POLLUTING AND UNPOLLUTING

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Polluting and Unpolluting

If Dodgson owns a swimming pool and Duckworth dumps a five-gallon bucket of ammonia into Dodgson's swimming pool, many would rightly charge Duckworth with polluting Dodgson's pool. Depending on the facts of the case, many would further charge that, in polluting Dodgson's pool, Duckworth has wronged Dodgson. That is, Duckworth's pollution of Dodgson's pool is wrong. This sentiment stems, presumably, from the simple fact that ammonia is damaging to pools and pool water, and that by dumping the bucket of ammonia in the pool, Duckworth has thereby injured Dodgson.

The degree of wrongness of Duckworth's action may well be mitigated by external factors, of course. Duckworth's pollution of Dodgson's pool may be a case of malicious vandalism, or it easily may have been an accident. Depending on the facts, Dodgson may have more reason to forgive Duckworth in one case than in another. This much seems clear enough. It is also possible that Dodgson may have asked Duckworth to put the ammonia in the water, perhaps if Dodgson were a pool manager and Duckworth his assistant, or if Dodgson were filming a movie and Duckworth were in place to create a toxic fog on the surface of the pool. So it is not clear, from the mere fact that Duckworth has dumped ammonia in Dodgson's pool, thereby polluting the pool with ammonia, that he has therefore wronged Dodgson. Most readers will likely accept these explanations as well.

Nevertheless, many people think that pollution is wrong, and that everything else being equal, dumping ammonia in a person's pool is wrong. Many people further believe that what makes pollution wrong, or what makes dumping ammonia wrong, is that it is harmful. The question for our

paper relates to the wrong of pollution, or by extension, the wrong of environmental damage. Does the wrong of pollution consist fundamentally in the harm-causing effects of sullying some environment? Or is there something more?

On one hand, the problem with polluting seems obvious: polluting degrades the environment; in this case, the pool, but in many other cases the natural environment. Closer examination, however, reveals several possible answers.

At least three alternatives present themselves:

- **The Harms view:** That pollution devalues the environment, either intrinsically or extrinsically.
- **The Trespass view:** That pollution disrespects and/or trespasses on the rights of others.
- **The Vice view:** That polluting is not the sort of thing that a person of upstanding or virtuous moral character would do.

I will argue against the Harms view here, with an eye toward articulating a somewhat more robust defense of the Trespass view. I believe the Harms view to be the dominant position, and thus in need of critical assessment. The view is woefully insufficient to capture environmental wrongdoing, I want to claim, and a more satisfying view can be had by appealing to the idea of trespass. I will suggest specifically that the wrong of pollution consists in the unjustifiability of the polluting act. In many circumstances, unjustifiability will track either the degradation of value or, more closely, disrespect and trespass on rights, thus contributing to the confusion. The position I advocate nevertheless falls within the purview of the rights tradition. For reasons of space, I will only briefly outline the Virtue view in the following section. I will not address it at length.

I. Harm, Vice, and Trespass

For many people the wrong of pollution is self-evident. Take any natural and pristine environment, introduce a deleterious additive, and this additive, by virtue of the harm that it does to this natural and pristine environment, is rightly considered a pollutant. Call this the "Harms view" of pollution.

Roughly speaking, the Harms view proposes that the wrong of pollution consists in the harm or damage caused by the pollution. Pollution is wrong because it damages the environment. The case of Duckworth and Dodgson above is paradigmatic in this respect, though this case is crafted around two actors, one of whom has clearly established property rights. The pollution in these cases is a substance that damages (or diminishes the utility of) water. So, water with high dioxin levels, say, is said to be polluted by virtue of the damage done to the water, whereas water that otherwise may carry pathogens but that has been "treated" with chlorine (an otherwise toxic chemical) is said not to be polluted. By contrast, water with ostensibly healthy levels of fluoride is generally not thought to be polluted—except by fictional conspiracy theorists like US Air Force Brigadier General, Jack D. Ripper[1]—as fluoride is an additive conferring health benefits, though it does not "treat" the water *per se*. Fluoride improves upon water. In other words, it is the *utility* of the water, and the purpose to which the water is being put, that will establish whether the additive is harmful or beneficial, and thus pollution or not. At its base, the Harms view is a deeply consequentialist position, mostly utilitarian in origin, locating the wrong of the polluting action fundamentally in the bad consequences brought about from the action.

[1] See, if you have not seen already, Stanley Kubrick's cult-classic *Dr. Strangelove* (Kubrick 1964).

The Harms view is extremely versatile. It works well to describe the wrong of almost any form of pollution: air pollution (as air is damaged through the addition of deleterious substances), soil contamination (as soil loses its capacity to support life), litter (as the aesthetic properties of the landscape become degraded), noise pollution (as the aural environment becomes congested), light pollution, thermal pollution, visual pollution, polluting one's body, and so on.

