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Privileged Access, Privileged Accounts: Toward a Socially Structured Theory of Resources and Discourses

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Abstract

Environmental harms involve a "double diversion" – two forms of privilege that deserve greater attention. The first involves disproportionality, or the privileged diversion of rights/resources: Contrary to common assumptions, much environmental damage is not economically "necessary" – instead, it represents privileged access to the environment. It is made possible in part by the second diversion – the diversion of attention, or distraction – largely through taken-for-granted or privileged accounts, which are rarely questioned, even in leftist critiques. Data show that, rather than producing advanced materials, major polluters tend to be inefficient producers of low-value commodities, and rather than being major employers, they can have emissions-to-jobs ratios a thousand times worse than the economy as a whole. Instead of simply focusing on overall/average levels of environmental problems, sociologists also need to examine disproportionalities, analyzing the socially structured nature of environmental and discursive privileges. Doing so can offer important opportunities for insights, not just about nature, but also about the nature of power, and about the power of the naturalized.

To date, sociologists have underestimated the value of the physical environment for examining what Habermas (1970), among others, has identified as a key challenge for advanced industrial societies – distributing resources in a way that is unequal, yet widely accepted as legitimate. For the full value to be realized, however, it will be necessary to expand on the contributions that have been made in past work.

More specifically, this paper will argue for the value of examining society-environment relationships in terms of a *double diversion*. The first diversion involves strikingly unequal patterns of *privileged* access to environmental rights and resources, or disproportionality: although environmental philosophers see the planet's resources as being intrinsically public, actual patterns of access to natural resources, including access to nature's capacity for absorbing wastes, tend to be highly skewed, bringing profits to very few beneficiaries, while largely bringing costs to the rest of society. As Habermas might have pointed out, the patterns of privileged access are widely *assumed or expected* to be economically "necessary" – for jobs, for incomes, or for the economically irreplaceable products that are thought to result – but as will be shown in the following pages, the available evidence strongly contradicts the common assumptions. Instead, the very fact that these assumptions are so rarely questioned, despite clear evidence that they are wrong, may actually indicate that they are key components of the way in which the unequal distribution of resources comes to be seen as legitimate – that is,

This is a revised version of a paper originally presented at the annual meeting of the American Sociological Association, which has been significantly improved in response to helpful comments from Lisa Berry, Lee Clarke, Harvey Molotch and Peter Nowak. All views expressed in the paper are those of the author alone. *Correspondence should be addressed to William R. Freudenburg, Environmental Studies Program, University of California-Santa Barbara, Santa Barbara, CA 93106-4160. E-mail: freudenburg@es.ucsb.edu.*

through the second diversion, or the diversion of *attention*. As will be discussed below, rather than being called into question, the inequalities and disproportionalities are almost universally unchallenged, being so widely taken for granted or "naturalized" that they are perhaps best seen as privileged accounts.

This paper's argument and the relevant evidence will be presented in four main sections. The first section briefly summarizes recent work on society-environment relationships, noting that both conservative and critical commentators, to date, have generally overlooked or dismissed the significance of the patterns that this paper calls "privileged access" – the socially structured and strikingly disproportionate patterns that characterize human access to the biophysical environment, both in terms of benefiting from "goods" (resources and rights) and in terms of avoiding "bads" (wastes and responsibilities). The second section summarizes what may be the least ambiguous of the relevant data, involving the use of the shared environment for the disposal of wastes that are known to be toxic. As the data will show, toxic emissions in the U.S. – whether measured in pounds or in toxicity, and when measured at scales that range from broad industrial sectors down to individual establishments – show levels of disproportionality that are equal to or greater than the inequalities in the income distributions of any societies ever studied. The third section offers an initial assessment of some of the key reasons why such disproportionalities have received so little attention to date, involving what this paper will call "privileged accounts" – generally unquestioned assumptions or arguments that help to "naturalize" and legitimate the privileged access. The final section briefly discusses the implications of this work for future thinking about the environment and the state, and for future research more broadly.

Disproportionality in Environment-Economy Relationships

Expressions of concern over "environmental problems" may well go back to the time when one group of cave dwellers first objected to the smoke or other nuisances being generated by another, and written accounts go back at least to the time of Herodotus, in the fifth century before Christ (Herodotus 1952; for a more extensive review, see Dietz and Rosa 1994). In the English legal tradition, environmental concerns can be seen as early as in "the first step in a long historical process leading to the rule of constitutional law," the Magna Carta (Wikipedia 2005: http://en.wikipedia.org/wiki/Magna_Carta), in Article 33. Important precursors exist in sociology as well (see e.g. Bernard 1925; McKenzie 1931; Gilmore 1944; for a more detailed review, see Field and Burch 1991), but the sociological significance of the biophysical environment received only limited attention until the 1970s. As noted by Humphrey and Buttel (1982:7), even as early as the mid-1970s, "more than 60 percent of the 4,892 entries" in the most important sociological bibliography of the time (Morrison et al. 1974) had been published in 1969 or thereafter.

As would be noted in subsequent reviews (Buttel 1987; Freudenburg and Gramling 1989), the "core" of the work that came to be known as "environmental sociology" during the 1970s and 1980s included a broad or macrosociological perspective, generally with the view that environmental preservation inherently conflicts with overall economic prosperity (Catton 1980; Schnaiberg 1980; Dunlap and Van Liere 1984; O'Connor 1988, 1991). By the 1990s, a growing body of work on "environmental justice" and environmental racism made important strides in analyzing the socially structured distribution in the experiencing of environmental harms (Bullard 1994; Cable and Benson 1993; Çapek 1999; Szasz 1994; for a critique, see Anderton et al. 1994; for a more detailed analysis and response, see Mohai 1995). By contrast, however, few researchers to date have examined inequalities in the *producing* of environmental harms. (For an early argument on the need for greater attention to such disproportionalities, see Freudenburg and Nowak 2000; for a rare empirical examination, see Szasz et al [1993], who noted that Los Angeles County was the source of roughly half of the toxic emissions for the entire state of California, and that the "top 10" Census tracts in that county produced roughly one-third of its emissions, while 1435 Census tracts had no reported emissions; see also Berry et al. 2004; Nowak and Cabot 2004.)

For the most part, in other words, when sociologists have considered the potential for socially structured disproportionality in the *production* of environmental harms, the issue has tended to be dismissed as being empirically and/or conceptually inconsequential. In one of the clearest examples, Schnaiberg and Gould (1994) noted that, although a mining company may create more direct environmental impacts than might a service-sector consulting firm, the consulting company nevertheless creates demand for electricity and adds a burden on sewage treatment facilities from the flushing of company toilets. They also noted that a hypothetical 20 percent reduction in pollution per unit of production, in the face of a doubling of production, would still lead to a net increase in pollution burdens (Schnaiberg and Gould 1994:53). In their words, "no matter how much technology may improve" in reducing the pollution and/or resource depletion per unit of production, such an improvement "is likely to be offset" by increased production (Schnaiberg and Gould 1994:53), leading to "an enduring conflict" between environmental protection and economic growth. (See also Bunker 1996.)

The question of whether *overall* improvements in ecological efficiency can counterbalance an increased scale of production has become the focus of sharp debate, particularly in arguments for and against "ecological modernization." (For recent summaries, see Mol and Sonnenfeld 2000; Fisher and Freudenburg 2001; Mol and Buttel 2002.) This paper's argument, however, is more specific: whatever the ultimate feasibility of reducing a society's overall environmental burden in the face of economic growth, the socially structured disproportionalities in the creation of environmental damage are worthy of increased attention in their own right, for at least two reasons. First, for those who are concerned about environmental quality, as the following pages will show, the disproportionalities are sufficiently strong to constitute *privileged access*: contrary to the widespread assumption that environmental improvement could only be achieved at significant cost to jobs and the economy, significant improvements could be made if a small fraction of all economic actors were to reduce their emissions-per-job ratios simply to the average for the economy as a whole. Second, even for social scientists who have little interest in environmental improvement in its own right, it is possible to gain insights into Habermas's problem of understanding the legitimation of inequality by examining the privileged accounts that help to make the *privileged access* possible, taking seriously the ways in which they divert attention away from any inequities that might be inherent in using, for private profit, the natural resources that many traditional cultures and most present-day philosophers (e.g., Shrader-Frechette 1981) see as inherently public or shared.

