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The Lifesaving Work of the Man Behind "A Civil Action"

07.29.2008

"Popular epidemiologist" Phil Brown comes to the aid of environmental contamination victims.

by Sheila Kaplan; photography by Christopher Churchill



As a child of parents who eked out a living in part by peeling potatoes and boiling borscht at resorts in New York State's Catskill Mountains, [Phil Brown](#) grew up with a natural empathy for people who didn't have much. He spent his childhood summers busing tables in the vacation area's lesser hotels. In winter his family would relocate to Florida, where his parents rented furnished apartments and worked in restaurants while Brown attended school.

Today Brown is a leading sociologist in the field of environmental health. After earning a doctorate in sociology at Brandeis University in 1979, he embarked on a career as an academic, soon joining the sociology department at Brown University. Although his focus was originally on mental health, environmental disasters impacting low-income communities, which often experienced far-reaching medical problems from exposure to toxins, would become his calling. In 1984 Brown's affinity for the working class took hold again when he arrived in the town of Woburn, Massachusetts, 12 miles north of Boston, along with a scientific team looking into an [alarmingly high rate of leukemia](#) in both children and adults: 19 cases in one decade, with only two survivors. The community's efforts to find the cause and its lawsuit against corporate giants W. R. Grace and Beatrice Foods were later detailed in Jonathan Harr's book *A Civil Action* and a [movie of the same name](#).

The Woburn residents contended that chemicals from the factories had contaminated their water supply and caused the leukemia. Their grassroots efforts, led initially by a local mother whose son was diagnosed with acute lymphocytic leukemia, reminded Brown of the community effort at New York's [Love Canal](#), whose residents, having assessed their own chemical contamination, challenged the government and the corporations they held responsible. It was an effort for which Brown coined the phrase "popular epidemiology."

A longtime professor of medical and environmental sociology at Brown University, Brown has championed the collaboration between impacted citizens and the scientific community. The effort made by the community of Woburn was chronicled in [No Safe Place](#), the critically acclaimed book he coauthored with Edwin Mikkelsen.

We spoke with Phil Brown recently at his home in Cambridge, Massachusetts.

What is popular epidemiology?

It's where laypeople work together with scientists to look at the distribution and causes of illnesses—because otherwise a lot of those things would never even be looked at.

Was popular epidemiology considered fringe at first?

Certainly by other scientists. When the scientists involved at Woburn published their work, they got a lot of criticism because people felt that they were relying on anecdotal information. They were in particular criticized for using residents to do some of the interviewing. But the scientists couldn't have done it without them because they didn't have a budget.

So they recruited the Woburn residents and trained them to make sure they would avoid any bias. They were trying to find a whole lot of information about the residents' health, and they were also using water models to see how the water flowed—which houses got more water, which houses got less. Ultimately people who got more water were more likely to have leukemia.

What was it like to interview the residents?

These people were very angry. I mean, it was 20 years from the time that they first discovered the contamination until [the court case] finally ended. The main effect of the chemicals was [childhood leukemia](#). And we interviewed some who had already lost their children. It was really, really hard. We would come out of there wiped out. I had never really had that experience before, scientifically talking to people who had lost their kids. It was a very hard thing.

So we did these interviews, and Mikkelsen and I wrote *No Safe Place*. It was pretty well received, in *The New York Times Book Review*, in *Nature* and *Science*. It's still cited today as a key work in the field.

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The *New York Times* said that your book was for people "[who are mad as hell and aren't going to take it anymore](#)." What impact did it have?

In terms of contributing to my field, shaping a new way of looking at environmental activism and environmental health more generally, I felt like I was building some new arena of work that I wanted to spread.

You shifted away from the field of mental health after your work in Woburn.

Once I wrote the book, I was hooked. I completely changed my focus. I stopped teaching most of my mental health classes at Brown and began working on a mix of medical and environmental sociology, environmental justice, [contested illnesses](#)—that is, illnesses whose environmental causes are contested.

How do you define your work?

