

# Whistleblowing and Research Integrity: Making a Difference Through Scientific Freedom

Tom Devine\* and Alicia Reaves  
Government Accountability Project, Washington, DC, USA

## Abstract

Whistle-blowers, who speak out in the public interest, are important players in challenging abuses of power. In science, where trust in processes and outcomes is vital, whistle-blowing is especially important. Case studies of US research whistle-blowers show the challenges they face, the reprisals they suffer, and the significant difference they make through their efforts. Legal protections for whistle-blowers are valuable but not enough on their own. Key potential allies for whistle-blowers are scientific peers, government agencies, legislators, media, and NGOs. These allies can provide corroboration, advocacy, and solidarity.

## Introduction

Whistle-blowers are those who try to make a difference by speaking out to challenge abuses of power that betray the public trust. Although whistle-blowing only recently has become a popular label, it is as old as the history of organized society. Science has been no exception, where those who abuse power have long suppressed those who challenge conventional wisdom, research that violates the scientific method, theft of intellectual property, and other misconduct limited only by the imagination.

Scientific whistle-blowers play a uniquely significant role. Science strives to be the objective search for truth through empirical proof to verify hypotheses as the foundation for theories, scientific laws, and ultimately paradigms. It simply is unrealistic, however, to presume that those with power will excuse science from political and commercial pressures that drive the rest of society. Organizations understandably view the scientists they employ or fund as resources for their policies and whistle-blowers as individuals who substitute their own personal agendas or policy preferences for those of the employer whom they are supposed to serve. But whistle-blowers view themselves as first serving the scientific method and the integrity of their research. This clash of loyalties is inevitable and timeless, and so is retaliation.

Their significance extends beyond professional integrity. All scientists make a difference through their contributions to the pool of knowledge. Scientific whistle-blowers, however, challenge threats to the scientific search for truth. In the process they may act as the pioneers for fundamental change and even new paradigms for how society perceives and relates to the world.

Copernicus and Galileo received the whistle-blower treatment for challenging conventional wisdom that the earth is flat and the center of the universe. Indeed, Galileo spent the rest of his life under house arrest. But even when pariahs in their time, whistle-blowers have been the pioneers for new paradigms (Kuhn 1962) and regularly act as guardians of integrity for the scientific method and other academic research (Devine and Maassarani 2011).

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\*Email: [tomd@whistleblower.org](mailto:tomd@whistleblower.org)

While understanding the tactics used to suppress dissenters and dissent is necessary for context, the previous chapter has covered those dimensions of whistle-blowing more fully. Despite those classic patterns of suppression, currently whistle-blowing is increasingly common both within public and private sector contexts, with increasing impact. What once was the rare aberration is taking root (Calland and Dehn 2004; Miceli et al. 2008). This chapter primarily surveys scientific whistle-blowers who have overcome those barriers to make a difference and how they did it. It analyzes the strategies and tactics they have used successfully to challenge the status quo. Finally, it illustrates how the rule of law can help make a difference by combining loyalty to the scientific method with legal campaigns to make a difference. It emphasizes scientific whistle-blowers from the United States, which has pioneered these free speech rights generally and specifically for scientists in the Whistleblower Protection Enhancement Act of 2012.

## Tactics to Suppress Dissenters and Dissent

If challenging abuses of power through exercising freedom of speech is timeless, so is retaliation to prevent or suppress it. The methods to retaliate are limited only by the imagination. Examples of common tactics to silence whistle-blowers include:

- Shifting the spotlight from the dissent to the dissenter through retaliatory investigations and personalized attacks – “the smokescreen syndrome” – a process routinely used to publicly discredit or build a damaging record on paper against the whistle-blower
- Threatening them
- Isolating them on the job from colleagues and information
- Putting them on a “pedestal of cards” by setting them up for failure with appointments to solve the problem they expose while making it impossible to succeed and then scapegoating them for failure
- Paralyzing their careers
- Eliminating their jobs
- Engaging in physical violence
- Suing them for damages on virtually any charge, even when it will be thrown out of court immediately, because the whistle-blower cannot afford to call the legal bluff
- Criminally prosecuting them for false or pretextual offenses
- Blacklisting them

The pressures to remain silent are severe (Calland and Dehn 2004; Devine and Maassarani 2011). Silencing tactics are no less unrestrained. Classic tactics include:

