Toxic Journalism

An Analysis of the Associated Press Article on the use of Compost to Mitigate Lead Poisoning in Baltimore

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Summary
On April 13, 2008, the Associated Press moved a feature story by John Heilprin and Kevin Vineys to its print and electronic subscribers titled "Sludge-Poisoned Land." The story claimed that dangerous "sewage sludge" was used on yards in "poor, black neighborhoods" in Baltimore, Maryland, as part of a study to test whether it would protect children from lead poisoning in the soil. A much shorter article by Vineys, "What makes up sludge? No one can say for sure," accompanied the story.

The "Poisoned Land" story received front-page coverage in daily newspapers across the nation, was featured on radio and TV, received prominent coverage on major Internet news sites and blogs and even attracted international media coverage. The story provoked a firestorm of protest from editorial writers, local, state and national politicians and activists from a wide spectrum of environmental, civil rights and social justice organizations who cited the Baltimore research as the latest example of the victimization of poor and minority members of our society.

There was just one problem with the Heilprin and Vineys story: It was false.

Not false in the sense that the authors made up incidents or quotes or relied on forged documents as exampled by Jayson Blair of the *New York Times,* Christopher Newton of the Associated Press, Jack Kelly of *USA Today* and Dan Rather of CBS News. This fraud was far more difficult to detect in that it artfully combined much more subtle journalistic devices of deception. Most readers would not catch such devices unless they had actual knowledge of the facts.

Responsible and careful editors, however, should have been alert to such dishonest journalism, something for which the editors at the Associated Press should be called to account.

The following analysis highlights the major flaws in the AP stories:

Calculated to produce outrage

The lead sentences in the main story were skillfully constructed to grab the reader's attention, provoke outrage and discredit any conflicting information that might appear later in the story. Phrases included "fertilizer made from human and industrial waste," spread on "yards in poor, black neighborhoods," and that families "were never told about any harmful ingredients"

The second paragraph called the material used "sewage sludge" and implied that the low-income families were induced participate in a dangerous experiment in exchange for "food coupons as well as free lawns."

In fact, the material used on the yards was not sewage sludge, which is the untreated semi-solid residue resulting from an early stage of the wastewater treatment process. It was compost, a soil amendment and fertilizer that is approved for residential, commercial and agricultural uses and available through retail and wholesale outlets. The AP writers knew the material was not sewage sludge, since they had spent nearly a year researching this story and had interviewed numerous wastewater treatment professionals, toured water treatment facilities and observed the agricultural land application of *biosolids*—which is the accepted term for the EPA-approved fertilizer and soil amendment that results from the extensive treatment of sewage sludge.

The material used on the Baltimore lawns was a compost product sold locally to the public. This particular compost, called *Eckology/Orgro,* used biosolids as a raw material, along with wood chips. Commercial composting is a carefully managed process that uses beneficial organisms to break down the organic material and kill harmful pathogens. Compost is rated as a Class A product by the EPA, which means that the treatment process has eliminated pathogens that may carry over from wastewater. Compost also meets standards for metal contaminants, so that it is approved for all gardening and agricultural uses. Compost from biosolids is produced by hundreds of municipalities and private companies in the U. S. and is widely used by commercial landscapers and by millions of homeowners in their gardens, shrubs and lawns.

The AP story and photo captions used "sludge" 24 times and only made reference to "compost" four times, all deep into the story, three of which were used by the one researcher who was quoted. Only at the end of the story did the writers finally give a definition for compost, one that was both confusing and incorrect. The term "biosolids," the official name for the material that has been treated to meet EPA safety standards, is only used once by the authors, again near the end of the story, and only in quotes.

Heilprin acknowledged that he knew the difference between Class A compost and sewage sludge in an April 24 interview on NPR's *News & Notes* program. He made no such distinction, however, in his "Poisoned Land" story.