The cheap undergraduate trick of turning to the dictionary reveals that, etymologically speaking, the term 'pollution' as related specifically to the environment can only be traced back to 1828, where it is used for the first recorded time, ostensibly metaphorically, to mean "contamination of the environment." The term more historically conjures "defilement" or "desecration of that which is sacred" and dates as far back as 1390, where it was used to mean, bizarrely, "ejaculation of semen without sexual intercourse."[2] To my great embarrassment, this meaning still lingers in other non-English languages. As an American student living and studying post-Soviet Russia, I once remarked innocently to a Muscovite friend about the pollution outside the city. He found my pidgin Russian hilarious in the extreme. Needless to say, it turns out that the term 'поллуция' (pronounced *pollutsia*) does not mean what it sounds like it means, but instead refers to male nocturnal emissions. So much for dabbling in international environmental issues.

I raise this etymological point only to suggest that the Harms view, intuitive though it seems to modern English speakers, is in fact relatively new. The more archaic use of the term carries not the Harms view, but instead the Vice view: that pollution is a blemish, or a mar, on a person's character. The vice of defilement is not aptly our focus here, though certainly some contemporary

[2] pollution, n. Third edition, September 2006; online version June 2011. <http://www.oed.com/view/Entry/146992>; accessed 27 July 2011. An entry for this word was first included in New English Dictionary, 1907.

environmental ethicists have sought to characterize pollution as the sort of thing that a person of strong moral character wouldn't do (Van Wensveen 1999).

Though it stems from ancient views on moral character, the Vice view predominates to this day throughout the environmental discourse. It is reflected in a variety of anti-pollution advertisements that characterize the early environmental movement. The famous "Crying Indian" advertisement of the 1970s, in which a Native American lands his canoe on a trash strewn riverbank and sheds a tear for the loss of natural beauty, offers an instance of this. The voiceover in the ad says it all: "Some people have a deep abiding respect for the natural beauty that was once this country. Some people don't. People start pollution. People can stop it." Or, memorably from roughly the same era, the Woodsy Owl commercials admonishing children never to be a dirty bird, with the catchy bi-slogan—"Give a hoot; don't pollute"—serve the same end.

In any event, it is the Harms view that is our target here, as it is reflected throughout environmental legislation, including the National Environmental Policy Act (NEPA), the Clean Air Act (CAA), the Clean Water Act (CWA), Superfund (CERCLA), the Pollution Prevention Act of 1990 (PPA),[3] among many other federal and state laws. Each of these laws specifies the degree and extent to which a polluter is responsible for damage resulting from her actions. NEPA, for instance, is in place "to promote efforts which will prevent or eliminate damage to the environment...." 42 USC § 4321. Through this charge, NEPA aims at "pollution prevention."[4] The CAA specifically seeks out "harmful pollution." Each of the other acts, similarly, aim to prevent pollution damage to the environment.

[3] http://www.epa.gov/p2/pubs/p2policy/act1990.htm
[4] http://ceq.hss.doe.gov/nepa/regs/poll/ppguidnc.htm

In our opening case, it is easy to find great fault with Duckworth's actions. Many would like to believe that what Duckworth has done wrong is that he has harmed Dodgson. He has cost Dodgson money—money that he otherwise might have spent on a new yacht or a new car. He has also, conceivably, put Dodgson at risk, for chlorine gas inhalation—ammonia and chlorine combine to form chlorine gas—or he has damaged the filters in Dodgson's pool, or he has shortened the lifespan of the paint on the pool walls.[5] Of course, for our purposes, the pool needn't be a pool at all. It can be a pond, or a lake, or quadrant of air, or any un-owned anything. So long as that unowned anything can be sullied, it's pollutable. What, ultimately, is wrong with what Duckworth has done to Dodgson?

Plainly, harm is not the only factor that goes into a determination of wrongdoing. There are other factors as well, including a consideration of the reasons why damages subtract value or utility, or also why a person may be polluting in the first place. Most people will accept the influence of extraneous factors like motive and bad luck, just as they may have accepted Duckworth's excuses for unintentionally or accidentally poisoning Dodgson's pool. We tend to treat these as "mitigating factors," but I think that ignoring these factors can lead to big problems, some of which I will explain in the next section.

II. Bootstrapping: Or, Why This Matters

The above discussion may smack of hairsplitting triviality, but how we conceive of the wrong of pollution has far-reaching practical implications. It impacts how we address pollution. If, for instance, we view the problem of pollution fundamentally as a problem of harm, then we may be

[5] Please note: this reaction is extremely volatile and dangerous. Do not, under any circumstances, try to create this chemical reaction. Doing so could result in serious injury or death.

inclined to approach pollution in a distinctively economic fashion: as a "negative externality." That is, we may claim that the harms caused by pollution are unaccounted for negative costs, external to a producer's and a consumer's expense figuration.

Assuming such about pollution then invites a prescription. One simple way of dealing with pollution, if it is aptly understood as a harm, is to alter the incentives of the polluter: perhaps with a Pigouvian tax, with the threat of regulation, or with a cap-and-trade regime. These approaches are put into place in order to "internalize the externality" by forcing the polluting producer to account for overlooked costs. A tax, for instance, may shift the purchase price of the product, thereby reducing demand and shifting supply, in which case a more optimum outcome can be achieved. Similarly, regulation may shift the production cost of a product, or ensure that the externality is only produced to an acceptable degree, once again ensuring a more optimal outcome.