Disproportionality in the use of Shared Environmental Resources: Privileged Access?

When do "outliers" become the tail that wags the distribution? The logical starting point for examining any such disproportionalities is to confront the common if erroneous assumption that extreme cases should simply be discarded. For the most part, sociologists have learned with good reason to focus on measures of central tendencies, such as means and medians, and on differences in central tendencies across groups. In addition, especially for methods such as ordinary least squares regression, which are based on the sums of squared deviations from the mean, results can be highly sensitive to relatively extreme results that are commonly known as "outliers" (e.g., textbooks such as Hamilton 1990: 492-94). As the textbooks add, however, even if a measured value is relatively extreme, that does not necessarily mean that it should be deleted from the analysis; instead, there may well be circumstances in which extreme values ought to become the focus of analysis. At a minimum, such attention may be warranted when a variable involves not the operationalization of an abstract concept, such as prejudice or prestige, but a measure of something more tangible.

In analyzing tangible but generally undesirable patterns of crime and deviance, for example, although there has clearly been value in broad-brush analyses that treat criminal activities and even "crime waves" as reflections of larger social patterns (e.g., the classic analysis by Erikson 1966), most observers would see reasons for concern if sociological analyses of crime and deviance, as a whole, were to discard as "outliers" or otherwise to treat as conceptually inconsequential the relatively small number of individuals who actually carry out the crimes. Rather than being identified as "outliers," in fact, those few individuals tend to be identified as "criminals" – persons who "embody or involve" criminal activity, to note a dictionary definition – and their actions are generally seen as an important focus for what we call the "criminal justice system." When considering access to environmental resources and services, similarly, it is at least worth asking whether analogous forms of disproportionality do exist, and if so, what the resultant implications might be.

The initial examination of the issue in this paper will be carried out at three levels of analysis – beginning with a brief consideration of national-level data, next turning to more detailed examinations at the level of economic sectors, and then examining findings on individual establishments. As will be seen, the disproportionalities are substantial – even when, as will be seen in the third and most detailed step of this analysis, the focus is on establishments that are in the same industry and producing comparable products.

National-level Comparisons

It is by now well known that the global pollution burden is not merely a matter of sheer population numbers, so the first or broadest level of analysis will be discussed only briefly. To illustrate the overall degree of unevenness across nations, however, the average citizen of the United States, for example, "releases almost 30 times as much carbon dioxide" as does the average citizen of India (Stern 1993:1897). Still, this fact could simply be taken as suggesting that environmental problems would be roughly proportional to prosperity levels – except that further examination shows that such is not the case.

Instead, quantitative comparisons have found substantial disproportionalities in the disruptions, even when focusing on nations that enjoy comparable levels of prosperity. Citizens of the United States and Canada, for example, throw away "roughly twice as much garbage per person as West Europeans or Japanese do" (Young 1991:44), even though all of the nations in questions are industrialized ones with roughly comparable standards of living. Yet the disproportionality becomes even clearer if levels of prosperity are controlled explicitly. On a dollar-per-dollar basis, for example, the United States consumes nearly twice as much oil as West Germany, *per unit of output*; and again on a dollar-per-dollar basis, mainland China consumes more than three times as much (Flavin 1992). Still, given the number of cultural, climatic and other differences between or among societies – along with important sociologists' arguments that patterns such as *homo colossus* (Catton 1980) or "the treadmill of production" (Schnaiberg 1980) are becoming transnational or even global – it is arguably more instructive to turn to the second and third levels of analysis, which involve more detailed examination of disproportionality *within* a given society.

Differences Across Economic Sectors

For the purposes of an initial exploratory analysis, and taking into account the nature of the data presently available, perhaps the most straightforward option for examining the production of environmental harms within a given society is to focus on differential access to the assimilative capacity of the biophysical environment, in the form of documented patterns of toxic emissions. Under the "Superfund" statute of 1986, subsequently amended by the Pollution Prevention Act of 1990, toxic emissions have been routinely reported annually, since 1987, for all U.S. industrial facilities in heavily polluting industries. Since the early 1990s, the legislation that has come to be known as the Emergency Planning and Community Right to Know Act, Section 313, has required reporting of toxic emissions from all facilities in Standard Industrial Classification (SIC) codes 20-39 (later expanded to include other waste-emitting industries) that have 10 or more employees, and that handle, manufacture or process significant quantities of any of the more than 600 toxic chemicals that are currently covered under the Act. (For further details, see U.S. Environmental Protection Agency [EPA] 1994, 1995, 1998, 2003.)

The resultant data set (generally known as the "Toxics Release Inventory" or TRI) does have four key weaknesses that need to be noted here. First, the chemicals reported in the TRI are not "weighed" in terms of toxicity but instead in terms of pounds – a point that will be addressed below by comparing the results that are obtained using both measures (i.e., toxicities as well as pounds). Second, facilities with fewer than 10 employees are exempt – although Grant et al. (2002: 397) have noted that, due to economies of scale in production, chemical establishments with fewer than 10 employees are "likely to be administrative offices or distribution centers," and in fact the Grant et al. findings have shown that most of the pollution does tend to be associated with larger plants. The third and more serious weakness is that emissions are often estimated, rather than being measured directly, with few inspections ever being done by the EPA to verify the amounts being reported; critics such as the Environmental Integrity Project (EIP, 2004) contend that actual emissions may thus in fact be as much as 123 percent higher than the levels reported. This weakness, in particular, means that TRI data clearly cannot be considered precise enough to serve as the basis for enforcement against specific facilities or companies, and that small or modest differences might well be masked by imprecision or "noise" in measurements. Still, given that high levels of underreporting are more likely to be associated with major polluters than with small ones – and indeed, the EIP (2004) results came from major polluters – the net result of any underreporting may be to underestimate rather than to exaggerate the degree of disproportionality that is actually present. The problems associated with imprecision can be further compounded by the fourth and final weakness, which is that TRI requirements have changed and evolved over time, as specific chemicals or industries have been added to or removed from the overall list. Although "official" figures at any given time are as comparable as possible across industries and facilities, EPA often adjusts even previously reported TRI figures in response to court decisions and changes in reporting policies. For present purposes, this means that any given comparison across sectors or establishments will need to focus on a given release or reporting date.

Some of the key strengths of the TRI, on the other hand, include the fact that, first, every substance reported in this data source has in fact been demonstrated to be toxic, making it difficult to argue that high levels of any of these emissions are intrinsically good. Second, the entire data base is readily and widely accessible, with even the raw data being available on the World-Wide Web and in CD-ROM format, facilitating replication and/or further analysis of what may be the most extensive, readily available source of data on the actual emissions of scientifically documented health-endangering substances in the world. Third, the TRI is in fact being used in an increasing number of social science analyses that take advantage of its strengths and show appropriate awareness of its weaknesses. (For further discussions and examples of the successful use of such statistics, see Grant et al. 2002; Grant and Jones 2003; Szasz 1991, 1994; Howell et al. 2003.)