- Issuing mandatory nondisclosure agreements or gag orders
- Initiating studies of the issue that remain incomplete indefinitely
- Separating expertise from decision-making authority
- Institutionalizing conflict of interest for investigation and corrective action
- Restricting internal access to information
- Abuse of secrecy designations such as overclassification of security-related information
- Preventing development of a written record
- Rewriting the issues to circumvent the indefensible
- Scapegoating the small fry to divert accountability (Devine and Maassarani 2011)

## Making a Difference

Despite these obstacles, whistle-blowers can sometimes overcome them. Although often effectively suppressed, overall their impact has been to change the course of history, to keep it from being rewritten and help prevent recurrence of the same abuses sustained by secrecy, and to serve as catalysts for accountability. The following examples primarily involve United States whistle-blowers who have made a difference. There are no geographical boundaries for scientific whistle-blowers, however. These whistle-blowers were chosen, because through their experiences they sparked enactment of pioneering legal rights in the United States for scientists who “commit the truth.”

*Dr. Aubrey Blumsohn.* Dr. Blumsohn was a researcher at Sheffield University in England, which contracted with the multinational US firm Procter and Gamble (P&G) to study therapy responses of its osteoporosis drug Actonel. The object was to prove that Actonel was more effective than its competitors on the market. To pursue the research, Dr. Blumsohn conducted “blind” tests, not knowing whether subjects received Actonel or a placebo. To learn the results, he had to study the company’s “randomization codes” to sort who had received what. But P&G refused to provide them on grounds that they were proprietary information and told him to accept its own summary (GAP 2006). Although he refused, P&G began ghostwriting and publishing under Blumsohn’s name research findings about Actonel that he had not made. When he was finally permitted to do a limited review, he discovered that up to 40 % of data essential for conclusions on different graphs was missing. Under public pressure, on June 2006, P&G released the missing data to Dr. Blumsohn. The results were unfavorable for Actonel, and he was able to publicly correct the record (Blumsohn 2006).

*Dr. Janet Chandler.* In 1993 Dr. Chandler was a clinical researcher at Cook County (Illinois) Hospital’s Hektoen Institute, specializing in addiction treatment, when the hospital received a National Institutes of Health (NIH) grant to test a new model for treatment of pregnant heroin addicts. The experiment, named “New Start,” was to replace neighborhood clinics that dispensed methadone. Instead, it would provide a “Cadillac” treatment – holistic therapy that included day care, training, and other assistance beyond mere distribution of an alternative drug. Among Dr. Chandler’s duties as project director for the grant was running the accompanying day care center. Unfortunately, she learned that systematic fraud compromised the program. So much money was diverted that the children did not have electricity and hot water, and single cribs had to accommodate multiple infants. She further protested that the institute was sending false progress reports on the study. Instead of careful controls, women were recruited off the streets with enticements of shopping discount certificates. Data was reported for “ghost subjects.” The actual humans did not provide informed consent before participating, and inadequate records supported claimed results. The clinic diluted methadone by up to 80 %, which left the pregnant addicts still working the streets as prostitutes to support their heroin addictions. In short, the deluxe program was far less effective than the traditional clinics and actually made matters worse for many who participated (Chandler 1996). Although Dr. Chandler was terminated in 1995 after speaking out, she persisted and prevailed. With help from her attorney Barack Obama in *Cook County v. United States ex rel. Chandler*, 538 U.S. 119 (2003), she won a precedent-setting Supreme Court decision holding the county liable for treble damages under the US False Claims Act.

*Franz Gayl.* In 2006, as the Marine Corps Science Advisor, Mr. Gayl was sent to Iraq where he received an urgent assignment from the top field commander. Vehicles carrying troops could not withstand land mines, which had become the primary source of casualties. But adequate Mine Resistant Armored Protective (MRAP) vehicles had been paid for, inspected, and sent to warehouses, where they had been gathering dust for 19 months without delivery. Mr. Gayl’s mission was to free up delivery of the MRAP vehicles. When his Pentagon briefing of General Petraeus was canceled, Gayl began blowing the whistle to Congress and then through congressional referral to the media. After an ensuing public spotlight which

included congressional hearings, the MRAP vehicles were delivered (Cantu 2011; Merit Systems Protection Board 2011). The results were dramatic. Land mine casualties before delivery had been 60 %, including 80 % of fatalities. Afterward the casualty rate dropped to 5 %. Subsequent Pentagon research on roadside explosions in Iraq and Afghanistan demonstrated that the MRAP vehicles were 14 times more effective than their predecessor (Vanden Brook 2012; Lamb 2014). Gayl paid a horrible price in retaliation for his disclosures. He was silenced, suspended, ordered to take psychiatric examinations, stripped of his duties, temporarily stripped of his security clearance, placed under repeated criminal investigations, reassigned to his home as a duty station, and fired (Cantu 2011; Soeken 2014). After a 7-year legal battle, the marines settled his case on terms that included a commendation which recognized his whistle-blowing and appointment to a new team established to prepare whistle-blowing policy and training for the marines.