Naturally there are cases in which the harms from pollution are too grave to countenance—say, a pollutant is found to cause mesothelioma. If this is the case, then a different prescription for the harms problem arises. Instead of taxing, regulating, or capping the pollutant, we may place strict side constraints on the behavior of the producer: restricting pollution altogether, thereby forcing the producer to develop new technologies that rely on substitute resources, to choose an alternate supply path, or to develop new industries entirely. This is essentially the history of asbestos. As its carcoginicity became more evident, the harms from asbestos were deemed too extreme, and industries reliant upon it were forced to adjust. Some industries fell away and alternative industries emerged in their place. In fact, a whole new market for asbestos clean-up was created.

Taxes and side-constraints are two exceptionally common, albeit politically controversial, responses to pollution. The underlying idea is the same: to shore up—or bootstrap—the inefficiencies or failures in the market by introducing top-down fixatives that force the market to right itself.

It is important to note, however, that these top-down prescriptions are objectionable to many. The famous economist Ronald Coase, for instance, claimed that in some instances they can be inefficient. He proposed that we should assign property rights to producers and polluters in order to more optimally internalize external costs. Assigning property rights, he reasoned, would allow producers to achieve equilibrium between one another without bearing the inefficient bureaucratic costs associated with collective action problems (Coase 1960). Coase's solution argues for the expansion, not the constriction, of property rights, insisting that a more optimal outcome can be achieved by way of putting control in the hands of those with a vested interest. Of course, the extent of this efficiency is an empirical matter, and Coase was speaking only theoretically. Even still, his position represents the core reasoning of a view that frowns upon top-down responses to negative externalities.

"The Coase Theorem" demonstrates this important position by appealing to the case of a railroad operator and several farmers. Imagine, Coase proposes, that the locomotive to get from one destination to another. Lining the railroad, however, are several farms that are periodically set aflame by the passing coal engine.

Among other things, what Coase demonstrates is that the market would be a pretty efficient method for arriving at a resolution between the parties. Where the standard view has been to hold one or the other party *liable* for causing damage to the other party—suggesting, for instance, that the railroad

operator is responsible for causing damages to the farmer, and therefore further that due to this liability the railroad must pay the farmers for damages to their crops.

But the Coasian solution to the pollution problem calls attention to another oft-overlooked feature of pollution. That is, pollution isn't neatly characterized as a straight harm/benefit problem. Whether an additive is a rightly considered deleterious will depend on who is doing the accounting. A farmer keeping his hay near a railroad may consider the sparks emitted from a passing railcar to be a negative externality, a pollutant. But in the same arrangement, the railroad operator considers not the sparks, but the hay, to be the negative externality. Coase's observation is vital here: damages are reciprocal. What is a negative externality to the farmer is a positive externality to the locomotive operator, and vice versa. As a consequence, the liability and resolution is not clearly established simply by the damaging arrangement.

Coase too operates on the presupposition that the wrong of pollution consists in the harms of pollution, though his unique observation is that the harm itself is relative to the baseline arrangement.

From the standpoint of moral wrongdoing (as opposed to mere economic efficiency), theorists have tended to presume the Harms view and then bootstrap from there. Henry Shue, for instance, has stipulated a distinction between necessary emissions and luxury emissions (Shue 1993) in an attempt to accept the harms view but also to call attention to the varieties of activities that give rise to pollution. His point is tied up in the justice discussion: some emissions are easier (more acceptable) to reduce than others. Shue doesn't elaborate much on how one might distinguish between a luxury

and a subsistence emission, but at least one handy metric may be to cut the distinction according to elasticity of demand.

Price elasticity of demand is a measurement of how much the demand for a good changes in the face of marginal increases or decreases in price. Goods that are very elastic, like yachts and high definition televisions (HDTVs), demonstrate a precipitous drop off as they get more expensive. These "luxury goods" stand in sharp contrast, economically speaking, to goods that are less elastic, like pasta, rice, and potatoes. If the price of these goods were suddenly to skyrocket, assuming that there were no other backstop resources, consumers would continue to purchase them and make adjustments to their budgets elsewhere.[6]

Emissions that have a low elasticity of demand can thereby be said to be subsistence emissions, where those with higher elasticity of demand fall in the luxury category. For instance, fossil fuel emissions from daily trips to the grocery store may be considerably less elastic than fossil fuel emissions for heating one's house, which can be offset by other technologies. Or, conversely, fossil fuel emissions from daily trips to the grocery store may be more elastic than the use of wood for a cookstove. Many factors can go into the determination of whether a good is a luxury or a necessity/subsistence good.