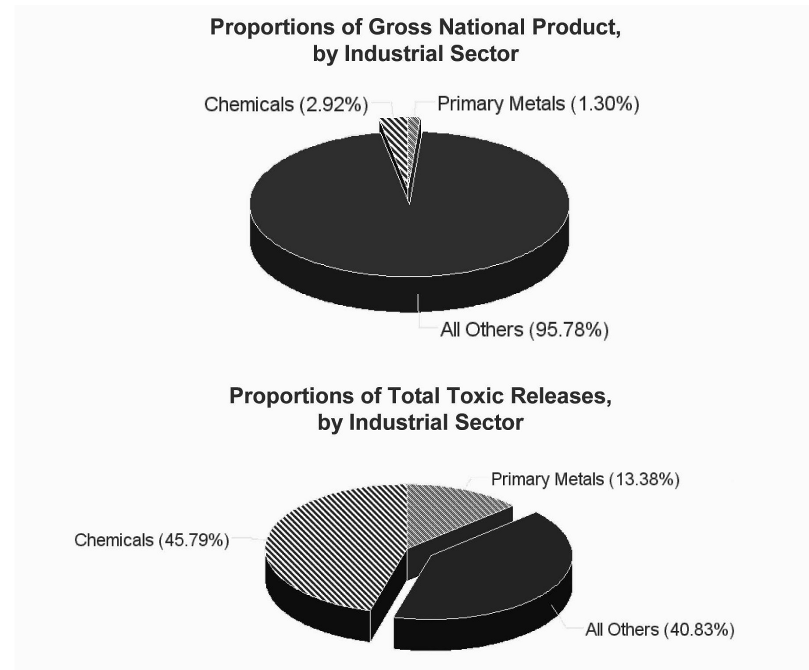
Perhaps the clearest way to illustrate the strengths and weaknesses is to consider specific illustrations. In recent years, as TRI has expanded to include the mining industry, growing attention has been devoted to the fact that metal mining may illustrate the kind of disproportionality discussed in this paper. (See the discussions provided by The Right-to-Know Network, at http://rtknet.org; see also Berry et al. 2004.) In 2001, for example, metal mining accounted for 2.78 billion pounds of releases, roughly half of all releases reported in the TRI (U.S. Environmental Protection Agency 2003: ES-5). Given that mine wastes include vast quantities of waste rock, an analysis that includes the mining industry could be criticized as providing an unduly high estimate of the disproportionality of toxic releases. In addition, in response to a 2003 court decision, EPA changed the ways in which "releases" of waste rock were calculated, meaning that for 2002 (the most recent reporting year available at the time of this writing) the metal mining industry was responsible for "only" about a quarter of releases. (For further details, see http://www.epa.gov/tri/tridata/tri02/press/allindus-chart9802.pdf.) Rather than seeking to use the most recent figures, a more conservative approach is to focus on the emissions that were reported in earlier years, before metal mines were included among the industries being required to report their emissions under TRI. (See also Berry et al. 2004.)

Figure 1, accordingly, summarizes the overall patterns of emissions from the somewhat earlier year of 1993 – a date that, as will be noted below, allows a certain amount of follow-up over time. Except where otherwise noted, these analyses will be based on the original data release, as summarized by the U.S. Environmental Protection Agency (1995) and widely distributed by the agency in CD-ROM format. Figure 1 follows the work of Templett and his colleagues on the emissions-to-jobs ratio (e.g., Templett and Farber 1994), comparing the emissions to the economic contributions associated with the relevant sectors of the U.S. economy – a level of aggregation that inherently fails to represent any disproportionate responsibilities for pollution *within* a given industrial sector, which will instead be examined below. As can be seen, even at this overall level, the disproportions are substantial, being on the order of 12:1. Even if metal mining is excluded from the analysis, in other words, Figure 1 shows that roughly 60 percent of all toxic emissions in the United States could be traced to just two industrial sectors – chemicals and primary metals – that jointly account for less than 5 percent of the Gross National Product. The disproportionality is even more severe when measured in terms of jobs: The chemical and primary metals industries actually involved just 1.4 percent of the jobs in the nation at the same time, leading to a disproportionality of roughly 20:1.

Establishment-Level Data

If certain activities such as chemical production are truly required for economic well-being, and if indeed the firms within this sector do generally produce comparable levels of toxic emissions, such findings could support the argument that this use of the environment for waste disposal is not so much privileged as "necessary." By the logic of disproportionality, however, it may instead be the case that most firms in a given industry will be able to put out the same products and materials with significantly lower levels of pollution, suggesting that the environmental disruptions created by the pollution-intensive firms may be anything but "necessary," *even in carrying out a given form of manufacturing*. As the evidence shows, the variations within industries prove to be substantial. In 1993, to be more specific, just *two companies* (DuPont and Freeport-McMoRan) reported roughly 400 million pounds of toxic releases – roughly a third of all toxic releases from the entire chemicals sector, or for that matter, more than 14 percent of all toxic releases in the entire TRI database in 1993. According to "Value Line," the electronic, on-line data base that is a relatively standard

Figure 1. Proportions of Economic Activity and Toxic Releases



reference source for stockbrokers, these two companies combined had just under 115,000 employees and $39 billion in revenues in 1993 – just six-tenths of a single percent of the Gross National Product, and the much lower figure of .09 percent of the national workforce, that same year. If we calculate the disproportion of disruption in terms of individual companies rather than in terms of entire economic sectors, the toxic emissions reported for Freeport-McMoRan that year were 273 times as high as the national average, in terms of dollars, while being *more than a thousand times as high, in terms of jobs*.

Is this level of toxic emissions simply a reflection of what all firms in the chemical sector find it "necessary" to release to the environment? At least at the sector-wide level, it would appear not. The Freeport-McMoRan emissions-per-job ratio of 1070:1, after all, is more than 17 times as high as the previously reported 60:1 emissions-per-job ratio for the chemical sector as a whole (1070/60 = 17.8). Still, this level of analysis is less precise than one that focuses on individual establishments.

The data in the Toxic Release Inventory do make it possible to examine establishment-level data – but at that level, the disproportionalities prove to be greater still. Freeport-McMoRan's 193 million pounds of releases came from just four facilities – .017 percent of the establishments that reported their releases in the relevant EPA figures. The "top" facility in the nation that year – IMC-Agrico of St. James, Louisiana – single-handedly accounted for 127,912,967 pounds of releases, or 4.55 percent of the national total of just over 2.8 billion pounds of toxins. This one plant's emissions, in other words, made up a slightly higher proportion of the national toll of toxins than the Chemical and Primary Metals sectors of the economy, *in combination*, contributed to the Gross National Product. The second-highest total for emissions from a given facility – the 120 million pounds of emissions from Cytec Industries of nearby Westwego, Louisiana – was not far behind. These *two facilities* jointly accounted for roughly 9 percent of all reported toxic emissions in the United States, as well as for roughly 20 percent of the toxic emissions from the chemical sector of the economy, as a whole (U.S. Environmental Protection Agency 1995). The activities at these "top facilities" will be examined further as part of the consideration of "privileged accounts" below, but first it is important to ask whether other approaches to quantification would yield similar or differing results.

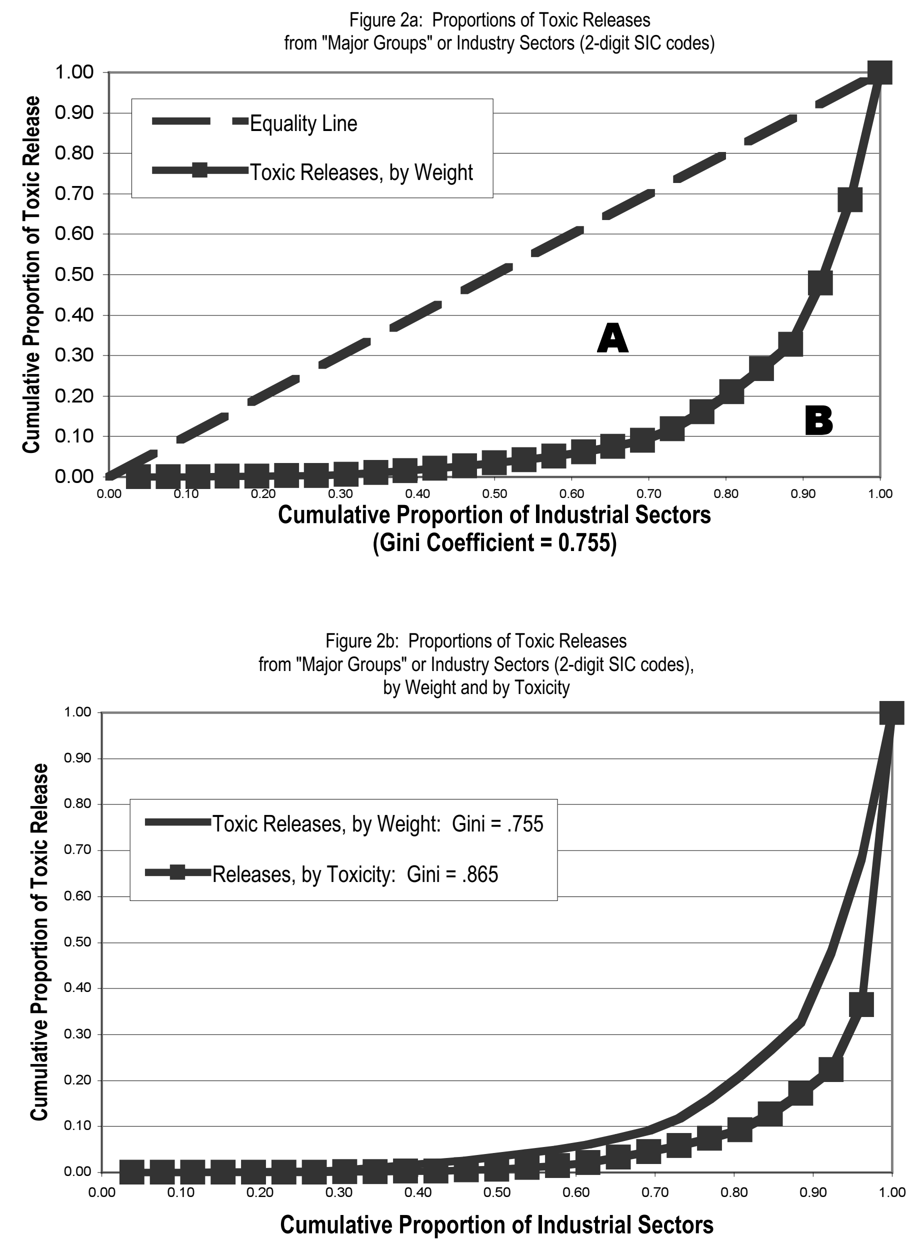
Approach 2: Gini Coefficients and Statistical Controls

