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Lead, Mental Health, and Social Action: A View from the Bridge

Excerpted from *Treating the Poor: A Personal Sojourn Through the Rise and Fall of Community Health*, by Matthew P. Dumont, MD (Belmont [MA]: Dymphna Press; 1994).

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EVERYONE IN MEDICINE LIKES A CLASSIC CASE, A PATIENT WHO CUTS through the dross of biological variability and presents a textbook picture of "a disease." This assures us of comforting categories with neat boundaries, as opposed to the nebulous states of *dis-ease*, generalities whose manifestations are diffuse if not arbitrary....

Psychiatry, despite the pretenses of a diagnostic system organized to the hundredth of a decimal place, deals after all with human behavior, with all its ideological, cultural, and linguistic ambiguity about what is crazy and what is not. So there was something reassuring about seeing a classic case of what we used to call "involutional melancholia," a mid-life sinkhole draining away one's energy.

At 44, Lorraine had suddenly begun to be obsessed with the size of her mouth. She believed it was growing and her face was becoming distorted with its consuming presence.

Her mouth was entirely normal. This was a somatic delusion, a grotesquely distorted idea about her ordinary body. She would wake up at three or four in the morning, tossing and turning to...obsessional whiplashes of guilt.... She had no appetite for food and lost weight. She took pleasure in nothing. Her usual pattern of meticulous homemaking was disrupted; dishes lay unwashed in the sink, dust balls rolled under the bed like tumbleweed in a ghost town, and her familiar bathrobe, all that she ever wore now, was beginning to look stained.

When I asked her about suicide, she merely shrugged as if to say, "Of course, but I don't have the energy."...

[I considered hospitalizing her, but as she resisted the idea and agreed to accept outpatient treatment, I prescribed an antidepressant. This was the Mesozoic pre-Prozac era, so] I prescribed one of the old war-horses: ...a tricyclic, as they are called, as if war-horses pranced around in three-ring circuses. Classic cases should respond in classic ways to classic treatments. I exuded confidence. Family members were beside themselves with gratitude. The patient herself did not care, perhaps did not believe, had given up hope.

I assured her and myself that within six weeks she would be feeling better....

Lorraine did not improve. Two months went by with the same grinding misery. I use conservative doses of medicine, so I had the leeway of increasing to a level more acceptable to the zealots of pharmacology. There was still no change. I changed horses midstream, switching to a different tricyclic...

Sometimes switching medications works. But with Lorraine, there was still no improvement. The question of suicide was becoming more central. Lorraine had gone from wishes that she not wake up in the morning, the morning that crept like a killer around the edges of shades at dawn, to more specific thoughts about swallowing large numbers of pills. [Now I urged that she be hospitalized. She agreed, and so did her husband.] He was a postal worker with insurance and had heard from a friend whose wife had had the "same" condition that there was a good private hospital up the river. It would not have been my first choice.... The place he had selected was notorious for its [heavy] use of ECT, or electric shock treatment, the quickest and most profitable treatment for an emotional life gone awry....

We like to say "electro-convulsive treatment" to avoid the more shocking and less palatable name. In fact, with the use of curare-like drugs (also used to poison darts in the Amazon) and general anesthesia (used in another and more perilous habitat), there are no convulsions, only the barest flick upward of the great toes to indicate that the brain has indeed been shocked.

It can be, despite its lack of elegance and its risks, an appropriate treatment for depression, if by appropriate one means the kick to a sluggish starter that sometimes gets it going again [or the sponging clean of a blackboard too filled with obsessional calculations.]

In fact, the patients for whom it is most useful and least destructive are those like Lorraine, acute-onset, agitated, and depressed people with somatic delusions who do not respond to medication. Rather than argue with her husband about "shock mills," and since he felt strongly about this "nice" place, which reportedly served gourmet meals, I arranged for her admission and expected that my therapeutic failure would be their triumph.

Several weeks later, she was discharged back to my care. This time I was shocked. I expected to see a symptom-free enthusiast for ECT. I found a woman who, despite a dozen and a half treatments, was still depressed and still deluded. She was a little confused at first and less articulate about her complaints, but essentially the same. And when the confusion completely cleared, she was entirely the same.

