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of conflict of interest as a protest repertoire to fight
against pesticides**

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For science, by science, the emergence and circulation of conflict of interest as a protest repertoire to fight against pesticides (Chapter 10)

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Introduction

Nowadays, the condemnations of the harmful effects of pesticides on human health and the environment are a highly visible political cause in France. Many actors drive this cause, including environmental activists, victims' associations, investigative journalists, law firms, and concerned scientists. Over the past decade, throughout a series of controversies involving numerous substances (neonicotinoids, chlordecone, glyphosate, or succinate dehydrogenase inhibitors), they have criticized the lack of objectivity and the industry ties of the institutions in charge of pesticide assessment at both the national level (ANSES, French Agency for Food, Environmental, and Occupational Health and Safety) and the European level (EFSA, European Food Safety Authority). To denounce these phenomena, they often use the term "conflict of interest" (COI), which has become a central element of their protest repertoire.

This way of framing opposition to pesticides is relatively new in terms of the political history of these substances. French farmers used pesticides on a massive scale starting in the second half of the 20th century. From the 1960s, pesticides were part of the effort to modernize agriculture and, as such, received strong support from public authorities. Very soon after their widespread diffusion, these substances were denounced by unions and NGOs who criticized their effects on health and the environment, and the industrialization of agriculture in general. However, activists rarely brought up the pro-industry bias present in the pesticide risk assessment process and in pesticide regulation. The absence of this theme in their mobilization efforts is surprising when we recall that at that time it played a much bigger role in other countries. In the United States, especially, where agriculture already relied even more heavily on synthetic inputs, activists often expressed their doubt that regulatory authorities could act objectively without bending to pressure from powerful corporate interests.

This transatlantic time difference invites us to examine more closely how the framework used to denounce pesticides evolved over time and circulated in different social contexts. This chapter explores the social conditions that led to the issue of industry influence on pesticide regulation becoming part of anti-pesticide activists' arsenal in France. We highlight three social processes that contributed to the emergence and diffusion of this issue: the institutionalization of risk assessment, the development of investigative environmental journalism, and the professionalization of environmental health advocacy organizations. All three have contributed to the successful framing of the fight against pesticides in terms of COIs. Within this framing, anti-pesticide movements in the United States and in France criticize the way scientific data are produced and used as part of marketing authorization procedures for these products. By doing so, they are helping to change the way pesticides are regulated, but they are also indirectly reinforcing the idea that the best way to control pesticides is to always rely on more science. This chapter is based on a survey conducted in France and the United States, using interviews with various people involved in the controversies surrounding pesticides (activists, researchers, lawyers, risk assessment professionals, victims' groups), as well as archival documents, most of which have been published.

Denouncing COIs in the fight against pesticides: The emergence of the pesticide industry's influence as a prominent issue

As several scholars have shown, the concept of COI emerged decades ago and has been used to describe different issues over time (Parascandola, 2007; Hauray, Chapter 1). Among anti-pesticide activists, this term is often used in a rather broad way to refer to the influence of firms on the regulation of pesticides and their capacity, in particular, to shape the production of scientific knowledge and expertise. This use emerged in the 1970s in the United States, where multiple consumer and environmental activist movements started to condemn pesticide-producing firms' ability to sell dangerous products, and their capacity for influencing risk assessments. These issues would spread internationally only gradually, becoming central in France 30 years later.

The US: The crucible of the denunciation of the pesticide industry's influence on regulation

Pesticides began to be used intensively in the United States at the beginning of the 20th century, encouraged by a coalition of actors working to promote more productive agricultural practices: the US Department of Agriculture (USDA), as well as a host of farmers' unions and researchers in the fields of

agronomics and entomology (Whorton, 1974). The USDA was put in charge of approving these products by the Federal Insecticide Act of 1910, which banned the sale of pesticides whose plant protection properties differed from what was advertised on their label. In 1947, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) replaced this law and made it compulsory for industrial firms looking to put a new pesticide on the market to secure a preliminary license from the USDA. These licenses were based on an assessment of the products' health risks for exposed populations and for wild plants and animals.

As the work of various historians and political scientists (Dunlap, 1981; Daniel, 2007) has shown, the birth of the anti-pesticide movement in the United States paralleled the adoption of these early legislations. At first, this movement was made up mostly of agriculture experts and garnered little attention. It began to receive more publicity in the 1960s, at a moment sometimes described as the "toxicity crisis" (Vogel, 2012; Boudia and Jas, 2014). At the time, more and more controversies were coming to light about the health effects of the increasing presence of dangerous substances and technologies in the environment, with pesticides among these. In this respect, the publication of Rachel Carson's book, *Silent Spring* (1962), marked a turning point. It brought worrying information to light about the harmful environmental and health effects of the large-scale use of pesticides in food production and in the environment in general. Carson focuses on one pesticide in particular, dichlorodiphenyltrichloroethane (DDT). Although she mainly discusses its harmful effects rather than the strategies used by the companies that produced it to influence regulation, in a few passages she refers to this wider issue. Indeed, she criticizes the chemical industry's influence on university agriculture laboratories and on the USDA. To describe this influence, she does not use the term "conflict of interest" but talks about the "biases" in favor of industry displayed by many scientists assessing the harmfulness of these products.