In response to the findings reported thus far, *Social Forces* reviewers raised four main concerns. The first had to do with whether it would be possible to compare the magnitude of toxic disproportionalities against other forms of inequality that have been considered in past work – possibly by considering a more widely used approach for measuring levels of inequality. The second was related to a point that has already been noted, namely that the *number of pounds* of releases may or may not correlate with the *toxicity or risk* of those releases. The third had to do with a desire for more evidence on whether disproportionalities might be due simply to the differing levels of economic activity within a given industrial sector. The fourth and final concern had to do with whether there might be other "technological imperatives," such that certain relatively specific products simply could not be manufactured without releasing high levels of toxicity. These four concerns will be addressed here in the same order.

Alternative Measure: Gini Coefficient. As a relatively straightforward way of comparing toxic disproportionalities to better-known measures, a useful option is to draw from the approaches that economists have developed for examining distributions of *valued* resources, such as wealth and income – a family of distributions that includes the Pareto distribution, but that is most broadly represented by a Lorenz curve. In its common manifestation, the Lorenz curve compares the proportions of incomes or other resources controlled by, for example, the poorest 20 percent of the population vs. those controlled by the next 20 percent, and so forth. Perhaps the best-known approach to the quantification of such Lorenz curves is provided by the "Gini Coefficient," which is commonly used to quantify the degree of inequality in a society's incomes.

The basic equation is provided by a number of sources, including Dorfman (1979), but the coefficient is perhaps most easily understood as a ratio, as illustrated in Figure 2a. If the "good" or "bad" in question (e.g., income, pollution) is distributed evenly, the result would approximate the "equality line," or the straight diagonal line in Figure 2a. To the extent to which the actual distribution is less even, the distribution will instead approximate the Lorenz distribution, or the curved line below the diagonal in the same figure. The Gini coefficient is most easily understood as representing the area inside of this curve as a proportion of the total area under the diagonal – or in terms of the areas marked in Figure 2a, as "A / (A +B)." This coefficient thus has a theoretical range from 0.0 (for a society having complete equality) to 1.0 (for a society where one individual controls all resources). In practice, coefficient values range from around .2 for historically equalitarian countries such as Bulgaria or Hungary to around .6 for nations where powerful elites dominate the economy, with the world's highest coefficient today being associated with Sierra Leone, at .62. Most present-day European countries and Japan rate around .25-.32, while most African and South American countries – and in recent years, the United States – have had Gini coefficients in the range of .45-.50. According to a number of reports, the highest national-level Gini on record is for South Africa during the apartheid era at .72 (e.g., Eckert and Garner 2003). The Lorenz curve in Figure 2a provides an alternative representation of the same data already summarized – the disproportionality, in pounds, of toxic releases in 1993. The Gini coefficient for this distribution proves to be .755, or a higher level of disproportionality in emissions than in the incomes of the most unequal nations ever studied.

Figure 2. Disproportionality Across Industrial Sectors



Pounds vs. Toxicity?

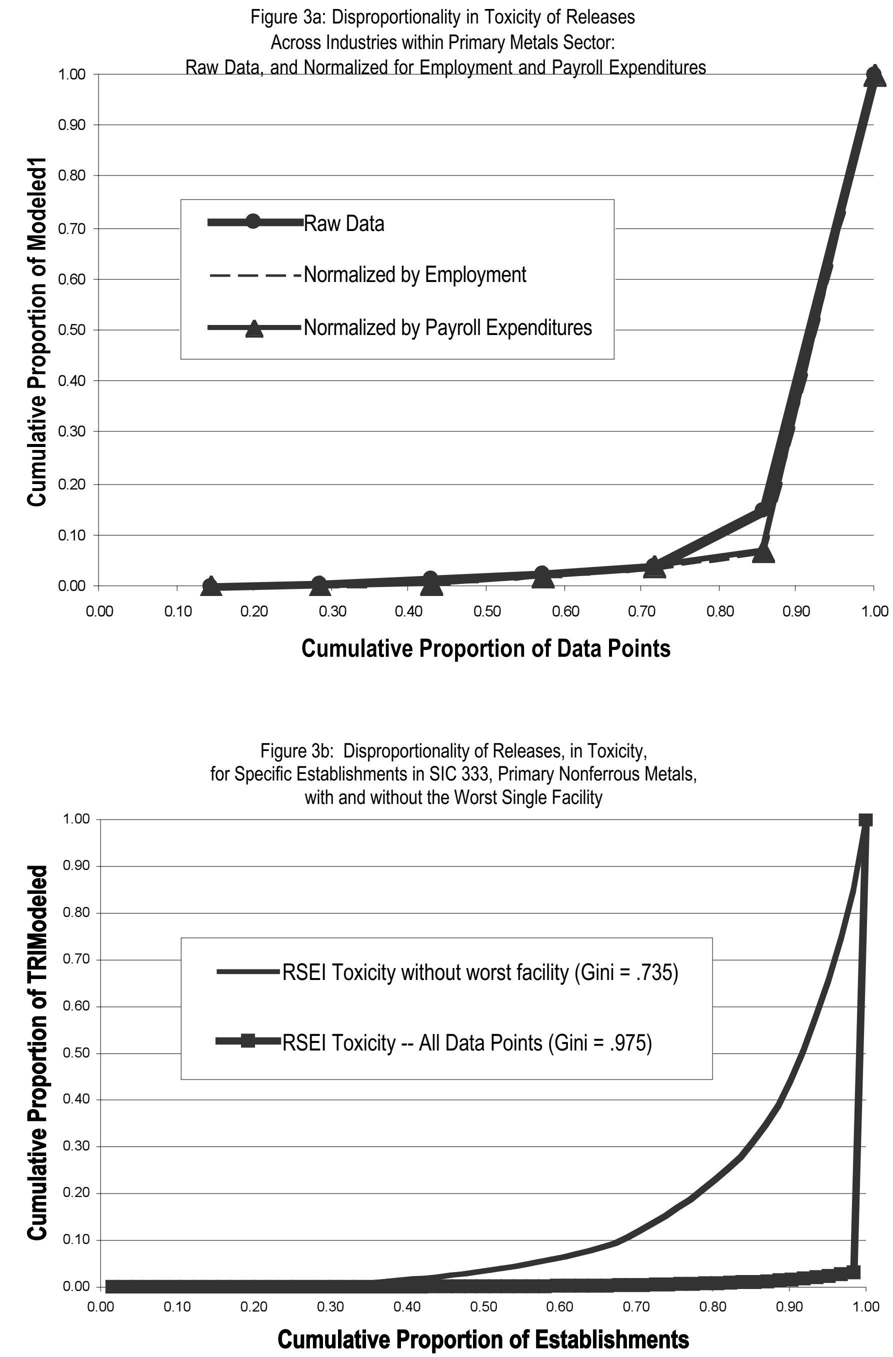
In response to the concern that the TRI has long reported only "unweighted" numbers – that is, the sheer number of pounds of releases, rather than numbers that would be "weighted" by the toxicity of each chemical involved, thus more nearly approximating the "true risks" – the EPA has moved in recent years to develop what the agency calls the "Risk-Screening Environmental Indicators" or RSEI system. Although it is not possible to obtain precise toxicity figures for all of the chemicals included in the TRI, the RSEI data provide the best estimates now available on the actual toxicity of releases. Thanks in part to the assistance provided both by EPA and by Dr. Frank Howell of Mississippi State University, it has been possible to recalculate the 1993 figures in terms of toxicity. As suggested by the earlier warning about the imprecision or "noise" in TRI estimates, changing from a focus on pounds of releases to a focus on toxicity (along with minor changes between the originally released 1993 data and the "latest version" of the data from the same year, which will be used in this section and all remaining calculations in this paper) does lead to some changes in the rankings. In terms of RSEI toxicity estimates, to be more specific, the "top" sector of the economy becomes SIC code or Major Group 33 (Primary Metal Industries), while SIC code 28 (manufacturing of "Chemicals and Allied Products") falls to second place. In terms of the central focus of this paper, however, the more telling point is that the disproportionality is even greater when calculations are done in terms of toxicity than in sheer pounds of releases. The Gini coefficient for RSEI toxicity is .865 – strikingly higher than the most extreme levels of national income inequality ever documented – with almost 80 percent of the total level of RSEI toxicity risks being due to emissions from just 8 percent of the relevant industrial sectors. The two Lorenz curves in Figure 2b show the results both in pounds of releases and in resultant toxicity risks.