Harmful Ingredients

In claiming that the families were "never told about any harmful ingredients," the authors give a sinister spin to a "fact" that is completely irrelevant. The families were not told of "harmful ingredients" because there are none in compost that have been demonstrated harmful to human health or the environment. The bags of compost that are sold at lawn and garden centers—and purchased by affluent suburbanites—do not carry any warnings, because none are required by federal or state regulations. The writers do not present any evidence there are harmful ingredients in compost or that compost poses potential harm to the families.

Almost midway into the story, the authors quote one of the researchers as explaining the safety of the product and its value in reducing lead. There is still no acknowledgement, however, that the researcher is talking about *compost*. The reader is left to believe that the researcher is talking about the safety of untreated sewage sludge, which would certainly undermine his credibility to most readers.

No medical follow-up

The article states ominously that: "There is no evidence there was ever any medical follow-up." The purpose of this statement, of course, is to reinforce the unfair image of the researchers as heartless ghouls who performed medical experiments on the helpless residents and then abandoned them. The study, of course, was not a medical experiment. It was a soil-science study to confirm in a real-world urban environment what had already been demonstrated in laboratory tests and in hazardous waste site field tests. The study clearly demonstrated the effectiveness of the compost in mitigating the dangerous effects of the lead in the soil by making it less bioavailable and by covering the dusty, bare yards with lush, green lawns.

Poor, black neighborhoods

The underlying premise of the AP article is that the Baltimore lead mitigation study is an example of racial and environmental injustice.

In an interview on *Democracy Now*, broadcast on April 24, on *IndyMedia.org*, Heilprin states that "…no one can say why…" the compost was spread in the "poor, black neighbors" in Baltimore and St. Louis.

This is simply not true. Heilprin's own interviews with the researchers revealed the precise reason why the neighborhoods were selected—*that is where children were being poisoned by lead*. It would make no sense to replace the soil in lawns in affluent suburbs, since they don't have a lead contamination problem.

The study, which was sponsored by a grant from the U. S. Department of Housing & Urban Development, was conducted in cooperation with Baltimore's Kennedy Krieger Institute & Johns Hopkins Bloomberg School of Public Health, which have been in the forefront of the successful effort to reduce the epidemic of lead poisoning in Baltimore's inner city neighbors.

Ignoring this obvious explanation, Heilprin, in the *Democracy Now* interview, makes the unsupported claim that "…nationwide, as with the spreading of sludge, and with the research, it tends to go to areas where it is not challenged…they try to get rid of it in rural areas, predominantly minority areas…" "It seems to me that perhaps it's done in areas where there are fewer questions."

Heilprin offers no support for this sweeping claim, which would be extremely difficult, since the evidence proves exactly the opposite. Class B biosolids are land applied to farms in rural areas, not the inner cities. According to the USDA, whites own most of the farm acreage in the U.S., with non-whites owning only about 4/10 of 1 percent of total acreage. And far from being "dumped" on farmers, biosolids is a highly prized fertilizer and soil amendment that is *requested* by these farmers. And what about the idea that biosolids are dumped in "areas where there are fewer questions"? That would certainly be news in Virginia, one of the largest states for biosolids land application, since every farm site must be permitted by the state and every new application subject to a local public information meeting.

So if Class B biosolids are not an "environmental justice" issue, what about compost, which was used in the Baltimore study? Again, the facts just don't support Heilprin's claims. Most compost made with biosolids is purchased by topsoil manufacturers, nurseries, landscape contractors and commercial growers, or purchased by homeowners from lawn and garden centers. The Eckology/Orgro Class A compost used on the Baltimore yards has been used at the White House, the grounds of the Naval Observatory where the Vice President resides and Camden Yards, home to the Baltimore Orioles. Heilprin acknowledged this in his NPR interview, but not in his article.

