

**How the Evolution of the News Industry Encourages Petrochemical Company
Misconduct**

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On my honor as a University Student, I have neither given nor received unauthorized aid
on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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INTRODUCTION:

The petrochemical industry reaches almost every aspect of society. From soap, to plastic, to food additives, petrochemical products are in our daily lives for better or worse. These products make our lives easier and cleaner, but at the expense of greenhouse gasses, environmental pollutants, and safety concerns. For people that live near a petrochemical facility, the negative environmental and health implications are more concentrated (Gelles & Steel, 2021). Communities located near petrochemical plants are disproportionately affected by emitted waste in the air and groundwater (Gelles & Steel, 2021). One last line of defense for local communities is their local news outlets. Local news is instrumental in whistleblowing corporate misconduct (Heese, 2021). However, as the news industry transitions to national news and social media, will this make local communities more vulnerable to unchecked corporate misconduct (Abernathy, Penelope, 2018, 2018)? The purpose of the STS research paper is to answer this question through the context of technological determinism and by understanding the recent history of both the news industry and petrochemical company misconduct.

METHODS:

The research question is: How has the evolution of the media industry made communities more vulnerable to misconduct by the petrochemical industry?

The STS research paper addresses the impact of petrochemical plants on local communities, and how these communities could become more vulnerable to misconduct as the news industry evolves. To answer the research question, the history of chemical corporate misconduct including environmental pollutants and safety incidents is analyzed. Focus is placed on case studies in the ‘forever chemical’ pollution in Fayetteville, North Carolina by Chemours

and DuPont, and the dumping of chemicals at Love Canal. The importance of local news in these two cases is explored to underscore the importance of local media as whistleblowers. This investigation is performed by using secondary sources with keywords such as newspaper closures, nationalization of news, local news, and impact of social media. The goal of this social analysis of the effect of the news industry on petrochemical company misconduct is to raise awareness of the unforeseen consequences of the digitization and nationalization of news.

HISTORY OF CHEMICAL INDUSTRY AND AMERICAN MEDIA:

Petrochemicals are a class of chemicals that are derived from petroleum, hence the name, and other fossil fuels. Fossil fuels are chains of hydrocarbons which can be manipulated into thousands of different products such as plastics and solvents using chemical reactions. In the first stage of processing petroleum products are refined to produce base chemicals, then these base chemicals are further processed into final products such as polymers, solvents, or even pharmaceuticals. For example, to make the plastic polypropylene, which is used in single use packaging and the automotive industry, propane, a component of natural gas, is cracked to make propylene. Then the individual propylene molecules react under high heat and pressure to form long chains of polypropylene.

The petrochemical industry originated during the European industrial revolution using coal to make synthetic dyes for the textile industry. The US depended on Europe in the late 19th century for dyestuffs and other organic chemicals and primarily only produced inorganic chemicals (salts, acids, etc) and explosives. However, during World War I, the US was cut off from German petrochemicals and was forced to develop its own petrochemical industry to produce dyes, explosives, and other products (Landau & Arora, 1999). The early petrochemical

industry was largely unregulated during this period due to the government's laissez faire political beliefs and environmental pollution began. As industry became producing more complex products such as plastics, the waste became more toxic to the environment. By the 1920s and 1930s scientists and the public began to call for action to regulate the discharge of industrial waste. Chemical companies were reluctant to accept government oversights and insisted they would mitigate this pollution problem. The industry's approach to pollution mitigation during this time is described as "spill, study, and stall". In response to government and citizen inquiry, chemical companies would conduct studies on the problem instead of spending more on actual pollution cleanup. These studies often involved developing new technology to clean up the pollution instead of implementing already developed technology. Or the research would focus on determining if the pollutant was harmful. Even worse, sometimes researchers would "cherry pick data" to prove that the pollutants were nontoxic. However, the Great Depression changed the relationship between government and business and more oversight was created. Now instead of industry conducting their own environmental and health research, private institutions were created to independently conduct this research. Nevertheless, these seemingly neutral institutions were still funded and controlled by the petrochemical industry and their biased research justified many public health disasters such as leaded gasoline, black lung, DDT, air and water pollution. This approach continued through World War II as the industry advanced and more dangerous chemicals were released into the environment. Despite knowing the dangers, chemical giants such as Dupont and Dow resisted government intervention. A compromise was reached with local and state level environmental control. However, non-federal regulation did not stop this pollution because small governments did not have the resources to develop these regulations. Chemical companies also threatened to move factories and therefore jobs to "friendlier

