Episode 3, Part 1: The House of Documents

Trace Material: Stories from the Plastics Age

[Music - Rainbow Road]

Burgess Brown:

Throughout the second half of the 20th century, plastic took over American industry and made our modern way of life possible. Plastic was marketed as cheap, safe, and efficient. A new alternative that was better than any material that had come before.

Ava Robinson:

In a way that is fairly typical to American history, progress rushed ahead, and thoughts of potential consequences were pushed aside. Now, those consequences are on our doorstep… and in our bloodstream, but little is being done about it.

Burgess:

Today we're going to be telling a story about corporate concealment, cancer, and of course, plastic.

Ava:

From Parsons Healthy Materials Lab at the New School. This is Trace Material.

[Music - Rainbow Road]

Ava:

Okay, today we're talking all about PVC, or Poly Vinyl Chloride.

Burgess:

When most people think of PVC they probably think of that hard, white plastic pipe that has become pretty ubiquitous in American homes.

Ava:

But another abbreviation for Polyvinyl Chloride is simply Vinyl. So that includes vinyl siding that's everywhere in suburban America, vinyl flooring which our schools and hospitals are generally covered in, and yes, your vintage vinyl collection.

Burgess:

MY vintage vinyl collection!?

Ava:

Well, one's vintage vinyl collection.

Burgess:

Okay so PVC was being made and used at increasing rates throughout the 20th century. Our story today spans several decades and continents and it involves global collaboration between corporations to conceal information. Throw in a dash of chemistry and… it's all getting very complicated! So, we're actually going to do us all a favor and break this story into two slightly more bite-sized bits. The second part of this episode will drop in two weeks.

Ava:

And don't worry, we won't start with the chemistry, but we'll get there eventually. Instead we'll start with the moment this tightly wound story started to unravel, and with the historian who pulled on that string.

Jerry Markowitz:

My name is Jerry Markowitz. I am a professor at the City University of New York. For the past almost 40 years now, I've been working with a colleague David Rosner on history of occupational health, history of environmental health. The way that toxins have gotten into our lives and what industry has done and not done to either make that more likely to happen or less likely to happen.

Ava:

Jerry and David co-authored a book called *Deceit and Denial: The Deadly Politics of Industrial Pollution.* Today Jerry is going to help us tell just a fraction of the story that unfolds in his and David's book. You can find more on everything we cover in this episode in that book, *Deceit and Denial,* and we really recommend that you do.

Burgess:

So as Jerry said, the focus of their research is occupational and environmental health. A few decades ago, he and David started working with lawyers who also worked in those fields. They could provide them with historical context, and in return the lawyers could provide Jerry and David with documents—the historian's bread and butter.

Ava:
And so although Jerry and David weren't actively researching the history of PVC production, a lawyer asked them for their help understanding a narrative that was taking shape down in Louisiana. Because, that's really what historians do. They take a whole bunch of documents and they synthesize them into a story using historical context.

Burgess:
But the lawyer didn't just want help understanding the narrative—they wanted Jerry and David to determine if the whisperings they were hearing had any truth to them. Because from the outset, this story sounded too wild to be real. A global conspiracy involving polyvinyl chloride? Come on.

Jerry:
David and I had been working on silicosis cases with a law firm down in Texas and the lawyer we were working with spoke to us and said, listen, we have this new case involving exposure to the main ingredient in PVC plastic. And a lawyer down in Lake Charles has collected hundreds of thousands of documents and claims that there was a real conspiracy to deny that information about the dangers of vinyl chloride monomer to workers and the public. Can you check out those documents and give us a sense of whether you think this is real or not real. And so they sent us, I would say probably 10,000 documents.

Jerry:
And these were documents almost entirely of the trade association of the chemical industry. At that time it was called the Manufacturing Chemists Association. And now it's known as the American Chemistry Council. We started going through and collecting materials and we decided that we really needed to go down to Lake Charles.

Ava:
David and Jerry received about 10,000 documents in their New York offices, just to start. And they immediately started to see several stories about corporations possibly working together to hide information from their workers, the public and the government. It was a big story, and one that would require even more documents.

