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POSTPHENOMENOLOGY: a Critical Companion to Ihde

RETHINKING THEORIES AND PRACTICES OF IMAGING

New Waves in Philosophy of Technology

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Technology, the Environment
and the Moral Considerability
of Artefacts

Benjamin Hale

Ever since environmental ethics kicked off as an accepted subdiscipline of applied ethics in the late 1960s, there have been two primary issues with which theorists have grappled. On one hand, there is the ontological issue of what nature is; and on the other hand, there is the ethical issue of what matters ethically. These issues have more or less been approached from two traditional but separate branches of philosophy: metaphysics and value theory.

In recent years, theorists have recast the direction of environmental ethics by taking a 'pragmatic turn', seeking to answer both questions at once. This pragmatic turn has had a number of variants: some have leaned on the American pragmatists (James, Dewey or Pierce), while others have leaned on theorists of the Frankfurt School (Marcuse and Adorno) (Bookchin, 1980, 1982; Feenberg, 1991; Light 1998; Marcuse, 1964; Vogel, 1996). Still others, myself included, have sought refuge in the insights of discourse theory (Apel and Habermas) (Dryzek, 2000; Eckerskey, 1990; Patzig, 1983), a seeming unfriendly compatriot to environmental ethics. The 'communication-centred' approach holds promise over other variant pragmatisms precisely because it overturns the dichotomies that have plagued environmental ethics from the beginning, while also providing a clear account of the normative commitments to which agents are 'always already' bound.

Of course, discourse ethics is saddled with its own set of problems, most of which pertain to its rootedness in language and consequent extreme anthropocentrism. It is my contention, however, that the way out of this environmental fly-bottle is to understand the human/world arrangement not in terms of the presuppositions of communication, but in terms of the presuppositions of interaction. The idea, in short, is to locate reasons in nature by pointing out that interactions, not just validity claims, give rise to reasons. This position – the 'interaction-centred approach' – therefore overcomes the original problems in environmental ethics by blurring the

distinction between nature and culture; and, more directly, between nature and technology. With this interactive turn, however, has come a seeming intractable new problem. It would appear that if one is to discard the nature-culture or the nature-artefact distinction, then one would either have to hold that both nature and technology are morally considerable, or that neither nature and technology are morally considerable.

Peter-Paul Verbeek asks in this volume about the morality of technological artefacts, and proposes to take a 'posthumanist' position. This position, he reasons, considers technological artefacts also to have a moral status. Verbeek's strategy is to focus on the technologically mediated character of human action, and thus to emphasize that our autonomy has always been dependent upon our technology. This, he believes, entitles technological artefacts to a kind of moral status, since they are always caught up in the question of 'what to do'.

Where Verbeek's approach has its attraction, in this chapter I argue quite differently. I argue that where it is the case that nature is morally considerable by virtue of its independence from human determination and justification, technological artefacts, precisely because they are the product of ends-oriented justification, do not demand of us the same kind of inquiry. While not directly critical of Verbeek's analysis, this chapter instead argues that technological artefacts are themselves shot through with justificatory reasons, such that their value can be understood as solely, or mostly, anthropogenic.

To accomplish this, I discuss in Section 10.1 the difference between traditional conceptions of moral status and a more contemporary characterization of moral considerability. I then briefly review an argument for moral considerability that finds its footing in the discourse ethics of Jürgen Habermas. In Section 10.3 I cover my argument for 'interaction-centring' and follow this discussion with an examination of the considerations that go into deliberations. This brings me to the heart of this essay, where I distinguish in Sections 10.5 and 10.6 between the considerability of nature and the considerability of technological artefacts. In Section 10.7 I present a second argument against the moral considerability of technological artefacts, which I follow with a discussion of possible objections.

10.1 A different kind of value: moral status, moral considerability and the EV1

The 2006 film *Who Killed the Electric Car?* is as much a tragedy as it is a cautionary tale (Paine, 2006). Its cautionary aspects are well understood, as they point the finger for the death of the electric car (the EV1) at a bevy of interested parties, accusing the automobile manufacturers, the oil industry, the government, the hype over the hydrogen fuel cell, the California Air Resources Board, and consumers themselves of orchestrating the untimely demise of the innovative transportation technology.

At the beginning of the film, we are introduced to several EV1 enthusiasts who have been leasing and driving the car from General Motors for years.¹ As the film unfolds, we learn that the fate of the car is in jeopardy and that these drivers are powerless to do anything to save their precious automobiles. Car after car is first apprehended by General Motors, retained at a storage facility in town, and then, eventually, sent to a graveyard in Arizona to be compacted and destroyed. Former drivers protest, shout, scream, cry and pound the pavement in an attempt to keep their prized vehicles from meeting this sad end. Given the strong emotions that the film inspires, one may be inclined to suggest that the film bears witness to the natural moral outrage that ensues when an otherwise lifeless, but nevertheless extremely valuable, technological entity is destroyed. As a viewer, one feels these sentiments of disapprobation and may even be drawn to the strong conclusion that technologies such as the EV1 have 'moral considerability'.

If one were to draw this conclusion, there would be at least two important observations to make about such a claim. First, it is testament to the peculiarity of academic philosophy that the word 'consider' could acceptably be coupled with the word 'ability' to produce the unwieldy neologism 'moral considerability'. Second, it is a relic of bygone moral theories that one could make the claim that some entity 'has' moral considerability, like one might have the hiccups.

So what could one possibly mean upon arriving at such a conclusion? What one probably means is that there is something exceptionally troubling – morally troubling even – about the destruction of the EV1. On some ways of thinking, this moral troublingness could originate from no place other than some feature or attribute specific to the EV1. So naturally, one may be inclined to think that there is a morally significant attribute of the EV1 – perhaps that it is fantastically fuel efficient, or that it inaugurates a wave of new thinking about automotive technology, and that this value is intrinsic to the car. Or perhaps one will even make more abstract claims, like that human lives in the posthuman environment are such composites of technology and nature that, in a certain respect, our technology functions as an extension of our selves. P. P. Verbeek makes this claim in his essay in this volume. Perhaps this is what someone might mean if they suggest that the EV1 has 'moral considerability'. But let us examine this claim more closely.

Moral status is one of the central themes in moral theory, and virtually every normative doctrine has an accompanying theory of moral status that specifies which entities have it, which do not, and why. Very often, these theories specify some special attribute that qualifies a given entity for moral status. In some cases the 'capacity to suffer' emerges as the primary qualifier for moral status; in others, it is 'ability to reason'. The manifold criteria are wide-ranging and span the literature.² In recent work, I have argued against standard conceptions of moral status, reasoning along lines sympathetic with those of Kenneth Goodpaster and later theorists of environmental ethics that the moral status question is better understood as several questions

wrapped in one (Hale, 2004, 2006; Goodpaster, 1978; Hayward, 1994). Let us first understand why I argue for this.

