

IN THE SUPREME COURT OF THE STATE OF NEVADA

SANDRA CAMACHO; AND ANTHONY
CAMACHO,

Petitioners,

vs.

THE EIGHTH JUDICIAL DISTRICT COURT OF
THE STATE OF NEVADA, IN AND FOR THE
COUNTY OF CLARK; AND THE HONORABLE
NADIA KRALL, DISTRICT JUDGE,

Respondents,

and

PHILIP MORRIS USA, INC., a foreign
corporation; R.J. REYNOLDS TOBACCO
COMPANY, a foreign corporation, individually,
and as successor-by-merger to LORILLARD
TOBACCO COMPANY and as successor-in-
interest to the United States tobacco business of
BROWN & WILLIAMSON TOBACCO
CORPORATION, which is the successor-by-
merger to THE AMERICAN TOBACCO
COMPANY; LIGGETT GROUP, LLC., a foreign
corporation; and ASM NATIONWIDE
CORPORATION d/b/a SILVERADO SMOKES &
CIGARS, a domestic corporation; LV SINGHS
NC. d/b/a SMOKES & VAPORS, a domestic
corporation,

Real Parties in Interest.

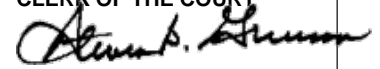
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PETITIONERS' APPENDIX
VOLUME 44 (Nos. 6677-6817)

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20 **DISTRICT COURT**
21 **CLARK COUNTY, NEVADA**

22 SANDRA CAMACHO, individually,
23 and ANTHONY CAMACHO, individually,

24 **Plaintiffs,**

v.

25 PHILIP MORRIS USA, INC., a foreign
26 corporation; R.J. REYNOLDS TOBACCO
27 COMPANY, a foreign corporation,
28 individually, and as successor-by-merger
29 to LORILLARD TOBACCO COMPANY
30 and as successor-in-interest to the United
31 States tobacco business of BROWN &
32 WILLIAMSON TOBACCO
33 CORPORATION, which is the successor-
34 by-merger to THE AMERICAN TOBACCO
35 COMPANY; LIGGETT GROUP, LLC., a
36 foreign corporation; and ASM
37 NATIONWIDE CORPORATION d/b/a
38 SILVERADO SMOKES & CIGARS, a

CASE NO.: A-19-807650-C

DEPT NO.: IV

**PLAINTIFFS' RESPONSE TO
DEFENDANT ASM NATIONWIDE
CORPORATION'S MOTION FOR
PARTIAL SUMMARY JUDGMENT ON
PLAINTIFFS' PUNITIVE DAMAGES
CLAIM**

1 domestic corporation; and ROE
2 BUSINESS ENTITIES XI-XX, inclusive,
3 Defendants.

4 COME NOW, Plaintiffs, SANDRA CAMACHO and ANTHONY CAMACHO, by and
5 through their counsel of record, CLAGGETT & SYKES LAW FIRM, and Respond to Defendant
6 ASM Nationwide Corporation's Motion for Partial Summary Judgment on Plaintiffs' Punitive
7 Damages Claim, as follows:

8 ASM Nationwide Corporation d/b/a Silverado Smokes & Cigars ("Silverado") is a cigarette
9 retailer, from whom Ms. Camacho purchased cigarettes in Nevada. Without conceding any legal
10 arguments, Plaintiffs will not seek punitive damages against Silverado. Importantly, Plaintiffs oppose
11 Silverado's preemption and consumer expectation arguments. Def. Mtn. 6-7. These arguments are
12 identical to the arguments advanced by co-Defendant Philip Morris USA, Inc. ("PM"), which is
13 represented by the same counsel as Silverado. Therefore, for judicial economy, Plaintiffs simply
14 incorporate their factual and legal arguments from Plaintiffs' Opposition to Defendant' (PM and
15 Silverado) Motion for Partial Summary Judgment on Plaintiffs' Strict Liability Claims and Plaintiffs'
16 Opposition to PM's Motion for Partial Summary Judgment on Plaintiffs' Negligence.

