

Protecting Public Health in the Face of Corporate Disinformation

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- Consultant for Asbestos Claimants' Committee - Georgia Pacific/Bestwall Bankruptcy
- Agreed to be expert witness in Attorney General of the State of Mississippi v. Johnson & Johnson and Johnson & Johnson Consumer Companies, Inc.

Funding Disclosures

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The Rise of Corporate Disinformation about Harms

It is now standard operating procedure for corporations to create and disseminate disinformation by hiring “product defense” experts to *manufacture scientific uncertainty* about potential harms caused by their products or activities.

This is sometimes called **Doubt Science**.

According to repeated nationwide surveys,

More Doctors Smoke CAMELS than any other cigarette!

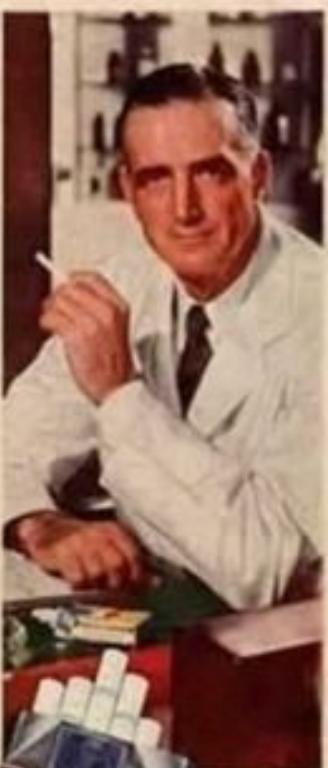
Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!

You'll enjoy Camels for the same reasons so many doctors smoke them. Camels have cool, cool tobacco, pack after pack, and a flavor unmatched by any other cigarette. Make this sensible new standard your cigarette for pleasure and function, and Camel pleases your taste, taste with they will (our smokers say) your steady smokers. You'll be烟烟地 a cigarette smoker!

THE DOCTORS' CHOICE IS AMERICA'S CHOICE!



For 30 days, test Camels in your "T-Zone" (T for Throat, T for Taste)



"Believe me, folks, you'll want to read this important new evidence on the effects of smoking. Then you'll say, 'Indeed... **MUCH MILD**'"

**CHESTERFIELD
IS BEST FOR ME!**

Arthur Godfrey

NOW... Scientific Evidence on Effects of Smoking!

A MEDICAL SPECIALIST is making regular bi-monthly examinations of a group of people from various walks of life. 45 percent of this group have smoked Chesterfield for an average of over ten years.

After ten months, the medical specialist reports that he observed...

no adverse effects on the nose, throat and sinuses of the group from smoking Chesterfield.

MUCH MILD
CHESTERFIELD
IS BEST FOR YOU

First and Only Premium Quality Cigarette in Both Regular and King-Size



CONTAINS TOBACCO OF BETTER QUALITY AND HIGHER PRICE THAN ANY OTHER KING-SIZE CIGARETTE

Tobacco's Campaign to Manufacture Uncertainty

"Doubt is our product, since it is the best means of competing with the 'body of fact' that exists in the minds of the general public. It is also the means of establishing controversy."

-Brown & Williamson Document No. 332506, 1969



40. Byrd
34 B&W
6/11/66

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Babies of smokers, p. 1

Heart studies, p. 2

Virus studies, p. 3

Tobacco and Health Research

Vol. 7 No. 1

March-April 1964

There is diversity of opinion regarding tobacco use and health. Charges against tobacco are widely publicized, but less attention is given to materials which indicate that differing opinions exist. This publication reports some of these materials.

Follow-up Study Sheds New Light on Smoking And Infant Survival

Small babies born of cigarette-smoking mothers are markedly less likely to die at birth than are small babies of non-smoking mothers, a University of California biostatistician has found.*

In a study of 6,800 infants born at the Kaiser Foundation Hospital, Oakland, Calif., Dr. Jacob Yerushalmy confirmed earlier findings that smoking mothers have more babies weighing under 5 lbs. 8 oz. (2500 gm.) at birth than do non-smokers.