G. J. Warnock reveals the problem at the heart of these theories when he nobly takes on those who prefer strict requirements for inclusion in the moral circle. He argues that while it may be the case that *reasoning* is fundamental to being a moral agent, there is no reason to conclude from this that reasoning is fundamental to being a moral *patient*. He writes (1971, p. 148): 'Let us consider the question to whom principles of morality apply from, so to speak, the other end – from the standpoint not of the agent, but of the "patient". What, we may ask here, is the condition of moral *relevance*? What is the condition of having a claim to be *considered*, by rational agents to whom moral principles apply?' This comment is remarkable not because it offers an alternative to the strict anthropocentric requirements for moral status, but because it reveals a tendency to understand moral status as something to be *had* by the other, by the 'patient'.

Warnock goes on to reason that moral agency is an insufficient criterion for establishing the scope of moral theory. His position is that we can extend the circle of moral considerability as wide as we can possibly conceive of patients that have the capacity to suffer. This view is widely shared in the environmental ethics literature and can be found in theorists as wide-ranging as Albert Schweitzer (1936), Paul Taylor (1986), Gary Varner (1998) and even Peter Singer (1989). Actions upon others that are unfelt by those others, he reasons, are not actions that have any significance for the other, and thus have significance only for us.

As I have suggested, I think that this approach gets off on the wrong foot. I propose that the better way to understand the question of moral status is as captured by three central deontological questions: a question about moral considerability (What must we consider?), a question about moral relevance (What considerations are relevant?), and a question about moral significance (How relevant are these considerations?). So the first step in making clearer sense of the question of moral status involves dissecting it into its constituent deontological parts. I shall explain more in a moment.

10.2 A discursus on discourse

Before I get too far, allow me to examine briefly a more contemporary body of work where I think the question of moral status has potential to take on this new trajectory. In the discourse ethics advanced by Jürgen Habermas, moral status emerges via the communicative arrangement and does not appear as a metaphysical feature specific to a given entity. The details of discourse ethics have been charted countless times in countless other essays and I do not have the space to recapitulate them here (see e.g. Habermas, 1987a, b, 1991, 1995, 1998). What is important for our purposes is to see that discourse ethics is necessarily an *intersubjective* theory. It calls attention not

to the *attributes* of speaker or hearer, but rather to the delicate interplay between one or more participants to discourse. It locates normative value in the exchange of claims.

According to this view, as a speaker engages a hearer, the hearer is positioned in such a way that he, as a matter of course, assumes the speaker to be making claims that make sense. Concomitantly, the speaker is positioned in such a way that she, as a matter of course, assumes that her hearers can understand and make sense of her claim. As discourse is generally a symmetrical affair, either participant to discourse can, at any given time, assume the role of either speaker or hearer; and in a normal communicative interaction, a participant will assume both roles throughout the course of the discussion. All participants therefore bring to the table a mutually shared set of background assumptions that inform the claims that they raise in the context of discourse. In particular, they share the assumption that their claims can always be challenged or put to the test of other interlocutors. This is true about all claims, whether they be regarding truth, truthfulness or rightness.

On this view then, the rightness and wrongness of norms is cast not in terms of the good, but in terms of whether the norms in question have been justified. And in this case, the justificatory apparatus is communicative interaction. The Habermasian view is therefore cognitivist, since it proposes that we can understand our obligations to one another by assessing the formal commitments to which we are always already bound. It is fallibilist, because it acknowledges that any given decision should always remain open to the objections of a community of interlocutors who may be affected by that decision. It is critical, because it defines the right in terms of what is justified (or as what has gone through the correct justificatory process). And it is pragmatic, because it does not make a claim about the metaphysical nature of the good. In short, Habermas effectively detranscendentalizes Kantian moral theory to apply not to transcendental presuppositions of reason, but instead to the formal (or universal) presuppositions of discourse.

This reformulation results in two related principles: the Principle of Universalization (U) and the Principle of Discourse (D). Here is (U) as stated by Habermas (1991, p. 65):

(U) All affected can accept the consequences and the side effects its *general* observance can be anticipated to have for the satisfaction of *everyone's* interests (and these consequences are preferred to those of known alternative possibilities for regulation).

This differs only slightly from (D), which states that:

(D) Only those norms can claim to be valid that meet (or could meet) with the approval of all affected in their capacity as *participants in a practical discourse*. (Ibid., p. 66)

For obvious reasons, both (U) and (D) pertain strongly to the topic of moral considerability. While the differences between the two may appear minimal, (D) differs from (U) in its emphasis on participants to discourse, and according to Habermas, (U) differs from Rawls's recommendation that normative principles be universalizable because it requires from participants a real consideration of others.³ For one, 'the principle of universalization is intended to compel the *universal exchange of roles* that G. H. Mead called "ideal role taking" or "universal discourse"' (Habermas, 1991, p. 65). There is a good pragmatic reason for this universal role-taking. This Meadian role exchange functions both descriptively, by explaining the pragmatics of meaning production as it operates in the real world, and normatively, by acting as an ideal standard to which interlocutors might appeal. It functions to distinguish discourse theory from Rawlsian contract theory by providing for (U), the demand of interlocutors that they in fact *do* take the interests of others into account, not just that they *could* do so.⁴ In this way, (U) and (D) function as detranscendentalized variants of the categorical imperative and the Rawlsian difference principle. Thomas McCarthy (1978, p. 326) explains Habermas's reformulation of the categorical imperative, and by extension, Habermas's reformulation of Rawls's universalizability requirement, this way:

Rather than ascribing as valid to all others any maxim that I can will to be a universal law, I must submit my maxim to all others for the purposes of discursively testing its claim to universality. The emphasis shifts from what each can will without contradiction to be a general law, to what all can will in agreement to be a universal norm.⁵

Thus, both (U) and (D) are real tests that Habermas says *ought* to be applied in all instances where there is potential disagreement, and tests that he justifies by suggesting that these are principles that we 'always already' apply.

Though Habermas does not tend to the question of moral status directly, status appears to be dependent upon the capacity of an individual to engage in communicative interaction. Since non-humans – non-communicative or 'asymmetrical' others – cannot make meaningful claims in the context of communicative interaction, they are generally excluded from the 'circle of moral considerability'. But it is my contention that this elides an important problem, and elides many of our common intuitions about what is morally worthy. What I propose, instead, is a dramatic reworking of the question of moral status so that it can be understood in deontological terms. If we make such a move, we can 'expand the circle' of discourse ethics to include non-human, non-communicative entities with whom we are only asymmetrically related.