Such themes went on to become central to the political debates that followed the book's release. A bestseller, *Silent Spring* received significant television coverage (Kroll, 2001), leading President Kennedy to assert his position on the matter. He claimed to stand with Carson, and in 1963 he created a special panel of the President's Science Advisory Committee to study the issue of pesticides. Congress also held a series of hearings, with the purpose of debating the conditions of the sale of pesticides and their risk assessment. The USDA received regular criticism, especially for its clear unwillingness to share the information in its possession about the harmful effects of pesticides with other administrative bodies (Bosso, 1987). At the end of the decade, a report from the Government Accountability Office sharply criticized the way the USDA had implemented the FIFRA, as well as its inability to effectively limit the environmental and health impacts of pesticides. In 1970, a new administration was created to assess

pesticide risks and to authorize their sale in the place of the USDA: the Environmental Protection Agency (EPA). This was followed in 1972 by an overhaul of the FIFRA legislation, on the initiative of President Nixon. These institutional responses aimed to make pesticide risk assessment more objective, a clear response to the publication of *Silent Spring* and its political aftermath.

Questioning the influence that agricultural economic interests had on the institutions charged with regulating plant protection industry became a central issue for the actors involved in the fight against pesticides. Some of these actors were agricultural scientists who had long been engaged in denouncing the negative effects of these substances in particular. Among these was Robert Van den Bosch, a professional entomologist who had testified during the first major hearings against DDT in the late 1960s and early 1970s. In *The Pesticide Conspiracy*, a book published in 1978, he uses the term “pesticide mafia” to refer to the chemical industry’s influence on the USDA and on entomological societies. Other players in the rapidly developing environmental movement also took an interest in this issue from the late 1960s. This included the Environmental Defense Fund (EDF), an association founded in 1967 to push for a ban on DDT (Dunlap, 1981). The EDF gradually expanded its field of action, and in the 1970s moved to block sale authorizations for certain organochlorine pesticides, including Aldrin and Dieldrin, on the grounds of alleged large-scale fraud that took place in some product risk assessments (Gillespie, Eva, and Johnston, 1979). Ralph Nader’s Center for Study of Responsive Law, another key actor involved in the movement for tighter regulations on chemical products in the United States, raised similar criticisms at that time. In 1972, it published a well-researched and widely read report entitled *Sowing the Wind: Food Safety and the Chemical Harvest*, which took a critical look at industry influence on food and pesticide regulations. The report uses the term “conflicts of interest” to indicate a lack of neutrality in the laboratories hired by industry firms to conduct testing to secure authorization for their pesticides (Wellford, 1972, p. 351). It revealed that one of the leading laboratories that provided such services to chemical firms had submitted intentionally falsified toxicity data to public health authorities to hide internal organizational issues and to ensure client loyalty. This led to a lawsuit that lasted until 1983, as well as to congressional hearings that would play a central role in the development of EPA guidelines for producing and collecting data about pesticide toxicity (Jasanoff, 1990).

Throughout the 1980s, criticisms of corporate influence on the pesticide risk assessment process in the United States evolved in a context where the institutions in charge of regulating these products were growing weaker. The presidencies of Ronald Reagan and George H. W. Bush saw fewer resources invested in environmental protection (Fredrickson et al., 2018). The result was that social movements grew disenchanted with the idea that hazardous

substances could be properly controlled by making risk assessment bodies stronger. While private research funding was on the rise¹ these movements shifted their focus further upstream, to the production of the scientific data used in pesticide regulation, with the help of public health scientists. Several prominent figures got involved in organizations that opposed the negative environmental and health impacts of industrial activities. For example, Dr. Samuel Epstein, a researcher whose political importance has already been highlighted (Paehlke, 1981; Proctor, 1995), was directly involved in publicizing the dangers of pesticides. He served as an advisor to the Center for Study of Responsive Law for the above-mentioned *Sowing the Wind* report. More broadly, his own work was influential in drawing anti-pesticide activists' attention to the many dimensions of the COIs that influence pesticide regulation. Epstein used the concept of COI several times in his important and widely read work *The Politics of Cancer* (1978). In this book, he stressed the bias of USDA policies in favor of the interests of industrial agriculture organizations and denounced instances of fraud in laboratories involved in toxicological risk assessment. At the end of the 1970s, as part of a lawsuit, he obtained internal documents from asbestos-producing firms that provided him with a clearer understanding of firms' strategies with regard to science both within and beyond the asbestos industry (Epstein, 1978; 1979). In the years that followed, other documents revealed that these strategies were used with several toxic products. In the 1980s in particular, archives obtained during lawsuits against cigarette manufacturers² allowed journalists, activists, and researchers in public health³ and the social sciences to understand the details of these firms' strategies for influencing scientific data. Activists drew on these revelations to broaden their criticisms against the pesticide industry's influence on regulation. They increasingly used the concept of COI to denounce the multifaceted industry strategies to leverage pesticides regulation and the production of scientific data itself.

In the 1990s, this broader framing of industry influence on the regulation of toxic substances led to debates within the environmental and public health scientific community about the declaration of interest policies. Such policies, which started to be implemented in biomedical journals in the 1980s (see Hauray, Chapter 1), were gradually adopted in public health, environment, and occupational health and safety journals, before becoming standard for all scientific disciplines (Resnik, Konecny, and Kissling, 2017; Daou et al., 2018). One of the first journals in this field to implement a mandatory policy of disclosing financial COIs was the *American Journal of Industrial Medicine*, in 1994, at the time headed by Philip J. Landrigan, a researcher who had worked on childhood exposure to pesticides. In 2003, *Toxicological Sciences*, the journal of the Society of Toxicology, also decided to adopt a disclosure policy (Lehman-McKeeman and Peterson, 2003), followed in 2005 by the leading journal *Epidemiology*, which had long been hostile to COI declarations. The systematic adoption of disclosure policies helped environmental activists to intensify their criticisms of industry influence on toxic substance regulations in general, and pesticide regulation in particular. Indeed, it has provided them with information to substantiate, in books or reports, the hypothesis of a pro-industry bias in pesticide risk assessment (see, for example, Fagin and Lavelle, 1996; Melnick and Huff, 2004; Sass and Needleman, 2004).