Among 3,189 babies of non-smoking white women, Dr. Yerushalmy found 112 (3.5 percent) underweight,

(Continued on page 2)

*"Mothers, cigarette smoking, and survival of infants." *American Journal of Obstetrics and Gynecology*, February 1964.

'Lung Cancer Rare in Bald Men'

A relatively low incidence of lung cancer among bald men has been reported by two New Orleans physicians.* In contrast, the study supported earlier findings that baldness is associated with "increased susceptibility to heart disease."

Drs. Morton Brown and Howard A. Buechner studied 225 control patients and 186 lung cancer patients at the New Orleans Veterans Admini-

From 1908 to 1959 . . .

Massive German Study Points to Occupational Hazards in Lung Cancer

An increase in lung cancer incidence in Germany has been found to be most marked in three groups of occupations exposed to air pollutants, a team of pathologists and statisticians has concluded.*

Their report included observations of recent lung cancer cases as well as study of autopsy records as far back as 1908. They found lung cancer incidence was most prevalent in a major industrial area among these groups:

1) Outdoor workers (high and deep construction workers, agricultural workers);

2) Industrial workers and craftsmen doing industrial type work;

3) Persons exposed to the effects of modern vehicular traffic (chauffeurs, railroad workers, messengers, traffic policemen, salesmen, etc., exclusive of office workers).

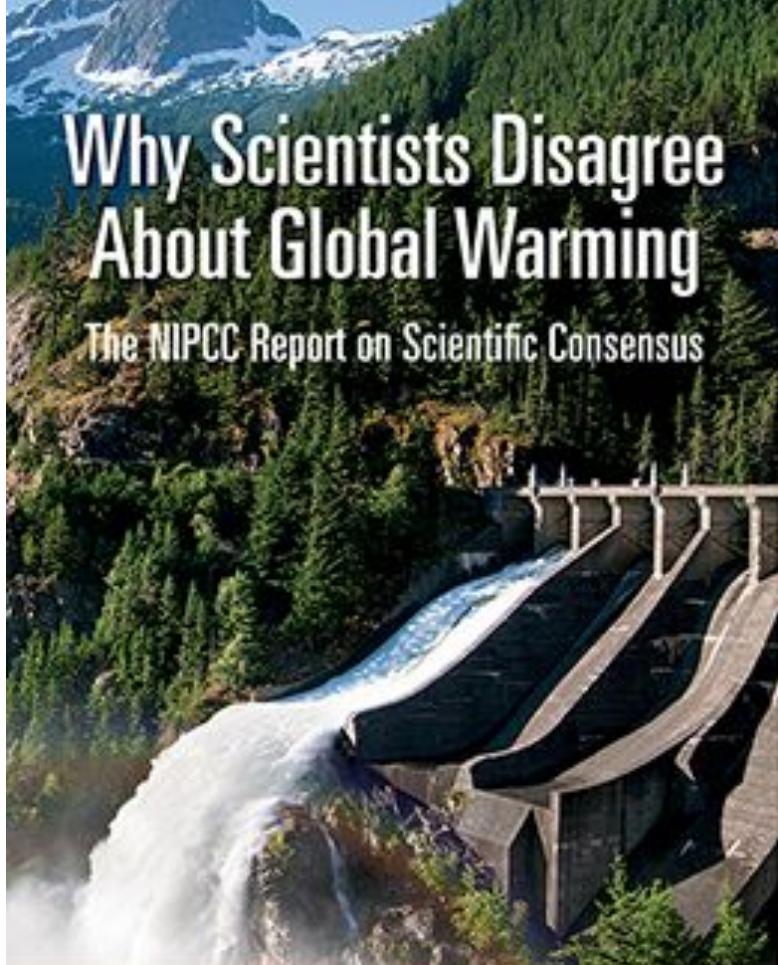
A lower incidence of epithelial lung cancer was found among (4) "crafts-

men of the old type who work in small shops," and among (5) "domestic, warehouse, store, office and administrative workers, and also members of the teaching profession," the investigators reported.