My strategy elsewhere has been to gain access to others with whom we are asymmetrically related – others, in other words, who do not maintain a

communicative capacity – by way, first, of a reinterpretation of the question of moral status, and second, of an attention to the details of all forms of interaction, both communicative and strategic. Where Habermas proposes that we take a ‘communication-centred’ approach to the question of normative obligation, I propose that we take an ‘interaction-centred’ approach to the question of moral considerability.

10.3 Moral considerability and interaction-centring

I do not have the space in this essay to offer the full argument that gives this position its strength, but the main points of the interaction-centred approach are the following:

1. Decisions to act involve either explicit or implicit endorsement of a particular claim about what is justified.
2. What is justified is what has passed tests of justification, which in this case involves standing up to the scrutiny of others in practical discourse via communicative interaction.
3. Communicative interaction between two subjects is guided by several key normative presuppositions, and these presuppositions can be assessed by examining the formal structure of communicative reason.
 - (a) This formal structure requires, by virtue of the necessary presuppositions of communicative reason, that speaker and hearer consider all articulated validity claims of all parties before endorsing or rejecting the claims.
4. Non-communicative interrelations between subject and non-subject can be examined in much the same way that communicative interactions between two subjects can be examined – by assessing the formal structure of practical reason.
 - (a) This formal structure requires, by virtue of the necessary presuppositions of practical reason, that rational agents consider all relevant claims, articulated and unarticulated, before choosing to act (and thus endorsing a claim).
5. Insofar as it is a formal pragmatic requirement of communicative reason that one assess, evaluate and weigh all articulated validity claims for relevance and significance, it is also a formal pragmatic requirement of practical reason that one consider carefully the implications of one's action before choosing to act.
6. Not doing so therefore constitutes a failure of practical reason, and amounts to a performative contradiction.

This is (loosely) the argument that I have advanced elsewhere (Hale, 2004, 2006). The grand import of this argument is that one has an obligation to respect the claims of others, as well as to seek out claims, perhaps where

they are not immediately evident, before undertaking to act. With regard to practical deliberation, this means that justified action occurs only when the principles that guide actions have gone through and passed the tests of extensive justificatory deliberation. More practically, this means that the reasons that guide all of our actions – whether they impact on individual agents (with so-called undisputed and inalienable rights), individual non-human animals (who stand on the periphery of traditional moral status boundaries), or abstract environmental entities (like species, ecosystems and aquifers, which are widely presumed only to maintain moral status on expansive ecocentric or holist views) – must be subjected to the scrutiny of justification. Put differently, we, as moral actors and agents, bear the burden of demonstration that our actions are justified. We bear the burden of seeking out conflicts with validity claims as well as of evaluating validity claims that are presented to us by affected parties. This burden is exceptionally strong if all of nature is morally considerable, as I believe; but it is also very weak, because it does not insist upon rigid protections. Constraints are to be hashed out only upon the determination of the relevance and significance of considerations.

Acknowledging this point involves adding at least one further stipulation to Habermas's two central principles (D) the Discourse Principle and (U) the Principle of Universalization. What I have argued is not that Habermas is wrong about what counts as a justified action, but only that moral status is better understood as a question for the agent. Moral decision-making must still subject itself to the aggressive and strong requirements of Habermas's (U) and (D), but it must now also answer to a considerability requirement:

(C): All participants to discourse are required to assess and evaluate the interests, needs, and integrity (as considerations) of all affected, whether those affected are participants to discourse or not.

The addition of (C), I believe, results in a critical emendation to (U), the altering of which places the justificatory burden of proof squarely on the shoulders of the decision maker:

(U'): All affected can accept the consequences and the side effects its *general* observance can be anticipated to have for the satisfaction of *all interests and needs*, insofar as they are discernible (and these consequences are preferred by actors to those of known alternative possibilities for regulation).

Of course, the strength of Habermas's discourse position is that real participants to real discourse under ideal conditions are called upon not just to ‘imagine’ what others might want or need, but instead to test their claims about what others might want or need by subjecting these claims to public scrutiny. Unfortunately, the world is not structured in such a way that all

morally relevant considerations are accessible to all parties to discourse. The world is replete with 'asymmetrical' others who are simply incapable of offering up challenges to validity claims. That they are asymmetrically related to humans cannot count as a criterion for exclusion from moral consideration without extraordinarily unpalatable consequences. This much was made clear during the multiculturalism and diversity debates of the mid-1990s.

10.4 Considerations and deliberations

Allow me to clarify. At any given decision juncture, an agent faces a plethora of options, any one of which could turn out any given way. Each option, therefore, has a near infinite set of prognoses which reflect how the world will respond to the given option once it is chosen.⁶ Options can also be understood, however, as maintaining a near infinite set of considerations, any of which will pertain both to the option and its prognoses.

Justified courses of action can be understood as considered options, where relevant and significant considerations are assessed and evaluated through some justificatory procedure, the nature of which is not important for this essay. In Habermas's work, the justificatory procedure is real-world communicative deliberation; in Rawls's work, it is the hypothetical process of achieving reflective equilibrium. Importantly, considerations can sometimes be understood in agent-neutral terms, where states of the world, the good that is sought, define the value arrangement. But they can also be understood in agent-relative terms, where outcomes of an action have value only for a given agent, where deontological constraints limit a given set of options, and where agent-specific obligations (like promises) require individual agents to lean in the direction of a given course of action. Some considerations will be completely irrelevant, and so will not pass the relevance test, where others may be relevant and bear very strongly on the decision. With regard to moral considerability, it is important for an agent to evaluate and weigh all considerations prior to deciding to act. This is true in discursive as well as in non-communicative deliberation.

So moral considerability understood on this way of thinking is really quite different from moral status traditionally conceived. First, as I have explained, moral considerability refers not to the objects themselves, but only to the considerations that arise by virtue of some entity's interactions with the world. A tree is morally considerable by virtue of its constituent considerations: that someone climbed it as a child, that it has fewer leaves this year, that it is near a farmhouse, that it produces acorns, that it grows of its own accord, and so on. These considerations are very much tied to an agent's reasoning about what to do. The same can be said of more and less traditional moral status-bearing entities: a young child is morally considerable by virtue of its fledgling consciousness, its relationship to its parents, its

future earning potential, its ability to feel pain, and so on. An individual adult cougar is morally considerable by virtue of its ability to feel pain, its uniqueness, its endangeredness, its beauty, its place in the feline pecking order, etc. A species is morally considerable by virtue of its uniqueness, its necessity to the ecosystem, the interests of each individual of which it is composed, its role in the evolutionary chain, etc.