jurisdictions” if legislation was enacted. However, despite a history of failure to regulate industrial pollution, the public call to action stayed strong. Combining that with Rachel Carson’s *Silent Spring*, brought a new wave of federal regulation in the 1970s such as the creation of the Environmental Protection Agency and the passing of the National Environmental Protection Act and the Clean Air Act (Ross & Amter, 2010). Despite these advancements, chemical pollution is still an issue today, as chemical companies routinely choose to increase profits over protecting the environment.

Throughout American history, citizens have learned about chemical spills and pollution through personal experiences and the media. However, the media has taken many forms over the years. The beginning of mass media began with the invention of the printing press in the 1500s which allowed for the spread of information in pamphlets, books, and newspapers. Improvements to the printing press in 1810 by Friedrich Koenig doubled the speed of printing and therefore improved the speed of the spread of information. This advancement allowed for the creation of daily newspapers and was the main source of news until the widespread adoption of the radio in the 1920s. After World War II, the television and their news stations became the most popular form of news sharing. Lastly, the creation of the internet increased accessibility and the speed at which news travels dramatically. The diverse forms of media present today provide countless opportunities for people to remain informed on the news. But, no matter the form, media serves as a source of entertainment, information, and most importantly in this context as a watchdog (*Understanding Media and Culture*, 2010). Today, the world has access to more news stories than ever before thanks to the internet (Sagan & Leighton, 2010). However, the news industry is shifting to national news and social media and causing a decrease in local news coverage. Between 2004 and 2018, 1800 local newspapers closed or merged in the United States,

decreasing the number of active circulations by 20 percent. 1700 of these newspapers were weekly papers and 60 were daily. Almost all these closures were newspaper mergers to form larger newspapers with a larger readership, losing a local lens. These closures were due in part to a 40% decrease in print readers as readers have switched to online news through the internet and social media (Abernathy, Penelope, 2018). Local news has been at the forefront of protecting local communities from corporate misconduct. Journalists reporting chemical dumping and other misdeeds has been crucial to keeping people safe. The weakening of local news has been correlated to a 1.1% increase in corporate misconduct from all industries (Heese, 2021). While this number may seem small, left unchecked this correlation will likely only increase. The STS research paper analyzes how access to local news protects citizens from corporate misconduct from petrochemical companies.

TECHNOLOGICAL DETERMINISM:

Technological Determinism is a STS theory developed by Tench Coxe in the late 1700s that describes how technology, such as news outlets, is the ultimate driving force in societal change. Tench Coxe uses the theory to describe how the industrial revolution has impacted society. More specifically, he believed that the best way for the United States to gain political independence after the American Revolution would be through economic independence via mechanization. Other historians have returned to technological determinism to describe how technology shapes society. For example, Boyd's *Triumphs and Wonders of the 19th Century* described with awe and enthusiasm the latest developments in electricity, naval engineering, architecture, and chemistry. Artists such as John Gast showed symbolically through, railroads and telegraph lines, the impact of technology on US western migration characterized by Manifest Destiny (Smith, n.d.). The theory is not without its critics. Some such as Nye and Hughes believe

that technological determinism over-simplifies the complex relationship between technology and society (Hughes, n.d.; Nye, 2006). However, this simplification helps understand an important aspect of how changing news outlets affects society. Further research could be done to understand how changing society affects news outlets. This research is important because the trend in nationalization of news is only increasing. Paying attention to how a decline in news sources impacts local communities will be vital to protect future generations from more inevitable corporate misconduct.

