

# **Distancing of Waste: Overconsumption in a Global Economy**

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Most residents of North America are well aware of the growing mountain of waste plaguing the planet.<sup>1</sup> Newspapers regularly report on the “landfill crisis,” and the local TV news seems fond of covering the politics of recycling and waste disposal. But most North Americans do not experience waste first hand beyond their own garbage, which is conveniently taken away once a week. And when they do think beyond the boundaries of their own trash can, they tend to associate the problem with industrial inefficiency, lack of recycling services, or population growth. This is not surprising, as these issues dominate both popular thinking and the academic literature on waste. Yet looking only at these issues misses key elements that challenge the long-term sustainability of processes, products, and by-products. Looking at waste through a consumption lens helps identify those elements. It gets at questions that confront consuming itself: What is the consumer link to the waste problem? Where is the “away” place that waste is thrown? Why do the wastes go there and not elsewhere? Who is affected in these “away” places? Can such practices continue on a finite planet?

An important dimension to the waste problem that becomes apparent when asking these questions is that of waste distancing. In today’s world, there is a growing distance, geographically as well as mentally, between consumers and their waste. A focus on waste distancing highlights two important components of a consumption angle on waste. First is the fact that when decision-makers have little knowledge of the ecological and social impacts of the wastes associated with goods they produce or purchase, they have little incentive or ability – as producers or consumers – to change their habits based on waste considerations. Second is the fact that such distancing consumes waste-sink capacity – both the social capacity to deal with waste in a manner that minimizes harm and that is fair; and the ecological capacity to assimilate waste that avoids toxic contamination and intergenerational effects.

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<sup>1</sup> See, for example, Louis Blumberg and Robert Gottlieb, *War on Waste: Can American Win its Battle with Garbage?* (Washington, D.C.: Island Press, 1989); Robert Allen, *Waste Not, Want Not: The Production and Dumping of Toxic Waste* (London: Earthscan, 1992); K.A. Gourlay, *World of Waste: Dilemmas of Industrial Development* (London: Zed, 1992); John Young, *Discarding the Throwaway Society* (Washington, D.C.: Worldwatch., 1991).

In this chapter, I map out several factors that contribute to waste distancing. I examine distancing with respect to the gulf between consumers, and waste – both post-consumptive garbage and the waste associated with the production of consumer items. I argue that the growing scale of industrial life, economic globalization, and economic inequality are the central drivers of the distancing of waste. This distance leads to excessive waste output and associated waste-sink demand, which are played out on a global scale, taking advantage of economic inequalities and resulting in environmental damage as waste-sink capacity is exhausted. Addressing the waste problem in a way that is ecological and fair, then, involves more than environmental education or improved consumption choices. It calls for political action to address the broader forces that make waste distancing a normal and accepted pattern of everyday industrial life.

### **Beyond Waste Management and Population Control: The Consumption Angle**

The global waste crisis tends to be defined primarily as a problem of production. Production processes are inefficient and wasteful; too many materials used, not enough recycling of by-products. Strategies for dealing with the global waste crisis from this angle focus on improving industrial waste management policies such as prevention and minimization, source reduction, better waste treatment, and enhancement of recycling opportunities.<sup>2</sup> Through a production lens, the issue is not one of ‘too much’, that is, too many items consumed per person, or just too much consuming in the production process. Instead the focus is on how to manage waste. Neo-Malthusians also chime in on the waste discussion. Through a population lens the amount of waste in production is “normal”, but there are simply too many people, all demanding products.<sup>3</sup> The issue from this angle, then, is not even one of improving waste management but, rather, of reducing demand by reducing the number of people.

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<sup>2</sup> See World Wildlife Fund, *Getting at the Source: Strategies for Reducing Municipal Solid Waste* (Washington, D.C.: WWF, 1991); and Homer Neal and Jr. R. Schubel, *Solid Waste Management and the Environment: The Mounting Garbage and Trash Crisis* (Englewood Cliffs, NJ: Prentice-Hall, Inc, 1987). The waste management hierarchy is outlined in Michael Carley and Philippe Spapens, *Sharing the World: Sustainable Living and Global Equity in the 21<sup>st</sup> Century* (London: Earthscan, 1998), p.121.

<sup>3</sup> Garrett Hardin was one of the first to popularize this idea in his 1968 Tragedy of the Commons essay, in stating boldly that “The pollution problem is a consequence of population”. Garrett Hardin, “The Tragedy of the Commons”, *Science* 162 (December 13, 1968). For more recent iterations of this view, see, for example, Charles Hall, R. Gil Pontius, Jr., Lisa Coleman and Jae-Young Ko, “The Environmental Consequences of Having a Baby in the United States”, *Population and Environment*, vol.15, no.6 (1994): 505-524; See also Zero Waste America’s website: [www.zerowasteamerica.org](http://www.zerowasteamerica.org)

If the analyst turns the waste issue around, however, and interprets it as a consumption problem, different issues must be explored. The consumption angle changes the focus (Chapter 2). It calls attention to the contribution of ‘consuming’ to the generation and distribution of waste. It probes the broader waste implications of the ‘consuming’ of materials that go into, and the by-products that come out of, the manufacture and consumption of products. It examines where and why waste ends up where it does, and who is affected by it. Further, it explores the implications of the current overconsumption of waste-sinks.

A useful analytic means of identifying the key elements of waste generation and distribution from a consumption angle is the concept of distancing. In Chapter 5, Princen defines distancing as the separation of primary resource extraction decisions from final consumption decisions. The greater the distancing on any of several dimensions, the greater the likelihood ecological feedback will be severed and a resource overused. But whereas Princen locates the environmental impact of distancing primarily at the resource extraction end of the commodity chain, I locate it at the waste end. That is, by following resource use all the way downstream one finds two sets of endpoints: waste from production at each node of the chain and waste from consumption at the end-use node. Distancing and its predicted environmental impacts occurs when key decision-makers – producers and consumers – are separated from the decisions that directly lead to the generation and disposal of waste.

In highly distanced waste chains, some information is inevitably lost and accountability diminished. Part of the separation occurs along a geographical dimension. With economic globalization, especially, the physical distances between producers and consumers as well as between consumers and wastes, expand. But part of distancing occurs along other dimensions as well. These include a cultural dimension, that is, the ways consumers lack information about the specific environmental impacts of wastes; a bargaining power dimension, that is asymmetries among decision-makers and other stakeholders over the siting of waste disposal; and an agency dimension, that is, the role of middle agents between consumption and waste disposal decisions. All of these dimensions of ‘distance’ create not just a geographical distance, but also a mental distance, what I will call an ‘understanding gap’ – a gulf of information, awareness and responsibility between consumers and wastes.

Significantly, as distance between consumers and waste increases, more waste tends to be generated. When people have little understanding of where their post-consumptive wastes

actually go, and have even less understanding of where the waste associated with the production of their purchases ends up, they tend to make decisions that perpetuate the generation of waste. Once waste is out of sight, people tend to forget about it, assuming that it is someone else's responsibility. This 'someone else' may be firms, the federal government, or local municipalities. The understanding gap and geographical distance between consumers and their waste sever ecological feedback loops, thus perpetuating otherwise undesirable consumption choices. This distancing is present between the consumer's act of 'throwing away' and the ultimate fate of that garbage (what I will call post-consumer waste), and between consumption and the waste generated in the production of consumer items (what I will call pre-consumer waste).