*Dr. David Graham.* Dr. Graham is a US Food and Drug Administration (FDA) scientist whose testimony has prevented recurrence of tens of thousands of unnecessary deaths from improperly approved drugs such as the painkiller Vioxx. In November 18, 2004, Senate Finance Committee testimony, he defied agency threats and exposed that Vioxx was one of a half dozen government-approved drugs that killed the patients who took them for treatment. Vioxx, a potent “Cox-2” painkiller, had caused between 30 and 55,000 fatal heart attacks. His testimony attacked inaccurate research claims for the drug’s safety that the FDA improperly had accepted as safety verification (Graham 2004). The manufacturer Merck faced some 27,000 lawsuits for claims that eventually settled at \$4.85 billion in damages and pulled the drug from US markets (Wadman 2007). Although defensive FDA officials intensified efforts to silence Dr. Graham, he persisted against a broad array of highly profitable but dangerous Cox-2 drugs with similar qualities to Vioxx. The agency placed unprecedented safety restrictions on all Cox-2 pain relievers, finding that the drugs were dangerous. Treating Vioxx like cigarettes, it banned product advertisements and required large warning labels (Government Accountability Project 2005).

*Dr. Ned Feder and Walter Stewart.* Popularized as the “Fraudbusters,” these researchers at the National Institutes of Health (NIH) made disclosures that put a national spotlight on scientific fraud. They not only exposed the lack of basis for studies with “too perfect” results, but they examined the causes – flawed peer reviews and fear of liability by professional journals (Stewart 1989). Their controversial disclosures sparked a series of high-profile congressional hearings, in part based on their investigative work. They obtained a temporary reassignment to the House Energy and Commerce Committee, where Chairman John Dingell was leading oversight of scientific research fraud (Knightworth 2014). Ironically, a different kind of whistle-blowing caused their downfall within the NIH – exposures of intellectual property theft that critics charged had publicly discredited scientific research. In 1993 the NIH closed their laboratory and placed the relevant files into deep storage after a “plagiarism machine” they had created produced too many controversial charges (Grossman 1993). Feder later became staff scientist for the Project on Government Oversight (POGO), a nongovernmental watchdog, where he regularly blows the whistle as part of his job.

*Dr. James Hansen.* Until his 2013 retirement, Dr. James Hansen was the top climate change scientist at the National Aeronautics and Space Administration (NASA)’s Goddard Institute for Space Studies. He also has been the pioneer scientist warning about potentially apocalyptic effects from global warming. On June 23, 1988, he testified before the Senate Energy and Natural Resources Committee on the causal relationship between human emissions and higher temperatures, warning that “the greenhouse effect is here.” *The New York Times* responded, “Global Warming Has Begun” (Nation Institute 2013). His alarms principally targeted the use of fossil fuels that emit carbon dioxide, predicting that “[b]urning all fossil fuels could result in the planet being not only ice-free but human-free” (Merchant 2013). Hansen warned that without a social overhaul to reduce carbon emissions, earth will reach a tipping point beyond which it is too late to stop glaciers from melting, with temperatures over the next century increasing 4–5 °F. The

last time earth was that hot, some 3 million years ago, sea levels were 80 ft higher than today. Florida was largely underwater, and coastlines were up to 50 miles inland, which would exile most of today's concentrated populations. Katrina disasters would become the rule rather than the exception, with cities forced to continually rebuild above a transient water line (NASA 2006). His research helped spark international conferences and treaties (United Nations 1992), as well as in-depth, ongoing UN studies substantially confirming his concerns (Climate Science Watch 2014).

Applying his research to proposed policy solutions, he was a leading critic of failed “cap and trade” legislation that would have addressed climate change through setting up a carbon trading market. Since his retirement, he has continued to be active, reinforcing environmental opposition to the mountain top removal for coal mining and the proposed US-Canada Keystone Pipeline through his highly publicized arrests for civil disobedience.