Burgess:
So they bought plane tickets, and headed down to Louisiana to meet the man in charge of this never ending stream of documents. A man named Billy Baggett.

Jerry:
So we arrive in Lake Charles. We rented a car, drive through the center of Lake Charles, which is a depressed town. The downtown was virtually abandoned in terms of having any life as a, as a city. In the

middle of all of this is this suburban house. It looks like any other suburban house. And we go in and we meet Billy Baggett who is the most enthusiastic person I think I've ever met.

Burgess:

After just a couple hours on the phone with him, I think Ava and I would easily co-sign that statement.

Ava:

But this suburban house was not where Billy lived, he wasn't inviting them over for coffee. It was not where anybody lived. It was just a house of documents, of stories waiting to be told.

Jerry:

Think of a suburban house, you know, the downstairs and the upstairs completely filled with binders of documents that related to the chemical industry and all around the issue of vinyl chloride.

Jerry:

We are stunned. I mean, so we're historians, we live for documents, and this was like Christmas in July. We had seen archives with, you know, hundreds of thousands of documents, but never a private house that was floor to ceiling documents that Billy had collected. And let me just say a word about Billy. If it hadn't been for him, we would never have had access to all of these incredible documents. Now, understand, these are documents that no one outside of the chemical industry had ever seen before. These were minutes of meetings of the board of directors, minutes of meetings of their occupational health committee, minutes of meetings of their PVC and VCM committees.

Burgess:

Usually, historians work with government archives or private collections of curated papers. Chemical companies have archives, but since those collections were donated by the company or family so they could be studied, you'd be unlikely to find anything like what they found in the papers Billy discovered through legal means.

Jerry:
We were able to get an insight into industry activities that we could not have gotten in any other way. You could not have gotten this from public sources. You could not have gotten this from newspapers. You couldn't have gotten this from government archives. This was truly an extraordinary accomplishment on Billy's part.

Burgess:
Okay so before we dig into the full story that was revealed in the papers, we want to talk about that

extraordinary accomplishment. And who better to tell us how it happened than the man himself, Mr. Billy Baggett.

Billy Baggett:

Don’t get me started on vinyl chloride unless you have a lot of tape. But… no, I’m serious. What is it? The three degrees or five degrees of Kevin Bacon where everything can be related? I mean, I'm like that with the vinyl chloride industry.

Burgess:
We caught Billy on his cell phone, so his audio’s not quite as clear as some of our other guests. But just bear with us, it’s worth hearing what he has to say.

Ava:

Billy is now the man who knows everything about the PVC industry. Remember, he has an entire house full of documents about it. But, of course, he didn’t wake up one day and decide that he was going to be the PVC guy. It happened somewhat slowly.

Burgess:

He’s a personal injury attorney who helps people who were exposed to toxic chemicals while at work.

Billy:

I've never had to have a car wreck or a dog bite or a traffic ticket, or... it's been occupational disease from day one. And it's been pretty much benzene or vinyl chloride, or maybe some other chemicals. And there's only two or three of us in the country that do this full time.

Ava:

And so you might immediately be wondering how a lawyer focused on occupational disease became the PVC guy. And simply enough, it’s because the production of PVC has been linked to disease in workers.

Burgess:

Okay so we can all probably imagine what PVC looks and feels like, and most of us probably have it in our house. PVC is made from vinyl chloride monomers. You may remember that plastic is a polymer, composed of monomers or molecules that react together with other monomers to form a larger polymer chain. Some monomers may not react in the polymer process. So while PVC the product is being created in factories, vinyl chloride monomers—in the form of a gas—are being released.

Ava:
And it’s widely known that the vinyl chloride is dangerous for human health. We called up Dr. Sarah Evans from Mount Sinai here in New York to tell us more.

Sarah Evans:

I'm Sarah Evans. I'm an assistant professor in environmental medicine and public health at the Ichan School of Medicine at Mount Sinai. So vinyl chloride is actually a known human carcinogen, meaning that it's known to cause cancer in humans. And that's according to both the United States Environmental Protection Agency and the World Health Organization. And so exposure to vinyl chloride that happens in a factory setting typically through inhalation of the vinyl chloride gas has been shown to increase risk of cancers like liver cancer, brain cancer, some blood cancers and liver disease.