Distancing is also crucial for understanding another important and closely related aspect of waste crisis. With more waste being generated, more must be disposed of; it must go *somewhere*. As more and more waste is disposed, the waste-sink capacity – that is, the capacity of the earth, both socially and environmentally, to absorb this growing mountain of waste – is being consumed. There is little if any frontier for waste disposal left on the planet. Most of the waste-sink capacity in rich industrialized countries has already been used up. With the ecological impacts of waste dumps better understood today, fewer communities are willing to accept them. There are fewer landfills available in the U.S. today, for example, than 20 years ago. For this reason wastes are travelling longer distances, including to poorer less industrialized countries. The transport to and disposal of wastes in developing countries is perpetuating the consumption of waste-sink capacity, only now on a global scale. It creates an illusion that there are enough places for wastes to go. But such transport creates grossly unfair situations where the poor must bear the burden of the wastes from the rich. And it cannot go on forever. Eventually the waste sink capacity of the Earth will be used up. Indeed, some might argue that we are already there, as there is just no place for certain wastes to go (see below).

A better understanding of the root causes of waste distancing should help to promote policies to reduce it. Three factors promoting waste distancing stand out. One is the extremely large scale of modern industrial life. Seemingly ever-expanding systems for production, consumption, and waste collection have developed, beginning with the industrial boom experienced at the end of the Second World War.<sup>4</sup> To achieve economies of scale and enhance growth prospects, industrialists, planners, and government agencies promoted ever-larger

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<sup>4</sup> Susan Strasser, *Waste and Want: A Social History of Trash* (New York: Metropolitan Books, 1999), pp.13-14.

production and consumption systems. Increasingly, a growing number of items used in daily life are manufactured on a large-scale in factories and brought to consumers via globally connected distribution systems (Chapter 6). Such mass production and consumption systems contribute to distance between consumers and waste because of the sheer volume of goods which makes it nearly impossible to know much about the wastes associated with their production. At the same time, a mass waste collection system, for both post-consumer and industrial wastes, has developed, making waste disposal easy and cheap, something producers and consumers need not think about once the waste is taken away.

A second factor is economic globalization. The drive toward economic liberalization since the 1980s, in North and South alike, has contributed to this increasingly global organization of production, trade, and consumption. In the North this process has been largely driven by ideological beliefs about the benefits of a global free market. The North then presses policies on the South that promote a global free market via ‘structural adjustment’ reforms prescribed by global economic institutions such as the IMF and the World Bank.<sup>5</sup> Liberalization of trade, investment, and financial policies under these reform programs bring these countries into the global-scale systems for production, consumption and trade. Concomitantly, globalization leads directly to waste distancing. The waste collection business itself, particularly the private industrial waste disposal industry, has become ever more global in scale over the past few decades, facilitated by trade.<sup>6</sup>

A third factor promoting waste distancing is economic inequality. On both the local and the global scale, inequality can lead to situations where some communities have little choice but to accept others’ wastes, despite the environmental and social problems that such wastes create. These communities accept wastes because they are desperately poor; they cannot turn down the jobs and financial remuneration. Economic inequalities both within and between countries have in fact become more pronounced over the past thirty to forty years. Between 1960 and 1989, for example, the economies of those countries with the richest 20 percent of the world’s population grew almost three times faster than the economies of countries with the poorest 20 percent. The

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<sup>5</sup> For an overview of the globalization project and its impact on developing countries, see Philip McMichael, *Development and Social Change: A Global Perspective* (Thousand Oaks, CA: Pine forge Press, 2000).

<sup>6</sup> Harold Crooks, *Giants of Garbage: The Rise of the Global Waste Industry and the Politics of Pollution Control* (Toronto: James Lorimer and Company, 1993); Kate O’Neill, *Waste Trading Among Rich Nations: Building a New Theory of Environmental Regulation* (Cambridge, MA: MIT Press, 2000); Jennifer Clapp, *Toxic Exports: The Transfer of Hazardous Wastes from Rich to Poor Countries* (Ithaca: Cornell University Press, 2001).

result is that over that same time period, the poorest 20 percent's share of global income dropped from 2.3 percent to 1.4 percent, while the richest 20 percent's share of global income rose from 70.2 percent to 82.7 percent.<sup>7</sup> Indeed, some argue that economic globalization is a contributing factor to global inequality.<sup>8</sup> Along with this growing inequality, waste brokers have increasingly sought out disadvantaged communities, people who are the least able to resist the jobs and revenues. And the brokers use the channels of the global economy to get the wastes there. The Not in My Backyard (NIMBY) syndrome with respect to the siting of waste dumps has meant that some communities keep dumpsites out of their neighborhood while others are paid to take them. A number of studies have shown that such dumps tend to end up disproportionately in poor communities.<sup>9</sup> This displacement of waste disposal from rich to poor occurs within local communities, within countries, and globally.

### **The Volume of Post-Consumer Waste**

Along with the distancing of waste, the sheer amount of post-consumer waste generated is growing. Americans, for example, dispose of some 720 kg of garbage per person every year, more than people in any other country in the world.<sup>10</sup> In 1998 this amounted to some 4.5 pounds per person per day, up from 2.7 pounds per person per day in 1960.<sup>11</sup> The OECD country average for 1998 was 500 kg per person per year, a level some 30 percent higher than several decades ago.<sup>12</sup> This contrasts with the 100-330 kg per person in developing countries (and, for instance, the estimated 20 kg per person per year waste disposal in Nigeria) in the early 1990s.<sup>13</sup>

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<sup>7</sup> UNDP, *Human Development Report 1992* (Oxford: Oxford University Press, 1992), pp.34-36.

<sup>8</sup> Robert Wade, "Global Inequality: Winners and Losers", *The Economist* (April 28, 2001), pp.72-74.

<sup>9</sup> See Robert Bullard, "Overcoming Racism in Environmental Decisionmaking", *Environment*, Vol.36, No.4, (1994): 11-20; 39-44; Timothy Maher, "Environmental Oppression", *Journal of Black Studies*, vol.28, no.3 (1998): 357-367.

<sup>10</sup> OECD, Retrieved May 14, 2000 from the World Wide Web: <http://www.oecd.org/env/indicators/an1e.pdf>.

<sup>11</sup> USEPA "Municipal Solid Waste Generation, Recycling and Disposal in the United States: Facts and Figures for 1998", Washington, D.C.: USEPA, 2000. Retrieved May 11, 2001 from the World Wide Web: <http://www.epa.gov/epaoswer/non-hw/muncpl/99charac.pdf>.

<sup>12</sup> UNDP, *World Development Report 1998*, (Oxford: Oxford University Press, 1998), p.56.

<sup>13</sup> UNDP 1998, 71; On Nigeria see Adepoju G. Onibokun and A.J. Kumuyi, "Governance and Waste Management in Africa", in Onibokun, Adepoju (ed) *Managing the Monster: Urban Waste and Governance in Africa* (Ottawa: IDRC, 1999), p.3.