Controls for Levels of Economic Activity

The next step is to consider more fine-grained measures of disproportionality. Toxic Release Inventory data are available for seven specific or three-digit industries within the sector that is represented by the two-digit "33" SIC code, permitting the calculation of the degree of disproportionality in toxic releases among the industries *within* this sector of the economy. As can be seen from Figure 3a, even though there are only seven industries *within* Major Group 33, the Gini coefficient for disproportionality within SIC 33 is roughly as high as the Gini for comparisons across sectors, at .789, with the "top" polluter being SIC 333, Primary Nonferrous Metals. To summarize the same data in a different way, even within the most toxic sector of the economy, more than 80 percent of the total risk is associated with a single industry within that sector.

Given that TRI data are reported at the three-digit SIC level, this is at present the most detailed level at which it is possible to control for economic size or employment. Figure 3 summarizes the results that emerge from doing so. By matching the three-digit SIC codes with data from County Business Patterns and the U.S. Census Bureau, (http://www.census.gov/epcd/cbp/view/cbpus.html), it is possible to recalculate the Gini coefficients after controlling for the number of employees (as of the week of March 12) and for total annual payrolls within each three-digit SIC industry. Figure 3a, accordingly, also presents the results after controlling for employees/payrolls. The data clearly show that, even when data are compared only across the seven industries that make up the most toxic industrial sector, the disproportionality is clearly not due to the differing size of one industry vs. another: after controls are imposed for the sizes of payrolls and for the number of employees, the Gini coefficients actually become even more extreme, rising to .817 and .821, respectively.

Figure 3. Disproportionality within Industrial Sectors



"Technological Imperatives" within a Specific Industry?

The final level of examination that is possible with existing data is to ask whether there is something about the Primary Nonferrous Metals industry, in particular, that requires all of the facilities within this industry to produce high levels of toxic emissions. This final possibility is considered in Figure 3b, which summarizes the findings from the 62 enterprises or facilities in SIC 333 that reported toxic emissions in the 1993 TRI. Rather than becoming more even, the results become even more disproportionate, leading to a higher Gini coefficient than this author, at least, has ever encountered in any other context: .975. So disproportionate are the emissions from this sector, that a *single facility* – Magnesium Corporation of America, in Rowley, Utah – accounted for more than 95 percent of the toxicity emitted from the entire 333 SIC code, or for that matter, roughly 75 percent of the toxicity associated with the riskiest two-digit sector of the entire economy. Although this facility may indeed be an "outlier" in many respects, in short, it produces such a high level of toxic emissions that this single facility has more influence on the overall levels of toxic emissions from this sector of the economy than do *all* other facilities in the same sector, even in combination. Rather than being an unusual case that can safely be ignored, in other words, this facility might better be understood as providing an example of "the tail that wags the distribution" (Berry et al. 2004).

Still, given that this one facility was responsible for such a high proportion of the toxicity for both the industry and the industrial sector – so much so that emissions from other facilities in the 333 SIC code may appear in the bottom line of Figure 3b to be relatively comparable to one another – many readers may be asking the same question that occurred to this author, namely, whether this one facility might just represent an extreme anomaly. As one final safeguard, accordingly, the same calculations were run again after that facility had been omitted from the analysis. As would be expected, the resultant 61-facility comparison did show a decline in the Gini coefficient, but only back to the same general range seen in the earlier Gini coefficients of this paper, or .735 – a coefficient that still remains above the levels of income inequality associated with South Africa during the time of apartheid, as well as being substantially higher than the coefficient for income inequality in any nation of the world today.

Privileged Accounts: Necessary Harms, or Harmful Assumptions About Necessity?

To summarize the evidence that has been presented thus far, even this initial assessment shows that, when analyzed at a variety of levels – the nation-state, the sector, the specific industry or sub-sector, the firm, or even the individual enterprise – toxic emissions tend *not* to be even roughly proportionate to economic activity, but instead, to be characterized by striking disproportionalities. Preliminary results from further analyses, still being carried out (Berry et al. 2004), indicate comparably high levels of disproportionalities across other available years of TRI data: the "top" industry in the nation may change from time to time, in response to changes in EPA policies and/or investments in pollution controls, but there are few dramatic shifts in the overall patterns of Gini coefficients – specifically including the facts that the coefficients do not change markedly after controlling for the size or economic importance of a given industry, and the fact that the Gini coefficients are often highest at the level of individual establishments. Even so, it does need to be emphasized that more detailed examinations still need to be carried out in future research. At present, however, there is also a need to address a question that has been raised by a number of previous reviewers of this paper: do such highly disproportionate patterns indeed provide evidence of "privileged" access to the environment, as suggested by the findings in this paper, or are they instead economically or technologically necessary?

Arguments about the "necessity" of pollution have been put forward in a broad variety of different ways – a fact that, in itself, may provide at least some additional evidence that the accounts in question are to some degree "privileged" ones. To be more precise, however, at least six different assumptions and/or arguments can be identified. The first two – holding that the pollution is "economically vital," as measured in dollars or in jobs – have already been tested and rejected. As will be recalled, national-level data show that roughly 60 percent of all U.S. toxic releases come from economic sectors that account for less than 5 percent of GNP and for less than 1.5 percent of the nation's jobs. Even *within* those sectors and the more specific industries they contain, moreover, Gini coefficients consistently show higher levels of inequality than in the incomes of any nations ever studied – and after controlling for payrolls and numbers of workers, the coefficients tend to go even higher.

The remaining four possibilities, however, still need to be considered. Argument number three is that, whatever their size, the heavily polluting activities are vital to the economy because they involve specific high-value materials or products that are effectively impossible to produce without high levels of accompanying environmental damage. The fourth through sixth possibilities have to do with assumptions/arguments that *more vigorous regulation would be unwise/irrational*, even if those heavily polluting industries are less important economically than generally assumed. Argument four is that the costs of regulation would be so onerous as to provide virtual guarantees that the firms in question would go out of business. Argument five is that, if regulated, the firms would simply move to so-called third-world countries where regulations are less stringent. The sixth and final argument is that, if regulated, the firms in question would merely pass along costs to "consumers," including other businesses, creating ruinous effects for the economy as a whole. All of these remaining possibilities will be considered in the same order as they have been identified.