*Dr. Anthony Morris.* As an FDA scientist in the 1970s, Dr. Morris pioneered public scrutiny of vaccines that on occasion have been far more harmful than the maladies they are prescribed to treat. He was chief vaccine officer for the agency's Bureau of Biological Standards. His unpopular research challenged a growing vaccine industry. He charged that pharmaceutical industry studies purportedly proving their effectiveness could not withstand scrutiny, although the FDA consistently accepted them. Although his disclosures sparked congressional oversight, his whistle-blowing climaxed in 1976 when President Ford announced a \$135 million emergency vaccination plan for 140 million people to prevent a feared outbreak of the swine flu. Dr. Morris spoke out in every available forum from the FDA to the Phil Donahue national television program. He warned that the vaccine would be a net public health hazard. It had been tested against a different virus than the alleged threat, had not been effective, and was likely to cause severe side effects such as death and paralysis.

In response, the FDA terminated Dr. Morris for insubordination and incompetence. But history proved him right. The vaccine led to deaths or paralysis in hundreds of cases, and the incidence of swine flu was seven times higher for those who received it than those who did not. A wave of lawsuits ensued. The “Swine Flu Affair,” as it became known, helped strengthen a national consumer movement on vaccine dangers (Brown 2009; McBean 2009). Even then Secretary of Health and Human Services Joseph Califano, the primary decision-maker, since has conceded the need for painful “lessons to be learned” from the mistakes in that drug's approval (Neustadt and Feinberg 1978).

*Aldric Saucier.* Mr. Saucier was the army's chief scientist in 1992 when he blew the whistle on “Star Wars,” one of the Pentagon's most cherished programs during the 1980s. He charged that the \$29 billion antiballistic missile defense was based on false scientific claims unsupported by credible research. He further documented that the Department of Defense was paying contractors multiple times for the same studies containing different covers and summaries but identical research, with overcharges up to \$3 billion (Saucier 1992; Page 1993). His most significant disclosures, however, challenged the planned trillion-dollar next generation of Star Wars, known as Brilliant Pebbles. The vision for that strategy was to shoot shotgun-like blasts of “pebbles,” or small interceptors, from satellites to knock out enemy missiles from above. As Mr. Saucier's research demonstrated, however, the pebbles would burn up in the earth's atmosphere far above the highest point of any missile invented. The army proposed Mr. Saucier's termination for unacceptable performance (Evans 1992). But the US Office of Special Counsel found a “substantial likelihood” that he was correct and ordered an investigation of his charges (Cushman 1992). Although the Pentagon did not concede error, his disclosures received broad support from the media, independent scientists, and NGOs. Congress conducted its own investigations, and in 1993 the Brilliant Pebbles program was canceled (Giraffe Heroes Project 2014; Marshall and Claremont Institutes 2014).

*Dr. Joseph Settepani.* An FDA scientist at its Center for Veterinary Medicine, Dr. Settepani was in charge of quality control for veterinary drugs in the feed of food-producing animals. His mission was to keep illegal animal drugs or those used for unapproved purposes from the feed of food-producing animals.

His research supported three primary concerns: (1) Some consumers are allergic to drugs in animal feed, and they are vulnerable to severe adverse reactions. (2) Drugs that cause abnormal increases in body weight or maturity in animals can have the same impact on consumers, such as children becoming fully mature before they are teenagers. (3) Some consumers unwittingly build up a dangerous resistance to antibiotics from steady usage of those drugs in animal feed, preventing them from working when needed. Dr. Settepani learned that the FDA knowingly allowed and enabled practices that meant routine, unapproved use of drugs in animal feed. He also learned that the FDA had suppressed approval of a reliable, available device to test for illegal drugs in commercial milk.

Dr. Settepani protested steadily within the agency. In response it reassigned him from his position at FDA headquarters to a trailer in a rural setting to conduct long-term research. But he persisted outside established channels. His testimony spearheaded hearings by Representative Ted Weiss and a congressional report that verified his charges (Hiltz 1990). The FDA approved a national testing program for commercial milk supplies. The testing program demonstrated that 80 % of milk at grocery stores was contaminated with illegal animal drugs, and an industry cleanup ensued (Government Accountability Project 2012).