These conclusions emerged from a six-year study of 1,229 cases of the disease, plus an analysis of more than 26,000 autopsy records reaching back to the year 1908, according to Prof. Dr. Reinhard Poche, chief physician, Pathological Institute, Düsseldorf Medical Academy. The project also involved university departments of pathology at Bonn, Solingen, Bethel, Bielefeld, Dortmund, Duisberg, Essen, Essen-Steele, Cologne-Merheim and Münster.

The records studied covered the patients' history, occupations, urban or rural residence, war record, internment record, smoking habits and histological diagnosis.

The increase is accounted for chiefly by squamous epithelial carcinoma, Dr. Poche found, and must be re-



Why Scientists Disagree About Global Warming

The NIPCC Report on Scientific Consensus

Craig D. Idso · Robert M. Carter
S. Fred Singer

THE HISTORY OF

Exxon's Climate Denial

Exxon has understood the science of climate change for at least the last 50 years. It has done nothing to stop the problem.



EXXONKNEW

1979

Major fossil fuel companies met regularly as part of a task force to discuss the science and implications of climate change.



1982

Roger Cohen, director of the Theoretical and Mathematical Sciences Laboratory at Exxon wrote a memo stating "Temperature increase of this magnitude would bring about significant changes in the earth's climate, including rainfall distribution and alterations in the biosphere." Cohen would later become a lead climate science denier at an Exxon-funded front group.



1983

Exxon cut funding for climate research from \$900,000 per year to \$150,000. Exxon pivoted from the cutting edge of early climate change science to the forefront of climate denial.

1996

Mobil engineers noted that "An estimated rise in water level, due to global warming, of 0.5 meters may be assumed" in their planning for exploration and production facilities along the coast of Nova Scotia.



EXXON FUNDS DENIAL

Product Defense: The Enronization of Science

- Scientists (and scientific consulting firms) hired to defend products or activities in regulatory and legal arenas
- The value of these scientists is their ability to influence regulation and litigation, not to provide valid science
- Produce science of questionable value

Marketing Disinformation

ASBESTOS, TOBACCO, PHARMACEUTICALS - WE'RE ALL NEXT!

- ◆ Scare science
- ◆ The loss of presumptive innocence
- ◆ Where will the liability end?

Presented by
Mr. Joseph Huggard
The Weinberg Group LLC
18 June 2003

HILL AND KNOWLTON

Hill and Knowlton, Inc.
International Public Relations Counsel
420 Lexington Avenue
New York, New York 10017
212 697-5600

Case Histories

The following pages contain case histories detailing Hill and Knowlton's work on selected environmental, and occupational health issues:

- o Siting a Municipal Waste Incinerator
- o Vinyl Chloride and Cancer
- o Asbestos and Human Health
- o Dioxin and Public Health
- o Fluorocarbons and Ozone Depletion
- o Saccharin and the FDA
- o Toxic Wastes Threaten Major Manufacturing Facility
- o Groundwater Contamination Harms Company Reputation

Fluorocarbons and Ozone Depletion

Problem/Situation

Scientific allegations that fluorocarbons released from aerosol spray cans were a threat to the earth's ozone layer had become a cause celebre in the media and government. Despite the fact that there was no real scientific proof of the charges, and that it would be years before facts could be assembled, the media fastened on the threat of increased skin cancer and the doomsday aspects of the story. Public concern and fear about the future caused fluorocarbon users to look to alternatives. Hill and Knowlton was asked by Du Pont to help calm fears, get better reporting of the issues, and gain up to two or three years before the government took action to ban fluorocarbons.



The Nobel Prize in Chemistry 1995

"for their work in atmospheric chemistry, particularly concerning the formation and decomposition of ozone"



Paul J. Crutzen



Mario J. Molina



F. Sherwood Rowland

The Nobel Prize in Chemistry 1995

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[Presentation Speech](#)

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Paul J. Crutzen

[Autobiography](#)

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Mario J. Molina

[Autobiography](#)

[Nobel Lecture](#)

[Other Resources](#)

F. Sherwood Rowland

[Autobiography](#)

[Nobel Lecture](#)

[Banquet Speech](#)

[Other Resources](#)



Case Studies

SUPPORT TO DRUG MANUFACTURERS

The Food and Drug Administration proposed cancellation of a registered new drug. Cancellation requires an administrative hearing. THE WEINBERG GROUP was retained by two manufacturers of the drug under attack, to define strategy for the administrative hearing, identify the experts to be used in the continued support of the drug; assist in the preparation of the experts for written testimony, analysis of the testimony of experts for the Food and Drug Administration, and preparation for oral cross-examinations and preparation of the summary brief. This led to an extensive process with a written appeal from the first decision to the Commissioner and leading to 10 additional years of sales prior to the ultimate cancellation of the drug.