The late importation and circulation of COIs as a campaigning issue in France

French agriculture started to use synthetic pesticides at almost the same time as the United States, during the decades immediately after the Second World War. Along with mechanization, greater field sizes and the use of synthetic fertilizers constituted one of the pillars of French agricultural development policies (Fourche, 2004). However, the denunciation of corporate influence and COIs in pesticide regulation only gained prominence within anti-pesticide activists' repertoire at the end of the 20th century.

The first wave of public interest in the harmful effects of pesticides came after the publication of *Printemps silencieux*, the French translation of *Silent Spring*, in 1963, one year after the original edition was published in the United States. Roger Heim, a prominent biologist, well-known in the media for criticizing the environmental damage of technological progress, wrote the book's preface. In the 1968 edition, he stressed the responsibilities of pesticide producers and regulators:

We arrest gangsters, we shoot at hold-up men, we guillotine assassins, we execute despots – or alleged despots – but who will jail the public poisoners who distribute every day the products that synthetic chemistry provides for their profit and their recklessness?

(Heim, 1968)

This quote, however, does not accurately capture the controversies that surrounded the book's publication. These controversies focused essentially on whether or not the book's analysis on the dangerousness of pesticides was well-founded. On these grounds, *Printemps silencieux's* conclusions on the dangers of DDT were attacked by researchers from the National Institute of Agricultural Research (INRA), France's leading agronomic research institution, as well as by representatives of the French Ministry of Agriculture, who were in charge of authorizing pesticides for sale (Fourche, 2004; Jas, 2007). The media also heavily discussed the book and received it with skepticism, "revealing the overwhelming trust in science to be found in the press at that time" (Trespéuch-Berthelot, 2015). Conversely, the book received a more enthusiastic reception among several activists' organizations, although interest in pesticides in general, and especially in industry influence on pesticide regulation, remained peripheral among these organizations.

For instance, the French organizations promoting organic farming, very active in the 1960s, focused much more on the issues of land access policies or on the impact of the widespread diffusion of mineral fertilizers on soils than on the use of pesticides (Pessis, 2019). In the 1970s, a large “farmer-laborer” union movement was created to denounce the consequences of the so-called modernization policies promoted by the state and the majority farmers’ union. This movement criticized the social consequences of industrialized agriculture and its dependence on pesticides. However, for this movement, the impact of pesticides on health and the environment, and industry influence on their regulation, were rarely considered a full-fledged issue. Instead, they were considered a one of the many examples of industrial capitalism’s nefarious grip on agriculture and of farmers’ growing dependence on technological progress (Martin, 2005; 2015; Pessis, 2019).

French activist organizations were not completely unaware of the US works and campaigns denouncing the influence of industry on pesticide regulation. They circulated among some of the environmental organizations that emerged in France in the 1960s and 1970s. For example, the newspaper *La Gueule ouverte*, which played an important role in facilitating the emergence of a left-wing libertarian environmental movement in France between 1972 and 1980 (Vrignon, 2015), mentioned one of Ralph Nader’s lectures in its first issue. Nader’s work was also known to the nascent French consumer movements (Lepiller, 2012, pp. 359–360). However, it was not until the late 1990s that the agrochemical industry’s influence on pesticide regulation became central in the framing of opposition to pesticides.

At that time, several environmental health organizations, sometimes focused mainly on the fight against pesticides, began to dedicate important resources to denouncing the agrochemical industries’ leverage on risk assessment agencies and on the production of scientific data on pesticide hazards. Several books that have highlighted and encouraged this shift in the protest repertoires of pesticide opponents have been published since then by NGO directors, scientists, journalists, and national political figures (see Box 10.1). Some achieved a great deal of commercial success and were accompanied by documentary films or television programs.

These books and their success indicate changing attitudes toward science and technology. Indeed, the groups that were most involved in denouncing pesticides in the 1970s mostly fought against techno-scientific progress in general, and its grip on farming practices (Bécot and Pessis, 2014). In contrast, the organizations that have been working on pesticides since the 1990s often express their faith in science’s ability to provide objective risk assessments, as long as it is purged of the biases created by COIs between institutions and researchers on one side, and industry firms on the other. These books also illustrate the influence of US activists on French protest movements. In fact, most of the French authors mentioned above (see Box 10.1) cite US publications, including journalistic and activist writings about industry

Box : List of French books criticizing industry influence on pesticide regulation

1998: Des lobbies contre la santé ('Lobbies Against Public Health'), by Roger Lenglet and Bernard Topuz

1999: La France toxique: Santé-environnement: Les risques cachés ('Toxic France: Health and the Environment: The Hidden Risks'), by André Aschieri and Roger Lenglet

2004: Quand les abeilles meurent, les jours sont comptés. Un scandale ('When the bees die, our days are numbered. A public scandal'), by Philippe de Villiers

2005: Alertes santé: Experts et citoyens face aux intérêts privés ('Health Warnings: Experts and Citizens vs. Private Interests'), by André Cicolella and Dorothee Benoit Browaeys

2005: Les empoisonneurs. Enquête sur ces polluants et produits qui nous tuent à petit feu ('The Poisoners. A look at the pollutants and products that are killing us little by little'), by Vincent Nouzille

2007: Pesticides, révélations sur un scandale français ('Pesticides: Revelations of a French Scandal'), by François Veillerette and Fabrice Nicolino