Hitting the Hot Buttons

So why, in the complete absence of any evidence, did Heilprin make the environmental justice claim. One conclusion is that he knew it would immediately provoke hot-button reactions from community leaders, politicians, editors and editorial writers that would ensure that the story would get wide media play and create a firestorm of indignation. That is exactly what happened, of course. The story received extensive coverage in newspapers, TV, radio and the Internet, with the inevitable indignant editorials. Members of Congress issued statements and scheduled hearings. Local, regional and national civil rights and environmental activists were outraged.

It took more than a week for the media in Baltimore to report that the material applied to the lawns was compost, not sludge, and only after a vigorous defense by the Kennedy Krieger Institute.

Guilt by association
Just in case readers of the story weren't sufficiently outraged, the AP writers likened the Baltimore study to the atrocities of the Nazi medical experiments and the infamous Tuskegee syphilis studies. They did this by quoting a section of a Maryland Court of Appeals opinion on an earlier, unrelated study that involved a researcher who was also involved in this study. Heilprin implied that the court had found the researcher guilty of conducting unethical research, when, in fact, the decision was simply to reverse the Circuit Courts' granting of summary judgments against the plaintiffs in a suit against the researchers.

Heilprin said the court "likened the study" to Nazi and Tuskegee experiments and Japan's use of "plague bombs" in World War. While he quoted the court as saying "These programs were *somewhat alike in the vulnerability of the subjects*…" he failed to cite the other quote from the court that would mitigate the claim of moral equivalency: "The research project at issue here, and its apparent protocols, *differs in large degree* from, but presents similar problems…" Heilprin also failed to mention that one member of the Court of Appeals, Judge Raker, strongly dissented with the court's characterization of the earlier study and said that "I do not join in the majority's comparisons between the research at issue in this case and extreme historical abuses, such as those of the Nazis or the Tuskegee Syphilis Study."

Ignoring inconvenient facts

"Paucity of research"
The story makes the claim there has been a "paucity of research into the possible harmful effects" of biosolids. In fact, the effects of land application of biosolids on human and animal health and on the environment have been the subjects of thousands of peer-reviewed research projects over the past three decades. A search of Google Scholar for "health, biosolids," produces 6,260 citations in published scientific journals, with 2,820 appearing since 2003. Searching for "health, sewage sludge" produces 44,000 citations.

The story completely ignores the extensive research conducted by the EPA between 1987 and 1993 to develop the Part 503 Regulations for biosolids that are protective of human health and the environment. These studies consisted of multi-media, multi-pathway exposure analyses and risk assessments that are the scientific basis for the regulation of biosolids throughout the United States.

Misrepresenting the OIG and NRC
The story misrepresents reports by the EPA's Office of Inspector General (OIG) and the National Academy of Sciences (NAS) as faulting "the adequacy of the science behind the EPA's 1993 regulations on sludge." Both claims are false. While the OIG's 2000 report found inadequacies in EPA's management and enforcement of the biosolids program, the 2002 report vindicated EPA's investigation of health claims against biosolids (all of which proved unfounded.) In 2004, the OIG removed management of biosolids as an issue "because we believe the Agency has made progress toward addressing deficiencies by

completing or having ongoing activities for nearly all the projects resulting from the National Research Council report."

The report by the National Research Council also did not fault the science supporting the regulation of biosolids. In fact, the Council stated in its 2002 report that "There is no documented scientific evidence that the Part 503 rule has failed to protect public health." Responding to anecdotal reports of health effects, the Council report said, "a causal association between biosolids exposures and adverse health outcomes has not been documented."

The Council did make recommendations that EPA take a number of steps to reassure the public of the safety of biosolids and to update the scientific basis for the 503 Rule. As reported by the OIG, the EPA has made considerable progress toward these goals.

Epidemiological studies

The story indirectly quotes Thomas Burke, chair of the panel that wrote 2002 NAS report, as stating that "epidemiological studies have never been done to show whether spreading sludge on land is safe." While that statement is technically correct, it ignores multiple initiatives undertaken by the EPA to address these issues since the report, including enhanced microbial detection methods, a National Sewage Sludge Survey to identify new chemicals of concern in biosolids, and new analytical methodologies for detecting pharmaceutical and personal care products in biosolids.