Ava:

So when a man from Lake Charles named Dan Ross died of a rare cancer after working for years at a Conoco PVC plant, his wife Elaine went to see Billy. And it all snowballed from there.

Billy:

What happened with the vinyl chloride case was exceptional. That was in 1989 when I met Elaine Ross. She had a husband who was young. Late forties, maybe early fifties? He had brain cancer. All we had to prove was negligence. Easy peasy.-Every time you smelled vinyl, they had documents that showed it was 4,000 times the legal level, and people smelled it all the time in certain areas of the plant.

Burgess:

At first Billy thought this would be a simple case. Dan was a fairly young guy, he’d surely had some sort of exposure at work. He would file, get Dan’s records, and start to piece together the story of his exposure. Easy peasy.

Ava:

But the documents Billy got were far from simple.

Billy:

There was all sorts of funny business going on, but I didn't realize that until we got into the documents and saw multiple rewrites of papers that I was familiar with. At first I thought there was just multiple copies of the same report stacked on top of each other. Then I noticed marked out sections, rewrites.

Billy:

I mean, seriously, this is real fraud for a guy... he's alive, they say he has high exposure classification. He's dead five years later with brain cancer, they changed the classification to low.

Ava:

The marked out sections and rewritten exposure classifications didn't sit right with Billy. So, he started requesting more and more paperwork. Basically all the paperwork. If he saw a committee name or an executive's name that he didn't recognize, he would request all the relevant paperwork on that committee or executive. This went beyond Conoco and into the MCA and associated corporations. And it really started to pile up.

Billy:

At this point we saw that there was a secret epidemiologic study.

Burgess:

So in all of those papers Billy requested, he found evidence that Dan and his colleagues had been unknowingly entered into a study about the effects of vinyl chloride on workers.

Billy:

We sent the raw epidemiologic data to over 130 people who had no idea they were in study. We sent them a care package and a questionnaire. Did you know you were in an epidemiologic study? Did you give informed consent? This is the plant where they told everyone there was no relationship between Dan's brain cancer and vinyl.

Ava:

So as Billy just said, the plant Dan worked for had been telling it's workers not to worry, and that there was no relationship between Dan's cancer and his workplace, all while doing secret studies on that very relationship.

Billy:

Even after I brought it to their attention that they'd been the subject of three published studies and didn't know that they were in it. They didn't know the results. They didn't know brain cancer was associated. They didn't know anything. They were ignorant. A lot of them didn't know vinyl was any more dangerous than any other chemical out there, and that was no accident.

Burgess:

So the results of these studies would have worried workers, would have shown that the levels they were being exposed to were dangerous to their health, but that information was kept from them.

Ava:

The more Billy discovered, the more papers he requested. And while many of them weren't useful in the Ross case, he knew that they held information worth uncovering, so he started making calls. And eventually those calls reached Jerry and David up in New York.

Burgess:

At the time Jerry and David got involved, Billy had looked over the documents and used the ones that were relevant to the Ross case. Although it took 12 years, he did get Elaine Ross a substantial settlement. He did his job. But all those other documents, the ones that took up the majority of that house, were sitting relatively untouched.

Ava:

So, being the historians that they are, Jerry and David put these papers into chronological order so that they could start to understand the narrative. The first pieces began to fall into place and it became clear that, in the 1970s, as the chemical industry was churning out enormous amounts of PVC each year, industry leaders became aware of a major health issue in their factory workers. It was called acroosteolysis.

Jerry:

This is a very unusual condition that basically causes the fingers to become very tough and leathery, bone deterioration occurs in the fingers and the fingers become very tender. Goodrich and its plant in Louisville, Kentucky found that some workers were having a condition in which their fingers were tender and tough. They hired an outside research area to investigate this. And at the same time consulted with the other members of the chemical industry who were manufacturing polyvinyl chloride to see if they had any kind of similar kinds of cases. Two companies, Goodrich and Monsanto, actually gave cover stories to their workers so that the workers would not become concerned about why they were x-raying their hands to see if they had developed this condition.