It's multidisciplinary. You have to understand the sociology of a place, the political science, the toxicology, the epidemiology. You have to have the facilities to do the lab research, to take the samples, to run the analytical studies on them. So all the things that I'm doing and my colleagues are doing are multidisciplinary. That's really what makes it very exciting. And there are always community organizations and individuals who are very involved with this.

In your role as a sociologist, isn't there a conflict in helping the people whom you're studying?

I understand not everybody is going to be comfortable with it. Not all sociologists have to do that. And I know that for someone who is a junior faculty member without tenure it may seem risky.

Do you see yourself as both scientist and advocate?

Yes, it has to be seen as a back-and-forth, because there are things that we know that the community doesn't know. They

know that there's contamination. They don't know how to measure it. But we can teach them with very high-tech scientific equipment how to do that. Then they can say, "All right, here are the samples. You send them to the lab." The lab sends it back to us as the scientists. We can analyze it, then tell the people, "We found this many parts per million" or "This is 12 times higher than we've ever measured" or "It's 100 times higher than it's ever been seen. What do you think? What are you going to do about it?"

So they're coming up with ideas, and they're also pointing out new ways to interpret it. That's what all of my colleagues who do this kind of work find—that they learn so much scientifically.

Who are the naysayers?

The chemical companies and some parts of state and federal public health agencies. They don't want to be flooded with requests to do these studies. They are getting requests by the hundreds from people who are concerned about cancer clusters and, increasingly, people concerned about other diseases—autisms, [Lou Gehrig's disease](#), clusters of lupus. The more you look, the more you are finding this.

How do corporations respond to popular epidemiology?

They argue that scientists are being led by the nose by citizens and that when you have ordinary people formulating research questions and hypothesizing or being involved in the study, it makes it illegitimate, it takes away the good science.

What's to stop "popular epidemiologists" from skewing their research to support the findings they want?

They are not collecting data alone but doing it in partnership with scientists. And the kind of scientists involved in such collaborations have a high degree of ethics. Further, they are highly visible as allies of the activists and residents, and that visibility makes them an easy target; hence, they won't fake data or let laypeople do so. They realize that failure to be honest and transparent would jeopardize the individual case, the broader social movement, and their own careers.

Who are the advocates?

Increasingly more groups around the country are doing studies of their own. Sometimes they are doing health studies and trying to correlate health problems with exposures...trying to find what they think is a plausible outcome. [At Hanford](#) [a decommissioned nuclear production facility in Washington State] they did something called dose reconstruction, where they looked at releases of radiation and the wind patterns and how the wind might have traveled. That's hard to do for citizen groups.

Another example is the Drift Catcher Project. Using air sampling buckets, people are finding wide drifts of pesticides beyond the spraying fields. They are doing that in California and in other states. It's become a very big thing. These citizen alliances are very, very powerful.

Tell me about Tiverton, Rhode Island. It's close to your home and Brown University.

The town was putting new sewer lines in, and as they were digging they found a lot of blue soil, which immediately looked really weird and dangerous. They called in the Department of Environmental Management (DEM), and they learned it was very heavily contaminated with arsenic, with a lot of polycyclic aromatic hydrocarbons (PAHs), and with other things contained in waste from a manufactured gas plant.

It was such severe contamination that the town government said, "[You are not allowed to dig here](#). You can't garden. You can't add on to your house. You can't fix a basement. You can't do anything. You can't put a fence post in the ground."

How large an area is it?

It's about 120 homes. It's a neighborhood in the north part of Tiverton, the Bay Street neighborhood, sloping down to the bay.

They were really in bad shape, because if you couldn't dig and it was known that you had this problem, well, there was no way that you'd ever be able to sell your house. And they couldn't even get a home equity loan. That was one of the first things that struck me. These are really very hard-working, working-class people, and this is like the only equity they have in their lives.

So they came up to me at this meeting and they said, "We heard that you're from Brown and maybe you could help us." I put them onto a colleague of mine...and [he and his students] worked with them and helped to get together some of the history of their problems and their efforts to get the gas company to remediate, and to get the state to clean it up.