*Dr. Jeffrey Wigand.* In 1988 Dr. Wigand accepted a position as vice president for Research and Development at Brown and Williamson Tobacco Corporation, one of the nation's four largest. His objective was to follow through on corporate commitments to create safer and more fire-resistant cigarettes. He began to blow the whistle internally, however, when associated research projects were inadequately supported or canceled altogether, as was the entire research program eventually. He became convinced that, contrary to its official position, the company was trying to kill advances in cigarette safety, in part because saving lives could undermine defenses against lawsuits that existing products were unsafe. In 1993 the company fired him. Dr. Wigand, however, worked closely with the media, Food and Drug Administration Chief Donald Kessler, Congress, and prosecutors for his disclosures to make a difference. They did, after being highlighted by the *Wall Street Journal* and eventually the CBS *60 Minutes* program. His disclosures led to a massive wave of government litigation against the tobacco industry. Despite threats of civil and criminal prosecution, his testimony for state attorneys general was a turning point in litigation that resulted in a \$206 billion settlement, one of history's largest. Eventually Hollywood turned his story into an Oscar-nominated movie, *The Insider*. He went on to start a new career as a high school science and Japanese teacher, winning an award as Fannie Mae First Class Teacher of the Year. He became a leader of the global NGO, Tobacco-Free Kids (Wigand 2011; Devine and Maassarani 2011).

## **Legal Rights: Welcome Reinforcement from the Rule of Law**

Since the legal system seeks to preserve stability, and whistle-blowers challenge the status quo, traditionally the law has not been a reliable base of support. In recent years, however, there has been a legal revolution for freedom of speech within the workplace (Vaughn 2012). In the United States on the federal level alone, there now are 58 federal laws alone protecting whistle-blowers in the public and private sector work force, including 12 since 2002 that cover nearly the entire private sector labor force with best practice legal rights (Devine and Maassarani 2011). The phenomenon is hardly limited to one country. Twenty-eight nations now have whistle-blower laws (Blueprint for Free Speech 2013), as do intergovernmental organizations such as the United Nations and World Bank (Devine and Walden 2013). Protection has become a cornerstone of civil society reforms, from anticorruption conventions to criteria for European Union membership, with an emerging consensus on global best practices (Devine and Walden 2013; OECD 2011).

The US experience highlights this dynamic phenomenon. Before 1959 there were no free speech rights on the job either in the public or private sectors. Corporate employees long had been governed by the traditional “at-will” rule of the master-servant doctrine governing common law since the Magna Carta – an employee can be fired for any reason or none. For all practical purposes, government employees had to obey. There was no option for legally protected dissent. That changed in 1959, when California courts in *Petermann v. International Brotherhood of Teamsters* first established a “public policy exception” to the at-will doctrine, permitting corporate workers to file lawsuits in tort for damages. In 1968 the US constitution became relevant for government workers in the employment context when the Supreme Court recognized rights under the first amendment in *Pickering v. Board of Education*. The current smorgasbord of rights primarily began in 1978, when whistle-blower protection was included as one of the most prominent reforms in a comprehensive post-Watergate overhaul of federal employment, the Civil Service Reform Act of 1978 (Vaughn 2012).

The US Whistleblower Protection Act was separated into its own statute in 1989. Within the vast menu of US laws, it is the only one with dedicated protection for scientific freedom. Its operative rights in 5 USC 2302(b)(8) protect disclosures of information that an employee reasonably believes is ordance of misconduct which is legally protyped to challange, including illegality, gross waste, abuse of authority, gross mismanagement, or a substantial and specific danger to public health or safety. Reflecting its significant impact on government abuses of power, the law has had a phoenix-like history of death and rebirth – endlessly attacked, gutted, and revived to unanimously reaffirm its original mandate. The WPA is fundamental for effective congressional oversight. As a result, Congress unanimously reenacted and strengthened its original mandate three times – the latest through the Whistleblower Protection Enhancement Act of 2012 (WPEA) after a 13-year campaign.

Included due to the experiences of climate change and drug safety whistle-blowers, in Section 110 the WPEA added specific provisions to strengthen scientific freedom of speech. It is now protected to disclose “censorship related to research, analysis or technical research,” if the whistle-blower reasonably believes the suppression is illegal or will cause illegality, gross waste, gross mismanagement, or a substantial and specific danger to public health or safety, the same categories to protect disclosures outright. “Censorship” is defined as “any effort to distort, misrepresent or suppress research, analysis or technical information.” The law shields the impact of research for policy decisions. While the WPEA does not protect policy disagreements, it protects disclosures of *consequences* from a policy that evidence illegality, threats to public health and safety, abuse of authority, or the other listed categories.