Burgess:

What happened with the cases of acroosteolysis is important because it laid the groundwork for how industry would respond to other health issues, including cancers, that would be revealed later. As Jerry said, they kept this newfound information from their workers and closed ranks. We'll see this tactic again.

Jerry:

The industry had a meeting all together. And Goodrich told the other members of the industry who were producing PVC that, in their words, they use discretion in terms of talking about this new condition. Discretion in industry-ese simply means don't say anything about it. And subsequently they hire the University of Michigan to do research and to try to understand what this new condition is and how to prevent it. And University of Michigan did a really credible job. They came back and said that the threshold limit value, the amount of exposure that workers should have to vinyl chloride monomer should be reduced from what was then 500 parts per million to 50 parts per million. And that that could potentially stop this condition.

Ava:
And that could have been the end of it. Science had provided a possible solution. But....

Jerry:

The industry committee that received that recommendation said, we don't like that conclusion because it indicts vinyl chloride monomer. And so they, you know, went back and told University of Michigan, they weren't accepting their report. And two years later when they actually published, that is University of Michigan actually published their report, lo and behold, there was nothing about reducing the threshold limit the value from 500 to 50 and nothing that implicated vinyl chloride monomer as the cause of acroosteolysis.

Ava:

So a third tactic emerges. Jerry and David uncovered a pretty good blueprint on how the industry handled these crises : 1. Study your workers, but don't tell them anything. 2. Work with other chemical companies, and 3. Fund scientific studies on these conditions, and therefore control some of the conclusions in those studies.

Burgess:

But the strength of this strategy would once again be tested. There was some seriously disturbing news about the safety of vinyl chloride coming out of Europe.

Jerry:

There is a study by a Dr. Viola in Italy in which he finds that animals, rats that were exposed to massive amounts of vinyl chloride monomer developed a variety of different cancers. And the industry was concerned about that, but not overly concerned because there was, very, very high exposures. But the Europeans, the European chemical industry, hired another researcher a Dr. Maltoni who had a major research lab in Bologna. He started studying the effects of smaller quantities of vinyl chloride monomer on rats. What he found was that at levels below what were the then current threshold limit value of 500 parts per million, half that at 250 parts per million, rats were getting angiosarcoma of the liver.

Ava:

Angiosarcoma is a rare form of liver cancer. And sure, rats aren't humans, they might have different thresholds, but it's certainly very worrying news. And, as they did before, industry closed ranks, but this time it wasn't just American companies.

Jerry:

So this was very concerning and the Europeans consulted with their American counterparts and told them about this research, but before they would actually give them the results, they made the US companies sign a secrecy agreement, a confidentiality agreement, and in doing so binded the American

companies to not tell anybody, even others within their own companies, about the results of this research. Because this was really explosive. The Americans learned about this in November of 1972. Just by chance, two months later in January of 1973, a newly established US agency, the National Institute for Occupational Safety and Health, NIOSH, sends out a request for any information about the dangers of vinyl chloride monomer. This immediately sends the US chemical industry into defensive mode.

Burgess:

Okay, American industry, coming together under the Manufacturing Chemist's Association, finds themselves stuck between a rock and hard place. Do they tell NIOSH about the studies and break their confidentiality agreement? Or do they keep the studies from the US Government and protect their interests and their relationship with the Europeans?

Jerry:

They begin meeting in January and February, March, April, May, to how to respond to this. And one of the responses that the MCA sends to the vinyl chloride monomer producers and the PVC producers was that the industry had–and these are their words–a moral obligation to provide what it knew about the dangers of vinyl chloride monomer. Their lawyers tell them, well, you've signed this secrecy agreement. You're not allowed to tell. And there it may have laid, except that NIOSH had wanted this information. The industry decided that it had to appear to cooperate without providing the essential information. So they meet in July of 1973. And in the lead up to that meeting, there is a discussion about what they can tell and what they can't tell. And one of the industry representatives said, you know, that memo from the MCA to all of us saying we had a moral obligation, you know, that could be construed as evidence of an illegal conspiracy by industry.