Second, the normative force of all considerations emerges from the rational actor, and not from the entity itself. This is true, so to speak, before the filter for relevance is turned on. On this line of thinking, therefore, many *irrelevant* considerations are also morally considerable about a child – that his name is Jasper, that he has not yet begun walking, that he is nearly bald like his father, that he is presently holding his bottle, and so on. The swirl of moral considerations surrounding any entity may include a range of seemingly crazy and not so crazy facts: that it has a unique fur pattern, that it is right in front of me, that the light is gleaming in its eye, that it has nowhere to run, that it is baring its teeth, and on and on. In most circumstances, the myriad considerations will be irrelevant to any specific choice or course of action. It is instead up to agents to determine, collectively through discourse or individually through reflection, the relevance and significance of these considerations. More importantly, it is critical that the agent do so in a way that is charitable, honest, forthright and fair; as well as to subject his claims about right and wrong to the scrutiny of others. It is a presupposition of practical reason that one act according to reasons that could pass tests for validity.

Third, many people believe that moral status entitles entities to certain protections. If we say that a person has moral status, then we mean that we are constrained from doing certain things to that person. If we say that an animal has moral status, there are further constraints on our behaviour. To say that nature has moral status, which I argue for elsewhere, suggests that our actions should be constrained to the point at which we cannot do much at all. Or so goes the orthodoxy. My view is that we should reinterpret the question of moral status as a question about what we must consider, as a deontological question about moral considerability. The practical effect of this view is that morally permissible actions bear the burden of justification, which occurs through discourse, and so constraints will vary depending on circumstances.

10.5 Considerations in nature

Suppose I must decide whether to build a school on a wetland marsh. To be justified, this decision must entertain a plethora of concerns, and it must do so in a way that ensures that nothing is left off the table. At first, then, all possible considerations must be assessed in an impartial and undifferentiated way: the prevalence of endangered species, the type of building to be

built, the need for that school, but also the milliseconds that the town clock loses over a single day, the number of hairs on Pedro Almodovar's head, the smell of basil on a warm summer evening, and so on. Of course, a great many of these considerations can easily and rapidly be disposed of, the latter several being of just that sort. Many others, conversely, will present themselves as manifestly significant, and still others will present difficulties as to their relevance and significance. The amount of wetland area remaining on the globe, the buried gum wrapper of a now-grown teenager, the rate at which your fingernails grow, etc. – these are all considerations relevant in certain contexts, but utterly irrelevant in other contexts. (If this sounds patently ridiculous, or at least epistemically implausible, consider the boss who says to his employees: 'But have we considered *everything*?' He asks not just whether all relevant considerations have been taken into account, but whether every possible base has been covered. He asks his employees to seek out all angles hitherto considered or unconsidered; and he views this as their obligation.)

Naturally, most of this deliberation will have to take place at the level of real public discourse. Scientists, economists, local officials, landowners, private stakeholders, schoolchildren, biologists and 'all affected' are obligated to play a part in the discussion about how to proceed, about whether this is a worthwhile endeavour. Much of this is outlined by discourse theory. What is not outlined by discourse theory, however, are the requirements brought to bear on each participant to that discourse. Here we can see that each participant to the dialogue has an obligation not only to hear the claims of all affected parties, but actively to seek out criticism of the proposed course of action; to consider the implications of the course of action on a world that is otherwise closed to the purposes of humanity.

If we can grant this, then the very idea of moral status takes on a different hue. On this line of reasoning, moral status does not inhere in the entity, but rather, moral considerability stands as an obligation of the agent. All decisions are of the sort described above; and all decisions face the prospect that an Other, either nature or the free will of agents, will push back and create further considerations. Because of this, nature is a *source* of consideration: it generates considerations like other wills generate considerations, independent and external to our individual or collective decision-making process. What is morally noteworthy about nature, then, is that it is a constant resource of unconsidered relations, interests, needs, sentiments, and so on. The pains of animals demand consideration, the health of trees, the integrity of ecosystems,⁷ the vitality of species – these are all considerations over which we humans exert no generative power. These considerations emerge on their own, precisely because humanity does not maintain a thoroughgoing dominion over these aspects of nature. Of course, every consideration is impacted somewhat by the decisions of humankind. As such, nature demarcates the point at which our wills bump up against the rest of the world.

Thus, the conclusions of the view that I have advanced are both very strong and very weak. The reasoning works such that almost nothing in the world is morally inconsiderable. Or, put differently, that everything in the world is morally considerable. We have an obligation to consider *everything*. Everything, I should qualify, *except technological artefacts*. Due to the peculiar nature of the technological artefact – it is *already* a product of careful consideration – when making a determination about what to do, we have no obligation to reconsider it. We can, in effect, look beyond the technological dimension of an artefact, since *it has already been considered*. Its technical component is not relevant to its moral status.

10.6 The emergence of technology

Suppose now that I intend to create some technological gizmo to help me achieve a particular end. Suppose that prior to doing so, I work through the requisite technical and justificatory questions – What do I need? How will it work? Will it harm others or impinge on their rights? and so on. I determine that the gizmo meets all of the relevant criteria that qualify it as prudent and justified. Suppose that after this requisite deliberation, I go forward with its development, creation, and even put it into use. This, we may assume, is what we do when we create technological artefacts. Because this is roughly the process by which a technological artefact emerges, the artefact cannot be said to generate new considerations in the same way that nature generates new and novel considerations. Instead, technological artefacts are the *outcome* of a process of deliberation.

Before getting too far, one may object with this assertion outright: that this does not accurately describe the deliberative process by which we create technological artefacts. There are clearly many technologies that have not gone through this procedure, that have not been subjected to such rigorous moral scrutiny. Nuclear technologies, space technologies, weapons technologies, and so on, all raise issues about the moral temerity of their creators. But simply because there are some technologies that have not gone through this deliberative process does not mean that this is not the technical ideal. The observation that there are many cases of ill-conceived technologies no more indicts this claim about the nature of the process of artefact creation than the observation that many industries have emerged thanks to the exploitation of labour or the exploitation of tax loopholes indicts the claim that one must ensure that production does not violate the rights of citizens or accords with tax law. Of course it is *possible* to forgo or cut corners on the deliberative process – we do it all the time – but if we value reason and the reasons that we have for taking actions, we ought not to.

My claim then is that technological artefacts, unlike almost all other objects and entities in the universe, are the *products* of a deliberative and justificatory process geared to create objects with express ends, and in this

respect are not generative of new considerations. As an outcome of justificatory deliberation, the only further question that must be asked of the technological artefact is not 'Does it have value in itself?' but 'Does it serve its purpose?' The creation of a technological artefact is presumably a paradigm implementation of the deliberative process. As such, considerations that emerge in the wake of the creation of a technological artefact will always be tied to the initial consideration that gave rise to the artefact in the first place.