2007: Chronique d'un empoisonnement annoncé: Le scandale du chlordécone aux Antilles françaises, 1972–2002 ('Planned Poisoning: The Chlordecone Scandal in the French West Indies'), by Louis Boutrin and Raphaël Confiant

2008: Le monde selon Monsanto. De la dioxine aux OGM, une multinationale qui vous veut du bien ('The World According to Monsanto: From Dioxin to GMOs, a Multi-national that Wishes You Well'), by Marie-Monique Robin

2011: Notre poison quotidien. La responsabilité de l'industrie chimique dans l'épidémie des maladies chroniques ('Our Daily Poison: The Chemical Industry's Responsibility for the Chronic Illness Epidemic'), by Marie-Monique Robin

2012: Tous cobayes! OGM, pesticides, produits chimiques ('All Guinea Pigs! GMOs, Pesticides, and Chemical Products'), by Gilles-Eric Séralini and Abin Michel

2013: La Fabrique du mensonge. Comment les industriels manipulent la science et nous mettent en danger ('Manufacturing a Lie: How Industry Firms Manipulate Science and Put Us in Danger'), by Stéphane Foucart

2013: Toxique Planète. Le scandale invisible des maladies chroniques ('Toxic Planet: The Invisible Scandal of Chronic Illnesses'), by André Cicolella

2014: La science asservie. Santé publique: Les collusions mortifères entre industriels et chercheurs ('Science in Chains. Public Health: The Deadly Collusion Between Industry and Science'), by Annie Thébaud-Mony

2015: Intoxication: Perturbateurs endocriniens, lobbyistes et eurocrates: Une bataille d'influence contre la santé ('Intoxication: Endocrine Disruptors, Lobbyists, and Eurocrats: A Battle Between Influence and Public Health'), by Stéphane Horel

2019: Et le monde devint silencieux ('And the World Fell Silent'), by Stéphane Foucart

2019: Le crime est presque parfait ('The Almost Perfect Crime'), by Fabrice Nicolino

strategies to influence public health policy, beyond the sole issue of pesticide risks. In particular, they very often cite Robert Proctor's work on the tobacco industry (2011), David Michaels' work on chemical firms (2007), and the work by Naomie Oreskes and Erik Conway on energy producers (2010). They also sometimes directly discuss their personal relationships with scientists who are speaking out against the COIs that bias industry regulation in the United States.⁴ Beyond such personal connections between French and US activists, major changes in the institutional and social context of French activism have supported this re-framing of the dangers of pesticides as an issue of industry influence and COIs.

A changing institutional and social context: Explaining the success of COIs as a protest repertoire

Putting the French situation into perspective with the US one, we identified three interrelated dynamics that have contributed to the rise of COIs as a prominent issue in the mobilizations against pesticides in France. These dynamics have involved pesticide regulation institutions, the media, and the field of environmental activism.

The institutionalization of risk assessment

In the United States, anti-pesticide organizations' focus on COIs was closely related to institutional changes in pesticide regulation. The new administrative bodies and regulatory assessment procedures put into place in the 1960s and 1970s to respond to concerns about the threats these substances posed to health and the environment created new expectations among social movements. They triggered a fresh round of activism, inclined to resort to legal action and attentive to the industry's influence on the regulation of toxic products. A similar phenomenon was observed in France, but 30 years later. French pesticide policies have historically been the responsibility of the Ministry of Agriculture. For decades, it was in charge of assessing and managing all of these products' environmental and health risks and was able to fulfill this task following its own rules and procedures. Starting in the 1980s, however, the ministry's monopoly on these issues was called into question. As the creation of the European single market launched a first stage in the harmonization of pesticide risk assessments among its Member States, national-level authorities found themselves with less room for maneuver. Adopted in 1991, Council Directive 91/414/EEC formalized the common rules that all Member States must follow when considering authorization for pesticide sale requests. At the end of the 1990s, after a series of public health scandals, new public health and safety administrative bodies were created to shape risk assessment policies, further eroding the Ministry of Agriculture's monopoly and autonomy over pesticide regulation.

In 1998, the French Food Safety Agency (AFSSA) was created in France, followed four years later by the European Food Safety Authority (EFSA) at the European Union (EU) level (Demortain, 2009). Pesticides gradually came under the purview of these “new technocratic bureaucracies” (Benamouzig and Besançon, 2007). In France, this change was supported in particular by beekeepers’ organizations, who claimed that neonicotinoid pesticides posed a serious threat to domestic honeybees. They focused particular attention on the Ministry of Agriculture’s ComTox (“Commission on Toxics”), which had been responsible for pesticide risk assessments in France since 1943. In the 1970s, this commission had formed a “bee group”, in charge of creating a “bee label” required for the authorization of pesticides to be applied during foraging periods. The commission, however, included interests that would be subject to any new pesticide regulations, with industry firms and the consultants handling their authorization requests allowed to participate.⁵ This participation was regularly criticized by beekeeper unions and their political allies. The ComTox’s credibility collapse led to its dissolution in 2006, with its pesticide risk assessment responsibility transferred to the AFSSA (Jouzel and Prete, 2017; Jouzel 2019).