On the other end of the spectrum, William Baxter points out that some pollution is necessary for us to do the sorts of things that we want to do, even if it is sometimes harmful (Baxter 1974). Need

[6] For instance, at the time of this writing, a decent 48" HDTV sells for about $1000. Some are more expensive, some less expensive, but roughly speaking, they sell for $1000. Suppose that there is a sale on these televisions, say offering them for $100 each. One assumes naturally that such a sale would result in a rush of buyers for the televisions. At a low price, demand is very high for the televisions. Suppose instead that there is a sudden scarcity in these televisions, raising the price to $10,000 for a television. One would assume naturally that such a price would yield a significant drop in demand. At a high price, demand is quite a bit lower. This is the price elasticity of demand. Whether a good is more or less elastic is an empirical matter. It is also, however, a question of luxury.

dinner? You'll have to cook it, which will take energy, and will involve some sort of degradation of the environment. Need shelter? You'll have to build it, which will take space, and involve some degradation of the environment. Baxter cartoons the pollution challenge when he asks whether we should privilege people or penguins, and he was much maligned by many in the environmental community for his stance. But his point is an important one, inasmuch as it points to a wide failing of the Harms view. That is, the Harms view can't easily accommodate prevalent intuitions that many of us have about pollution.

This points to one final implication of the Harms view. It comes ready-made with a prescription for violations: fix the harm. It is my contention that pollution is a sort of disrespect that can only be adequately characterized by looking at the entirety of the act. In what follows, I want to defend the conception of pollution as a form of trespass, rather than as characterizable in terms of harms.

The strategy that I shall take in the remainder of this essay is to move in the direction of undoing harm and/or correcting a wrong. If my thesis is correct, then I should be able to show rather handily that the simple Harms view of pollution is too narrow. I borrow this strategy in part from the environmental ethicist Robert Elliot, who wrote in 1982 an article called "Faking Nature", which he later expanded to become a book (Elliot 1982, 1997), that destroying a valuable artwork and replacing it with a passable fake invariably leaves an ineffable remainder—the intrinsic value of the artwork. Elliot's objective is to argue on behalf of the intrinsic value of nature. The "causal genesis of forests, rivers, lakes and so on is important to establishing their value." (pp. 85). Elliot uses the case of artworks to illustrate his point. Just as Elliot does, I will give cases of non-environmental harm and trespass in hopes of priming your intuitions to see that there is quite a bit more to pollution than environmental harm.

III. Polluter Pays Principle:

Or Undoing the Damage

The Polluter Pays Principle (PPP) is principle of environmental law and ethics that requires parties responsible for polluting the natural environment also to pay to clean up the natural environment. It is a reasonable principle, all things considered, inasmuch as damage to the environment is precisely the sort of thing that appears to be the core concern of pollution.

The PPP is supported by a range of legal entities, including the United Nations (UN), the European Community (EC), the United States (US) in many of the aforementioned laws, and the Organization for Economic Cooperation and Development (OECD). In the Rio Declaration on Environment and Development, it is codified as principle 16: "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."[7] The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA),which goes by the more portentous heading of "Superfund," authorizes the federal government to clean up spills that place the environment or public health in danger. Though Superfund is thought by many people—indeed, as the nickname implies—to be a fund established by the United States government to clean up spills, more than 75% of the funding for the cleanup actually comes from the polluters themselves.[8] Thus, polluter pays. The United States Corporate Average Fuel Economy (CAFE)

[7] http://en.wikisource.org/wiki/Administrative_Instruction_ST/AI/189
[8] http://www.epa.gov/superfund/community/today/pdfs/whopays.pdf. Access date: August 3, 2011.

standards impose a fine on those who sell cars below a set fuel economy standard, essentially requiring them to pay for polluting.

Polluter Pays is essentially a guiding presupposition of "corrective justice," which proposes that in order to rectify a wrong, the injurer must repair what injury he is responsible for. Corrective justice stands in sharp contrast to "retributive justice," which proposes not only that the injurer must pay damages for harm done, but that the injurer must also pay an extra penalty and/or must be made to suffer, over-and-above the corrective cost, for wrongdoing.

Let's take this first by examining a simple case of damage or harm. As I mentioned, Robert Elliot has an instructive set of thought experiments in which he encourages readers to wonder what is lost when a work of art is first destroyed and then restored with a passable fake. We should here invoke a variation on Elliot's examples to illustrate further. Suppose:

Malicious Vandal: You have very expensive, original John Tenniel woodcut print hanging in your hall. A notorious art vandal breaks into your house and cuts the print to pieces, irrevocably destroying it.

Malicious Vandal is a case in which there are at least two sorts of wrongings going on. For one, the vandal has damaged a valuable artwork, causing harm either extrinsically or intrinsically. Second, the vandal has broken into your house, trespassing on your person. This scenario is akin to the pollution scenario, and the problem with the PPP can here be made clear. Simply replacing the woodcut, or paying for damages, does not undo the wrong.

Suppose the following comparison case:

Clever Vandal: You have a very expensive, original Tenniel woodcut print hanging as before. A clever vandal—a detractor of important illustration art—deeply desires to destroy this original Tenniel. He breaks into your house and does so. To cover his tracks, and to avoid penalty, he replaces your Tenniel print with cheap but perfect fake; a replica so good that not even the best expert can tell the difference between the two prints. By assumption the print is so good that it would sell at market for the same price as the original. You are none the wiser.