One may object to this claim as well. Plainly some of the development of the gizmo will be generative of new considerations. There is now a gizmo where before there was no gizmo. Surely this is a new consideration. But the simple fact that there now is *something*, where before there was *nothing*, does not generate considerations that have not already been taken into account in the deliberative process that gave rise to that something's existence in the first place. Therefore this gizmo, the technological artefact, is considerable only by virtue of the considerations that have emerged, so to speak, apart from it.

To put this more formulaically, suppose a set of considerations $C[a, b, c, d, \dots, n]$ go into artefact α . This set of considerations must be weighed and evaluated together. Artefact α does not become a new consideration on top of the other considerations. Suppose now that I bring together several considerations to create an artefact β . Suppose I want to (a) clean out my toolbox, (b) dispose of some old string and wire, and (c) catch a butterfly. Suppose that I can fashion a butterfly net (β) using just the amount of string and wire in my toolbox. If I build this net and use it to catch a butterfly, I will have done something very nice for myself, and fulfilled many of my purposes. The question here is whether this artefact β , this butterfly net, suddenly takes on a new nature as an artefact in itself, or whether all of the purposes and considerations that went into its construction are already incorporated into the object.

Surely, there are new considerations generated by the development of β , but all of these considerations $C[\beta]$ are not intrinsic to β , but rather related to its possible purposes or uses. β could be used (i) to snare moths, or (ii) to catch fish, or (iii) to make bubbles. $C[\beta, \beta_{ii}, \beta_{iii}, \dots, \beta_n]$ are, one might reason, new considerations independent of the considerations that initially justified the creation of β in the first place. So there are now new considerations, none of which are the end result of the intent or will of the creator. We might think that these are unforeseen considerations. But in this case, and I suspect in all cases of technological artefacts, all iterations of considerations are tied to the use of the artefact. Alternative considerations may always emerge, of course, but if they do, this has little to do with the technology and more to do with the artefact as a raw resource. Consider then the somewhat more complex objection that many devices can be broken down and put to uses for which they were not intended. A hammer can

be used as a plumb bob, a toothbrush can be used as a weapon, a circuit board can be used as a serving tray, and so on. One may say that this plurality of uses, all told, is not subject to the same justificatory process as the process employed in the creation of initial artefact itself, and so therefore the artefact is, by virtue of this, morally considerable. But I submit that this line of reasoning so thoroughly reconfigures the artefact such that it loses its status as that technological artefact. It reverts, so to speak, back to a resource: back to a mere thing (Feinberg, 1980; Hunt, 1980; Frey, 1980).

To see this, we would be wise to distinguish between several aspects of the technological artefact. First, an artefact is a thing. Second, it is a creation of rational beings. Finally, it is a device of *techné*, a creation of rational beings for some purpose. All told, these are at least three critical aspects of the technological artefact. The latter two of these three – that it is created by rational beings for some purpose, and not that it is a thing – suggest that its value is tied expressly to the purpose for which it was created (see Bloom, 1996; Simon, 1996; Verbeek, 2005). In other words, technological artefacts are all system and no lifeworld (see Habermas, 1970, 1987a, b; Feenberg, 1996). The value of a technological artefact is its value to us. Apart from its thingness, its historical rarity and its aesthetic qualities, its value is constructed on a string of justifications. The argument for moral considerability that I have advanced requires that we must consider the *unjustified* world; the world that stands apart from our imprint of rationality and that asserts itself upon us.

10.7 Constraints, consideration and artefacts

As I mentioned earlier, moral status is often taken to imply that certain constraints must be placed on treatment of the entity with that status. It is therefore common to meet with the objection that attributions of moral status to nature result in such paralysing restrictions on action that they cannot be taken seriously (Regan, 2004; Callicott, 1989; Zimmerman, 1997). If all of nature has moral status, goes the reasoning, then one could hardly take action without violating some right of the valued entity. This conclusion becomes that much more problematic if moral status is attributed not just to nature, but to technological artefacts as well.

My approach has been to recast the question of moral status in deontological terms. If the deontological constraints that emerge from this view stipulate only that an agent must consider seriously an action before undertaking to act, then there is little need to specify the extent to which these deontological constraints function. The requirement of the position is that the reasons that guide an action must be justified by meeting with and passing stringent validity tests. So let us approach the question of the creation of the artefact from another angle. Doing so will allow us to see how technological artefacts differ from other creations of humans.

Consider a common non-technological artefact – an artwork. If I create a painting, I first place a brushstroke on a blank canvas, creating, in effect, a mini-painting. Let us call this blank canvas P and the canvas with the first brushstroke P^1 . We can see that P^1 necessarily involves, in many respects, the destruction of the blank canvas P , but also the creation of a new object. We can then understand the next brushstroke as P^2 and recognize that P^2 involves, plainly, the destruction of P^1 , just as much as P^3 involves the destruction of P^2 . With every stroke the artist is engaged in a project of destruction and creation, such that every subsequent brushstroke can be understood as destructive of the previous work of art. It is only once we have arrived at P^n (where n indicates the number of brushstrokes that meet the satisfaction of the artist) that we can say that a true artwork has been created. As the creator of the artwork, the artist is involved in a continual evaluation and consideration of each state of the canvas, from P through to P^n . It is true that a new artwork is created and then destroyed with every flick of the brush, but it is also true that the new artwork generated in its wake has gone through the justificatory and evaluative process privately available to the artist and his consideration of his canvas.

On traditional conceptions of moral status, if the artwork were to be granted a 'special' moral status, each iteration of the painting would involve a violation of its previous instantiation. On the interaction-centred approach, the considerations generated by the artwork are tied both to the intentions of the artist as well as the world as it pushes back. If the paint does not lie right, the artist will respond accordingly, manipulating the canvas to do his bidding. In this case, we can see quite plainly that there are no new considerations that emerge over the creation of the painting apart from the agent-relative considerations involving the painter and his work of art. The canvas is not injured or violated, and it does not suffer degradation as paint is cautiously applied.

In a certain respect, the same process is under way in the development of all artefacts. An actor considers a course of action, assesses the world around him, and chooses to act accordingly. Sometimes she may choose to characterize such artefacts as artworks, as when a painter puts his mind to the production of a portrait, and sometimes she may characterize these artefacts as technological, as when an agent creates a device to fulfil some purpose. In the case of the technological artefact, what matters is that the artefact fulfil its intended end. In the case of the artwork what matters is what the author intends the artwork to convey, represent, look like, be, and so on.