Argument 3: Producing "Critical" Materials Not Otherwise Available

Perhaps the most important of the remaining arguments is this one: even if the most highly polluting industries and firms do constitute only a small fraction of the economy, they might still be economically "vital" if they were to produce materials that are critical for the rest of the economy and that simply cannot be produced or obtained without such high levels of pollution. Such arguments, of course, are often put forward in politically charged debates; the relevant question, however, has to do with empirical validity, and empirical analyses are less common than are assertions. In fact, analysts such as Ashford (1994, 1997) have argued that the more common pattern may be just the opposite – that high levels of pollution are most likely, not among "cutting-edge" technologies and activities, but among older industries that use outdated and generally inefficient technologies.

At least in the case of the specific facilities that emit the greatest quantities of toxic substances in the United States, the Ashford analysis appears to be the superior one. As noted earlier, the nation's "top" facility was IMC-Agrico of St. James, Louisiana. Rather than producing "high-technology" products, that facility in question was engaged in the production of agricultural fertilizer. All of us need to eat, of course, and fertilizer has become an important part of U.S. agriculture, so there could be considerable plausibility in arguing that this is still a "vital" industry. Before assuming that the pollution from this specific facility was as "vital" as is the overall industry of agriculture, however, it is important to consider the results of a subsequent analysis by the U.S. Environmental Protection Agency (1998), focusing on the measures that were taken to reduce the emissions after 1993. As noted in that analysis, the IMC-Agrico plant:

> manufacture[s] phosphoric acid for use in production of phosphate fertilizers. Large quantities of gypsum are generated as by-products in the process. When rainwater comes in contact with the gypsum,

> stockpiled in uncovered outdoor stacks, it flushes out residual phosphoric acid.... Significant reductions in the amount of phosphoric acid reported to TRI have resulted from reducing the surface area of some stacks and from covering the stacks with grass-covered clay. Additionally, evaporation ponds built on top of inactive stacks were lined with a synthetic material, preventing some water from entering the stacks. A system was also implemented to collect water from within the stacks and recycle the phosphoric acid contained within (U.S. Environmental Protection Agency, 1998:246).

To note the obvious, measures such as planting grass on "uncovered outdoor stacks" of waste material, in a region having the high levels of precipitation that characterize southern Louisiana, could scarcely be considered an unreasonable expectation or an economically ruinous expense. Such measures, on the other hand, do appear to have had significant benefits: as a result of these straightforward measures, "IMC-Agrico company in St. James, Louisiana.... reported a 37.6 million-pound reduction in discharges to water" by 1996 (U.S. Environmental Protection Agency, 1998:247) – an amount that translates into nearly a third of that facility's earlier total toxic releases.

Argument 4: Regulated Industries Would Go Out of Business

Clearly, at least the IMC-Agrico facility did not go out of business in the process of reducing its emissions significantly – but was this case anomalous? While most of the available evidence involves just such individual case studies, those cases do appear to underscore an implicit constructionist principle (or for that matter the explicit empirical findings of authors such as Kazis and Grossman 1982): the claims-making of committed partisans, while being potentially interesting, may ultimately provide a less-than-definitive basis for drawing scientific conclusions.

One such example is provided by Environmental Defense Fund (1995): before the imposition of newer limits on sulphur dioxide (SO2) emissions in the early 1990s, the utility industry had argued that cleaning up the emissions would be disastrously expensive, with costs over $1,500 per ton. Under a new program that allowed SO2 "credits" to be bought and sold, however, the actual cost proved to be less than a tenth that high. By March of 1995, credits were being sold for $128 per ton – a level that allowed a 6th grade class in upstate New York to purchase and retire the credits for roughly 40,000 pounds of SO2, using the proceeds of a bake sale, concert and donations. At the risk of stressing the obvious, if the expense involved proved not to be "impossibly high" for a small group of 6th graders, it is difficult to treat as credible the claim that the same expense would go beyond the financial capabilities of major multinational corporations. Dozens of other illustrations are provided in compilations such as the one by Kazis and Grossman (1982).

Even dozens of illustrations are not sufficient to offer "proof," but overall, the more systematic and quantitative assessments that are available have pointed to similar findings. Despite widespread statements of concern about the cost of controlling "greenhouse gases" such as Carbon Dioxide (CO2), for example, a multivariate, cross-national analysis by Fisher and Freudenburg (2004) found that *no* measures of economic prosperity actually remained statistically significant as correlates of CO2 emissions from industrialized nations, once several measures of "ecological modernization" or ecological efficiency were included in the analysis. An earlier study by Freudenburg (1991) found that U.S. states that were rated by nationally known firms as having bad "business climates" (e.g., because of stringent environmental and related regulations) actually experienced *more* economic growth over the following 5- and 10-year periods than did states where business climate ratings were judged by national firms to be "better." Still other analyses have found that, despite earlier predictions that federal efforts to protect the Northern Spotted Owl by restricting logging would lead to economic ruin for the Pacific Northwest (Lee 1993; Levine 1989); actual data provided no such evidence of "ruin" in the aftermath of the restrictions, with later analyses finding evidence instead of a regional economic boom (Niemi et al. 2000; Egan 1994; Freudenburg et al. 1998; for broader arguments, see also Porter 1990; Mol and Spaargaren. 2000).

Although many other studies could be listed as well, such a listing might not provide enough evidence to "prove" the arguments by ecological modernization or environmental state theorists summarized earlier, namely that, in the words of Giddens (1998:19), environmental protection has become "a source of economic growth rather than its opposite." At the same time, however, balance requires that another point be made: there is at least enough support for such arguments to make it unwise to continue to accept unquestioningly – or to continue to treat as a "privileged account" – the assertion that the imposition of regulations would automatically mean driving important industries out of business.

In fact, it may also be possible to say more. In what appears to remain the most extensive analysis available to date, Repetto (1995) found that, even in firm-by-firm analyses of pollution levels *within* environmentally regulated industries – considering air, water *and* toxic pollution levels, both separately and in combination, and using two different measures of profitability – the few modest associations that existed between pollution and profitability tended to go in the "unexpected" direction (Repetto 1995). The establishments that produced more pollution, in other words, tended to have slightly *lower* levels of profit than less heavily polluting establishments, *even in industry-specific analyses*, at a higher level of resolution than is possible with TRI data. Repetto's analyses began with the use of five-digit Standard Industrial Classification Codes and then became still more fine-grained, excluding any industries that "produced a wide range of products ('miscellaneous inorganic chemicals,' for example)," so that Repetto could instead limit his analyses to establishment-by-establishment examination of "specialized sectors with relatively homogenous product lines," such as makers of printed circuit boards or of ready-mix concrete (Repetto 1995: 13). Much as predicted by analysts such as Ashford or Mol and Spaargaren, or by more popularized accounts such as Hawken et al. (1999), Repetto found that the more heavily polluting facilities were in fact somewhat *less* profitable, even though he was using the best-available quantitative evidence and was carrying out what appear to have been the most careful, "apples-to-apples" comparisons that have ever been done. Rather than being vital to the larger economy, in other words, the most heavily polluting firms and facilities may well represent just the opposite, being operations that are simply "less efficient" in the physical as well as in the fiscal senses of the term.

Argument 5: Regulated Industries Would Go to Countries with Weaker Standards

Another possibility is that environmental regulations might inspire wholesale industrial flight to so-called third-world countries. Again here, perhaps the most telling findings come from Repetto (1995), in this case involving national-level data. Two of Repetto's findings appear especially relevant. First, he found strong evidence that regulated industries have generally chosen *not* to leave, but instead, to stay in the U.S.: since 1970, when U.S. environmental regulations began to tighten, the U.S. share of world manufacturing output has actually stayed far stronger in the six industrial sectors that have needed to spend the most on environmental regulations (chemicals, metals, petroleum products, fertilizer, pulp and paper, and wood manufacturing) than in manufacturing as a whole. Second, Repetto found that, even in cases where U.S. firms in the environmentally regulated sectors *had* moved their investments abroad, they tended *not* to move to less-developed countries with weaker environmental regulations, as is so often asserted. Instead, since 1970, 84 percent of the direct foreign investment from the "heavily regulated" firms has been in the rich or "developed" countries – even though less than 50 percent of direct foreign investment by all other U.S. industries went into those same developed countries over the same period (Repetto 1995). While it may well be possible that at *least* some firms are moving to poor countries as a way of escaping "heavy-handed" regulations, in other words, the *net* rates of any such industrial flight appear to have been substantially lower for the sectors of the economy that actually face such environmental regulations than for manufacturing as a whole.