Just as in the United States in the 1970s, such an institutional dynamic had several important consequences on anti-pesticide activism. By creating specific risk assessment agencies, lawmakers sought to protect themselves from accusations of COI (Boudia and Demortain, 2014). However, in many ways, the creation of these new agencies had the opposite effect. Indeed, it generated expectations among social movements and activist organizations in terms of the independence and transparency of the pesticide regulation process. The formalization of pesticide assessment rules, concerning either the nature of scientific information to be taken into account or to what extent industry firms could participate in the process, gave them levers to criticize industry influence on pesticide regulation. The work of Corporate Europe Observatory (CEO) illustrates this link between institutional transformations and activism. This NGO was founded in 1999 to scrutinize the influence of corporations on European public policy. Starting in the 2010s, it launched several campaigns and investigations that specifically looked at COIs in pesticide regulation. These investigations posit that the EU agencies do not respect the rules of transparency and independence they purport to uphold. These rules not only created expectations among the NGO activists but also helped them to access information. For instance, Stéphane Horel, a French journalist who worked with CEO, describes in detail in her works how she used transparency procedures to access European institutions’ administrative files on pesticides and other toxic substances (Horel, 2015). In 2011, CEO launched an initiative to analyze COIs at the EFSA. More recently, CEO partnered with the NGO Pesticides Actions Network (PAN) Europe to uncover upstream industry influence on the tools and protocols that are used to conduct regulatory science (PAN Europe, 2018).

This denunciation of industry influence on pesticide regulation by CEO and other activist organizations received heavy press coverage in France. This increased publicity can be explained by the long-term changes in the press and the media that indirectly encouraged activists to invest time and resources in exploring the issue of COIs.

From activist journalism to investigative journalism

In the United States, environmental investigative journalism developed in the 1970s, and was readily critical of the chemical industry (Friedman et al., 1996; Friedman, 2015). Stories about plant protection industry firms committing fraud on their commercial authorization requests became a regular feature of investigative journalism, both in activist newspapers with limited circulation (such as *Mother Jones*, published by the Center for Investigative Reporting) and in national publications. In France, it was only over the course of the next two decades, with the environment becoming a regular topic in the media (Comby, 2009) and investigative journalism beginning to develop (Marchetti, 2002), especially in the public health field (Marchetti, 2010), that a similar journalistic treatment of information about industrial pollution emerged. Several journalists progressively covered this issue through the lens of COIs and the bias they introduce into risk assessment procedures. They highlighted that these are long-standing problems, and that scandals have significant moral, legal, and political ramifications. This treatment aligned with the prevailing ethos in professional journalism, allowing the journalists using it to base their criticisms on scientific authority, as well as helping them to not appear too close to environmental activist groups. It was also a way for journalists to set themselves apart in an increasingly competitive information market.

During the first decade of the 21st century, the issue of industry influence on pesticide regulation was initially taken up by independent journalists of a more investigatory bent, who tracked down COIs among scientists and administrators in charge of assessing these products' risks (Jouzel and Prete, 2016). More recently, this issue has begun to appear regularly in somemainstream newspapers. The way that the newspaper *Le Monde* has handled information about pesticides is a particularly interesting illustration of this shift. As the leading daily general-interest newspaper in France, *Le Monde* began to cover environmental issues in the 1970s, publishing its first dedicated "Environment" section in 1972. Up through the end of the 1990s, as in other national daily papers, coverage of these issues was intermittent,⁶ peripheral, and handled by journalists who were often personally aligned with political ecology and environmental activist groups (Comby, 2009). In the 2000s, under the direction of editor-in-chief Éric Fottorino, this coverage intensified. The "Planet" and "Science" departments beefed up their staff and hired new generalist and scientific journalists.

While their colleagues in more prestigious and established departments (International, Politics) sometimes suspected them of being political ecology “activists”, they offered “critical expertise”, combining a “refusal of political journalism with the ability to offer critique based on their technical knowledge of the issues at hand” (Neveu, 1999, p. 40), leading to more regular coverage of environmental issues. Stéphane Foucart was one of the journalists recruited during this period. He had a background in science and science journalism. Upon joining *Le Monde* in 2000 he initially covered technology, but later joined what would become the “Planet” department in 2009. Once in this department, he published several papers on the controversies surrounding climate change, the effects of neonicotinoids, and endocrine disruptors. While he did not specifically look at issues of COI in his early career, he came to write more and more on the topic as he became aware of industry firms’ strategies for manipulating science. Many of his articles and books explore this theme, based on the work of French and US researchers, NGOs, and his own investigations. Foucart has published several articles about the impact of pesticides on health and the environment, where he questions the validity of regulatory agencies’ toxicity tests. In 2018, along with Stéphane Horel, he received the European Press Prize’s Investigative Reporting Award for a series of articles they wrote together using internal Monsanto documents obtained as part of a glyphosate lawsuit that was brought in California after the International Agency for Research on Cancer (IARC) classified the substance as a carcinogen in 2015. His work has been an important driver for communicating and legitimizing criticisms of pesticide regulation based on COIs in the French media. It has contributed to establishing a new way of discussing certain agricultural issues, which is not purely political or sector-based (as one might see in the “Agriculture” section of newspapers), but rather is based on a “scientific” point of view that goes beyond popularizing science and expressing scientific concepts in layman’s terms.

The professionalization of environmental health organizations

In the United States, the coalitions of activists and scientists dedicated to environmental health protection that formed in the 1970s played a central role in placing industry influence on pesticide regulation in the spotlight. Similar coalitions emerged in France, but later. From the 1980s onward, French environmental organizations became more professional and invested their resources heavily in protest actions based on technical expertise (Ollitrault, 2001). Throughout the 2000s, a new sector formed in the non-profit activism field, made up of organizations that devoted resources and technical expertise to denouncing the harmful effects of environmental pollution on human health. Despite their diverse backgrounds, these organizations had something in common: they brought together activists who had a strong scientific social capital (researchers, doctors, science teachers).

They would base their claims on this capital, casting themselves as “whistleblowers” and drawing on the authority of science to condemn industry influence on the regulation of hazardous substances (Guilleux, 2015).