It seems to me that despite the fact that you are not harmed in any way by the Clever Vandal's act, you have still been wronged. This is akin to Elliot's classic 'faking nature' case, and it would appear that what is wrong here is that the intrinsically valuable artwork, the Tenniel, is destroyed. Something inimitable has been lost. Elliot would have us observe that in light of this loss we can understand intrinsic value. But notice:

Impulsive Vandal: Again you have the expensive Tenniel. An impulsive vandal sneaks into your house while you are away. So incensed that you would have a Tenniel print on your wall, he proceeds to destroy it. Immediately feeling release after destroying your artwork, he grows worried about the legal implications of his impulsive act. To make amends, he digs deep into his bank account, and though it pains him to do so, purchases another identical woodcut to hang

on your wall. He does so before you return home. You are neither better nor worse off. You simply have a different original and expensive Tenniel.

This is a classic case of trespass, and the wrong here consists solely in the breaking and entering, as well as in the destruction of the art. The two are, essentially, the same act. The destruction of the art is a violation of your will, a wronging of you, and it is very much this wronging of you that qualifies the act as wrong. Had you invited the vandal into your home and asked him to destroy your artwork, the circumstances would be different indeed. So too if you had invited him into your home, thereby removing considerations about trespass into your home, and he had impulsively destroyed your art, or accidentally destroyed your art. We should reject such vandalism as a violation, despite the fact that you may never learn of the home invasion. Now consider this case:

Benevolent Vandal: As a longtime aficionado of children's literature, you have a cheap replica of a famous Tenniel print hanging on your wall. Suppose that a notorious vandal and detractor of cheap *kitsch* breaks into your house and destroys this print on your wall. Ugh! Gross. He cannot stand such garbage! Courteously, he replaces the replica with an original and authentic Tenniel print.

You may think this quite nice of the benevolent vandal. He has have given you a precious artwork. But there is still the minor matter of the breaking and entering, as well as the kitschy fake that had previously adorned your wall. Without any information about you, or about your commitment to that kitschy fake, it seems to me that the benevolent vandal has still wronged you in some way, even though, in retrospect, his actions may have benefitted you in perhaps such a way that you are grateful to the vandal. I want to hold that there is still an important violation of your person, and

that you would be correct to criticize the vandal for doing as he has. This, at least, is what I shall claim about pollution. But let's examine a bit more closely.

IV. A Mad Tea Party:

Or, the Hatter's Riddle

In an earlier work, my colleague William P. Grundy and I introduced several cases in which we argued that environmental remediation technologies point to an oft-overlooked aspect of environmental damage: that respect for others is also in play (Hale and Grundy 2009). Those cases were the following, modified here slightly to suit the above example.

> *Poison*: The Mad Hatter develops a poison that has the potential to kill Alice, but for which he has the antidote. Once the antidote is administered, Alice will suffer no ill effects.

Suppose the Hatter puts this poison in Alice's tea while they are chatting, fully intending to administer the antidote immediately once Alice has ingested the tea. Grundy's and my intuitions on this case are straightforward and strong: the Hatter will be wronging Alice by adding the poison to her tea, even though Alice will not be harmed by the poison.

You may have your doubts. Perhaps you think that the problem here is that the Hatter has put Alice at *risk*. Grundy and I anticipate such objections and offer other examples to address such concerns. I won't pain you by going through them all, but consider instead:

Inert Additive: Before putting the poison in Alice's tea, the Mad Hatter mixes the poison with the antidote, thus making the poison an inert additive.

Even with this knowledge, it would appear that the Mad Hatter is wronging Alice by adding an inert additive to her tea. We eventually urge readers to consider the possibility that even adding a substance so inert and harmless to Alice's tea as water without her consent, is on its face, a kind of wronging of Alice

To see the conflict here, it may help to parallel this case with *Benevolent Vandal.*

Health Potion: The Hatter has discovered an additive that will add years to a person's life. He and Alice are having tea.

Where in the *Vandal* cases there was a clear two-step violation—first an incidence of trespass and then an incident of vandalism or harm—the two-step process has been collapsed in the *Mad Tea Party* cases. It appears at first that the problem lies clearly with the harm or risk to Alice, but removing the harm or risk suggests that even here there is a sort of trespass. Grundy and I claim that the wrong of pollution lies in the trespass, or the disrespect, of Alice's will. Plainly, there are circumstances that would make the Hatter's actions permissible—if, for instance, he acquires her consent first, or if, through a bizarre twist, the Hatter finds Alice unresponsive but understands that, had she her druthers, she would've willed herself into health. In these cases, the unauthorized addition of a health potion can be understood not as a breach of respect, but a considered and respectful action. The critical consideration is not whether Alice is benefitted, but whether the

Hatter has taken the full suite of facts about Alice, including her interests, her desires, and her autonomy, into account.