Suppose now that I decide that I will make a work of art out of someone else's artwork, as was the case when Toronto art student Jubal Brown ingested dye and paint, walked into the Museum of Modern Art, and flamboyantly vomited all over Piet Mondrian's *Composition in Red, White and Blue* (DePalma, 1996). Not surprisingly, his act inspired public outrage. Many felt that a crime against history had been committed, that the valuable artwork had

been irrevocably destroyed, and for no reason. Brown's position that his was an artistic act won little favour with a sceptical public.

One might be inclined to think that the problem here is that the work of art itself was morally considerable. But that is not so clear to me. It seems to me that the problem is that the artwork functions as a source of considerations, and provides for interpreters a range of possible delights that are tied tightly to the psychology and expression of the respected artist Piet Mondrian. If this is true, then it is Mondrian and his aesthetic judgement that we respect – his creative genius, he as an artist – and we are outraged because the new painting, covered with Jubal Brown's fluorescent vomit, is not what Mondrian would have wanted or intended. The work of art was degraded through this act, sullied by the violation of the relationship between the artist and the work of art. Many human creations, of course, are sources of considerations just as nature is. This is what inspires us to outrage when Jubal Brown vomits on Mondrian's painting. Brown overrides Mondrian's process, abuses the rights and values of the artist. It is an assumed abuse of Mondrian, of what Mondrian would have wanted, of what he would have willed. Suppose, by contrast, that Mondrian himself had done the vomiting. I think the act would have been viewed differently. Mondrian can effect a change in his artwork legitimately, for he is the originating artist. He can do so in a manner that bespeaks justification, for the painting is his creation, and the process by which an alteration to the artefact becomes justified is reflexive.

This is not, of course, to suggest that such an act of destruction is always justified if it originates from the author of the artwork. The act must still withstand the scrutiny of an affected public. Suppose that Mondrian were to lose his mind and then destroy his painting, as Nikolai Gogol is reputed to have destroyed the second instalment of *Dead Souls* shortly before his death (Mirsky, 1999). In this case, we may face some difficulty in claiming the act justified. We may want to say that an artefact of great value has been lost. In claiming this, we may have firm ground to support us, as Mondrian's painting has been widely respected as complete by art critics the world over. But it is nevertheless the privilege of the artist, the creator of the artefact, to call the artwork complete, and so we would need to argue our position on grounds either of bifurcated Mondrians – that the early Mondrian, the true artist, would not have desired such a change, while the later Mondrian was an imposter on the early genius – or we would have to argue that Mondrian's judgement about art was not quite as good as we had once thought it to be. But we would not want to argue that there was a significant moral violation, as was the case when Jubal Brown took his regurgitative liberties with the *Composition in Red, White and Blue*.

Consider now the moral dimension more closely. Suppose that I approach a person in the street and decide that I will transform *her* into a painting. Suppose that I decide so without her consent. I begin applying paint to her

face, to her arms and legs, as she implores me to stop. If I apply paint to the face of this stranger, each stroke of my brush consists of a single act in itself. With the first movement of my brush, this stranger may have reason to be quite angry with me. My movement from P to P^1 is a violation of her rights. By my second stroke, she may be livid; and so on down the line – from P^1 to P^2 , from P^2 to P^3 – such that each stroke of mine on her body involves a separate act and constitutes a continued violation of her person. If I persist and she objects, her objections, and the outrage of all observers, will likely grow louder with each stroke. My decision in this case is not a singular decision based on one consideration about whether the act of creating an artwork is justified. It is a decision that involves many considerations, all of which change as I push on the world and the world pushes back. My victim is generative of new considerations and I must evaluate each action of mine. Suppose instead that the stranger *asks* me at the outset to create a painting of her. I begin by applying paint to her face. If this is so, each of my brushstrokes, from P^1 to P^n , can be viewed as one permissible act: that of transforming this stranger into a painting. Considerations arising during this process are just as they would be were she an inanimate canvas. She is no longer generative of considerations related to the painting. The painting is my work, not hers. After a few strokes, suppose she changes her mind, deciding that she does not like her transformation from person into painting. She asks me to stop. If I do not stop, and instead continue because she has asked me to create a painting of her, I will be violating her will. This much is clear. What is clear is that my action, heretofore justified by her consent and my consideration of her will, has lost its justification. Her will has changed and each of my new paintings, P^5 , P^6 , P^7 , constitutes a continued and single violation.

Suppose that I do something slightly different. Suppose I decide that shaving my cat will make for a dandy afternoon.⁸ Suppose that I begin this activity to the squeals and protestations of the cat. One might believe that this too constitutes several acts wrapped in one. My decision to shave the cat is not a singular decision, but rather a series of decisions, like my decision to paint a stranger. I may be forgiven for my indiscretion upon the first pass of the clippers. I may not have known, for instance, that the cat did not want to be shaved, but only learned this upon taking clippers to fur. On this line of reasoning, I would not necessarily be wrong to start shaving the cat, but would be wrong to continue shaving the cat. The cat, like the stranger, is generative of considerations.

Suppose further that I decide that I will carve a living tree into a living sculpture. Suppose I do so over some time, such that it becomes clear halfway through my project that my tree will die if I proceed. In this case, it would be internally inconsistent of me to continue, for my living sculpture will, at the end of my project, no longer be living. But suppose that I intend instead to carve a living tree into a dead sculpture. I can do this in

at least two ways. I can cut the tree down beforehand and make my sculpture, or I can kill the tree via the process of making my sculpture. If I choose the former course of action, then I have several matters to consider prior to the cutting down of the tree – is it beloved? Do people want to keep it around? Is it rare or one of a kind? Do other species depend on it? etc. Once the tree is felled, I need not consider again whether I should fell it. If instead I choose to kill the tree by way of making it into a sculpture, such that it endures a slow death, then it seems to me that I have very different considerations throughout my act. I must ask at each step along the way whether my act is justified, whether each gouge of my sculpting tool is permissible. Should I continue?

Now apply this to technological artefacts. As we have seen, all artefact creation goes through a process much like the one I describe above: an actor engages the world, assesses the situation, evaluates relevant and significant considerations, and determines how to proceed. Upon making this decision, he undertakes a process of destruction and creation until his end is achieved and a complete artefact emerges. The creator of the technological artefact is no different. He determines that some artefact is necessary to fulfil some purpose, either his own or that of others, and he creates an artefact to fulfil that purpose. The difference between the technological artefact and the artwork lies here: that the intended purpose of the artefact is presumably available to all rational agents, or at least to all who can understand and fathom the purpose of the artefact, and not seated in a private relationship between the artefact and its creator. Any degradation that the artefact might be said to undergo is degradation only to its intended use. Like the sculptor who decides to carve a sculpture from a dead tree, no new considerations emerge during this process of destruction and creation.