Media determinism is a form of technological determinism that believes that media can have an impact on society. Two key media determinists are Marshall McLuhan and Thomas Hauer. Marshall McLuhan wrote *Understanding Media: The Extensions of Man* in 1964 to explain the impact of new media at the time on society. He believes that “the medium is the message” or that the medium of the media is more important than the message itself (McLuhan, 1964). While this is a dated source, and the media has undergone a large transformation since the 1960s, this message still holds relevance today. The structure of the media delivery system whether it be a short TikTok or a long ad-ridden newspaper article has an impact on who sees and understands the media. A more current scholar, Thomas Hauer, wrote *Education, Technological Determinism, and New Media* in 2017. He argues that “the Internet and the nature of the new media is fundamentally changing the structure of the society.” (Hauer, 2017). He further goes on to argue that due to the expansion of computers and the internet, social media has transformed all aspects of society not just communication.

THE IMPACT OF MEDIA ON CHEMICAL COMPANY MISCONDUCT:

There is a long history of corporate misconduct of petrochemical companies in the United States. And unfortunately, usually those in the local communities that live near and work in these plants are the most affected by this misconduct. Key examples from recent history that will be discussed in this paper are Love Canal and the on-going corporate coverup and ensuing lawsuits after Dupont Chemical was caught releasing 'forever chemicals' into the rivers and groundwater of Fayetteville, NC for over 40 years. These two incidents are key examples of recent misconduct by petrochemical companies and the importance of local news and community whistleblowing in stopping these events. Without the support and strength of the local news in these case studies.

Love Canal

Love Canal is one of the most infamous incidents of hazardous waste dumping in the US. The Love Canal was constructed in the 1890s outside of Niagara Falls as part of a planned industrial community. However, the venture failed, and the land was sold to Hooker Chemicals and Plastics Corporation in 1942. Hooker disposed of 22 kilotons of chemical waste, including 200 tons of a lethal chemical dioxin, in the Love Canal over the years 1942-1953 (Offhaus, n.d.). Hooker then sold the land to the local school board and an elementary school was constructed on the land. Later, the area surrounding the site was developed into a suburban community. Heavy rainfall in the mid 1970s caused high groundwater levels in the area, which caused the groundwater, contaminated with the hazardous waste dumped by Hooker 30 years prior, to leak into basements and yards of residents, surface water such as ponds were contaminated, and the area smelled of noxious chemicals (Background Information - University Archives - University

at Buffalo Libraries, n.d.). At the same time, parents noticed that their children were getting sick of serious conditions such as epilepsy, asthma, migraines, and nephrosis and there were abnormally high rates of miscarriages and birth defects (*Love Canal*, n.d.). A young Niagara Gazette reporter, Michael Brown was the first journalist to break the story in 1976 (Newman, 2001). Research done after the article was published found “a laundry list of 421 chemical records for air, water, and soil samples in and around the Love Canal area” (Background Information - University Archives - University at Buffalo Libraries, n.d.). Subsequently in 1978, President Carter declared a state of emergency and evacuated almost 240 families in Love Canal. Later in 1981, the remaining families were relocated (*Love Canal*, n.d.). While the government was slow to action to help the affected families, it would have been even slower if not for the important work done by the Niagara Gazette. Michael Brown wrote numerous articles over the years detailing the severity of the situation and called for action by the state and federal government. He even published a book, *Laying Waste: The Poisoning of America by Toxic Chemicals*, in 1980 to reach a broader audience. He was nominated for the Pulitzer Prize three times for the work he did at Love Canal (*Michael Brown beyond Love Canal | Local News | Niagara-Gazette.Com*, n.d.).

Fayetteville Waterworks

Fayetteville Waterworks, a subsidiary of Chemours which was once a part of DuPont, has been leaching per- and polyfluoroalkyl substances, or PFAS, into the Cape Fear watershed for over 40 years. PFAS are a class of chemicals known colloquially as ‘forever chemicals’ because they do not break down in the environment. They have also been linked to cancer, birth defects, and other serious health concerns. These chemicals are used as coatings for consumer goods such as rain jackets and frying pans to repel water and grease. Since the 1980s, Chemours