Within this sector, organizations have specialized in pesticides and played a prominent role. This was notably the case for the *Mouvement pour la défense et le respect des générations futures* (Movement for the Defense and Respect of Future Generations), founded by teacher and Greenpeace activist François Veillerette in 1996, and renamed *Génération futures* in 2011 (Jouzel and Prete, 2015). Its repertoire of contention includes science-based arguments and criticisms of COIs in the regulation and sale of pesticides. Over the last 20 years, Veillerette’s editorial activity and the organization’s alliances and campaigns have made it a force to be reckoned with. In 2002, with support from NGO PAN Europe (of which he became the administrator in 2003), he published *Pesticides: le piège se referme*, which popularized a lengthy review of toxicological and ecotoxicological literature. He followed this five years later with *Pesticides: révélations sur un scandale français*, co-written with Fabrice Nicolino, an environmental activist journalist who has written several books over the course of his career on the devastating effect of industrialized agriculture on the planet. This second book, which begins with the quote from Roger Heim’s preface cited above, was the first fully documented critique of industry influence on pesticide regulation in France. It describes this influence at many levels: the personal relationships between industry firms and some representatives from the public authorities; the pressure from the Ministry of Agriculture and from industry lobbyists on expert agencies; and the financial ties between some scientists and industry firms. After selling tens of thousands of copies, it firmly established pro-industry bias in pesticide risk assessment as a serious issue for French organizations fighting against these products. Today, *Génération futures* continues to promote this issue, drawing on the work of journalists, activist organizations, and public health researchers, such as Annie Thébaud-Mony and André Cicoella. It also advocates for better procedures that would limit industry influence on pesticide regulation, as well as these companies’ ability to “manufacture doubt”.

Conclusion

This chapter describes three related dynamics – the institutionalization of risk assessment, the development of investigative environmental journalism, and the professionalization of environmental health advocacy organizations – that contributed to establishing the issue of industry influence as a central element of the protest repertoire of the US and French activists engaged in the fight against pesticides. For them, COI is a central concept that includes not only interpersonal financial relations between public agents and industries, but more broadly the corporate leverage on public expertise and decision covering different forms (manipulation of science,

revolving doors, and so on). The concept is instrumental in connecting disparate phenomena, bringing to light various “incidents” or “scandals”, and revealing recurring malpractices and repeat offenders. It helps these activists to generalize their criticisms of pesticide regulation and link them to other products (genetically modified organisms, endocrine disruptors, and so on), revealing the systemic nature of industry leverage on the expertise and scientific data used in formal risk assessment.

The critical discourse surrounding COIs is part of a particular historical process that began in the United States. We thus shed light, more generally, on how protest movements and the institutionalization of pesticide risk assessment are intertwined. New risk assessment procedures and expert agencies were created to manage pesticides and to respond to criticisms of COIs, just as in other sectors. The outcome of these institutional changes, however, was quite different than expected. They did not put an end to the denunciation of COIs. Instead, they encouraged activist organizations to shift their target further upstream in the risk assessment process, and to focus on the production of scientific data itself. What happened in France echoed what happened in the United States decades earlier: as risk assessment procedures became more formalized, they only created expectations of neutrality that were never met, to the disappointment of pesticide opponents. This chapter stresses that these expectations are largely based on the idea that risk assessment should be informed by “robust” and “pure” science. By condemning COIs and industry pressure on the production of scientific knowledge about pesticides’ hazards, those who oppose their use are calling, more or less explicitly, for more science and expertise to guarantee that the environment and exposed populations will be protected. Over time, one may wonder whether or not this framing might disconnect the critiques of pesticides from a more radical condemnation of the hold of the ideology of technological progress over farmers’ knowledge and practices.

Notes

1. The Bayh-Dole Act was passed in 1980, allowing universities to retain intellectual property rights to any innovations they develop using public research money. The law led to a boom in public-private partnerships, sparking a debate about the consequences this could ultimately have for researchers’ independence.
2. *Cipollone vs. Liggett* (1988) was the first case to provide significant access to industry documents subpoenaed by the courts.
3. For example, Stanton Glantz, a researcher at the University of California. Sometimes called the “Ralph Nader of tobacco”, Glantz has published several articles and has worked to make internal industry documents publicly available.
4. For example, influential journalist and activist Marie-Monique Robin describes how Devra Davis’s work on industry influence inspired her own investigations. See https://blog.m2rfilms.com/la-fabrique-du-doute/#_ftn1 (last accessed December 23, 2020).

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5. Of the 44 members of the Commission named in 2001 to serve in its penultimate term (of 3 years), there were 8 former industry representatives who had become consultants or directors of learned societies. It should be noted that this openness to economic interests went beyond industry representatives. For instance, the ComTox “bee group” was mostly made up of researchers who were also beekeepers themselves.
 6. In 1982, for example, *Le Monde* replaced its dedicated “Environment” journalist with an editor who was only assigned to cover these issues part-time (Bodt, 2014).