While I had the comforting assurance that ECT's therapeutic impotence was as great as mine, I was left with a very unhappy patient who would not get better. [I] elected

to offer her some sedation at least, with Valium. She reported she felt "better" and was able to sleep, but remained deluded and depressed.

We continued to meet on a regular basis and one day were focusing on her anger. She was angry with her husband for a number of reasons to which she had alluded in the past: a few affairs, some drinking, his demandingness, and now added to the litany, his sloppiness. Did sloppiness, I asked, adjusting my tie, belong with affairs and drinking? He was always starting household tasks, she said, and leaving them half finished, the worst being the business with the walls.

"What business with the walls?" I asked to be polite.

"For months he's been coming home after work and spending about ten minutes before supper blow torching the walls and scraping the paint off. He leaves the mess for me to clean up, and the stink is terrible."

I experienced a sudden sensation in my stomach. It is called "sinking" in books, but feels more like nausea. After a moment, I asked, "Why is he doing that?"

"Because they told us when we moved in that there was lead paint on the walls and we had to get it off."

In medical school, we were taught only a few bare facts about lead. It was not a matter of great interest to our professors, who were researching esoteric metabolic disorders. We were told to look for a blue edging to the gums and X-ray densities in the long bones of children who had developed acute encephalopathy. We were not taught about the huge numbers of children whose marginal elevations in lead levels affected their learning and behavior. And we were not told about the effects of lead on the emotional lives of adults. But I knew that lead affected the nervous system as well as the kidneys, and I vaguely knew that the very worst way to deal with lead paint on the walls of a house is to blister it with a blowtorch and scrape it off, creating a virtual aerosol of lead fumes and dust.

"Lorraine, I think I know why you have been suffering so much. You may be lead poisoned."

She thought that was interesting, but she suggested that I speak to her husband.

I don't know why just because one changes the focus from therapy to public health, one has to give up all one's finely tuned communication and family dynamics skills. I called her husband at work and said, "Listen, you're poisoning your wife."

He responded, perhaps predictably, "You listen to me, you f—ing quack, I know how to take old paint off. Don't blame me for Lorraine's sickness. You've been jerking her around for six months with your f—ing pills, and now you're making her a Valium addict. You haven't done a thing for her." And he hung up.



JOHN COLETTI/STOCK BOSTON

Chelsea, MA

Lorraine was listening to this interchange with the closest thing to amusement I had ever seen on her face.

When I called her husband back [later] at home, I was more rational and calmly explained that there might be a little more lead in the air than was good for everybody and suggested we check the kids as well as Lorraine, and maybe even him. He apologized for calling me [a] f—ing quack. (I am always wary of apologies that carry a repetition of the insult.) In a few days, we had checked the family's lead levels. Lorraine, being in the house all day and cleaning up the old paint while breathing in the dust, had an elevated blood lead level. Her husband and the kids were "in the normal range."

Now I had to think. Here appeared to be a textbook case of involuntional melancholia, complete with the appropriate intrapsychic and family dynamics, including the emergence of instinctual rage internalized as depression after the breakdown of obsessional defenses, and all the time she was lead poisoned.

I thought, if this "classic" case was largely, if not primarily, a result of lead poisoning, what about everybody else who came to the clinic, the *non-classic* cases? How much lead was in the bodies of all the other depressed and anxious people, all the hyperactive kids and acting-out adolescents, the psychotic adults and the demented elderly?

I began taking blood samples from everybody who came to the clinic. At times it seemed like Transylvania Station. The state Department of Public Health's labora-

tory tested blood free for anyone under the age of 12 and provided plastic pipettes, finger puncture equipment, and even mailing envelopes at no cost. So, for a while, everyone in the clinic was declared to be under 12 years of age.

When the results started to come back, I discovered that these 12-year-olds of all ages—psychotic, borderline, neurotic, panic-stricken, impulse-ridden, demented—almost all had elevated lead levels.