The WPA also has a formal channel for whistle-blowers to make a difference. Under 5 USC 1213, the law provides another function for its official whistle-blower protection agency. Besides investigating and prosecuting retaliation cases, the US Office of Special Counsel screens whistle-blowing disclosures and orders investigations of those it finds worthy. Applicants and current or former US government employees can file their evidence with the OSC of illegality, abuse of authority, or other protected speech categories, and the agency has 15 days to determine if there is a “substantial likelihood” the charges are correct. If so, the Special Counsel must order an investigation by the relevant agency head. The methodology and contents for the report are carefully proscribed. It must be signed by the agency chief and include a summary of evidence received and how the investigation was conducted, reveal new evidence obtained, make findings of fact and conclusions of law, and commit to any relevant corrective action. The report then goes to the whistle-blower for comments, after which it is evaluated by the OSC for completeness and reasonableness. If the Special Counsel finds the report in noncompliance, it either can send the referral back to the agency to redo in whole or in part or close the case with a finding that the agency has not responded lawfully to the disclosure. The Special Counsel then transmits the entire package, including the whistle-blower’s comments and OSC evaluation, to the president and relevant congressional offices and posts it publicly on the OSC website.

## Strategies and Tactics for Making a Difference

While legal rights are welcome, and often necessary, as a rule they are inadequate to make a difference in isolation. The Government Accountability Project (GAP), a leading US whistle-blower advocacy group, consistently advises whistle-blowers that if all they have is legal rights, they are in serious trouble. The case studies above benefited from “legal campaigns,” of which legal action is only the base for much broader advocacy. The conventional odds are overwhelmingly uneven when an individual challenges institutional abuse of power. Charging ahead alone, without advance work for quality control and to assure at least confidential corroboration from supporting witnesses, is almost certain to fail, and the alleged abuses will be stronger for having withstood the challenge.

The strategy is to replace isolation with solidarity, the key transformation for turning information into power. The tactic is to act as information matchmaker between the isolated whistle-blower, with all the stakeholders who should be benefiting from his or her knowledge. When that occurs, instead of an employer’s hostile bureaucracy surrounding the whistle-blower, society surrounds the bureaucracy, and the balance of power reverses. Illustrative examples below from the case studies illustrate this theme.

**Corroboration from peers.** It is possible for an employer to say that one whistle-blower is uninformed, dishonest, incompetent, or pursuing a hidden agenda. Indeed, employers often try to replace the scientific method with a twisted version of the “democratic process” – recruiting a cadre of “yes people” who will endorse the organization’s party line and outvote the whistle-blower’s views, reinforced by individual criticisms in the strongest terms. In that way, mob rule can trump the evidence. This same tactic can be used to subvert peer review from a respected form of professional quality control into a secret process that issues unsupported, sweeping rejections of the whistle-blower’s professional dissent (Devine and Maassarani 2011).

It is unrealistic, however, for an institution denying misconduct to charge that 30–40 witnesses testifying consistently are all dishonest or otherwise unworthy. In the research field, an effective tactic is to organize independent peer review by professionals whose credibility is beyond dispute and stronger than hand-picked bureaucratic experts vulnerable to institutional conflict of interest. Committees of vindicated whistle-blowers also have been effective to help screen new disclosures of alleged misconduct. Peer review by outside experts can discredit institutional attacks by “party line” scientists. To illustrate, the army proposed removal of its chief scientist, Mr. Saucier, because he contended that the Brilliant Pebbles antiballistic missile defense system was fatally flawed. But a volunteer, independent peer review committee disagreed. Its members included Nobel Prize winner Hans Bethe, former Assistant Secretary of the Navy Ted Postol, and numerous physics professors. They unanimously concluded that Mr. Saucier’s concerns were well taken. They concluded that the concerns about incompetence applied not to Mr. Saucier but to the army officials who made that charge against him (Devine 1993). Their corroboration proved highly significant with congressional oversight offices and associated NGOs. The attack on Mr. Saucier’s credibility backfired.