Garbage, that is, the kind of post-consumer waste that cannot be re-used or composted, is almost exclusively a twentieth century phenomenon.<sup>14</sup> Many of our grandparents in North America do not remember what happened to their garbage as children because there was so little of it. A century ago, nearly all products used in daily life were fabricated from natural materials, and, if left to the elements, would biodegrade. The use of synthetic materials, those which do not break down so quickly, has risen remarkably over the last 50 years, making the waste disposal problem more pressing.<sup>15</sup> Post-consumer waste today – that is, the wastes that consumers toss into garbage bins – accounts for up to 20% of the waste stream in North American landfills.<sup>16</sup> Although this is not the dominant source of waste landfilled, the role of post-consumer waste is indeed significant. A number of factors are commonly cited to explain the emergence of the ‘throwaway society’ and its resultant growth of post-consumer waste. These are the rise of a consumer culture, increased difficulty repairing items, growing obsolescence of technologies, and packaging. These factors are related to and interact with the broader forces outlined above: large scale production and consumption systems, economic globalization and growing economic inequalities.

The rise of consumer society, particularly in Northern industrialized countries, is a well-known phenomenon.<sup>17</sup> An increasing array of products have become accessible to consumers through the proliferation of shopping plazas, retail outlets, television ads, newspapers and magazines, telemarketing and internet sales services. In this environment, consumers are purchasing more and more ‘stuff’, and throwing more of it, when its relatively short useful life is over, away. The quantity and availability of ‘stuff’ that makes this culture of consumption possible, however, are also intimately linked to the mass production and consumption systems facilitated by economic globalization. And increasingly skewed global economic inequality has exacerbated the situation; the ‘haves’ increasingly ‘have more’, and often ‘buy more’, resulting

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<sup>14</sup> Strasser 1999, p.12.

<sup>15</sup> Young 1991, pp.20-21.

<sup>16</sup> Zero Waste America claims that municipal waste is between 2 and 20 percent of the waste disposed of in landfills in the US. Retrieved May 11, 2001 from the World Wide Web: <http://www.zerowasteamerica.org>.

<sup>17</sup> See Juliet Schor, *The Overspent American: Upscaling, Downshifting, and the New Consumer* (New York: Basic Books, 1998).

in ‘overconsumption’.<sup>18</sup> Not surprisingly, as incomes rise, material consumption and its corresponding wastes also tend to increase.<sup>19</sup>

Another factor behind the increased amount of post-consumer waste is a growing inability of consumers to repair items themselves, as well as the high cost of repair services. Increasingly less-durable products, produced in large scale and sold in the name of affordability and consumer convenience, are at the root of this trend. Affordability and convenience have taken over durability as major selling features in the marketing of products.<sup>20</sup> Systems for mass production have directly contributed to this problem, as it is far easier to make goods in large quantities in automated assembly lines than it is to repair them. Making repairs requires an intimate knowledge of how a machine works and an ability to creatively craft a new part.<sup>21</sup> Large-scale production systems do not encourage workers to acquire this type of knowledge or skill, and thus the availability of repair services has dropped and its price has risen. In this context, it is often less expensive to purchase a ‘new’ item, than it is to repair it.

The increasing rapidity with which technologies become obsolete is another factor associated with the growing amount of post-consumer waste. Obsolescence, increasingly planned by producers, is a product of the growing scale of production and consumption systems and the mentality of the perpetual growth economy.<sup>22</sup> Consider the ubiquitous PC (personal computer), for example. They become obsolete in a very short period of time, such that it makes more sense, and is cheaper, to buy a new one every couple of years, than it is even to upgrade them. In 1998 alone, some 20 million PCs were rendered ‘obsolete’.<sup>23</sup> Less than 10 percent of those computers were recycled.<sup>24</sup> Some obsolete PCs are donated to schools, churches or charities. But giving them away is increasingly difficult, as no one seems to want an out-of-date computer. And the recycling option is increasingly costly, even for those trying to get rid of them.<sup>25</sup> The majority of

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<sup>18</sup> Carley and Spapens 1998, pp.134-138.

<sup>19</sup> Gourlay 1992, pp.33-34; Young 1991, p.12.

<sup>20</sup> Young 1991, p.21.

<sup>21</sup> Strasser 1999, p.10.

<sup>22</sup> Conrad Lodziak, “On Explaining Consumption”, *Capital and Class*, no.72 (2000), pp.124-25.

<sup>23</sup> Kim Nash, “Millions of Obsolete PCs Enter Waste Stream”, *Computerworld*, vol.34, no.15 (April 10, 2000), p.20.

<sup>24</sup> Danielle Knight, “US Fights EU Initiative Against Electronics Pollution”, *Inter Press Service*, May 25, 2000.

<sup>25</sup> For example, I recently had to pay \$20 at our local recycling depot to have an old monochrome computer screen taken away for recycling. The pamphlet explaining the program indicated that the machines would be recycled, but did not indicate where or by whom.

obsolete computers end up in storage or in landfills, or are incinerated. When left in a landfill or incinerated, these computers pose a serious hazard because of their high levels of heavy metals such as lead and cadmium. Indeed, they are considered ‘toxic’ waste in the United States. It is estimated that there will be 315 million obsolete computers in the U.S. by the year 2004.<sup>26</sup> Rather than protesting this situation, consumers in rich industrialized countries seem quite happy to acquire new computers on a regular basis. Some 130 million PCs were sold in the U.S. alone in 2000.<sup>27</sup>

The increased volume of post-consumer waste is also intimately linked to the growth of packaging waste, itself very much linked to large-scale systems for production and consumption organization.<sup>28</sup> About one-third of U.S. municipal solid waste is discarded packaging.<sup>29</sup> To service consumers on a global scale, goods are packaged to enhance their ability to travel long distances, to give them uniformity of size for efficient distribution, to keep them sanitary, to increase their convenience of use, and to make them more appealing.<sup>30</sup> Producers claim that they are only trying to meet consumers’ needs by, for example, increasing the use of plastic packaging, because it is lighter than glass, and thus easier to carry. Much of the packaging we see today is ostensibly designed for ‘consumer convenience’, especially with respect to ‘disposable’ items and the packaging of foods, fast-food in particular.<sup>31</sup>

There are thus many factors working to increase the amount of consumer waste, and these are interconnected with the factors that contribute to the distancing of waste from consumption. The growing mountain of post-consumer waste is distanced from consumers through a variety of channels. What is not compostable is typically dumped in landfills, enters recycling programs, or is incinerated. In the U.S. over the past few years, for example, of the 220 to 380 million tons of municipal solid waste generated (statistics vary), 50-60 percent of it was

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<sup>26</sup> Knight, May 25, 2000.

<sup>27</sup> Nash 2000, p.20

<sup>28</sup> On the packaging issue and policies directed toward it, see Bette Fishbein, *Germany, Garbage and the Green Dot: Challenging the Throwaway Society* (New York: INFORM, 1994); Sally Eden, “The Politics of Packaging in the UK: Business, Government and Self-Regulation in Environmental Policy”, *Environmental Politics*, vol.5, no.4 (1996): 632-653.