The federal government had decided at that time that a blood lead level of 30 micrograms per 100 cc of blood was toxic thus a level of 29 was safe. This was before the ground-breaking studies of Herbert Needleman at Children's Hospital in Boston, which determined that there is a straight-line relationship between the amount of lead in the body and careful measures of disturbed behavior and learning problems. There is no such thing as a normal or non-toxic level of lead in the human body; any exposure of a child's nervous system to lead will have some effect. Interestingly, the federally defined "acceptable" level of lead has since been lowered.

Almost all of the readings I obtained from my patients at the clinic were in the 20s.... Here I was working at a clinic in Chelsea [a small city just outside Boston], running around with my grab bags of drugs and psychotherapy and *kindness*, when I should have been thinking about lead.

Where was the lead in Chelsea found? Where wasn't the lead in Chelsea found? Ninety percent of the homes in the city had lead paint somewhere on their surfaces. Lead batteries had accumulated in the city's dumps. (Chelsea,



Tobin Memorial Bridge

Massachusetts, was called the “Junk Capital of America.”) Lead from batteries and paint had accumulated in the dust and soil following one fire after another. (Chelsea was also called the “Fire Capital of America.”) The basest of base metals, lead never breaks down, which is why it should have been left below the surface of the earth where it belongs rather than being mined by centuries of slaves to line aqueducts, sweeten wine, cast bullets, strengthen paint, and generate electricity for a species of biology *intoxicated* by its own inventiveness and staggering in a drunken lust for profit.

I became an expert in lead. I soon learned that the city had its own unique source. Chelsea bears on its back the Mystic-Tobin Bridge like the true cross. Built in the fifties to speed North Shore commuters to Boston, it spans and splits the city in half. Over time, the bridge was painted and repainted with lead to cut down on the need for more frequent coatings of pigment. But with the seasons and the tintinnabulations of rush-hour traffic over the years, bits of paint would crumble and fall to the already less-than-virginal earth below. The space directly below the bridge was by common consent and tradition a playground and parking area. Contiguous to it [were] the Williams School, a combined elementary and middle school, a day-care center called the Kangaroo’s Pouch, some vegetable gardens, and the back porches of several hundred dwellings—low income, of course.

The soil under the bridge was tested at 3,000 parts lead per million parts of other ingredients [500 ppm was considered the “acceptable level].... The bridge, the longest in New England, was poisoning the people.

A new mayor in town, a young man of its own soil, agreed to sign a letter to the Massachusetts Port Authority complaining about the bridge as a source of lead toxicity. After a delay of several weeks, the administrator of the Authority wrote back that while they did not accept any responsibility for having exposed the citizens of Chelsea to the danger of lead poisoning, they would stop using lead-based paint and use something safer in the future. In essence, the letter stated that they had done nothing wrong but would stop doing it.

It was a triumph. Reason and virtue had blown their trumpets at the gates of Authority, and Authority and knelt in defeat without even the pretense of conflict.

“That was easy,” I said to myself. A spigot of pathology had been turned off with the slightest effort. Even Dr. Snow, the father of public health, had to work harder to break the handle of the Broad Street pump in 1854.

I put away the public health helmet and returned to being a clinician. This included the ongoing care of Lorraine. Her depression improved slightly after her blood lead level dropped to the normally elevated standards of her fellow citizens, but she never actually returned to a normal state of mind. This unhappy fact tended to confirm

my suspicion that with adults as well as children, once the delicate filigree of nerves in the brain is impacted by lead, it never fully recovers. Lead poisoning is like being bashed in the head with a baseball bat.

I did what I could for Lorraine, and while I continued to suspect that some part of the grinding misery and explosive impulsivity I ministered to in my other patients was rooted in lead as well, I continued my customary treatments. I imagined that after he broke the handle of the Broad Street pump, Dr. Snow went back to treating his patients with leeches and bloodletting and purgatives or whatever they used [in those days] to torment people in the name of medicine....

About a year and a half later, I was driving to work on a summer morning. I used, I confess, the Mystic-Tobin Bridge in the mornings, a fast drive against the rush-hour traffic with a fleeting glimpse of the U.S.S. Constitution and gulls swooping over the dappled waters of Boston Harbor.