has been using public charm, forming complex corporate transitions to shift blame, and sponsoring research that claims PFAS are not dangerous to shield themselves from blame. These tried and true strategies have been used by the chemical industry since the 1900s to limit their liability for polluting the environment. Most of this pollution had been going under the radar until a local newspaper, the Wilmington Star News, published an article that PFAS from the Fayetteville Waterworks plant were found 90 miles downstream in the city of Wilmington's drinking water (Gelles & Steel, 2021). The news article cited a North Carolina State University professor, Detlef Knappe, who reported that an estimated "250,000 people are affected in the three counties" with contaminated drinking water (Hagerty, 2017). While there had been lawsuits in the past, this article was the key event that caused outcry from lawmakers and the public alike. After this article came out, Chemours met with NC lawmakers. They "conceded that GenX had been escaping into the Cape Fear River since 1980, despite previous promises to the E.P.A. that the discharges wouldn't happen" (Gelles & Steel, 2021). To spin this, Chemours sponsored research to support the safety of PFAs in drinking water, but this was to little avail. The public still distrusted Chemours and in 2018, hundreds of Fayetteville and Wilmington residents gathered to voice their concerns. One woman described how she lost her prematurely born son due to liver and kidney failure caused by PFAS. In 2019, the North Carolina Department of Environmental Quality passed an order "required Fayetteville Works to drastically reduce the amount of PFAS and GenX it was releasing into the ground, air and water" (Gelles & Steel, 2021). Yet despite installing thousands of dollars in upgraded filtration systems, Chemours is still polluting Cape Fear.

Importance of Local News

The Fayetteville Water Works PFAS pollution has not yet been resolved but the role of local news in the Fayetteville Waterworks is a key example of the impact of local news in corporate misconduct cases. Local news serves as a somewhat independent whistleblower to alert the community of issues close to home. And while readership of small media outlets is lower than big players like the New York Times, research shows that if 3 small (less than 50,000 readers) news outlets “wrote about a major national policy topic...discussion of that topic across social media rose by more than 62 percent, and the balance of opinion in the national conversation could be swayed by several percentage points” (Reuell, 2017). This study underscores the importance of local news on the national stage. Also, local reporters are more in tune with the community they write about and are more likely to investigate rumors of misconduct in their area. What may go unnoticed for large publications, can be important news on a local or even national scale.

Big Media is Not Independent

While the US has free media, meaning it is largely free from government influence, that does not mean it is free from market interests. It's important to remember that “purveyors of mass media may be beholden to particular agendas because of political slant, advertising funds, or ideological bias, thus constraining their ability to act as a watchdog” ([Understanding Media and Culture, 2010](#)). This becomes more worrisome as local news outlets are increasingly bought out by larger media companies. Today 90% of what we read, watch, or listen to is owned by only 6 corporations: AT&T, CBS, Comcast, Disney, News Corp and Viacom (Louise, 2020). These large corporations' top goal is to be profitable, and to inform the public second. They are also beholden to their high-profile owners and may not be able to objectively report on them. For

example, the Murdoch family, which is well known for owning Fox News and hundreds of other media outlets under its corporation News Corp, uses their control of the media to promote right-wing agendas across the globe. As pointed out in 2019 by New York Times Magazine, “The right-wing populist wave that looked like a fleeting cultural phenomenon a few years ago has turned into the defining political movement of the times, disrupting the world order of the last half-century. The Murdoch empire did not cause this wave. But more than any single media company, it enabled it, promoted it and profited from it” (Mahler & Rutenberg, 2019). This example is evidence that big media can be used to further the agenda of its owners and should not be taken as unbiased information. Smaller publications are not beholden to large influential investors as big media conglomerates.

Limitations

This paper is limited by the qualitative nature of the argument. More concrete quantitative data would strengthen the argument that local news protects citizens from petrochemical pollution. Also, research could be done on more recent pollution issues like the PFAs water contamination in Fayetteville. This paper exclusively investigated the power of the media in whistleblowing. However, another perspective that could be investigated is if big media is more likely than small publications to cover-up or intentionally not report incidents of misconduct.

CONCLUSION:

The media is one of the most important ways to protect the public and the environment from pollution via the petrochemical industry. In both presented case studies, Love Canal and Fayetteville Waterworks, local media was instrumental in whistleblowing misconduct. As the

news industry evolves toward larger publications with less connection to its readership, the media will not be able to protect smaller communities. This is one of the unforeseen consequences of the digitization and nationalization of news.

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