Argument 6: Regulation Would Be Too Hard On the Larger Economy

Given the above evidence – including the fact that, in contrast to the usual assumptions/arguments, real firms have found it possible to reduce their environmental impacts substantially, at relatively modest costs, and that the most heavily regulated industries have proved to be more profitable (and less likely to move to poorer countries) than other industries – any remaining assertions about "overwhelming costs" of regulation will clearly need to be viewed with a healthy dose of skepticism. Still, at least for the sake of argument, it is worth postulating that there *must* be at least *some* cases where the cost of reducing pollution would be unavoidably high. Would such cases mean that such environmental regulations would require a choice between economic ruin versus trying to survive without critical inputs such as chemicals or primary metals? For at least two reasons, the obvious answer is no.

First, as noted by Block (1987), this final argument contains more than a little inconsistency in commitment to the principles of neoclassical economics. According to economic textbooks, what makes a capitalistic economy "rational" is the consumer's ability to make decisions by comparing the cost of a given product against its benefits – decisions that can only be made on a rational basis if the "true cost" of a product is actually reflected in the price tag. As the textbooks point out, moreover, even if there would be cases where emission reductions would lead to substantial price increases for basic industrial products such as chemicals or basic metals, the well-known principle of supply and demand would mean that any such increase in costs could quickly cause other economic actors to think again about the levels of such outputs that they would "need" to "demand" – often leading in turn to the identification or development of superior substitutes. As a result, even if truly massive reductions in the emissions of highly toxic materials *were* to lead to as much as a doubling in the cost of at least some basic materials in the chemicals and primary metals sectors, it is not at all clear that even such a doubling in the costs of these basic materials would lead to as much as a 5 percent net impact for the economy as a whole – even before considering the potential for any increases in economic productivity that might result from *increases* in efficiency and from the avoidance of health-care costs and the loss of ecosystem services (Costanza et al. 1997).

Second, as suggested by recent arguments in economic geography (e.g. Bridge 1998; Bridge and McManus 2000), the additional and more sociologically relevant consideration is that the very ability to raise such continuing objections about implications for "the economy as a whole" – particularly in the face of the quantitative data just summarized – may well provide additional evidence that the accounts in question are in fact privileged ones, having far more to do with rhetorical techniques than with scientific facts.

If citizens do object to a given facility – for example, one that happens to emit nearly 5 percent of all the toxins in the economy, partly because it leaves millions of pounds of toxin-laced materials in large piles that are simply exposed to the elements – then it is certainly not difficult to understand why the owners of such a facility might want to change the subject. In particular, those owners might prefer to fight their political battles by using "diversionary reframing" (Freudenburg and Gramling 1994) – attempting to divert attention away from an uncomfortable question by trying to reframe the debate as being "about" something else, preferably about the credibility of their critics. The common pattern, in other words, may well involve a more or less conscious decision to change the subject, to the argument that their critics are "attempting to shut down the American economy," rather than making any significant attempt to explain why such large piles of toxic materials would have been left exposed to the elements for so long in the first place. What is more difficult to understand is why sociological analyses would have devoted so little attention, to date, to such politically useful lines of argument – and what subsequent consequences may be associated with such an oversight.

Discussion: Toward a Deeper Probing of Privilege?

Based on the broader body of work in sociology, there would appear to be ample reason for prevailing accounts to be analyzed, not simply accepted. At least since the time of Gramsci (1971), after all, sociologists have been aware of the potential importance of consensual domination. Despite this fact, however, and despite the examples provided by some important critical examinations of society-environment relationships in the early 1970s (especially Molotch 1970; Crenson 1971), the more common tendency in recent work has been to focus on the social construction of environmental *problems*, not privileges. As noted by some of the few exceptions to this general tendency (McCright and Dunlap 2000, 2003; Gramling and Freudenburg 1996; Freudenburg et al. 2003; Martin 1989), although a number of respected sociologists have devoted explicit attention to the social construction of global warming and other environmental problems in recent years, there has been a relative paucity of work on what might be called the social construction of quiescence or "*non*-problematicity" of the same issues. So consistent has been this focus that, in his well-respected, book-length effort to spell out "a social constructionist perspective" on environmental sociology, Hannigan (1995:2-3) described his "chief task" as being "to understand why certain conditions come to be perceived as problematic and how those who register this 'claim' command political attention" in their efforts to deal with the problems."

The time has clearly come for this approach to be complemented by its obverse. As has been emphasized by other social scientists who have dealt with some of the less obvious manifestations of power, such as Schattschneider (1960) or Bacharat and Baratz (1970) – or for that matter more recent feminist or political analysts, such as Haraway (1988), Horrigan (1989) or Stone (1990) – it may be possible to learn much more about the dynamics of power by analyzing or deconstructing the beliefs that are widely accepted or taken for granted. As noted by Turk (1982: 252), it is likely that status-quo inequalities will be maintained "mainly by ideological power, secondarily by political and economic power, and only minimally and occasionally by the threat and use of violence." Perhaps the most telling forms of "ideological power," however, are those that tend not to be recognized as such – the taken-for-granted understandings that can contribute to what Gaventa (1980) called "quiescence." (See also Crenson 1971; Lukes 1974; Krogman 1996.) A key element of their effectiveness may involve what Foucault (1977) has called "embedded" power – cases where accounts have been repeated so often, with so little challenge, as to become taken for granted or "embedded" within everyday language itself.

If so, then one key challenge for sociology may be to render more visible the assumptions that are now taken for granted or that have previously been overlooked – and part of the difficulty of this challenge may lie in the fact that, virtually by definition, it is inherently difficult to see what it is that we fail to see. Perhaps the first step toward overcoming such a difficulty, accordingly, may involve the need to take seriously the observation by Perrow (1984:9): "Seeing is not necessarily believing. Sometimes we must believe before we can see." In the case of valued resources, this paper has argued, there are ample reasons to "believe," and then to start "seeing," that privileged patterns of access may well actually exist – suggesting in turn the potential value of asking whether those patterns are made possible in part by privileged, taken-for-granted accounts.

Ironically, although sociologists are often accused of simply "stating the obvious," what is being suggested here is nearly the opposite – namely that sociologists may have good reason to invest greater effort in *analyzing* the "obvious" – paying greater attention to, and making greater efforts to question and deconstruct, the taken-for-granted. As a starting point for that questioning, it might be particularly valuable to focus on a subset of the "obvious" beliefs – namely those that might prove especially convenient for social actors who currently enjoy privileged access to resources. Such privileged accounts, to be more specific, might be focused in either of two directions – one involving the legitimation of the privileges, and the other involving the *delegitimation* of any critics who might call such privileges into question. As a way of helping to illustrate the pervasiveness of both such patterns, this paper will note one example of each.

The first example has to do with patterns of privileged access to valued resources, as illustrated by what everyday discourse calls "oil production." At least according to geologists, the terminology could scarcely be more misleading: the oil was in fact "produced" entirely by non-human processes, which took place so long ago that no one we would recognize today as "human" was actually living on the earth at the time. As Catton (1980) has noted, what we *call* oil "production" actually involves a present-day hunting and gathering process – looking for an ancient and non-renewable resource, taking it out of the ground, and burning it up. Provided the extraction takes place through socially constructed rituals that include the requisite legal sanctions, however, the resultant petrochemicals – like the air, water and other natural resources that are put to economic use – often become defined as "private property" the instant they are located or extracted.