References

- Aschieri, A and Lenglet, R (1999) *La France toxique. Santé-environnement: les risques cachés*. Paris: La découverte.
- Bécot, R and Pessis, C (2014) ‘Improbables mais fécondes: les rencontres entre scientifiques critiques et syndicalistes dans les “années 1968”’, *Mouvements*, 80(4), pp. 51–66.
- Benamouzig, D and Besançon, J (2007) ‘Les agences, alternatives administratives ou nouvelles bureaucraties techniques? Le cas des agences sanitaires’, *Horizons stratégiques*, 3(1), pp. 10–24.
- Bodt, J-M (2014) *La ‘cité écologique’ dans l’espace public médiatique: trajectoires de controverses environnementales dans la presse généraliste française*. PhD thesis, University of Toulouse II.
- Bosso, CJ (1987) *Pesticides and politics. The life cycle of a public issue*. Pittsburgh: University of Pittsburgh Press.
- Boudia, S and Demortain, D (2014) ‘La production d’un instrument générique de gouvernement. Le “livre rouge” de l’analyse des risques’, *Gouvernement et action publique*, 3(3), pp. 33–53.
- Boudia, S and Jas, N (2014) *Powerless science? Science and politics in a toxic world*. New York: Berghahn Books.
- Boutrin, L and Confiant, R (2007) *Chronique d’un empoisonnement annoncé: le scandale du chlordécone aux Antilles françaises, 1972–2002*. Paris: L’Harmattan.
- Carson, R (1962) *Silent spring*. Cambridge: Houghton Mifflin Company.
- Cicolella, A and Benoît-Browaeys, D (2005) *Alertes santé: experts et citoyens face aux intérêts privés*. Paris: Fayard.
- Cicolella, A (2013) *Toxique planète. Le scandale invisible des maladies chroniques*. Paris: Le Seuil.
- Comby, J-B (2009) ‘Quand l’environnement devient “médiatique”. Conditions et effets de l’institutionnalisation d’une spécialité journalistique’, *Réseaux*, 157–158(5–6), pp. 157–190.
- Daniel, P (2007) *Toxic drift: pesticides and health in the post-World War II south*. Baton Rouge: Louisiana State University Press.
- Daou, KN, Hakoum, MB, Khamis, AM, Bou-Karroum, L, Ali, A, Habib, JR, Semaan, AT, Guyatt, G and Akl, EA (2018) ‘Public health journals’ requirements for authors to disclose funding and conflicts of interest: a cross-sectional study’, *BMC Public Health*, 18(1), p. 533.
- Demortain, D (2009) ‘Standards of scientific advice. Risk analysis and the formation of the European food safety authority’ in Weingart, P and Lentsch, J (eds.) *Scientific advice to policy making: international comparison*. Leverkusen: Verlag Barbara Budrich.

-
- De Villiers, P (2004) *Quand les abeilles meurent, les jours de l'homme sont comptés*. Paris: Albin Michel.
- Dunlap, TR (1981) *DDT: scientists, citizens, and public policy*. Princeton: Princeton University Press.
- Epstein, S (1978) *The politics of cancer*. San Francisco: Sierra Club Books.
- Epstein, S (1979) 'The politics of cancer', *Barrister*, 6, p. 11.
- Fagin, D and Lavelle, M (1996) *Toxic deception. How the chemical industry manipulates science, bends the law and endangers your health*. New York: Carol Pub. Group.
- Foucart, S (2013) *La fabrique du mensonge: comment les industriels manipulent la science et nous mettent en danger*. Paris: Editions Denoël.
- Foucart, S (2019) *Et le monde devint silencieux. Comment l'agrochimie a détruit les insectes*. Paris: Le Seuil.
- Fourche, R (2004) Contribution à l'histoire de la protection phytosanitaire dans l'agriculture française (1880–1970). PhD thesis, University of Lyon 2.
- Fredrickson, L, Sellers, C, Dillon, L, Ohayon, JL, Shapiro, N, Sullivan, M, Bocking, S, Brown, P, de la Rosa, V, Harrison, J, Johns, S, Kulik, K, Lave, R, Murphy, M, Piper, L, Richter, L and Wylie, S (2018) 'History of US presidential assaults on modern environmental health protection', *American Journal of Public Health*, 108(S2), pp. 95–103.
- Friedman, SM, Villamil, K, Suriano, RA and Egolf, BP (1996) Alar and apples: newspapers, risk and media responsibility', *Public Understanding of Science*, 5(1), pp. 1–20.
- Friedman, SM (2015) 'The changing face of environmental journalism in the United States' in Hansen, A and Cox, R (eds.) *The Routledge handbook of environment and communication*. Abingdon-on-Thames: Routledge.
- Gillespie, B, Eva, D and Johnston, R (1979) 'Carcinogenic risk assessment in the United States and Great Britain: the case of Aldrin/Dieldrin', *Social Studies of Science*, 9(3), pp. 265–301.
- Guilleux, C (2015) L'institutionnalisation de la santé environnementale en France. D'une approche globale homme/environnement à la sectorisation d'actions de santé publique. PhD thesis, University of Aix-Marseille.
- Heim, R (1968) 'Préface' in Carson, R (ed.) *Le printemps silencieux*. Paris: Plon, pp. 9–19.
- Horel, S (2015) *Intoxication: perturbateurs endocriniens, lobbyistes et eurocrates: une bataille d'influence contre la santé*. Paris: La Découverte.
- Jas, N (2007) 'Public health and pesticide regulation in France before and after *Silent Spring*', *History and Technology*, 23(4), pp. 369–388.
- Jasanoff, S (1990) *The fifth branch: science advisers as policymakers*. Cambridge: Harvard University Press.
- Jouzel, JN (2019) *Pesticides, comment ignorer ce que l'on sait?* Paris: Presses de Sciences Po.
- Jouzel, JN and Prete, G (2015) 'Mettre en mouvement les agriculteurs victimes des pesticides. Émergence et évolution d'une coalition improbable', *Politix*, 111(3), pp. 175–196.
- Jouzel, JN and Prete, G (2016) 'Des journalistes qui font les victimes? Le traitement médiatique des maladies professionnelles liées aux pesticides', *Études rurales*, 198(2), pp. 155–170.