Jerry:

And again, these are their words. These are not our words. And they prepare for the meeting and they ultimately decide if they're asked a direct question about Maltoni and his results, they will answer it. If not, they won't bring it up. And of course, it's impossible to have had a direct question, because NIOSH didn't know about the study. It was secret. So they have the meeting. They provide some information that was public. They provide some information about their own studies. They come out of the meeting and they are gloating that we have been able to stave off any precipitous action by the government.

Ava:

So industry meets with government and avoids having to reveal the European studies. They've managed to preserve the terms of their confidentiality agreement and appear cooperative to NIOSH.

Jerry:

And there it probably would have laid, except for the fact that in January of 1974, that same Louisville plant of Goodrich started getting two or three angiosarcomas of the liver among their workers. Now, this is such a rare cancer that when you have even two or three angiosarcomas in one plant in the area that

is using vinyl chloride monomer, the very same doctor who had discovered acro-osteolysis, John Creech, says to Goodrich: this you have to make public. This is too much of a, of a big problem. And then it becomes a major, major issue.

Burgess:

So BF Goodrich decides it has to go public. They make an announcement that three of its workers have died of the extremely rare liver cancer called angiosarcoma. In the announcement they claim that there is, quote, “no proof of the cause of death” and that, quote, “this is the first time there’s ever been any indication that [vinyl chloride monomer] might be a cancer-producing agent.”

Ava:

This announcement is, as Jerry said, ‘a major, major issue’ for the chemical industry because, up until this point, they’d had free reign to self-regulate and control over the scientific output about the chemicals they were producing.

Burgess:

But the alarm had been sounded with national coverage from *The Wall Street Journal.* This publicity around angiosarcoma invited federal regulation and, perhaps more worrying for the industry, public concern about the safety of PVC. If this chemical is so hazardous to workers, what about consumers? And what about the communities living near these factories?

Ava:

So this is where we’re going to have to pause our story for today. But we’ll pick this trail back up next time and take you outside the factory walls, and into fenceline communities and suburban homes.

[Music]

Burgess:

The story we’ve covered in this episode is winding, complex, and spans decades. It’s a story of deception, but also one of dogged discovery. As Jerry said at the top of the episode, if it had not been for Billy Baggett’s relentless pursuit of these confidential industry documents, we would never have known just how complex this story really is.

Ava:

And if it weren’t for the work of Jerry and David, this chapter in history might’ve been based on chemical industry public relations campaigns. This is a good time to remind you that everything we’ve covered today, and so much more, can be found in Jerry Markowitz and David Rosner’s book *Deceit and Denial:*

The Deadly Politics of Industrial Pollution. And, all of the documents Billy discovered that informed that research are publicly available at toxicdocs.org

Burgess:

And if documentaries are more your speed, we watched two to prepare for this episode. *Trade Secrets: A Moyers Report,* from PBS and *Blue Vinyl,* directed by Judith Helfand and Daniel B. Gold.

Ava:

We'll see you next time for part two of this story.

[Music]

Credits:
Hi, this is Cristina Handal from the HML team. Thanks for listening.

Trace Material is a project of Parsons Healthy Materials Lab at The New School. It is hosted and produced by Ava Robinson and Burgess Brown. Our project director is Alison Mears, and our research assistant is Olivia Hamilton.

For more information, head to our website at healthymaterialslab.org/podcast. And be sure to give us a follow on Instagram @healthymaterialslab.

Thank you to Jerry Markowitz, Billy Baggett, and Dr. Sarah Evans for lending their voices, experiences, and expertise to this episode. One final shoutout: Jerry's book that he co-authored with David Rosner is titled *Deceit and Denial: The Deadly Politics of Industrial Pollution*. It is a shocking and brave piece of historical writing. There are so many things we couldn't get to in this episode that are covered in Jerry and David's book.

Trace Material is made possible by funding from the National Endowment for the Humanities. Our theme music is Rainbow Road by Cardioid. Additional music from Blue Dot Sessions.