With this analysis of artefact creation, we can see that the conditions under which one might object to the destruction of an artefact do not obtain in the case of technological artefacts. The purposive aspects of technological artefacts are importantly tied directly to their uses and not to assertions of the wills of their creators. Inanimate technological artefacts do not have wills, are not generative of further considerations and thus do not push back. Nature and art push back.

10.8 Objections

My claim is dependent upon the assertion that technological artefacts have already been subjected to purposive consideration and do not act like the natural world in generating for us novel considerations. Simple instances of technological artefacts, like hammers, cellphones and electric cars, may be too easy. There are many technologies that interface a great deal with the natural world, and in doing so, remain immune to the systemization of instrumental reason.

Technologies of dominion

Consider some *biotechnological creations*, like genetically modified organisms. They are in many respects artefacts of technology, the creations of science. They are created in a lab with extremely precise technologies in order to fulfil some purpose. Yet if we carry this line of reasoning to its natural conclusion, as many advocates of GM technologies are wont to do, one might rightly ask whether even non-genetically modified livestock could be considered 'artefacts', since they are the products of animal husbandry. We also choose to raise livestock for some purpose and we also use technology to ensure that they will propagate, flourish and survive.

Yet these organisms, we can assume, will take on a life of their own once they have been created. They become self-organizing and self-sufficient upon their creation. They are alive, and in this case, this is sufficient to disqualify creations of biotechnology from the category of 'artefact'. Genetically modified organisms are not *mere* things. They are living organisms, with interests and needs. Insofar as they exhibit attributes that can be understood as interests and needs, we can understand them as generative of considerations, just as in our cat and tree example above. It is not their technological origins that are at issue, except insofar as we have committed ourselves to their existence. Livestock and genetically modified organisms, unlike inanimate technological devices, are *generative* of further considerations. They reveal to us considerations that are not caught up in their originally intended purpose. When we create them, we cannot limit the purpose to which they are put. They have experiences, which we do not control. They have desires, which we cannot intend. If we could eradicate these other considerations from their development – as might be the case if we could grow genetically modified meat in a Petri dish (see my piece on this topic, Hale, 2007), then there would be no further problem with regard to their moral considerability. Their flesh would be living, but more or less inert.

The same might be said of mountain trails or of river beds or of ocean shore. Certainly, we manipulate these natural areas to be just as we want them to be. But it is not so clearly the case that these landscaped areas qualify as 'artefacts' of our own creation either. The ocean encroaches on our planned boardwalk; Virginia creeper tickles its way into our garden paths; the rocks and wind and pine needles clutter up our carefully manicured trails. Nature makes its presence known, and it is nature with which we must contend; it is nature that presents new considerations, hitherto unforeseen, that alter our moral commitments to the trailhead or river bed or shore.

Technologies of intelligence

This raises a second issue. What of extremely complex and artificially intelligent artefacts? Are these systems not generative of considerations? In an essay of this length I do not have the space to outline a theory of artificial

intelligence. However, a reasonable response can come out of the distinction between weak AI and strong AI. Weak AI understands as intelligent systems those that fulfil strictly algorithmic purposes, like chess-playing computers. Strong AI, by contrast, understands as intelligent systems those that take on a life of their own, or become self-aware. If a system can accurately be classified as truly artificially intelligent in the strong sense (supposing we can agree on a criterion to establish this), then it seems to me that it must also be generative of new considerations.

Consider briefly the weakly intelligent chess-playing computer. It seems to me true that chess-playing computers are *at least* generative of considerations. Plainly, they offer up responses to our actions, much like animals do. If we move our knight, they respond by moving their rook. But look for a moment at the sorts of considerations they generate. These considerations are tied directly back to the use for which they have been created. In a world without chess, the considerations that they generate are useless. Consider, by contrast, the fantasy robots of strong artificial intelligence, like *Star Trek's* Data or 2001's Hal 9000. Here are artefacts that can reason, that have consciousness. These artefacts, it would appear to me, are generative of further considerations that stand apart from their originally intended use. They are self-organizing in a way much more like animals than chess-playing computers.

In both cases, either of weak AI or strong AI, new considerations emerge. If the intelligence is weak, it is algorithmic and tied to the purposes of its creators. If it is strong, on the other hand, it is intelligent according to some functional description, and it very much can be generative of considerations that did not go into its creation. This distinction and the related question of moral considerability, unfortunately, is fodder for another essay.

Technologies of mediation

Some technologies are generative of considerations in yet other ways. Don Ihde (1990, 1998) mentions at least two ways in which technologies can mediate our experiences: they can either function as an extension of our body, such that we experience the world through them (as 'embodiment artefacts'), or they can provide for us a new relation to the world, such that we come to interpret the world in conjunction with them (as 'hermeneutic artefacts'). The embodiment artefacts of the first sort may include items such as spectacles, automobiles, walking sticks, prosthetic limbs, and so on. Imagine that a prosthetic device enables you as an amputee to circumambulate. Would we not want to say that the artefact has value in itself? It certainly may seem so. But from my vantage, that seems patently absurd. The artefact is valuable, to be sure, but its value is tied directly to its user, directly to the reason that it was created in the first place.

The hermeneutic artefacts of the second sort include such objects as thermostats, MRI machines, telescopes and so on. But hermeneutic artefacts are

no more generative of considerations than a hole in the wall is generative of considerations about what is on the other side. These artefacts are used for a specific purpose, to teach us something about how the world is. Like chess-playing computers, they are generative of considerations to be sure; but these are the considerations for which they were created.

There is yet a third sense in which technologies may be said to mediate our moral decision-making. Some technologies make some acts morally acceptable that might otherwise not be acceptable. Invasive medical technologies, in particular, offer up possibilities for actions that hitherto would be impossible. Stitches and sutures make it acceptable to cut a person open, where before this would have been unacceptable. Other technologies make single acts morally reprehensible. The mechanization of the slaughterhouse, of forestry practices, of fishery harvesting, make the simple extraction of a resource into coordinated devastation on a heretofore unimaginable scale. In this sense, then, one might reason that the technology is the difference that makes all the difference. Indeed, the technology does generate new considerations. Railroads that are used to transport cattle, 13 km-long trawl nets, feller bunchers capable of decimating acres of forest in days instead of months, do not present these new considerations to us, but function rather as sources of considerations.

Technological artefacts are always a part of the consideration of what to do. I cannot contemplate a policy solution to cure river blindness if I do not have a means of implementing the solution. Verbeek is partially right about this. Technological artefacts *are* always a part of our moral deliberations, and thus bear on our possibilities for doing right and wrong. But they are not generative of new considerations any more than my car is generative of the consideration about whether to turn right or left at the traffic light. The existence of my car makes it possible for me to turn left at the traffic light but I have already considered, presumably, whether to drive or to walk, and need not revisit consideration a second time.