**Corroboration by government agencies.** Corroboration by a government agency changes the dynamic from an isolated critic charging government misconduct to an official body finding that the agency has or may have engaged in the same alleged misconduct. This means there is far less risk for congressional oversight offices, the media, or outside organizations who are considering a spotlight on or support for the whistle-blower’s charges. From this perspective, the US Office of Special Counsel, as an official government watchdog agency, has been particularly significant. Mr. Saucier and Dr. Settepani both had credibility breakthroughs by channeling their disclosures through the OSC’s whistle-blowing channel. An OSC “substantial likelihood” finding has had the effect of a bureaucratic Good Housekeeping Seal of Approval for whistle-blowers. It also institutionalizes an investigative process, which can be a



magnet for other whistle-blowers waiting to see what happens, as well as further opportunities for scrutiny when the ensuing report is released.

In Dr. Wigand's case, the support ranged from the chairman of the FDA to state attorneys general prosecuting the tobacco industry. By subpoenaing him, the prosecutors trumped gag orders and threats of litigation from his former employer.

**Congressional support.** It long has been recognized within the whistle-blower community that support from an effective congressional "angel" can be far more powerful than legal rights. This applies both to making a difference and to surviving professionally. That is particularly the case if the aroused member sits on a committee with relevant budget, legislative, and/or oversight authority. Franz Gayl, for example, did not file a WPA whistle-blowing disclosure. But his briefings for the Chairs of the Senate Armed Services, Foreign Relations, and Intelligence Committees, among others, placed a spotlight on the Marine Corps for failing to timely deliver MRAP vehicles to Iraq and Afghanistan (GAP 2013; POGO 2008). The congressional spotlight led to prominent media coverage. After the Corps' leaders were unable to defend the delay in Senate hearings, the lifesaving vehicles were finally freed up and sent to the troops (Soeken 2014; Vanden Brook 2014). Aldric Saucier never convinced the Department of Defense to admit error on Star Wars or Brilliant Pebbles, but he made a difference by helping convince the House Appropriations Committee to cut off funding. Stern warnings from House Judiciary Committee Chairman John Conyers helped Saucier professionally to survive long enough to make a difference (Foerster 2010: 43–45; Rothstein 1992). Dr. David Graham sparked an immediate national media scandal by releasing his scientific dissent in 2004 Senate Judiciary Committee hearings. When the FDA tried to remove his duties through reassignment, it reconsidered and withdrew the proposal after sharp protests and warnings from 22 members of Congress, including Senator Charles Grassley (California Healthline 2004). Ned Feder and Walter Stewart took this tactic the next step, after the House Commerce Committee possessing relevant oversight authority brought them onto its staff for temporary assignments with a mandate to continue investigative work from an independent perch (Culliton 1990).

**Media support.** The solidarity strategy inherently requires informing the public how its trust has been betrayed. Whether through conventional or social media contexts, no comparable lifeline exists to turn the truth into power. When relevant stakeholders join forces with a whistle-blower, reinforced by a newly informed and aroused public, the beach head of initial support inevitably expands and intensifies. The media even can be an effective lifeline in a totalitarian society without relevant or credible-free speech legal rights. Due to an international media spotlight, Dr. Jiang Yankong exposed the Chinese cover-up of a deadly SARS virus outbreak and not only survived but received official praise (Calland and Dehn 2004: 53–60).

This front should be opened as soon as internal channels have proved futile or counterproductive, and there is sufficient credibility. If the media spotlight occurs during a government investigation, it both can prevent retaliation and be a magnet for further witnesses and political support. Indeed, the most effective stories may be ones that are never printed or broadcast, because abuses of power are prevented by hostile advance media inquiries. In Dr. Graham's case, he had complementary support from Senator Grassley as well as a media spotlight from front page national news stories and appearances on national television news programs. An agency mistake then sparked a second wave of media, after his supervisor was caught masquerading as a whistle-blower against him (Harris 2004; Leung 2005). Years earlier, Dr. Joseph Settepani had successfully used the same tactic for his advocacy of milk testing. Immediately after helping with the research for a congressional report and testifying at congressional hearings, his views were spread through national print outlets.

Attempts to suppress media coverage can be the opportunity for a broader, more intense spotlight. When the tobacco industry successfully pressured and stopped an initial attempt by *60 Minutes* to schedule a program on Dr. Jeffrey Wigand, the ensuing controversy generated more publicity than the

subsequently aired program may have generated if it had run on schedule. When NASA ordered Dr. Hansen not to communicate with the outside world absent prior to approval, he defied the gag order on *60 Minutes*, generating extra interest in his dissent due to the government's attempt to silence him.