This is all very abstract, I confess, but the upshot of my argument will begin to take on a more plausible ring if we consider a real case. In the next section, I'd like to drill deeper.

V. The Caterpillar:

Or, the Real Problem with Secondhand Smoke

Cigarette smoke is "classified as a 'known human carcinogen' by the US Environmental Protection Agency (EPA), the US National Toxicology Program, and the International Agency for Research on Cancer (IARC), a branch of the World Health Organization."[9] It is responsible for an estimated 443,000 deaths per year in the United States alone, which accounts for almost 1/5 of US mortality.[10] Among other complications, it is the leading cause of lung cancer and lung disease in the US, and it more than doubles the risk of coronary heart disease and stroke.

Perhaps more shockingly, *secondhand* smoke[11] is associated with an estimated 46,000 deaths from heart disease of non-smokers living with smokers, 3,400 lung cancer deaths in non-smoking adults, between 50,000-300,000 lung infections in children, and even up to 750,000 middle ear infections in children. The numbers are staggering, and they have moved many municipalities and private

[9] http://www.cancer.org/cancer/cancercauses/tobaccocancer/secondhand-smoke
[10] http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/
[11] According to the American Cancer Society, "Secondhand smoke is also known as environmental tobacco smoke (ETS) or passive smoke. It is a mixture of 2 forms of smoke that come from burning tobacco: sidestream smoke (smoke that comes from the end of a lighted cigarette, pipe, or cigar) and mainstream smoke (smoke that is exhaled by a smoker). Even though we think of these as the same, they aren't. The sidestream smoke has higher concentrations of cancer-causing agents (carcinogens) than the mainstream smoke. And, it contains smaller particles than mainstream smoke, which make their way into the body's cells more easily" (Society 2011).

businesses to prohibit indoor smoking, much enraging the smoking community. There has been a fair bit written about political, legislative, and legal battles to regulate cigarette smoke (see, for instance, (Derthick 2005; Pertschuk 2001)). For our purposes, however, it will be important simply to assess the nature of the arguments that can be lodged against smoking.

For instance, someone may argue that the problem with firsthand smoke inhalation is, essentially, that it is harmful to one's health. If smoking is bad for you, then insofar as you ought not to harm yourself, you ought not to smoke. As with many anti-pollution arguments, this argument functions along Harms lines. It can also easily translate over to secondhand smoke. If smoking is bad for others, then insofar as you ought not to cause harm to others, you ought not to smoke. Again, this argument functions along Harms lines.

But notice the gaping hole here. Firsthand harms arguments depend entirely on the harms, and gain their force either by persuading the smoker that he should not harm himself, or by insisting that such harms are so grave (and arguably cigarette smoking so addictive) that the smoker is not in a position to reason for himself about his own welfare. Secondhand arguments against smoking are nowhere near this clean. They insist not simply that harm is done, but that the harm is *unauthorized*. The unauthorized aspect, not the harm, is doing the work.

The practical and political danger here is that the harms discussion overshadows the trespass discussion, instigating an extraordinary battle over the science, instead of the morality, of smoking. To wit: to make both claims requires substantial data and information on the effects of smoke. The wrong of secondhand smoke is contingent on the fact of and the extent to which the harm to others is significant. In emphasizing the harm and downplaying the trespass on others, the question of wrongdoing shifts from a question about what is good and right, to an empirical matter regarding the degree and likelihood of damages. It is easy, once this shift has occurred, to take advantage of the lacking empirical information.

Historically, this is precisely how the discussion unfolded: opponents of regulation and restriction claimed for years that there was no demonstrable negative outcome from secondhand smoke. Research money and policy energy was redirected on making a very strong scientific case against secondhand smoke. Cigarette manufacturers objected vociferously to the science. Meanwhile, they waged another argument on rights grounds, not on harms grounds. They claimed that smoking is essentially a victimless crime, a choice that any free individual could voluntarily make. In a freedom-respecting world, went the line of reasoning, every citizen ought to be empowered to take risks with his or her own life. The decision to smoke, therefore, was a personal decision.

The same was also said of secondhand smoke: we take the goods with the bads. We don't have to associate with chain smokers, but because we prefer their company, we enter their smoky environment—their home or a bar, say—and accept that this is the price of being around them. Or, more generally, that this is the price of living in a free society.

Lying just under the surface of this discussion, as I've said, was a presumption about the nature of the harm, about the extent to which the harm is permissible. What I'm saying here is not that harm doesn't matter. Clearly, the degree and extent of harm matters quite a bit. Most people don't give much thought to benevolent vandals, or polluters who dump water in the street. Rather, I am saying that the undue emphasis on harms, to the exclusion of trespass considerations, plays a core role in the permissibility of polluting actions. Many people would not give a second thought to sitting in front of a campfire, or having a bonfire on the beach, even though such activities produce a fair bit of secondhand smoke. Many more people would happily spend their holidays roasting chestnuts by the fire, or warm their toes by the woodstove after a long day skiing; and most certainly wouldn't wag a disapproving finger at a family in the Congo who *rely* on carbon burning stoves to cook their dinner, or fires to heat their homes.