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Health Effects of Diesel Engine Emissions



Diesel Exhaust in Miners Study: Diesel is a Lung Carcinogen

DOI: 10.1093/jnci/djs035
Advance Access publication on March 5, 2012.

Published by Oxford University Press 2012.

ARTICLE

The Diesel Exhaust in Miners Study: A Cohort Mortality Study With Emphasis on Lung Cancer

Michael D. Attfield, Patricia L. Schleiff, Jay H. Lubin, Aaron Blair, Patricia A. Stewart, Roel Vermeulen, Joseph B. Coble, Debra T. Silverman

Manuscript received February 14, 2011; revised October 12, 2011; accepted October 21, 2011.

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DOI: 10.1093/jnci/djs034
Advance Access publication on March 5, 2012.

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ARTICLE

Background Current information points to an association between diesel mortality outcomes, but uncertainties remain.

Methods We undertook a cohort mortality study of 12 315 workers exp mining facilities. Historical measurements and surrogate expo measurements, were used to derive retrospective quantitative exposure for each worker. Standardized mortality ratios and inte were used to evaluate REC exposure-associated risk. Analyse recent exposure such as that occurring in the 15 years directly t

Results Standardized mortality ratios for lung cancer (1.26, 95% confidence (1.83, 95% CI = 1.16 to 2.75), and pneumoconiosis (12.20, 95% CI cohort compared with state-based mortality rates, but all-caus obstructive pulmonary disease mortality were not. Differences in surface only) initially obscured a positive diesel exhaust expos complete cohort, although it became apparent after adjustment lung cancer mortality increased with increasing 15-year lagged c workers with 5 or more years of tenure to a maximum in the 64 with the reference category (0 to <20 $\mu\text{g}/\text{m}^3\text{-y}$; 30 deaths comp. 5.01, 95% CI = 1.97 to 12.76) but declined at higher exposures, plateau around 32 $\mu\text{g}/\text{m}^3$. Elevated hazard ratios and evidence of workers. The association between diesel exhaust exposure and other work-related potentially confounding exposures in the mo to exposure derivation.

Conclusions The study findings provide further evidence that exposure to lung cancer and have important public health implications.

The Diesel Exhaust in Miners Study: A Nested Case–Control Study of Lung Cancer and Diesel Exhaust

Debra T. Silverman, Claudine M. Samanic, Jay H. Lubin, Aaron E. Blair, Patricia A. Stewart, Roel Vermeulen, Joseph B. Coble, Nathaniel Rothman, Patricia L. Schleiff, William D. Travis, Regina G. Ziegler, Sholom Wacholder, Michael D. Attfield

Manuscript received February 16, 2011; revised June 3, 2011; accepted October 21, 2011.

Correspondence to: Debra T. Silverman, ScD, Occupational and Environmental Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Rm 8108, 6120 Executive Blvd, Bethesda, MD 20816 (e-mail: silvermd@mail.nih.gov).

Background Most studies of the association between diesel exhaust exposure and lung cancer suggest a modest, but consistent, increased risk. However, to our knowledge, no study to date has had quantitative data on historical diesel exposure coupled with adequate sample size to evaluate the exposure–response relationship between diesel exhaust and lung cancer. Our purpose was to evaluate the relationship between quantitative estimates of exposure to diesel exhaust and lung cancer mortality after adjustment for smoking and other potential confounders.