Ahead of me was a new sign. Writ large in black on orange were the words "BRIDGE CLEANING AHEAD; CLOSE YOUR WINDOWS." I am a good citizen. I rolled up my car windows. A hundred feet later, I saw a canvas-enclosed cubicle in which workers wearing space suits were using blasting equipment. A plume of black grit rose from the top of the enclosure and fell on the surface of the bridge, onto passing cars and onto the D Street projects in Charleston below that section of the span.

Every once in a while, in a fleeting fit of automotive vanity, I drive through a car wash. I had done so two days earlier and cast a small curse on the bridge cleaners for scattering their waste on the surface of my four-year-old Chevrolet.

Thirty seconds later, still above the Mystic River, I experienced that old sinking sensation in the stomach. "That's lead," I said aloud.

When I got to the clinic, I called the Massachusetts Port Authority, the "owner" of the bridge. It was like calling the Vatican, or a taste of Kafka. Finally, after being passed through four secretaries who had not yet had their coffee, I was given to the chief engineer of Massport. In response to my inquiry, he said, "This is not my doing. It was planned before I took this job. Apparently, a couple of years ago, there was a fuss in Chelsea about lead paint on the bridge. We decided to switch to a zinc-based paint, but zinc does not adhere to lead, so we have to blast off the old paint down to the bare metal. If there had been any damage to your car, you can apply to the Authority for reimbursement."

I tried to sound calm. "I'm not really concerned about my car, but you are blasting lead paint onto people's houses."

"We've taken precautions to protect the public. The enclosures we use are adapted from the ones used on the Golden Gate Bridge. We went out there to study them."

I responded, "The enclosures aren't working and you know they aren't. You're warning drivers to close their windows. You can see the stuff coming out. The whole idea was to prevent lead poisoning and you're making things worse."

A North Atlantic chill entered the voice of the Authority. "May I ask what concern this is of yours?"

"I'm a doctor. I am going to be treating the people who are poisoned by your bridge cleaning." Notice that I did not say I was a psychiatrist, thereby inviting an irrational response.

"Thank you for your interest, doctor, but we know what we are doing." Click!

I imagined that in just such a way the London water commissioner told Dr. Snow that *they* knew what *they* were doing and to mind his own medical business. And I imagine that he trembled with the same sense of frustrated rage and fantasy of taking violent action.

There was no pump handle to break.... I did, however, have an image of myself in a black sweater and wool cap crawling along the catwalks of the bridge at midnight with a pound of sugar to pour into the fuel tanks of the blasting generators. But this was only a fleeting fantasy, lasting no more than several entire nights.

I told the story to a journalist friend, who said in his nondirective way, "Here's what you have to do. On no more than one typewritten page, write what lead is, how it affects the body, why you are worried about it, and what is happening on the bridge. Send it to the following people."

One page. Condensing the history of lead poisoning into one page was a challenge, but I did it and sent my elixir of "Massport is poisoning the children of Chelsea with lead" to the five editors suggested by my friend along with a cover letter mentioning his door-opening name.

None of them called or wrote back, but a secretary in the clinic [where I served as Medical Director] had a brother who worked at a TV station. She called him, and several hours later somebody from the investigative team at one of the channels called. He was not sure there was a story here, but the legislature was not in session and there was not much else to investigate. He asked a few questions and then suggested taking a shot of me in front of the bridge; this would have required my being suspended by a helicopter above the Mystic River, so we settled for my standing in front of the clinic.

There I was surrounded by a claue of giggling children in front of a camera answering an interviewer's questions about what lead is, how it affects the body, and what my concerns about the bridge were. The next shot was of

the chief engineer of Massport. He had shed his chill for the evening news and was smiling behind his desk with the flags of the Commonwealth and the USA behind him. He was calm and reassuring, saying, "We are using state-of-the-art equipment." The last shot was of the space-suited men on the bridge *pushing a broom*.

Since television defines the news, there subsequently appeared several articles, an editorial, and even a cartoon showing a white rabbit making an "Oh, my god," slap-in-the-head gesture on learning that in order to avoid using lead paint, Massport was scraping it off the bridge onto the people below.