<sup>29</sup> USEPA 2000.

<sup>30</sup> Blumberg and Gottlieb 1989, pp.260-62.

<sup>31</sup> On this point, see WWF 1991, pp.9-10; and the discussion of consumer sovereignty, Chapter 14 of this volume.

disposed of in landfills, 25-33 percent was recycled, and 7-17 percent was incinerated.<sup>32</sup> Below I discuss each of these outlets of the consumer waste chain and its distancing implications.

Most people in North America have a sense of where their local landfill is, though they probably have never visited it. Wastes are conveniently taken away each week by municipally organized waste collection systems. Most cities in the U.S. began to set up municipal systems for waste collection around 1900, in an attempt to clean up the streets where waste was regularly tossed. This waste was sent to local dumps, and since the 1930s, increasingly disposed of in so-called 'sanitary' landfills. The large-scale organization of municipal waste collection and disposal, however, has only been available in the industrialized countries since around the 1950s.<sup>33</sup> Today municipal solid waste collection services are available to over 95 percent of the population in OECD countries.<sup>34</sup>

But not all municipal solid waste finds its final resting-place at the landfill. Post-consumer waste often travels a significant geographical distance with a large understanding gap. Some cities in the U.S. and Canada, for example, regularly send their municipal garbage to other communities that have more capacity or, at least, greater willingness, to dispose of it. The geographical distance traveled could be within the city limits, within the state or province, or even further afoot. The New York 'garbage barge' that sailed down the East Coast of the U.S. in 1987, loaded with over 3000 tons of garbage from Long Island looking for a place to unload, is a reminder of the global potential of city trash. After being rejected by the state governments on the U.S. coast, the barge continued on, seeking permission from Belize, Cuba, and Mexico. Finally, after two months at sea and many rejections, the barge finally returned to Long Island and the waste was reluctantly dumped there.<sup>35</sup> In this case other communities, even those in need of the economic resources that would come with accepting the waste, were not willing to take it, indicating an exhaustion of social capacity to absorb the waste. But just as often wastes sent afar are successfully dumped somewhere. Within cities and local regions, waste dumps are located in neighborhoods that are more economically depressed. A large environmental justice literature

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<sup>32</sup> Nora Goldstein and Celeste Madtes, "The State of Garbage in America", *BioCycle*, Vol.41, No.11 (November 2000), p.41; USEPA 2000.

<sup>33</sup> Strasser 1999, pp.271-272.

<sup>34</sup> UNDP 1998, p.71.

<sup>35</sup> See "Barging into a Trashy Saga", *Newsday*, Retrieved May 10, 2001 from the World Wide Web: <http://www.lihistory.com/9/hs9garb.htm>.

has analyzed this phenomenon. It is widely recognized that poor neighborhoods and communities, including those made up largely of people of color or native origins, tend to be targeted for the siting of landfills and other toxic activities.<sup>36</sup>

It is not just municipal waste destined for landfills that is increasingly distanced from consumers. Most communities in North America have a local recycling program in which recyclable post-consumer waste is collected weekly alongside garbage. When people ‘recycle’ their aluminum cans and foil, plastic containers, and paper products, they may feel as if they are ‘doing their bit’ for the environment and for society. But most people know little about the conditions under which these wastes are recycled, or whether the environment is better off for it. Reducing the amount of recyclable material that ends up in landfills may only increase the amount of landfill space available for other industrial wastes.<sup>37</sup> What is more, once the recyclable material is sorted, there may not be enough demand to ensure that it is actually recycled into other products.<sup>38</sup>

Much of what is collected for recycling in the U.S. is recycled in the country, though a growing amount is also exported. Recyclables are usually sorted locally, but they travel to recycling facilities located some distance away. There exists a global trade in, for example, used plastics, obsolete computers, and used lead-acid batteries which serve as raw materials for recycling operations around the world. In these cases, it is often cheaper to recycle such items in poorer countries where environmental regulations for recycling are more lax. Latin America and Asia are key locations for the recycling lead-acid batteries, while Asia seems to dominate the recycling of both computers and plastics.<sup>39</sup>

The plastics that go into local recycling programs in North America and Europe are a stark illustration of this distance that many people are unaware of when they diligently rinse out their used plastics and place them in recycling bins. For example, some 100,000-150,000 tons of

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<sup>36</sup> See Bullard 1994 for an overview of this literature. See also Daniel Brook, “Environmental Genocide: Native Americans and Toxic Waste”, *American Journal of Economics and Sociology*, vol.57, no.1 (1998): 105-113;

<sup>37</sup> On this point, David Pellow, Allan Schnaiberg, and Adam Weinberg, “Putting the Ecological Modernisation Thesis to the Test: The Promises and Performances of Urban Recycling”, *Environmental Politics*, vol.9, no.1 (2000), p.114.

<sup>38</sup> Nancy Linn, Joanne Vining and Patricia Ann Feeley, “Toward a Sustainable Society: Waste Minimization Through Environmentally Conscious Consuming”, *Journal of Applied Social Psychology*, vol.24, no.17 (1994), p.1551.

<sup>39</sup> See Clapp 2001, pp.64-66.

plastic waste collected in local recycling programs made its way from the U.S. and Germany to Indonesia every year in the early 1990s. Only about 60 percent of this waste was actually recyclable, however, and the rest, some of which was toxic, was disposed of in landfills. The plastic recycling operations in Indonesia operate under extremely unsafe conditions. Plastic wastes often contain residues from their original contents, such as toxic cleaners, pesticides, and fertilizers. Protective clothing is seldom given to employees, mainly women and children. Moreover, the importation of plastic wastes has been implicated in diminishing the livelihood of some 30,000-40,000 scavengers of local plastic waste (supporting some 200,000 dependents) who supply local, small-scale plastic recycling operations.<sup>40</sup> In part because of these problems, the Indonesian government banned the import of plastic wastes in 1993. But other countries in Asia remain large importers of post-consumer plastic waste, including China, the Philippines, Korea, India, and Taiwan, to name just a few.<sup>41</sup> Indeed, the Asian market for post-consumer plastic waste has been a big part of the economic viability of plastic recycling in the U.S., with the U.S. exporting to Asia some 200,000 metric tons of plastic waste for recycling in 1995.<sup>42</sup>

A third major outlet for waste is incineration. Although in North America incineration is not as prevalent a waste outlet as are landfills and recycling, it is still significant and represents yet another set of distancing issues between consumers and waste. Support for the incineration of waste emerged in the 1970s and 1980s as a way to solve two pressing problems: lack of landfill space and the energy crisis. If wastes are combusted, it reduces the volume taken up by the waste, thus saving landfill space. And in the process of combustion, energy can be recovered.<sup>43</sup> Environmental campaigns in the 1980s sought to stop the incineration trend, however, on the grounds that the ash left over from the combustion stage is highly toxic. Moreover, the smoke from incinerators, particularly when they are not burning at the correct high temperature (which is extremely difficult to monitor) releases toxic substances into the air.<sup>44</sup> These toxic air pollutants, containing persistent organic pollutants (POPs) such as dioxin and furans, can travel

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<sup>40</sup> I. Bokerman and J. Vorfelder, *Plastics Waste to Indonesia: The Invasion of the Little Green Dots* (Hamburg: Greenpeace Germany, 1993).