Methods We conducted a nested case–control study in a cohort of 12 315 workers in eight non-metal mining facilities, which included 198 lung cancer deaths and 562 incidence density-sampled control subjects. For each case subject, we selected up to four control subjects, individually matched on mining facility, sex, race/ethnicity, and birth year (within 5 years), from all workers who were alive before the day the case subject died. We estimated diesel exhaust exposure, represented by respirable elemental carbon (REC), by job and year, for each subject, based on an extensive retrospective exposure assessment at each mining facility. We conducted both categorical and continuous regression analyses adjusted for cigarette smoking and other potential confounding vari



2012: The World Health Organization/
International Agency for Research on Cancer
Classifies Diesel Engine Exhaust
as Carcinogenic to Humans

The Diesel Industry's Response: Disinformation



Critical Reviews in Toxicology

ISSN: 1040-8444 (Print) 1547-6898 (Online) Journal homepage: <http://www.tandfonline.com/loi/itrx>



REVIEW ARTICLE

Health effects research and regulation of diesel exhaust: an historical overview focused on lung cancer risk

Thomas W. Hesterberg¹, Christopher M. Long², William B. Bunn³, Charles A. Lapin³,
Roger O. McClellan⁴, and Peter A. Valberg²

A Critical Assessment of Studies on the Carcinogenic Potential of Diesel Exhaust

Thomas W. Hesterberg, William B. Bunn III, Gerald R. Chase, Peter A. Va
Thomas J. Slavin, Charles A. Lapin & Georgia A. Hart

Reanalysis of the DEMS Nested Case-Control Study of Lung Cancer and Diesel Exhaust: Suitability for Quantitative Risk Assessment

Kenny S. Crump,^{1,*} Cynthia Van Landingham,² Suresh H. Moolgavkar,³
and Roger McClellan⁴

nic solvent extracts from diesel ex
lanche of diesel exhaust (DE) health
an extensive body of results, scien
inhalation of occupational and envir
urating and increasing exposure to

John F. Gamble¹, Mark J. Nicolich², and Paolo Boffetta^{3,4}

¹566 Elizabeth Avenue, Somerset, NJ 08873, USA, ²COGIMET, Lambertville, NJ, USA, ³The Tisch Cancer Institute
and Institute for Translational Epidemiology, Mount Sinai School of Medicine in New York, NY, USA, and
⁴International Prevention Research Institute, Lyon, France

Abstract

Influence of Alternative Exposure Estimates in the Diesel Exhaust Miners Study: Diesel Exhaust and Lung Cancer

that additional
includes seven
trends between
ounding. Those
inconsistent E-R

Reanalysis of Diesel Engine Exhaust and Lung Cancer Mortality in the Diesel Exhaust in Miners Study Cohort Using Alternative Exposure Estimates and Radon Adjustment

Ellen T. Chang*, Edmund C. Lau, Cynthia Van Landingham, Kenny S. Crump, Roger O. McClellan,
and Suresh H. Moolgavkar

* Correspondence to Dr. Ellen T. Chang, Center for Health Sciences, Exponent, Inc., 149 Commonwealth Drive, Menlo Park, CA 94025 (e-mail: echang@exponent.com).

^a Van Landingham,² and Roger O. McClellan³

andmark Diesel Exhaust in Miners Study (DEMS) studied the relationship between
exhaust exposure (DEE) and lung cancer mortality of workers at eight nonmetal mines
were followed from beginning of dieselization of the mines (1947–1967) through Decem-
ber 1, 1997. The original analyses quantified DEE exposures using exposure to respirable
total carbon (REC) to represent DEE, and CO as a surrogate for REC. However, this

The PROBLEMS with PFAS

HOW DOES IT GET INTO OUR BODIES?

- Cooking with nonstick pans
- Products containing PFAS
- PFAS-contaminated food and water
- PFAS in air and dust

PFAS

- Short for **per- and polyfluoroalkyl substances**, chemicals used in products such as non-stick cookware, food packaging, water-resistant clothing, and stain-resistant carpeting
- Also called **'forever chemicals,'** they can take up to 1,000 years to break down in nature

HEALTH PROBLEMS LINKED TO PFAS

- Kidney and testicular cancer
- High blood pressure and pre-eclampsia
- Higher cholesterol
- Lower infant birth weights
- Decreased vaccine response in children

WHAT CAN WE DO?

