems, with the notion of functional fit as the key to appreciating their creation, development and continued survival' (Carlson, 2001b:14). Again, Carlson refers to the idea of functional fit in a similar way as it was developed in his analysis of contemporary agricultural landscapes, and he adds examples related to 'those parts of cities that are dedicated to industry and commerce [...], places such as railyards and harbors [...], residential parts of cities, especially in older neighborhoods, ethnic districts, and local market areas' (Carlson, 2001b:14) without any reference to the requirements of sustainability. Therefore, the ambiguity is evident: 'When a functional fit is achieved in such places, there is an ambience of everything being and looking right or appropriate, an ambience of it *looking as it should*. It appears as if the whole were the result of "natural" processes akin to the ecological and evolutionary forces that shape natural environments' (Carlson, 2001b:14-15). As noted, 'natural' environments and 'human' environments are treated as if they could be clearly separated, and the idea of functional fit (or fitness) is differently conceived. Concerning natural environments, the concept of functional fit refers to ecology and sustainability. Regarding human environments, it has to do with the vague idea of 'looking as it should', a notion without any necessary link to sustainability, as it is the case with the idea of functional fitness to human ends in the appreciation of contemporary agricultural landscapes.

Carlson further maintains, against aestheticism, that the appreciation of human environments must be linked to morality. More precisely, he supports Hospers' argument about the difference between the 'thin sense' and the 'thick sense' of 'the aesthetic'. The first one refers to the physical properties of objects, while the second one is related to the qualities those objects 'express or convey to the viewer' (Carlson, 2001b:18; Hospers, 1946: 11-15). Those expressive qualities are summarized in the notion of 'life values'. The ecological approach, according to Carlson, allows us to appreciate the life values human environments express, and therefore moral values will be decisive to aesthetically appreciate them. Thus, 'in so far as the moral and the aesthetic appear to come into conflict, the former trumps the latter' (Carlson, 2001b:19). But let us briefly return to Carlson's account of Rolston's environmental philosophy. As noted, Carlson highlighted that moral and aesthetic values have the same source in Rolston's work and both have to be treated as *objective* values revealed by scientific knowledge (ecology). According to this argument, the life (moral) values provided by ecology should be decisive for the aesthetic appreciation of all kinds of environments, but Carlson does not clarify what the correct sense of 'life values' should be in the case of human environments. In other words, Carlson does not specify why the idea of functional fit concerning natural environments (the 'sustainable' and non-anthropocentric notion of functional fit) is not also relevant for human (and agricultural) environments, nor why he prefers to use the notion of functional fitness (unsustainable, anthropocentric, and linked to the achievement of human ends and economic efficiency), for appreciating them. The only similarity between both versions of the concept is that 'nothing in our human environments can be adequately appreciated in isolation' (Carlson, 2001b: 22). But this only means that there is a framework analogy, as it were.

However, Hettinger has maintained that 'Carlson's emphasis on the functionality of human environments' and 'Carlson's broad conception of aesthetic value that includes not

just the formal, sensuous qualities of aesthetic objects but also their expressive qualities and particularly the “life values” (including moral values) they embody’ are solid arguments against the sort of criticism developed here (Hettinger, 2005: 67). Hettinger recognizes that contemporary agriculture is unsustainable, but he does not believe that Carlson’s functional fitness criterion fails to support environmentalism because Carlson identifies survivability and sustainability as ‘ingredients of functionality’ (Hettinger, 2005: 71). However, I think Hettinger’s view also fails because Carlson never affirms that the idea of functional fitness to *human ends* (understood in terms of satisfaction of needs and survivability of humans) is related to sustainability of the ecosystems in the long run. In other words, there could be a sense of the concept of functional fit based on objective moral values (life values) derived from the requirements of sustainability, but Carlson does not use the concept in this sense when he analyzes contemporary agricultural landscapes. In short, Hettinger neither explains why the notion of functional fit has to be different for natural and human environments though ecological problems are equally affecting both.

In sum, the concept of functional fit in the aesthetic appreciation of human environments is also based on the successful achievement of human ends rather than on the requirements of ecological sustainability, as it is the case in the aesthetic appreciation of contemporary agricultural landscapes. Thus, the idea of functional fit, because of its ambiguity, seems to be a hindrance for an identification of Carlson’s theory with environmentalism. As noted before, in contemporary agricultural landscapes natural objects and processes are still decisive, not only for biodiversity, but also for human existence. This would imply that scientific cognitivism is more linked to traditional (sustainable) agriculture than to contemporary (unsustainable) agriculture. This is also a good reason to defend the point that the aesthetics of nature should not be separated from the aesthetics of human

environments. On the contrary, the link between aesthetics and ethics will disappear and Carlson's theory will lose a great deal of its force as a ground for environmentalism.

As a conclusion, let us imagine that a new technique of genetic engineering can provide poplar trees without branches nor leaves and completely straight trunks in the near future. Let us imagine too that they are able to grow faster and be more functional to the human goals of economic efficiency. In that sense, they would 'look as they should' and according to Carlson we ought to familiarize ourselves with the new formal properties of these imaginary poplar plantations and grasp the relevance of their functional fit in order to appreciate them rightly. But perhaps we would feel a loss of aesthetic value and, more significantly, a loss of *moral value* because we would be no longer able to protect the previous (more traditional and sustainable) ecosystem. Undeniably, this deprivation of aesthetic and moral value would be the result of the 'de-naturalization' of poplar trees. The point is that if we became familiar with those new ghostly poplar plantations, we would surely lose something essential: Not only would we fail to maintain the aesthetic natural value that poplar plantations have now, but we would miss *our ability to appreciate nature*. In short, the landscape would not have natural aesthetic qualities anymore and we would also lose the ability to be 'moved by nature' (Carroll, 1993). Insofar as poplar trees would not be real trees any longer, we would experience a progressive lack of moral and aesthetic awareness. As Brian Barry put it, 'perhaps people in the future might learn to find satisfaction in totally artificial landscapes, walking on the astroturf amid the plastic trees while the electronic birds sing overhead. But we cannot but believe that something horrible would have happened to human beings if they did not miss real grass, trees, and birds' (Barry, 1999: 102). If poplar trees disappear in the future and are converted into 'wood stores', perhaps our aesthetic experiences will also fade away, together with our ability to unveil objective aesthetic values – though I hope not.

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