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You're in the middle of a project now studying how people in communities educate themselves and organize on environmental issues. How did that get started?

It came out of a project we did on Cape Cod. We asked people if they understood the way we provided information—graphs that we did for them, which gave individual data on pollutants in their bodies and their homes.

This is a very new area, and people don't often get these results back. At best, people get one result back, like lead. We were testing for 89 different chemicals and providing 20 or 30 results per person. So we asked if they understood them, and we asked questions like: Does it make them think of ways to change their exposure, if they can? Does it make them think about what the causes might have been?

They were generally very surprised to find a lot of [contaminants in their homes](#). Sometimes they were trying to figure out where they came from. They were concerned about the uncertainty. They wanted to know, could this have caused so-and-so's illness? We can't tell them that these things had certain effects.

Then you took this methodology to Richmond, California?

We wanted to find a way to make our type of analysis useful in other places. Richmond, we knew, had a long history of [concern about refineries](#) and the port. It's a very highly burdened area, mainly low income and largely people of color. This is not talked about a lot yet, but for black women there is a more virulent form of breast cancer. So we, and groups like Breast Cancer Action and the Breast Cancer Fund, were starting to think about environmental causes of breast cancer.

We spent a lot of time working with them ?on how this study should be designed, how we would all benefit from it in different ways, and building up a partnership and talking to each other a lot, meeting a lot.

They organized and went door-to-door. We trained them to do it. They put air monitors in place, and we did the analysis when the data came back and helped them figure out the best way to present it.

Was there opposition from the other side?

There's always local opposition. "You're going to hurt our tax base," they say. "You're going to give [us] a bad name. People are not going to want to move here."

What's your response when that happens?

I wrote in *No Safe Place* that one of our biggest opponents [in Woburn] was the town engineer. And then he dies from contamination. So you can't be safe from this stuff. And you can't even live in a different part of town or a different part of the country because this stuff is traveling. The more we learn about emerging contaminants, the more we know that you don't have to produce [PCBs](#) someplace to have them show up in your blood. They're showing up in the Arctic. They're getting there by ocean currents and air currents. And by, you know, biomagnifications in the food chain [the accumulation of substances in increasingly high concentrations as larger organisms feed on smaller ones].

So that's just going to keep happening. People are going to see, hopefully, that you can't just live in a pure, pristine place and you can't just buy green products and organic food. There's still enough stuff around that's going to hurt you.

Do you always win?

No. There were some things that we lost in Providence, Rhode Island, recently—[schools being constructed on very contaminated land](#). Despite opposition from the community, from Rhode Island Legal Services, and from the state itself, the city still went ahead and built these schools.

What was the land contaminated with?

In the first instance it was an old Providence city landfill. In the second case it was the Gorham silver plants. Gorham was the biggest silver manufacturer in the world, and they had, I think, 12,000 workers. You can imagine how big it was. So there was a lot of old electroplating and metalwork in Rhode Island in general. And this was one of the biggest. It's very contaminated.

What is the next step for the community groups, and how will you try to help them?

The first two schools that were built were an elementary and a middle school next to each other, the Springfield Street Schools. The residents filed a lawsuit, and the outcome of the lawsuit was that the judge said you have to monitor the place and you also have to have DEM set up a statewide panel which will have citizens and experts in government to develop a

new environmental-justice approach to brownfields [polluted and abandoned industrial sites].

So I'm actually on that panel, and there are a bunch of residents on that panel too. And while not everybody is happy with how it's going, nevertheless that's one positive outcome of this.

What has popular epidemiology changed?

It's changed citizens' belief that they didn't matter to a belief that they could matter...It has benefited many people suffering from toxic releases or from plumes of contaminants under their soil or from dumps, or proposed power plants or other plants, such as the concrete plants [just defeated in Cranston, Rhode Island](#). It's emboldened a lot of people to say, "We may not be the most educated, the most influential, but we can stand up and do this together."