<sup>41</sup> Greenpeace Canada, *We've Been Had! Montreal's Plastics Dumped Overseas* (Montreal, Quebec: Greenpeace, 1993); "German Wastes Flood Latvia", *Toxic Trade Update* vol.6, no.3 (1993), pp.11-13.

<sup>42</sup> Andrew Noone, "PET Recycling in Asia Pacific", in *Resource Recycling*, vol.16, no.2 (February 1999), pp.37-40.

<sup>43</sup> Blumberg and Gottlieb 1989, pp.35-42.

<sup>44</sup> See Paul and Ellen Connatt, "Municipal Waste Incineration: Wrong Question, Wrong Answer", *The Ecologist*, vol.24, no.1, (1994): 14-20.

thousands of miles. They typically make their way to ground level in cold climates. Incinerators in communities as far south as the Southern U.S. and Mexico have been implicated in the POP contamination problem of many Arctic native communities.<sup>45</sup>

The solid waste remaining from the incineration process, the fly-ash which is usually highly toxic, also has made its way to vulnerable communities. The fly-ash is normally disposed of in landfills, which, as mentioned, are themselves often sited according to economic and racial status. Economic globalization has also had an impact on the distancing of this ash. In some cases, particularly in the 1980s before an international outcry, there were exports to developing countries of toxic fly ash from municipal incinerators. The now legendary voyage of the *Khian Sea* is a stark illustration. In 1986, loaded with 14,000 tons of toxic incinerator ash from Philadelphia's municipal waste incinerator, the ship sailed to the Caribbean Sea to unload. After several months the cargo was unloaded in Haiti under the label of fertilizer. The government ordered it removed when the true content was revealed, but an estimated 4,000 tons were left on the beach where it had been dumped. After failed attempts to offload the remainder of the cargo in Africa, Europe, the Middle East, and the East Asia, a voyage of some 27 months, the ash mysteriously disappeared from the ship in Southeast Asia.<sup>46</sup> The waste left in Haiti sat on the beach leaching toxins for ten years before a deal was brokered with the U.S. for its removal. It was finally removed from the beach in Haiti in early 2000 and made its way by barge to Florida, where the Florida state Environmental Protection Agency agreed to dispose of it. The state revoked the offer several days later and, as of April, 2001, the waste was still on the barge off the coast of Florida, awaiting its fate.<sup>47</sup> This case shows that the social as well as environmental sink-capacity for such wastes, even in economically disadvantaged countries, has been exhausted. There is no 'away'.

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<sup>45</sup> Alicia Marie Belchak, "Arctic Dioxin Tracked to North American Sources" Environmental News Service (October 4, 2000), Retrieved May 29, 2001 from the World Wide Web: <http://ens.lycos.com/ens/oct2000/20001%2D10%2D04%2D06.html>.

<sup>46</sup> See Jim Vallette and Heather Spalding (eds.), *The International Trade in Wastes: A Greenpeace Inventory* (Washington, D.C.: Greenpeace, 1990), pp.21-25.

<sup>47</sup> See Ramona Smith, "New Ship Hauls Haitian Ash", *Philadelphia Daily News*, October 30, 1998; "Haiti: No Welcome Mat for Return of US Toxic Waste", *Inter Press Service*, June 13, 1999. Victor Fiorillo and Liz Spiol, 'Ashes to Ashes, Dust to Dust', *Philadelphia Weekly*, January 18, 2001. Melissa E. Holsman, "2,000 Tons of Ash Still on Barge", *Sun Sentinel* (Fort Lauderdale, FL), April 5, 2001.

## The Fate of Pre-Consumer Waste

A second important dimension of the consumer-waste distance is the understanding gap and geographic space between, on the one hand, consumption of items and, on the other, the fate of wastes associated with the production of those items. In other words, consumers do not know where the waste by-products from the manufacture of consumer items they buy ends up, or even what that waste is composed of. Like the case of post-consumer waste, the disposal of this *pre-consumer waste* is also taking place on a global scale, made possible by the globalization of the industrial waste disposal industry. Taking advantage of economic inequalities, waste traders often seeks out communities willing to accept it for disposal or recycling. Moreover, with the increase in scale of industry, spurred by the globalization of trade and investment, much more of consumer items available these days in North America is produced in another country, making the distancing of industrial waste often much larger than the distancing between consumers and their post-consumer waste.

The global generation of toxic industrial waste is huge and growing, up from 300-400 million metric tons per year in the 1980s, to some 400-500 million metric tons per year over the past decade.<sup>48</sup> Most of the world's toxic waste is generated in the United States and Western Europe, though a growing proportion of it is being generated in the developing world.<sup>49</sup> To assess the total waste picture, though, it is important to also consider the extraction of raw materials, the necessary inputs to industrial production, in addition to toxic industrial waste. Mining, oil extraction, and logging all produce immense amounts of waste, some toxic and some not.<sup>50</sup> In Canada alone, for example, non-fuel mining generates over 650 million tons of waste material per year, more than 20 times the amount of municipal solid waste and industrial production waste combined.<sup>51</sup> Like in the case of the growing amounts of post-consumer waste, this pre-consumer waste is expanding due to a number of forces, including those that contribute to waste distancing.

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<sup>48</sup> Preface to 1999 version of the Basel Convention (Geneva: Secretariat of the Basel Convention, 1999).

<sup>49</sup> Robert Lucas, David Wheeler and Hemamala Hettige, "Economic Development, Environmental Regulation, and the International Migration of Toxic Industrial Pollution 1960-88", *Policy Research Working Papers*, WPS 1602 (Washington, D.C.: World Bank, December 1992), p.14.

<sup>50</sup> Young 1991, pp.7-12; Gourlay 1992, pp.43-49.

<sup>51</sup> Environmental Mining Council of British Columbia, "Mining and the Environment Primer". Retrieved May 22, 2001 on the World Wide Web: <http://www.miningwatch.org/emcbc/primer/default.htm>.

The push for economic growth over the past 50 years has played a large role in the mounting industrial and raw material waste problem. Production is counted as economic growth: if more growth is good for the economy, then more production is good for the economy, too. And because the waste disposal industry generates economic activity, adding to growth, it too is seen as good for the economy. In today's global economy, this has led to government subsidization of industrial growth and pressure to relax environmental regulations and/or enforcement as a means of attracting foreign investment. This trend, dubbed a 'race to the bottom', is a highly contested notion. But it is increasingly recognized that, regardless of whether firms actually do seek out pollution havens or take flight from highly regulated economies, the threat that they might do so does indeed have an impact on how governments impose and enforce environmental regulations.<sup>52</sup> In this climate, there has been much less emphasis among governments on promoting 'clean production' methods that reduce the generation of industrial waste than there has been on creating jobs and attracting investment. Economic globalization only contributes to this trend, as countries strive to compete in global markets for consumer goods by creating economic efficiencies and producing items cheaply on a mass scale. Waste disposal companies then can clean up the mess left behind, themselves contributing to economic growth.<sup>53</sup>

The growing use of synthetic materials, including chemicals and plastics, in the manufacture of consumer items is a major contributor to the growing amount of industrial waste generated.<sup>54</sup> These components in the industrial process generate particularly toxic by-products. They are used in the manufacture of items with particularly high consumer demand, such as electronics goods (including televisions, cell-phones, and computers), textiles (dyeing), furniture (finishing), and automobiles, to name a few. The mass production and consumption systems that have developed over the past century exacerbate this trend. To produce electronics items in mass scale, for example, the use of synthetic materials such as plastics keeps them portable and light-weight, reducing the cost of materials, and the cost of transportation. This enables them to serve a global market more easily. Similarly, the use of chemicals and synthetic products in other

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<sup>52</sup> Gareth Porter, "Trade Competition and Pollution Standards: 'Race to the Bottom' or 'Stuck at the Bottom'", *Journal of Environment and Development* vol.8, no.2 (1999): 133-151.