-
- Jouzel, JN and Prete, G (2017) 'La normalisation des alertes sanitaires. Le traitement administratif des données sur l'exposition des agriculteurs aux pesticides', *Droit et Société*, 96(2), pp. 241–256.
- Kroll, G (2001) 'The "silent springs" of Rachel Carson: mass media and the origins of modern environmentalism', *Public Understanding of Science*, 10(4), pp. 403–420.
- Lehman-McKeeman, L and Peterson, RE (2003) 'Guidelines governing conflict of interest', *Toxicological Sciences*, 72(2), pp. 183–184.
- Lepiller, O (2012) Critiques de l'alimentation industrielle et valorisations du naturel: sociologie historique d'une 'digestion' difficile (1968–2010). PhD thesis, University of Toulouse II.
- Marchetti, D (2002) 'Le "journalisme d'investigation". Genèse et consécration d'une spécialité journalistique' in Garraud, P and Briquet, JL (eds.) *Juger la politique. entreprises et entrepreneurs critiques de la politique*. Rennes: Presses universitaires de Rennes, pp. 167–191.
- Marchetti, D (2010) *Quand la santé devient médiatique. Les logiques de production de l'information dans la presse*. Grenoble: Presses universitaires de Grenoble.
- Martin, J-P (2005) *Histoire de la nouvelle gauche paysanne*. Paris: La Découverte.
- Martin, J-P (2015) 'Des paysans environnementalistes? Comment les paysans contestataires se sont emparés de la question écologique', *Écologie & politique*, 50(1), pp. 99–111.
- Melnick, RL and Huff, J (2004) 'Testing toxic pesticides in humans: health risks with no health benefits', *Environmental Health Perspectives*, 112(8), pp. 459–461.
- Michaels, D (2007) *Doubt is their product. How industry's assault on science threatens your health*. Oxford: Oxford University Press.
- Neveu, E (1999) 'Médias, mouvements sociaux, espaces publics', *Réseaux*, 98(7), pp. 17–85.
- Nicolino, F and Veillerette, F (2007) *Pesticides: révélations sur un scandale français*. Paris: Fayard.
- Nicolino, F (2019) *Le crime est presque parfait: l'enquête choc sur les pesticides et le SDHI*. Paris: Les liens qui libèrent.
- Nouzille, V (2005) *Les empoisonneurs: enquête sur ces polluants et produits qui nous tuent à petit feu*. Paris: Fayard.
- Ollitrault, S (2001) 'Les écologistes français, des experts en action', *Revue française de science politique*, 51(1–2), pp. 105–130.
- Oreskes, N and Conway, E (2010) *Merchants of doubt: how a handful of scientists obscured the truth on issues from tobacco smoke to global warming*. Berkeley: University of California Press.
- Paelke, R (1981) 'Environnementalisme et syndicalisme au Canada anglais et aux États-Unis', *Sociologie et sociétés*, 13(1), pp. 161–179.
- PAN Europe (2018) *Industry writing its own rules*. Report, Pesticide Action Network Europe [online]. Available at: <https://www.pan-europe.info/sites/pan-europe.info/files/public/resources/reports/industry-writings-its-own-rules-pdf.pdf> (Accessed: January 26, 2021).
- Parascandola, M (2007) 'A turning point for conflicts of interest: the controversy over the national academy of sciences' first conflicts of interest disclosure policy', *Journal of Clinical Oncology*, 25(24), pp. 3774–3779.
- Pessis, C (2019) Défendre la terre. Scientifiques critiques et mobilisations environnementales des années 1940 aux années 1970. PhD thesis, EHESS.

-
- Proctor, RN (1995) *Cancer wars: how politics shapes what we know and don't know about cancer*. New York: Basic Books.
- Proctor, RN (2011) *Golden holocaust. Origins of the cigarette catastrophe and the case for abolition*. Berkeley: University of California Press.
- Resnik, DB, Konecny, B and Kissling, GE (2017) 'Conflict of interest and funding disclosure policies of environmental, occupational, and public health journals', *Journal of Occupational and Environmental Medicine*, 59(1), pp. 28–33.
- Robin, M-M (2010) *Le monde selon Monsanto: de la dioxine aux OGM, une multinationale qui vous veut du bien*. Paris: La Découverte.
- Robin, M-M (2013) *Notre poison quotidien: la responsabilité de l'industrie chimique dans l'épidémie des maladies chroniques*. Paris: La Découverte.
- Sass, JB and Needleman, HL (2004) 'Industry testing of toxic pesticides on human subjects concluded "no effect", despite the evidence', *Environmental Health Perspectives*, 112(3), pp. 150–156.
- Séralini, G-E (2013) *Tous cobayes! OGM, pesticides, produits chimiques*. Paris: Flammarion.
- Thébaud-Mony, A (2014) *La science asservie. Santé publique: les collusions mortifères entre industriels et chercheurs*. Paris: La Découverte.
- Trespeuch-Berthelot, A (2015) 'La réception des ouvrages d'alerte environnementale dans les médias français (1948–1973)', *Le temps des médias*, 25(2), pp. 104–119.
- Van den Bosch, R (1978) *The pesticide conspiracy*. New York: Doubleday.
- Vogel, SA (2012) *Is it safe? BPA and the struggle to define the safety of chemicals*. Berkeley: University of California Press.
- Vrignon, A (2015) 'Journalistes et militants. Les périodiques écologistes dans les années 1970', *Le temps des médias*, 25(2), pp. 120–134.
- Wellford, H (1972) *Sowing the wind: a report from Ralph Nader's Center for Study of Responsive law on food safety and the chemical harvest*. New York: Grossman Publishers.
- Whorton, JC (1974) *Before Silent Spring: pesticides and public health in pre-DDT America*. Princeton: Princeton Legacy Library.