The problem with the Harms view can thus be articulated. What makes the emission of a pollutant wrong isn't necessarily whether its presence causes harm, but whether it opens the possibility of causing this harm in an unauthorized or unwarranted way, or whether it trespasses on the lives of others. That's the true problem with passive, secondhand smoke, not merely that it does, in some cases, cause cancer or cause ear infections or cause irritation to innocent bystanders. The problem, in other words, is that secondhand intrusion cannot easily be justified for a non-necessity practice like smoking. It is not, after all, as though the secondhand smoke emanates from cookstoves or campfires, which surely also have deleterious effects of the health of innocent bystanders. Still, ardent environmentalists may be reticent to adopt the Trespass view for fear that it is too anthropocentric. I think this is not necessarily true.

VI. The Cheshire Cat:

Non-Human Animals and Non-Rational Nature

One ostensible strength of the Harms view is that it elides any deeply embedded anthropocentrism that the Trespass view may engender. Trespass seems limited to entities that can be trespassed upon, which is more or less limited to rights holders. Without an account clearly spelling out the rights of non-human animals, the trespassed upon are mostly humans. This would appear to be a strike against the Trespass view. I want to argue here that this needn't necessarily be so; that, essentially, what makes the account I'm arguing for unique is that it is cast in terms of duties and not in terms of rights. What I want to suggest, namely, is that the wrongs associated with pollution stem from a failure of the duty of justification, where this duty is understood fundamentally in terms of what can be justified.

First, note that non-rational nature is not a problem for the Harms view. Many environmental strategies deploy the Harms view in the service of environmental protection. By finding the wrongs of pollution to be associated with harms from that pollution, they keep the question of rights off the table.

> *Stray cat:* the Dormouse poisons a bowl of milk and leaves it out for a cat, killing the cat.

Most assume that this case of poisoning is wrong. It is wrong because the cat, or the cat's owners, have been harmed in some important way. Naturally, poisoning a cat is bad for the cat, just as it would be for Alice. But I actually think that the same can be said of trespass. Poisoning the milk

trespasses upon the cat, and it does so because in most circumstances, poisoning a cat cannot be easily justified. Put slightly differently. If I poison a cat, I must have a good reason.

> *Prank:* Suppose that Tweedledum sets out to fool Tweedledee and thus make a production of dumping the poison in the stray cat's milk, even though there is a readily available antidote. Dum will fool Dee into believing that he has harmed the cat, though he will immediately cure the cat of all illness as soon as Dee falls for the prank.

I think it is wrong to add the poison to the milk bowl and then to give the cat the antidote, even if the cat will be none the wiser, even if the cat will not be harmed in any way, and even if it will make for great giggles between Tweedledum and Tweedledee. It is wrong, I believe, because Tweedledum will not be acting respectfully of the cat; he will be failing in his responsibility to justify his action.

Compare with:

> *Cat Nurse:* the March Hare offers the cat a bowl of milk, and in doing so adds health potion to the cat's milk.

The Hare is permitted to add medicines and health potions into the cat's milk in a way that the Mad Hatter is not permitted to add medicines or health potions into Alice's tea. The Hare does not wrong the cat by adding medication to its milk, because the act of giving the cat milk, which he does out of good will for the cat, essentially authorizes him to benefit the cat by giving it health potion.

Cats are the sorts of creatures that cannot make complex decisions about their long term health and welfare, so human proxies—pet owners and the like—are left to make decisions for them. People are not of this sort, and so the Mad Hatter's generous but surreptitious Mickey-slipping is objectionable. Naturally, there are defeaters of this position. If a person or rational agent—a pet owner or a vet, say—has recognized jurisdiction over the cat, this person or agent may need to offer consent or authorization.

I am of the mind that wrongdoing consists in the justifiability or unjustifabilty of an action. To gain access to the jsutifiabilty of adding a health potion to the cat, or more widely, a pesticide to the brush—in order to prevent the spread of plague or malaria, say—requires boots-on-the-ground pragmatic consideration of all factors associated with the justifiability of that act. Harms and benefits matter, as I've said, but what will matter as well is whether such trespass could be agreed by all affected parties (Habermas 1991; Hale 2011; Hale and Dilling 2010; Hale and Grundy 2009). Our strategy of unpolluting reveals the strong undercurrent of moral trespass in these stances, but it falls short for revealing the complications with a simplistic trespass perspective.

Conclusion

Return finally to Duckworth and Dodgson's pool. What Duckworth is doing by dumping ammonia in Dodgson's pool is trespassing on Dodgson's morally established jurisdiction—his rights. If Duckworth adds ammonia and then immediately neutralizes the ammonia, he will still be trespassing on Dodgson's jurisdiction, much like *Clever Vandal*. If Duckworth is making a product and accidentally spills ammonia in Duckworth's pool, he will certainly be required, among other things, to clean up his mess, but he will nevertheless be trespassing on Duckworth's jurisdiction. Whether

Duckworth forgives him for the accident, it is plain enough to see, will depend not entirely on the damage done, but on the reason that Dodgson can give for having caused the problem in the first place.