<sup>53</sup> Joshua Karliner, "The Environmental Industry", *The Ecologist* vol.24, no.2 (1994): 59-63.

<sup>54</sup> On plastic in particular, see Blumberg and Gottlieb 1989, pp.265-74; On the chemical industry see Gourlay 1992, pp.36-43.

industries has enabled more economies of scale and reduced weight, making them easier to transport around the globe via mass consumer distribution channels.

By buying a product ‘made in the USA’, or anywhere else for that matter, one cannot be sure that the industrial waste created by the production of that item is disposed of on the site of the factory where it was made, or even in that country. Just as mass production and consumption systems have developed in ways that have increased the generation of toxic waste, mass systems for its removal, disposal and recycling have also developed, and in this case the toxic waste disposal industry has become increasingly global. Waste disposal companies are increasingly setting up operations in more than one country, wastes are traded around the world, and transnational corporations tend to dispose of their wastes in the country in which they operate.<sup>55</sup>

Like the problem with municipal garbage dumps, toxic waste disposal facilities are often located in poor communities, taking advantage of economic inequalities. At the domestic level, particularly in the U.S., industrial wastes from the production of consumer items also tend to gravitate to poor and disadvantaged communities.<sup>56</sup> Though a number of factors determine location of such industries, wealthier and more educated communities appear to be more able to block toxic waste generating industries, or at least be able to require them to clean up their operations.<sup>57</sup>

The export of hazardous wastes to developing countries also became a thriving business in the 1980s and early 1990s. The first cases that came to the world’s attention were in Africa, such as the infamous case of toxic waste drums exported from Italy to Koko, Nigeria and stored on a farmer’s land in exchange for a small fee.<sup>58</sup> But Africa wasn’t the only recipient of such wastes. In the following years, countries in Latin America, the Caribbean, South Asia, East and Southeast Asia, as well as Eastern Europe were targets of waste traders.<sup>59</sup>

The 1989 Basel Convention, which came into force in 1992, sought to control this trade. The impetus for this environmental treaty was the public outcry in both rich and poor countries

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<sup>55</sup> O’Neill 2000, pp.35-36.

<sup>56</sup> Francis Adeola, “Environmental Hazards, Health and Racial Inequity in Hazardous Waste Distribution”, *Environment and Behavior*, vol.26, no.1 (1994): 99-126.

<sup>57</sup> David Allen, “Social Class, Race and Toxic Release in American Counties, 1995”, *Social Science Journal*, vol.38, no.1 (2001): 13-25.

<sup>58</sup> See Clapp 2001, p.35.

<sup>59</sup> Vallette and Spalding 1990.

against the practice. But soon the export of industrial waste for recycling emerged, in large part as an attempt to circumvent the Basel Convention and other rules to control the global hazardous waste disposal industry. Developing countries were recipients of toxic wastes destined for recycling operations throughout the 1990s. Eventually the parties to the Basel Convention adopted an amendment in 1995 that bans the trade in toxic waste for both disposal and recycling purposes between rich and poor countries. This amendment, however, is not yet in force, and thus is not yet legally binding. Despite the public outcry against the trade in wastes from rich to poor countries, there have been hundreds of cases of hazardous waste exports to poor countries over the past two decades. Though the number of these incidents has slowed since the mid-1990s when the Basel Convention came into force and the Basel Ban Amendment was adopted, it still occurs often enough to raise concern.<sup>60</sup>

A recent example of this phenomenon is the late-1999 shipment from Japan to the Philippines of 2,700 metric tons of wastes destined for disposal in Manila. This shipment was in direct contravention of the Basel Convention. Labeled as paper for recycling, the wastes were in fact a mix of hazardous medical and industrial wastes.<sup>61</sup> When the Philippine government discovered the wastes after they had been abandoned at the Manila Harbor, it protested vigorously to Japan. Embarrassed by the incident, the Japanese government agreed to remove the waste within 30 days, as required by the Basel Convention. In one account of this incident, a reporter speculated that the exports may have been the result of a tightening of Japanese laws for dioxin emissions which had shut down the incinerators of the firm responsible for the shipment of waste.<sup>62</sup>

Most of the export of toxic industrial waste from rich to poor countries these days is destined for 'recycling' operations. Though recycling implies environmental stewardship of hazardous wastes, in most cases, especially in developing countries, it has been as harmful to the environment as dumping. The recovery of products from imported hazardous wastes in developing countries are in almost all cases carried out under unhealthy and environmentally dangerous conditions. A large proportion of these wastes cannot actually be recycled. And

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<sup>60</sup> The Basel Action Network (BAN) maintains a website that tracks these incidents: <http://www.ban.org>.

<sup>61</sup> "Illegal Dumping", *Mainichi Daily News*, Niigata, Japan, January 13, 2000.

<sup>62</sup> "Japan: Philippines Case Bares Inadequacy of Waste Rules", *The Yomiuri Shimbun*, Tokyo, Japan, January 12, 2000.

hazardous by-products are often left behind that must be disposed of.<sup>63</sup> Once again, poor communities, attracted by the economic benefits of handling others' wastes, are further disadvantaged environmentally while the wastes are increasingly distanced from consumers.

The recent attempted export of spent mercury wastes from a decommissioned U.S. chemical plant to India illustrates the ongoing problems associated with the global toxic waste recycling industry. The HoltraChem Manufacturing company, which used mercury to produce chlorine and other chemicals for use in the paper industry, closed in September 2000, leaving behind 260,000 pounds of mercury waste. The governor of Maine asked the U.S. Department of Defense to put the waste in the national stockpile of mercury, but was refused. HoltraChem said it would sell the waste to a broker who planned to ship it to India, already the largest recipient of mercury exports from the U.S.<sup>64</sup> News of this planned shipment sparked a huge controversy in both the U.S. and India. Mercury recycling operations in other developing countries in the 1990s, such as the Thor Chemicals recycling operation in South Africa that recycled mercury from the U.S. and Europe, raised concerns about the safety of recycling in India. In the South Africa case, mercury wastes from the recycling operation caused severe poisonings amongst workers and polluted the local environment before the plant was ordered closed.<sup>65</sup>

The U.S. government has claimed that because mercury, despite its highly toxic properties, is considered a traded metal, rather than toxic waste, it is not covered by the Basel Convention. Environmentalists and the Indian government disagreed. With a shipment of 18 tons of the waste on its way to India in January 2001, it was rejected by the Indian government, and returned to the U.S.<sup>66</sup> The waste was then slated to make its way to a mercury recycling facility in Pennsylvania. But the recycling facility pulled out of the deal because of the bad press surrounding the mercury waste. The waste returned to the closed plant in Maine. As of April 2001 the company ceased to exist, raising questions about who would be responsible for the

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<sup>63</sup> Jim Puckett, "Disposing of the Waste Trade: Closing the Recycling Loophole", *The Ecologist* vol.24, no.2 (1994): 53-58.