- INDIVIDUALS – **avoid products with PFAS** and ask policymakers to limit or ban its use
- HEALTH PROFESSIONALS – **advise patients on how to avoid PFAS** and support limits on its use
- BUSINESSES – **phase out use of PFAS** and avoid non-essential uses
- POLICYMAKERS – **limit or ban PFAS**

PFAS Disinformation: A Brief and Sordid History

2002: Following initial C8 “Dark Waters” lawsuits, at DuPont’s recommendation, West Virginia hires Michael Dourson and **Toxicology Excellence for Risk Assessment (TERA)**.

TERA recommends WV set safe level in drinking water at 150 parts per billion, 150 times DuPont’s internal safe level.

“Your PFAS Exposure Levels are Safe”

2007: DuPont hires **ChemRisk** to estimate risk among population who drink PFAS-contaminated water

Conclusion: Predicted exposures “were about **10,000-fold less** than the intake of the chemical not considered as a health risk by an independent panel of scientists who recently studied PFOA.”

Paustenbach DJ, Panko JM, Scott PK, Unice KM. A methodology for estimating human exposure to perfluorooctanoic acid (PFOA): A retrospective exposure assessment of a community (1951–2003). *Journal of Toxicology and Environmental Health, Part A*. 2006;70(1):28-57. doi: 10.1080/15287390600748815

The C8 Studies: Health Effects of PFAS Exposure

During 2005-2013, independent scientists carried out numerous studies on workers and community residents exposed to PFOA.

They found probable link between exposure and:

- ulcerative colitis
- thyroid disease
- testicular and kidney cancer
- pregnancy-induced hypertension
- high cholesterol

Strategic Literature Review: “No Evidence of Cancer Risk”

2014: Facing numerous lawsuits, 3M hires product defense firm **Exponent** to provide a strategic literature review, which concluded:

“the epidemiologic evidence does not support the hypothesis of a causal association between PFOA or PFOS exposure and cancer in humans.”

Ellen T. Chang, Hans-Olov Adami, Paolo Boffetta, Philip Cole, Thomas B. Starr & Jack S. Mandel (2014) A critical review of perfluorooctanoate and perfluorooctanesulfonate exposure and cancer risk in humans, *Critical Reviews in Toxicology*, 44:sup1, 1-81, DOI: 10.3109/10408444.2014.905767

Another Strategic Literature Review: “NTP Hazard Rating too High”

2016: US National Toxicology Program (NTP) reviews evidence and concludes PFOA & PFOS are presumed to be immune hazards to humans

3M's consultant **Gradient** disagrees with NTP: “the human and animal evidence does not support NTP's conclusions, and the hazard ratings for both PFOA and PFOS should be downgraded.”

Another Strategic Literature Review: No Evidence PFAS Causes Anything

2017: 3M's consultant **Exponent** asserts:

“The overall weight of the relevant epidemiologic evidence is not sufficient to demonstrate causal associations between exposure to specific PFAS... and the development of specific adverse health outcomes in humans, whether in general communities, PFAS-contaminated communities, or occupational settings.”

As More Evidence Develops....

2016: EPA issues Health Advisory for PFOA
and PFOS = 70 parts per trillion (ppt)

2022: EPA issues Interim Health Advisories
PFOA = 0.004 parts per trillion (ppt)
PFOS = 0.02 parts per trillion (ppt)

Who Pays the Price for Corporate Disinformation?

- People, sickened by exposures that should have been prevented.
- Shareholders (at least occasionally), when corporations are caught manipulating the scientific evidence to avoid regulation.

Johnson & Johnson Will Discontinue Talc-Based Baby Powder Globally in 2023

The company, sued by cancer patients who claimed its talc was contaminated with asbestos, stopped using the ingredient in North America in 2020.



Johnson & Johnson, which sold a talcum version of its baby powder in North America until 2020, will use cornstarch exclusively worldwide starting next year. Mike Segar/Reuters



By [Tiffany Hsu](#) and [Roni Caryn Rabin](#)

Tiffany Hsu and Roni Rabin have followed the lawsuits over Johnson & Johnson baby powder since 2017.