It is also a fact that "epidemiological studies have never been done" on thousands of products. The reason, of course, is that there must be reasonable scientific evidence of health concerns before the EPA or any other agency undertakes the expensive process of conducting such studies. Given the multiple responsibilities of the EPA to protect the nation from demonstrated threats to the environment, and the lack of credible evidence of harm from biosolids, it is not surprising that the Congress and the EPA have decided that the federal government's scarce resources are best applied against real threats.

Also ignored in the story is an ongoing epidemiological research project sponsored by the Water Environment Research Foundation to develop systematic protocols to investigate and document adverse health claims about biosolids, titled *Epidemiologic Surveillance and Investigation of Symptoms of Illness Reported by Neighbors of Biosolids Land Application Sites.* The development of the report and investigation protocol was completed under the lead of principal investigator Dr. Steve Wing with the University of North Carolina. The field test phase will be completed in 2008.

Finally, various public health agencies have, in fact, conducted their own studies of health claims against biosolids and concluded that the practice presents no significant risk to public health. These include a study conducted by the City of Ottawa, Canada Medical Officer of Health in 2002, *Health Aspects of Biosolids Land Application*; and a 2007

report co-authored by the Virginia State Epidemiologist, *Health Effects of Biosolids Applied to Land: Available Scientific Evidence.*

All of this research was ignored by the authors of the Associated Press story.

Out of context
In quoting Dr. Burke, the AP story makes it appear that he is questioning the safety of the compost that was applied to the Baltimore yards. Dr. Burke has been quoted subsequently by two other publications, *The Nation* and the *Baltimore Sun*, as stating that compost is safe and presents no threat to the families that used it on their lawns.

This misrepresentation by AP of Dr. Burke's position on compost is central to the theme of the article that the residents were victims of unscrupulous researchers who exposed them to dangerous toxins.

"The essence of it"
In his subsequent radio interviews, Heilprin demonstrated that he knew the difference between Class A biosolids, which are approved for residential use, and Class B, which are approved only for agricultural use, never for residential. Under prodding by NPR's Farai Chideya, his interviewer on the program *News & Notes*, Heilprin admitted that compost is a Class A product approved for residential use, and that it has even been used on the White House lawn. He then sets a standard for safety that is impossible for any product to achieve: "However, the treatment level is that they kill off indicator pathogens, like E. coli and salmonella. They do not kill all the pathogens. And they kill them to detectable levels, which means that there may be some left. That's the essence of it."

So the "essence of it" is that pathogens are only killed to "detectable levels." One could reasonably ask how you devise a system to kill pathogens *beyond* detectable levels and whether society is prepared to impose such a standard on all products, such as food and beverages. The idea that "there may be some left" and that for this reason the product should be banned would immediately result in the halting of all food and beverage production, since there "may be some" pathogens left below the detection level.

The precautionary principle
The idea that because "there may be some" pathogens or chemicals in biosolids that the product should be avoided until it can be proven "safe" indicates that the writers of the AP story subscribe to the "precautionary principle." In its most extreme application, this concept, which represents a minority position within the scientific community, holds that it is better to forgo the benefits of a product or technology if there is a chance, however slight, of harm to health or the environment.

Precaution is an appealing concept to the layperson, until the consequences for modern life are fully considered. For example, there are those who say that because chlorine is toxic in certain quantities, it should be banned from our nation's water supply. But chlorine, in minute quantities, is essential to disinfecting public drinking water. The

public health consequences of banning it are worse than the theoretical risks of having minute quantities in our municipal water supply. That calculation is a part of "risk assessment," balancing theoretical detrimental effects against real benefits for the common good. That is what the EPA did in developing the Part 503 regulations and continues to do today. There are risks to banning the land application of biosolids and the residential and commercial use of compost, since alternatives—landfill disposal, incineration, waste-to-energy—all have environmental, health and community impacts.