<sup>64</sup> Susan Young, "Fed Refuse HoltraChem Mercury, Company May Send Chemical to India", *Bangor Daily News*, November 17, 2000; Danielle Knight, "Outcry over US Toxic Chemical Shipment to India", *Inter Press Service*, December 11, 2000.

<sup>65</sup> For a discussion of this case, see Clapp 2001, pp.62-64.

<sup>66</sup> Danielle Knight, "Controversy Around Mercury Shipment from US to India", *Inter Press Service*, January 25, 2001.

waste.<sup>67</sup> If the waste is eventually recycled, it will be resold, and could well make its way back to India for use in the manufacture of thermometers or in chemical plants. Even so, there is, once again, no 'away' for such materials.

There is also a growing amount of toxic waste generated in poor countries. These wastes stem from industries that are producing consumer items that serve global markets, such as electronics and chemicals. When wastes are both generated and disposed of in developing countries, the distance from consumers in rich countries is huge, largely because the information is even less available to them than is the case when those wastes are produced in rich countries. The developing world's share of toxic waste production from manufacturing is in fact growing, a trend that has been widely recognized.<sup>68</sup> Whether or not firms are moving to developing countries to take advantage of more lax environmental regulations, they do tend to take advantage of the low-cost conditions once there.

The *maquiladora* firms in Mexico are a stark example. These U.S.-owned industrial factories located just inside the U.S.-Mexico border were set up in the 1960s to produce goods for export to the US. In the early years these plants, concentrated in the garment assembly sector, were not generators of large amounts of industrial wastes. By the 1980s, however, plants were being set up in the electronics, chemicals and furniture sectors, all of which are large generators of hazardous wastes.<sup>69</sup> By the early 1990s, nearly four fifths of *maquiladoras* were generators of toxic waste, while the number of such firms also climbed significantly.<sup>70</sup> Technically this increased generation of toxic waste in Mexico amongst the *maquiladora* factories should not have affected that country's environment. The La Paz agreement, made between the U.S. and Mexico in 1983, as well as Mexican law, required the toxic waste generated by the *maquiladoras* to be returned to the US, where the materials originated, for disposal. This agreement explicitly aimed to reduce waste distancing. In the early 1990s, however, only 2-3 percent of firms were

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<sup>67</sup> Susan Young, "New Home for Mercury Hard to Find", *Bangor Daily News*, March 28, 2001.

<sup>68</sup> Patrick Low, "The International Location of Polluting Industries and the Harmonization of Environmental Standards, in *Difficult Liaison: Trade and the Environment in the Americas*, eds. H. Munoz and R. Rosenberg (London: Transaction Publishers, 1993), p.25.

<sup>69</sup> Edward Williams, "The Maquiladora Industry and Environmental Degradation in the United States-Mexico Borderlands", *St. Mary's Law Journal*, vol.27, no.4 (1996): 777-779.

<sup>70</sup> Leslie Sklair, *Assembling for Development* (San Diego: University of California, Center for US-Mexican Studies, 1993), pp.79-80.

returning their waste.<sup>71</sup> At that time, both the U.S. and Mexico admitted to not knowing the amount of toxic waste generated on the border.<sup>72</sup> Improved monitoring and tracking of wastes were put into place following the adoption of the North American Free Trade Agreement (NAFTA) in 1994. Although recent figures show that the return of hazardous wastes to the U.S. has risen to 25-30 percent with increased monitoring since NAFTA came into effect,<sup>73</sup> it is widely recognized that accurate figures on toxic waste generation on the border are elusive, and that illegal dumping of toxic waste continues.<sup>74</sup> Though the geographical distance between the U.S.-Mexican border may not be all that large for many in the U.S., the understanding gap regarding the fate of toxic wastes associated with consumers items on the market there is significant.

The growing export of industrial waste *among* developing countries adds yet another dimension to waste distancing. The recent case of hazardous industrial plastics wastes exported to Cambodia from Taiwan in December 1998 demonstrates this clearly. When Formosa Plastics Group (FPG), a Taiwanese firm, had difficulty obtaining permission to dump its mercury-contaminated plastics waste locally, it hired a waste brokerage firm to get rid of it for them. The waste broker exported the waste to the Cambodian town of Sihanoukville. Neither country is a party to the Basel Convention. Moreover, the Basel Ban Amendment does not prohibit such transfers among poor countries, only between rich and poor countries. Increasing the understanding gap, the waste was wrongly labeled as 'polyester chip', and the shipping papers called it 'cement cake'. At least six deaths have been attributed to the waste, two from contact with it and the bags in which it was shipped, and four from a stampede out of the town when it was announced that the waste dumped there was hazardous.<sup>75</sup> FPG agreed to remove the waste,

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<sup>71</sup> Sklair 1990, 253-4; Diane Perry et al., "Binational Management of Hazardous Waste: The Maquiladora Industry at the US-Mexico Border", *Environmental Management* vol.14, no.4 (1990), p.442.

<sup>72</sup> John Harbison and Taunya McLarty, "A Move Away from the Moral Arbitrariness of Maquila and NAFTA-Related Toxic Harms", *UCLA Journal of Environmental Law and Policy* vol.14, no.1 (1995-1996), p.6.

<sup>73</sup> Cyrus Reed, "Hazardous Waste Management on the Border: Problems with Practices and Oversight Continue", *Borderlines* vol.6, no.5 (1998). Retrieved May 23, 2001 from the World Wide Web: <http://www.us-mex.org/borderlines/1998/bl46/bl46haz.html>. See also HAZTRAKS on the World Wide Web: <http://www.epa.gov/earth1r6/6en/h/haztraks/haztraks.htm>

<sup>74</sup> Enrique Medina, "Overview of Transboundary Pollution Issues Along the Mexico-US Border", in Thomas La Point, Fred Price, and Edward Little, eds. *Environmental Toxicology and Risk Assessment: Fourth Volume* (West Conshohocken, PA: American Society for Testing and Materials, 1996), p.9.

<sup>75</sup> Lawrence Speer, "Environmentalists Assail Taiwan's Plans to Ship Waste to French Treatment Facility", *International Environment Reporter* vol.22, no.21 (October 13, 1999), p.830.

but it did not intend to return it to Taiwan.<sup>76</sup> Instead, it attempted to ship it to an industrialized country for treatment. The U.S., France and Germany were approached, but all three refused. By mid-2000, FPG agreed to re-import the waste and dispose of it in Taiwan.<sup>77</sup> It is virtually impossible for consumers purchasing plastic products marked ‘made in Taiwan’ to know whether such products are linked to incidents such as this, illustrating the enormous distancing, along both geographical and cultural dimensions, of industrial waste from the end consumer.