Aug. 11, 2022

Johnson & Johnson will start using cornstarch in all the baby

Lawsuits Involving Johnson's Baby Powder

- Studies have found ovarian cancer associated with use of talcum powder.
- In one lawsuit in Missouri, 22 women with ovarian cancer sued J&J, alleging their ovarian cancer was caused by Johnson's Baby Powder.
- Jurors agreed, awarding the women \$550M (\$25M each) in 2018.

Disinformation Campaign

- The jurors were given documents showing how talc firms and their trade associations were able to convince US government agencies NOT to label products containing talc as potentially carcinogenic.
- What sort of documents?

Documents Discovered in Litigation on Ovarian Cancer and Talc

- In 2000, the Board of Scientific Counselors of the US National Toxicology Program considered categorizing “asbestiform talc” as a human carcinogen and non-asbestiform talc as reasonably anticipated to be a human carcinogen.
- Talc producers and users (including J&J) hired product defense firms to oppose the categorization
- The objective: *“create a reasonable doubt in their minds”*
- The strategy: *“come up with more confusion”*

Jurors Don't Like Disinformation

- Clearly influenced by J&J's behavior, the jurors awarded the women \$4.14B in punitive damages. That was eventually cut in half.
- One juror told the press: “We were just trying to find something they would feel.”

How'd That Work Out for J&J?

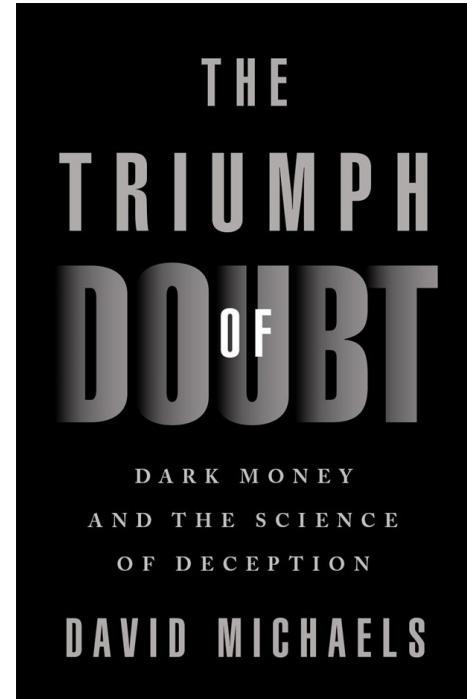
- In May 2020, J&J stopped selling talc-based baby-powder products in the US & Canada.
- The firm is now facing about 38,000 ovarian cancer lawsuits.
- Now, J&J is attempting to avoid liability by creating a subsidiary with all the liability then spinning it off into bankruptcy.

Selected Glassdoor Reviews by Employees of Product Defense Firms

- “This is a law consulting company, not a science consulting company. Don’t expect to be a ‘scientist.’” [ChemRisk]
- “Some of the principal scientists have questionable ethics (and have been called out for it).” [Gradient]
- “Sometimes you will be working for the evil do-ers and trying to make it seem like they did nothing wrong.” [Exponent]

Corporate Disinformation Threatens Public Health

- Clean Air
- Clean Water
- The Opioid Epidemic
- The Obesity Epidemic
- Lead Poisoning of Children
- Alcohol-Related Diseases
- US Football and Chronic Traumatic Encephalopathy (CTE)



The Work of Mercenary Scientists Hurts the Credibility of All Scientists



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How to Counter Disinformation

- Learn to distinguish real uncertainty from manufactured uncertainty
- Build the scientific evidence base with research produced by independent, unconflicted scientists

Unconflicted Research?

- Polluters and producers of hazardous chemicals must pay for the research, but not control it.
- Research must be directed by independent, unconflicted scientists.

What Other Past Mistakes to Avoid?

- Regulate toxic chemicals by class, not one by one.
- Chemicals are not innocent until proven guilty:

End the Presumption of Innocence!

A Final Thought...

*We Need New Solutions:
Now is the Time to be Bold!*