Not ethical?
The article quotes Murray McBride, director of the Cornell Waste Management Institute, as saying that it was "not ethical" for the researchers to tell the residents in the Baltimore study that the compost was safe and to not list the potential chemicals in the material. "In many relatively wealthy people's neighborhoods, I would think that people would research this a little and see a problem and raise a red flag," McBride was quoted as saying.

It is not clear whether McBride, like Burke, was quoted out of context. McBride's statement, however, reinforces the underlying theme of the article that "poor, black" people are incapable of making informed decisions, unlike the residents of "wealthy people's neighborhoods." It ignores the fact that compost is purchased by millions of people, of all economic levels, each year for use on lawns and gardens—without any harmful health effects.

McBride also questioned the ability of the compost to actually bind the lead in the stomach and prevent lead poisoning in children. He added: "Actually thinking about a child ingesting this, there's a very good chance that it's not safe."

McBride is not quoted as offering any evidence for this claim, such as his own research or the research of others. McBride and the authors of the AP article ignored earlier animal research reported in the *Journal of Environmental Quality* in 2003 that confirmed the ability of compost to reduce the bioavailability of lead in soil. In an interview on KMOX radio in St. Louis on April 17, McBride again did not acknowledge the animal research demonstrating the ability of compost to reduce the bioavailability of lead. He was quoted by the reporter as saying that "…there is no research proving that the treatment isn't worse that the problem it was meant to solve."

McBride is the director of the Cornell Waste Management Institute, which is an advocate of the precautionary principle and has published a document, "The Case for Caution," which criticized the EPA's development and implementation of the Part 503 rule.

Selective sources
The unquestioning use of McBride as an expert in the article while ascribing the most sinister motives to the Baltimore researchers illustrates the fundamental bias of the AP writers. Having decided, for whatever reasons, that biosolids are bad, they set out to demonize the product by employing a variety of questionable journalistic devices. What makes McBride, for example, more expert on this subject than the Baltimore researchers

and the hundreds of researchers who have found biosolids to be safe? Has McBride or his Cornell Waste Management Institute done recent research in this specific area? According to his predecessor, Ellen Harrison, the Institute does not do original research in biosolids. "My personal interest is not conducting detailed research, it is not what I am paid to do," Harrison said in an interview conducted by the City of Ottawa during its own study of biosolids some years ago."

The AP writers cite one Baltimore community activist as saying the researchers selected the poor Baltimore neighborhoods because they knew the homes would be demolished and the study participants dispersed. "If you wanted to do something very questionable, you would do it in a neighborhood that's not going to be there in a few years."

The writers ignored other community activists who had participated in organizing the study and selecting the participants. As pointed out in a statement by Kennedy Krieger Institute:

> *The published study in* Science of the Total Environment *(2005) acknowledged the involvement of various community leaders and partners including Lucille Gorham (Middle East [Baltimore] Community Organization); Bea Gaddy (Bea Gaddy's Women and Children's Center); Jeff Thompson (Historic East Baltimore Community Action Coalition); Leon Pernell (The Men's Center); and Justine Bonner (Open Space Committee, Sandtown-Winchester Community Building in Partnership).*

Why would the AP writers fail to interview and quote representatives of these organizations? Could it be that they would not have supported the writers' premise that the Baltimore families were victims of the researchers, the federal government and Kennedy Krieger Institute?

Why would the writers fail to interview and quote the managers who produce the Orgro compost in Baltimore, unless it is because their description of the product would have made it clear to the reader that the product was safe, thus undermining the victimization theme of the article?

The answers to these and other questions about the AP article will likely go unanswered, since news reporters, unlike other people in our society, are rarely held publicly accountable for their mistakes and their misdeeds. The best we can hope for is that the writers' editors at the Associated Press will exercise their responsibilities and give this story the critical look they failed to do before it was published.