Relational values

Some might still object to this view, suggesting that technologies can be just as unique, rare and interesting as endangered species and artworks. Rube Goldberg machines are rare, wild, creative and fun. When they work, this is value unto itself. I am inclined to think that this also counts as a consideration in itself. Some artworks are of this nature, and to some extent my butterfly net is of this nature. If I create a fantastic butterfly net, using uncommon techniques, attention to detail and creative flair, then I may have created something new and exciting – something rare and valuable. But this rarity is extrinsic to the technological aspects of the artefact, independent again of the considerations that went into its development. Edison's first gramophone – this rare, unique and fascinating artefact – is itself valuable by virtue of a consideration specific to that artefact, but nevertheless extrinsic to it. It has historical value, educational value and aesthetic value. The

technological aspect of the gramophone, its ability to play records, on the other hand, can only be understood as valuable insofar as it continues to work or insofar as individuals still find value in it. Because it is the result of many considerations, it is constructed entirely of considerations.

Technological artefacts do not take on a life of their own once they are developed. They fit squarely into a nexus of human creations that emerge out of system thinking.

Conclusion

What I have argued is that the uses to which technological artefacts can be put are separable from the considerability of the artefact itself. While we may say such things as that the artefact is worthy of moral consideration – as an art object, as an archaeological signifier, as a resource – the *technological* artefact as a piece of technology created for an express purpose, is not. It is *only* considerable insofar as it is valuable to somebody. The circuit board on my father's Commodore 64, the keypad of a mass-produced shortwave radio, the drained batteries that sit in my dresser drawer: these are not useful except as raw resources – as doorstops or wall decorations or relics of a time gone by.

My conclusion may seem counter-intuitive or unacceptable. If 'everything in the world' is morally considerable, as I claim above, but technological artefacts are excluded from the category of things that are morally considerable, then plainly *everything* in the world is not morally considerable. But my claim is not that technological artefacts, qua things, are morally *inconsiderable*; only that to consider them and their technical aspects, qua technological artefacts, is to double-count. It is to consider the already considered. Because the primary use of a technological artefact is the reason for its having been built, it cannot count as a consideration itself. If I build a device that will desalinate my water, I build that device for the purpose of desalinating my water. That it desalinates my water is an important consideration related to the object, to be sure. But it is a consideration independent of the device that I have built. I could have built the device any number of ways, so long as it fulfilled my purpose. More importantly, it is a consideration that I have already subjected to the scrutiny of relevance and significance.

Remember the EV1? I agree with the makers of the documentary on at least one count. The murder of the electric car is a tragedy, but it is a tragedy because a perfectly functional and valuable piece of technology, with uses plain to any and all who had ever driven it, with desires to continue driving it, was taken out of commission. The car did not actually die, its rights were not violated, and nobody is guilty of killing it. If anything, the accused in this case are guilty of acting wrongly, of acting in an *unjustified* manner. All of the reasons that they can be said to have done wrong relate to the potential uses to which the technology could have been put; and none of them relate to the intrinsic value of the EV1 itself.

Notes

1. The EV1 was actually only ever *leased* to its drivers. General Motors thus maintained authority over the eventual fate of the car.
2. Among others mentioned in this chapter, see for instance, Warren (2000), A. Brennan (1984), Attfield (1983), Stone (1996) and Cahan (1988).
3. Writes Rawls in *Theory of Justice* (1971), 'Principles are to be universal in application. They must hold for everyone in virtue of their being moral persons. Thus I assume that each can understand these principles and use them in his deliberations' (p. 132). Though Rawls does not formalize a principle of universalization, as perhaps Habermas makes it seem, he clearly intends that readers apply principles that could apply to all and that could be used in deliberation by all.
4. Notice that it does *not* mandate that interlocutors must hear the articulated interests for these interests to be taken into account, but only that the interests *be* taken into account, regardless of whether or not they are articulated by those affected. If, however, the interests are articulated, then it mandates also that they cannot be ignored. The claims should then be subjected to a community of participants to discourse.
5. Habermas assents to this synopsis of his position, and cites this quote of McCarthy himself.
6. Philip Pettit uses the terminology of 'option' and 'prognosis' to explain the kinds of decisions that go into justifications for decisions like those that are promoted by consequentialism. I am adapting the terminology to assess the reasoning that lies in wait of the justification.
7. Mark Sagoff has spilled a great deal of ink on the definition of ecosystem, reasoning that ecosystem ecology cannot overcome the conceptual difficulties of demarcating and classifying ecosystems. I am not concerned with this debate here. See Sagoff (1985, 1997, 2003).
8. Incidentally, three of Jubal Brown's fellow artists—Jesse Power, Anthony Wennekers and Matt Kaczorowski—have received some acclaim for skinning a live cat and videotaping the act to show at the 2005 Toronto Film Festival. I hesitate to use this as an example because it seems to me that some actions are just so patently offensive and wrong that one cannot see any rational justification that permits the act (Asher, 2004).

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11

Cultivating Humanity: towards a Non-Humanist Ethics of Technology

Peter-Paul Verbeek

11.1 Introduction

Ever since the Enlightenment, ethics has had a humanist character. Not 'the good life' but the individual person now has a central place in it, taken as the fountainhead of moral decisions and practices. Yet, however much our high-technological culture is a product of the Enlightenment, this very culture also reveals the limits of the Enlightenment in ever more compelling ways. Not only have the ideals of manipulability and the positivist slant of Enlightenment thinking been mitigated substantially during the past decades, but also the humanist position that originated from it. The world in which we live, after all, is increasingly populated not only by human beings but also by technological artefacts that help to shape the ways we live our lives – technologies have come to mediate human practices and experiences in myriad ways (cf. Verbeek, 2005).

This technologically mediated character of our daily lives has important ethical implications. From an Enlightenment perspective, ethics is about the question of 'how to act' – and in our technological culture, this question is not answered exclusively by human beings. By helping to shape the experiences and practices of human beings, technologies also provide answers to this ethical question, albeit in a material way. Artefacts are 'morally charged'; they mediate moral decisions, and play an important role in our moral agency (cf. Verbeek, 2006b). A good example of such a 'morally charged' technology – which will function as a connecting thread through this chapter – is obstetric ultrasound. This technology has come to play a pervasive role in practices around pregnancy, especially in antenatal diagnostics and, consequently, in moral decisions regarding abortion. Decisions about abortion, after having had an ultrasound scan (and subsequent amniocentesis) showing that the unborn child is suffering from a serious disease, are not taken by human beings autonomously – as fountainheads of morality – but