If the oil or other natural materials are subsequently taken to a facility such as a petrochemical refinery, where they are used in producing other products, most of those other products will also be defined as "private property" with a few noteworthy exceptions. Not all of the raw materials will be turned into products that can be sold; some will instead be turned into what we call "wastes" or "emissions" at which point a significant linguistic transformation takes place. At the precise moment when those waste products leave the top of the smokestack – doing so as the result of actual human or industrial "production" unlike the petroleum from which they were derived – they instantly become defined *not* as an "industrial product" or as "private property," but as the "common responsibility" of all humanity. In the case of the single IMC-Agrico facility noted earlier, the 120 million pounds of toxins that were legally emitted in a single year became a matter of little further concern, liability or other responsibility for that facility or its owners – save for estimating and reporting the level of emissions – once the toxins were "released" to the environment. In that and almost every other respect, the waste emissions provide a striking contrast to the accounting that would have been done for those same chemicals just milliseconds earlier when they were "private property" being used as part of industrial production processes.

Indeed, even in cases where toxic emissions are more tightly controlled, as for example in the case of high-level nuclear wastes that are produced by commercial generation of electricity but *not* then simply released to the atmosphere, these materials are generally described not as the "property" or "responsibility" of the facilities that produced them – or of the companies that enjoyed the resultant profits – but as the responsibility of nearly everyone else. Under U.S. law, the federal government is legally obligated to take title to all commercially generated high-level nuclear wastes, and a number of nuclear waste producers have spent years in pursuing lawsuits against the government's "failure" to take over the full responsibility for the wastes, especially in light of the many difficulties that have been encountered in establishing a safe "repository" for these quite dangerous materials (Jacob 1990; Dunlap et al. 1993; Flynn et al. 1995).

The second category has a sharply different focus. It has to do not with the legitimation of privilege, but with delegitimation of critics.

The most straightforward illustration involves the very notion of a "technology critic." As the phrase is generally understood, it refers simply to a person who is opposed to modern or present-day technology. What is remarkable is that this taken-for-granted meaning differs so profoundly from other meanings of "critic." A critic, for example – a restaurant, music, theater or television critic – is generally seen *not* as someone who is *opposed to* restaurants, music, theater or television. Instead, a critic is understood to be someone who offers discerning or differentiated judgments on the strengths *and* weaknesses of the restaurants or other activities being judged.

The absence of such a meaning in the case of a "technology critic" may be only coincidental, of course, but the difference in terminology may also deserve far more attention than it has received to date. A restaurant critic, for example, is rarely accused of being "ideologically opposed to food," and few such accusations would be accepted with a straight face or without substantial evidence – evidence, for example, that a given critic actually produced such consistently negative reviews that the accusation should be taken seriously. In most cases where groups of citizens oppose a *specific* facility or technology, by contrast, they are likely to be accused of being opposed to science *in general* – an accusation that, to note the "obvious" point that has nevertheless been overlooked in most past work, could prove highly useful in diverting attention away from the potential problems of the actual facility or technology being questioned. So thoroughly "embedded" or privileged is the notion of a "technology critic" that – even in the absence of the kind of evidence that would be expected to accompany any such accusation toward a television critic or restaurant critic – the issue of opposition to science is likely to be the one that will frame most subsequent debates and media reports.

Framing by Blaming

Despite the "remarkable" nature of such accusations, however, even sophisticated technology critics have often accepted or failed to challenge such a framing. Building on recent analyses of the "framing" of discourse in social movements and other contexts (Snow et al. 1986; Beamish et al. 1995), this second example may actually represent the pattern that most deserves increased attention in the future. To be sure, some early contributions to environmental sociology (Dunlap 1976; Cotgrove 1982) did draw attention to the importance of what Pirages and Ehrlich (1974) had called a "dominant social paradigm." Even at that time, however, and certainly in the years since then, relatively little attention has been devoted to the ways in which such a set of views might be socially constructed and promulgated – and in which such a "paradigm" might become dominant and remain so. The discursive sleight of hand involved in questioning the legitimacy of "critics" may be one of the relevant mechanisms.

As noted by analysts such as Molotch (1979), one of the advantages enjoyed by powerful actors and institutions in an era of mass media is a considerable ability to shape the overall contours of media coverage – including, importantly, the ability *not* to respond directly to the substantive concerns of one's critics, or alternatively, the ability to respond in ways that lump together a diverse and wide-ranging "set" of critics in such a way that the powerful actors effectively define the "set," generally doing so in ways that make it easier to dismiss or ignore the critics' concerns.

To illustrate the point that this possibility is not limited to environmental issues alone, it may also be worth considering examples from other areas of public discourse. One such set of examples can be found in discourse involving "patriotic" issues and prosperity: for example, in the case of the protests that have often accompanied meetings of the so-called "G7" or "G8" – leaders of the world's seven most prosperous nations, sometimes along with the leader of Russia – media reports have generally devoted more attention to the levels of violence of the associated protests than to the protestors' substantive concerns, much as Molotch predicted. Even when the protestors' concerns are discussed sympathetically, those concerns tend to be listed rather than explored in any detail – or else to be described simply as involving "a range of" issues. Importantly, such patterns make it easier for political leaders such as U.S. President George W. Bush to frame "the" issue as one of prosperity vs. ignorance or of trade vs. poverty. In July 2001, for example, after the police in Genoa had shot and killed a protestor, his response had nothing to do with the shooting, but the next day's mass media accounts nevertheless reported his comments widely and dutifully with little attention to the irony therein: "People are allowed to protest, but... for those who claim that shutting down trade will benefit the poor, they're dead wrong." (Trevelyan and Worsnip 2001).

Yet even in cases involving more tightly focused concerns, and even when protestors do put forth a more focused and consistent message – as for example when anti-war protestors have expressed opposition to specific forms of military involvement – political leaders with the necessary skills of reframing and blaming can exert powerful influences over the course of debate simply by changing the subject in the process of responding. As noted perhaps most clearly by Beamish et al. (1995), political leaders are often relatively facile in responding to virtually all such complaints by noting with the appropriate gravity that like all other "reasonable" citizens – but by implication, not like the critics – they "*support* our troops." Such patterns suggest that uses of the tactic of reframing to undercut the legitimacy of critics – in a pattern having clear parallels to the technique of describing the critics of *specific* facilities as being "opposed to science and technology" *in general* (e.g., the discussion in Freudenburg and Alario 2004) – may deserve much greater attention in future research.

In short, both in studies of society-environment relationships in particular and in the discipline of sociology more broadly, there is a need for closer attention to the relationships between power over discourses and power over resources – specifically including the need for more attention to the ways in which outcomes are shaped by socially structured and privileged patterns of access to resources. The need is to build on established work, but also to develop more nuanced lines of theory and analysis that – rather than assuming that any given instance of environmental disruption occurs simply as part of a generic process, or because it contributes to the interest of the capitalist class as a whole – will devote greater attention to the ways in which such assumptions are actually created and sustained (Block 1987).

To make further progress in understanding the Habermasian problematique (1970) – involving the ways in which sharply unequal patterns of privilege can come to be accepted as legitimate – what may be needed is a sharper focus on specific social structures of privilege that have too often escaped our attention in the past. It is not enough, in other words, to focus merely on the broadest contours or overall patterns. If the findings in this paper are replicated in future research, they would indicate that disproportionalities are not functional for the overall economy, or even for the largest, fastest-growing, or most economically powerful firms in the economy. Instead, they would appear to offer little-noticed advantages to some of the least progressive or powerful firms and sectors of the economy, potentially weakening the performance of capitalistic enterprises more broadly.

The first step in a more detailed examination may be to devote greater attention to environmental disproportionalities, since this initial stage of analysis does appear to suggest that the socially sanctioned use of shared resources may indeed involve what this paper has called a "double diversion" – the privileged or disproportionate diversion of environmental rights and resources, made possible in part by the diversion of attention, through taken-for-granted or privileged accounts. Across the social sciences more broadly, the need is to devote far more attention to the analysis of powerful yet previously unseen connections in other contexts – specifically including attention to the possibility of discovering other connections between resources and discourses, and between nature and the naturalized. The preliminary findings presented in this paper suggest that doing so can offer important opportunities for insights – not just about nature, but also about the nature of power, and about the power of the naturalized.

Note

1. According to the EPA web site (http://www.epa.gov/oppt/rsei/faqs.html, as of June 24, 2004) the newest version of RSEI available on that date (vers. 2.1) included actual toxicity data for 426 of the 612 discrete chemicals and chemical categories in TRI, with toxicity calculations being available for approximately 39,000 reporting facilities, over some 13 years of reports.

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