It is interesting to note that on the Harms view a pond of water equivalent in volume to Dodgson's pool but absent in chlorine does not form the same toxic chloramines that may lead us to evaluate Duckworth's ammonia dumping harshly. In other words, Duckworth's addition of ammonia to a swimming pool is made that much worse by the fact that Dodgson has added chlorine to the pool; and though both Dodgson and Duckworth have engaged in roughly the same act—one the addition of chlorine, the other the addition of ammonia—it is the act of adding ammonia and not the act of adding chlorine that we evaluate as contaminating the pool.

The nature of Duckworth's wrongdoing is contingent largely on the reasons that Duckworth has for doing what he's doing. Far from hairsplitting, these reasons lie at the heart of moral action. They alone explain the difference between necessity and luxury emissions. They alone are crowded out by attempts to internalize the externalities. They alone are absorbed into the Coasian argument for the efficient assignment, administration, and enforcement of property rights.

What I have been trying to suggest is that environmental wrong of pollution amounts to a unique sort of trespass. This is a trespass on the rights of other citizens, a disrespect for others, but it is more fundamentally the failure of the agent to adequately to justify her actions, to fulfill the requirement that actions be justified.

I have made my case first by exploring three rough categories of positions related to pollution—the Harms view, the Trespass view, and the Virtue view. I proposed that the Harms view holds the presumptive crown in this triumvirate, and that this dominance is reflected throughout environmental law. In section II, I discussed the potential implications of the Harm view, hoping to show how widespread the Harms view is. In section III, I discussed the PPP and suggested that it is self-undermining. In section IV, I introduced the case of Alice and the Hatter to help crystallize the Trespass view. In section V, I discussed the practical implications of the Trespass position. And in section VI, I attempted to address the objection that the Trespass view is overly anthropocentric.

In a big, shared environment, we often don't have discrete property boundaries like those that enable Dodgson to claim that he has been trespassed upon. As a consequence, the moral idea of trespass faces into the dominance of concern over harms. But theorists like Ronald Coase(1960), JJ Thomson (1980, 1992), Joel Feinberg (1990), and Mark Sagoff (2004), among others, remind us that much more than harms are already in play. The circumstances in which the addition of ammonia to a swimming pool, and the conditions under which such an act might be deemed wrong, are contingent in large part on the full suite of reasons that best explains, and either does or doesn't, justify the action. To deny this is to reduce the question of wrongdoing from pollution to simplified caricature; and more distressingly, to defang the bit of the environmentalist's claim against the polluter.

References

Baxter, William F. 1974. *People or Penguins: The Case for Optimal Pollution*. New York: Columbia University Press.

Coase, Ronald. 1960. The problem of social cost. *Journal of Law and Economics* 3 (October):1-44.

Derthick, Martha. 2005. *Up In Smoke: From Legislation to Litigation in Tobacco Politics*. Washington DC: CQ Press.
Elliot, Robert. 1982. Faking Nature. *Inquiry* 25:81-93.
———. 1997. *Faking Nature*. London: Routledge Press.
Feinberg, Joel. 1990. *Harmless Wrongdoing*. New York: Oxford University Press.
Habermas, Jürgen. 1991. Discourse ethics. In *Moral Consciousness and Communicative Action*. Cambridge: MIT Press.
Hale, Benjamin. 2011. Getting the Bad Out: Remediation Technologies and Respect for Others. In *The Environment: Topics in Contemporary Philosophy, Vol. 9*, edited by J. K. Cambell, M. O'Rourke and M. Slater. Cambridge, MA: MIT Press.
Hale, Benjamin, and Lisa Dilling. 2010. Geoengineering, Ocean Fertilization, and the Problem of Permissible Pollution. *Science, Technology, and Human Values* Onlin first, August 3, 2010.
Hale, Benjamin, and William Grundy. 2009. Remediation and Respect: Do Remediation Technologies Alter Our Responsibilities? *Environmental Values* 18 (4):397-415.
Kubrick, Stanley. 1964. Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb. USA.
Pertschuk, Michael. 2001. *Smoke in Their Eyes: Lessons in Movement Leadership from the Tobacco Wars*. Nashville: Vanderbilt University Press.
Sagoff, Mark. 2004. The Philosophical Common Sense of Pollution. In *Price, Principle, and the Environment*. New York: Cambridge University Press.
Shue, Henry. 1993. Subsistence Emissions and Luxury Emissions. *Law and Policy* 15 (1):39-59.
Society, American Cancer. 2011. 2011 [cited August 3 2011]. Available from http://www.cancer.org/cancer/cancercauses/tobaccocancer/secondhand-smoke.
Thomson, Judith Jarvis. 1980. Rights and Compensation. *Nous* 14 (1):3-15.
———. 1992. *The Realm of Rights*. Cambridge, MA: Harvard University Press.
Van Wensveen, Louke. 1999. *Dirty Virtues: The Emergence of Ecological Virtue Ethics*. Amherst, NY: Humanity Books.