## Conclusion

Looking at the mounting problem of waste disposal through a consumption lens highlights the importance of distancing. Wastes are increasingly being distanced from end consumers. Both post-consumer waste and pre-consumer wastes are making their way around the world, with detrimental environmental and social impacts of which consumers have little understanding. The mass production and consumption systems of the past half-century give little information about the wastes associated with the production of items consumed. At the same time, the mass collection and disposal system helps keep consumers in the dark about the fate of their garbage. Wastes often take advantage of economic inequalities, using the channels of the global economy as a vehicle to make their way to disadvantaged communities. Moreover, as wastes make their way around the world, global waste-sink capacity is being consumed. The consumption of waste-sink capacity is occurring at such a rapid pace, that there is now a growing number of loads of wastes - both post-consumer and industrial - that no one will take, in either rich or poor countries.

Attempts to reduce the distancing of waste via education may make consumers more aware of the ecological implications of consumption choices, improving ecological feedback loops, so that more environmentally responsible consumption decisions are made. But as Maniates argues in Chapter 3 of this book, focusing only on the domain of private consumption choices serves to ‘individualize’ responsibility for the environmental crisis through purchasing practices, rather than challenging more powerful structures and forces. Efforts to tame the forces

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<sup>76</sup> Glen Perkinson, “Company Agrees to Take Back Mercury-Laden Waste Sent to Cambodia”, *International Environment Reporter* vol.22, no.5 (March 3, 1999).

<sup>77</sup> For a full account of the incident, see BAN, “Victory for Global Environmental Justice: Toxic Waste Dumped on Cambodia will Finally be Treated by Producer”, press release, Seattle, June 9, 2000. Retrieved April 10, 2001 from the World Wide Web: <http://www.ban.org>.

causing waste distancing in the first place – large-scale industrialization that has brought mass production, mass consumption, and, now, mass waste collection, as well as economic globalization and economic inequality, must be undertaken. Such efforts are obviously much more difficult than merely educating consumers about the impact of their consumption choices. They are much more political, and are deeply resisted at many levels.

Some initiatives have begun to attempt elements of this task, despite its enormity. At the international level, environmental NGOs and developing country governments pushed Northern countries to ban the trade in hazardous waste between rich and poor countries within the context of the Basel Convention. This ban, based on the precautionary principle, aims to put a damper on the exploitation of economic inequalities in the globalization of the hazardous waste disposal and recycling business. Once the Basel Ban Amendment comes into force it should further reduce transfers of toxic waste between rich and poor countries. Further efforts will still be needed, however, to reduce the transfer of toxic waste between rich and poor communities within countries, and to address the growing generation of toxic waste within and trade of that waste among poor countries. The Basel Convention does encourage waste minimization and the proximity principle for its disposal, though these are not enforced. Efforts to strengthen these components would go a long way toward improving the contribution of the Basel Convention to reducing waste distancing. Another important step on the part of the international community is the recent adoption of the Stockholm Convention on the Elimination of Persistent Organic Pollutants. This treaty employs the principle of zero discharge as well as the precautionary principle to phase out the generation of the most serious, bioaccumulative persistent pollutants, including dioxins and furans that are the toxic by-products of waste incineration. It will likely be several years before this treaty comes into force, but its expected impact on reducing POPs promises significant reduction of waste-related pollution inequalities in Northern communities. These efforts at the international level mainly attempt to ameliorate the negative waste consequences associated with economic globalization and inequality, but they do not tackle these problems directly.

At a more local level, there are efforts to reduce the scale of industrial life through a localization of production and consumption. One example discussed in this volume (Chapter 10) is local exchange and trading systems (LETS). LETS attempt to reduce the large scale and global nature of industrial production and distribution systems by encouraging small-scale local

production, service provision and exchange. Though LETS do not focus directly on waste generation and distribution, they do have implications for waste issues. Extensive use of LETS in some communities may help to reduce the scale of production and consumption systems for those consumers that participate, thus increasing awareness of production methods and pressuring local producers to reduce waste generation. But because these systems are small and, to some extent, still operate within a global economy, there is little assurance that wastes generated either by producers or consumers within LETS will stay within the community. Some communities have debated whether to institute a proximity principle for their waste, though. The city of Toronto, for example, seriously debated whether it should be sending its municipal waste great distances for disposal. A proposal was floated to send its wastes to an abandoned open pit mine in a community 600 km to the north. In the end the NIMBY syndrome won out over the proximity principle, and a deal was struck to send that city's waste to Michigan.<sup>78</sup> But now Michigan is having second thoughts, and the debate over the proximity principle for waste may be re-opened.<sup>79</sup>

Extended product responsibility (EPR) initiatives are another promising effort aimed to reduce waste distancing along the entire waste chain. The idea behind EPR is to assign responsibility all along the waste chain, from producer to consumer, for the reduction of environmental impact of a product at all stages of its life cycle – that is, from the extraction of raw materials that go into a product, through its production, distribution and disposal. EPR initiatives originated in Western Europe, and the concept is embodied in packaging laws in a number of countries, including Germany, the Netherlands and Sweden.<sup>80</sup> These types of laws require producers to take back products at the end of their useful life, which encourages producers to design products that are easy to re-use, repair, and recycle, and encourages consumers to make more environmentally sound consumption choices. In the U.S., most EPR efforts are voluntary on the part of firms, and are in place mainly where there are economic benefits for implementing them. More government oversight, including the enactment of laws to

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<sup>78</sup> See John Nicol, "Down in the Dumps", *Macleans*, Feb.26, 2001; and Amy Cameron, "Garbage North", *Macleans*, Aug.21, 2000.

<sup>79</sup> "Michigan Bill Seeks Ban on City's Garbage", *Toronto Star*, March 8, 2001.

<sup>80</sup> Gary Davis and Catherine Wilt, "Extended Product Responsibility", *Environment*, vol.39, no.7 (September, 1997), p.10. See also Paul Hawkin and Amory Lovins and L. Hunter Lovins, *Natural Capitalism* (Boston: Little, Brown and Company, 1999), who report that by 1998 there were some 28 countries with take-back laws for packaging, p.79.

require EPR measures such as product take-back could go a long way to encouraging reluctant firms to get on board, and to extend the responsibility not just to producers, but also to consumers, as is currently the case in Europe.<sup>81</sup>

To date the efforts to reduce waste distancing have been on a relatively small-scale or have only partially addressed the broader structures that lead to distancing. Policies designed to increase efficiencies and opportunities within today's global economy are still the main organizing principle for most national and local economies. Inequality and large-scale production, consumption, and waste disposal systems are very much a part of this economic context. Measures to reduce distancing are still working within this broader economic framework. Whether these measures will find a measure of success within this global economic context depends in large part on whether they explicitly connect their aims to a need to revise the broader structures and whether they are emulated more widely. Institutionally, the precautionary principle, zero discharge, waste minimization, and the proximity principle must override risky free trade principles such as open markets, capital mobility, and centralized production.

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<sup>81</sup> Davis and Wilt, 1997.