The same principle can apply for retaliation. Sometimes the bullying strikes a public chord more than the science, which is difficult to understand. But the former can spark interest in the latter, because the natural questions are why was that information so threatening. The spotlight on Mr. Saucier's claims about Star Wars began when, after his internal whistle-blowing, newspapers reported that an army officer had beaten Saucier, leading to his hospitalization.

Sometimes scientists have used civil disobedience to generate or sustain media coverage of their dissent. When the National Institutes of Health closed Water Stewart and Ned Feder's laboratory, they went on a widely publicized hunger strike, claiming that it was in reprisal for exposing too much scientific fraud. To dramatize his concerns that the Canadian-US Keystone Pipeline could be a "tipping point" that makes global warming inevitable, Dr. Hansen was arrested for illegally intruding on government property during an anti-keystone demonstration.

**Solidarity from NGOs.** Nongovernmental organizations are the institutional "lifers" often working on and engaging in ongoing oversight of the same issues raised by scientific whistle-blowers. As a result, NGOs can be invaluable from numerous perspectives. They may well have different agendas or even a conflict of interest to some degree with the whistle-blower's objectives. Further, unless communications are covered by the attorney-client privilege, the NGO will be vulnerable to legal bullying to disclosure confidential communications. So the partnership is not risk-free. Whistle-blowers only should take those risks consistent with relationships of earned trust. But if it is earned and the terms are carefully structured, NGOs can be invaluable partners. In early stages, the whistle-blower can channel anonymous disclosures through an organization. The organizations may well know the relevant media outlets working on the issue. They can identify the politicians who have made a difference, compared to those who just have made noise. They can identify other trusted experts for professional corroboration, as well as sympathetic legal counsel. When NGOs are recognized for independent professional expertise, their organizational support can be another credibility seal of approval for media, legislative, or regulatory agencies that respect their conclusions. To the extent that NGOs have a significant number of members, they can provide an immediate base for political support and grassroots communications with key decision-makers. In short, sympathetic NGOs can provide another key base for whistle-blowers to engage in effective legal campaigns.

Dr. Settepani's credibility benefited greatly, because the Center for Science in the Public Interest agreed with his concerns and provided solidarity through an award from 60 food safety NGOs. Dr. Saucier's support by the Federation of American Scientists made it more difficult to dismiss his charges. The Project on Government Oversight helped Mr. Gayl to find legal counsel at GAP, posted online petitions in his support, issued supportive press releases when he was under attack, and spoke out on his behalf in documentary films. Environmental organizations and peers rallied around Dr. Hansen, honoring his impact through awards and providing solidarity for the credibility of his research.

**Litigation.** The case studies above relied on a legal action at least in part for academic or scientific whistle-blowing to be considered on its merits, consistent with professional standards and the scientific method. At a minimum, the legal actions may contribute as a research device or organizing base. The Freedom of Information Act or other now commonly available access to information laws globally may be essential to expose latent government support for dissent that has been rejected due to political pressures rather than independent assessment of evidence. Citizen petitions can create a public record of evidence supporting whistle-blowing disclosures, demonstrate grassroots support, and spark legal rights for judicial review.

While a judicial first principle is to preserve the status quo by maintaining precedent, litigation sparked by Dr. Wigand demonstrates that conventional lawsuits can be effective as well. In addition to traditional common law actions, the US False Claims Act has been particularly useful as a litigation resource for academic research and scientific whistle-blowers. That law allows whistle-blower lawsuits to challenge fraud in government contracts or research grants. The decisive development for Dr. Chandler to make a difference was her Supreme Court victory in a False Claims Act lawsuit.

## Conclusion

It is unfortunate that political pressure frequently prevails over scientific evidence or professional standards, and even worse when research is compromised by fraud. But whistle-blowers can expose the truth to make a difference and survive by learning and effectively using the tactics that turn information into power. It is equally unfortunate that this may mean “out Machiavelling the Machiavellis.” But the challenge should not be a source of cynicism. Academic research is not immune to accountability. As the case studies in this chapter demonstrate, conventional rules can be used effectively for accountability to successfully challenge abuses of power, not just to shield the status quo. When the legal system is combined with the equivalent of a serious political campaign, even in highly technical professions, the truth can be far more powerful than money or conventional authority.

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