Several weeks later, in response to the publicity, a public meeting was organized by Fair Share, a public interest lobbying group. Several dozen citizens showed up at the Methodist church on Broadway in Chelsea to hear a debate between a representative of Massport and myself.

The man from Massport wore a perpetual smile slung between red cheeks over a vested suit. He was the public information officer, the "mouth" of the Authority.... He introduced himself to me before the meeting and stretching his smile to the limit, said, "I think we should avoid making this adversarial." I smiled back noncommittally.

I was asked to speak first, the prosecution. I was low-keyed and professional, simply describing lead poisoning as the worst public health menace of all time. (I'm not sure that's true, but it was not a time for quibbling [and it was before the advent of managed care].)

The man from Massport seemed to be sweating under his three-piece suit, but he was still smiling. He said when he got to the podium that he did not disagree with anything "the doctor" had said about lead, but Massport had been scrupulous and responsible in protecting the public. "In fact, we have state-of-the-art equipment," etc., etc.

I declined a rebuttal, allowing more time for discussion. There were a few questions about details and then a woman raised her hand. A pale three-year-old girl leaned against her. The woman got up and said in a shaky voice that this was the second summer that her daughter had to have injections of chelating agents for lead poisoning. The house had been checked for lead paint and there was none. They lived on Chestnut Street next to the bridge. She couldn't stand to hear her daughter crying about the injections. The child was tired all the time. At this point, her voice quavered. "I was very upset when I learned that the bridge had lead on it and I think...I think that...." and she burst into tears, perhaps not really knowing what she thought.

The room was silent. The man from Massport was not now smiling, but he stood resolutely at the podium. He must have said to himself. "This is what I'm being paid for." Aloud he said: "The Massachusetts Port Authority

accepts no responsibility for your child's condition. There is no reason to assume that the lead in your child's body came from the bridge. There are other sources of lead in this community, and a responsible parent can make certain that a child does not ingest lead."

I experienced a flash of a Brooklyn schoolyard instinct to take a swing at him, but it passed immediately. I actually felt sorry for the son of a bitch. I could imagine the briefing with his supervisors, who must have told him what to say if there were the slightest hint of liability in a particular case. It sounded memorized or electronic, and maybe if he were to keep his job, it was the only thing he could have said. But it was wrong.

The audience stirred. Eyes narrowed. No one spoke for about ten seconds. Then a big guy in the back got up. "All right," he said. "You go back and tell your buddies at Massport that if they don't stop what they're doing on the bridge, we're going to go up there and turn those blasters up your ass."

[Soon thereafter,] the mayor was asked to convene a committee of Chelsea citizens to "work with" the planners of Massport to come to a resolution. Blasting was suspended until agreement could be reached. I became an honorary citizen of Chelsea for this purpose and, as "the doctor," was given the job of coming up with the demands the committee should make....

Eventually, we came up with a list of conditions, including constant air monitoring for lead, house-to-house checks of families near the bridge, and the redesign of the fancy San Francisco enclosures. Massport more or less adhered to these conditions, but it turned out that some of the bridge's oblique spans could not be enclosed and therefore had to be repainted with lead paint after all.

The dust of Chelsea continues to be full of lead, and children continue to be poisoned. Prevention in a devastated environment is an endless struggle with a hydra-headed beast, only some of whose heads are human....

I learned about lead the way a child learns about sex. The revelation was not that it existed, but that there was so *much of it*. It reminded me of the scene in Heller's *Catch 22* in which Yossarian comes upon an injured airman. He carefully bandages the boy's bleeding leg, saying, "There, there," to his murmuring. He hears the boy say that he is cold and is about to adjust a flight jacket over him when the boy's guts suddenly spill out. Yossarian, trying to hold them in place, can only repeat, "There, there. There, there."

When I began to realize how vast and vastly destructive the problem of lead was in Chelsea, I had a sense of a curtain being pulled back on a scene of devastation, in one small corner of which I was performing a job that seemed as irrelevant as Yossarian's bandaging the leg wound. ■