17 DATED this 8th day of June, 2022.

18 CLAGGETT & SYKES LAW FIRM

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 8th day of June, 2022 I caused to be served a true and correct copy of the **PLAINTIFFS' RESPONSE TO DEFENDANT ASM NATIONWIDE CORPORATION'S MOTION FOR PARTIAL SUMMARY JUDGMENT ON PLAINTIFFS' PUNITIVE DAMAGES CLAIM** on the following person(s) by the following method(s) pursuant to NRCP 5(b) and NEFCR 9:

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/s/ Lindsay S. Cortez
An Employee of CLAGGETT & SYKES
LAW FIRM

APPENDIX OF EXHIBITS TO PLAINTIFF'S RESPONSES TO DEFENDANTS'
MOTIONS FOR SUMMARY JUDGEMENT

Sandra Camacho and Anthony Camacho v. Philip Morris USA, Inc., et al.
Case No. A-19-80765-C

EXHIBIT NUMBER	DOCUMENT TITLE	PAGE NUMBER
1	Declaration and Report of Robert Proctor, Ph.D. dated June 6, 2022	3
2	Declaration and Report of Louis Kyriakouides, Ph.D. June 6, 2022	139
3	Declaration and Report of John Ruckdeschel, M.D. dated June 6, 2022	247
4	Declaration and Report of Judith Prochaska, Ph.D. dated June 6, 2022	254
5	Deposition of Robert Proctor, Ph.D. taken January 18, 2022 in <i>Martin Tully v. Philip Morris USA, Inc., et al.</i> , Case No.: A-19-807657-C	389
6	Deposition of Louis Kyriakouides, Ph.D. taken November 30, 2021 in <i>Timothy A. Geist v. Philip Morris USA, Inc., et al.</i> , Case No.: A-19-807653-C	605
7	Deposition of Sandra Camacho, Volumes 1 – 4 taken November 2, 2021; November 3, 2021; December 7, 2021; December 8, 2021	947
8	Deposition of Anthony Camacho, Volumes 1 – 2 taken November 4, 2021 and December 7, 2021	1357
9	1989 Surgeon General Report	1802
10	Plaintiff's Amended Complaint filed February 26, 2020	1890
11	Defendant Philip Morris USA, Inc.'s Response to Plaintiff's Request for Admissions Regarding TIRC/CTR and TI dated July 16, 2021	1945
12	Defendant R.J. Reynolds Tobacco Company's Responses to Plaintiff's Request for Admissions Regarding TIRC/CTR and TI dated December 17, 2021	1954

EXHIBIT NUMBER	DOCUMENT TITLE	PAGE NUMBER
13	Order Granting Plaintiffs' Motion to Reconsider Order Granting Defendant R.J. Reynolds Tobacco Company's Motion to Dismiss Plaintiffs' Amended Complaint under NRCp 12(b)(5) dated November 3, 2021	1980
14	Order Denying Defendants' Motion for Summary Judgment on Plaintiff's Punitive Damages Claim dated May 24, 2022 in <i>Martin Tully v. Philip Morris USA, Inc., et al.</i> , Case No.: A-19-807657-C	1987

DECLARATION OF ROBERT N. PROCTOR, Ph.D.

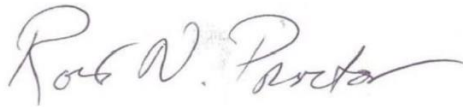
I, Robert N. Proctor, Ph.D., declare as follows:

1. My name is Robert N. Proctor. My address is 688 San Juan St, Stanford, CA 94305.
2. The opinions rendered in my expert report (attached to this declaration) represent my opinions, all held to a reasonable degree of professional certainty, and are based on a reasonable professional probability and scientifically reliable evidence.
3. Philip Morris's claim that smokers had a good understanding of the harms of cigarettes as of 1990 is false. While it is true that most smokers may have known that smoking is "bad for you" or even "harmful" in a very general sense, there is abundant evidence that smokers had a poor understanding of the nature and the magnitude of the harms caused by smoking. Smokers even today have a poor grasp of the fact that filters provide no protection, and don't understand that changes in cigarette designs over the past century or so have done little or nothing to make smoking any safer. "Regret studies" also make it abundantly clear that smokers when they first begin smoking have a very poor understanding of the nature and severity of nicotine addiction (see pp. 13-14 of my expert report for this case). Even public health authorities had a poor understanding of health-related cigarette design, which is why leading public health officials in the U.S. wrongly asserted, even into the 1990s, that cigarettes advertised as "low tar" posed a lesser risk of harm—which is not true.

It should also not be forgotten that cigarette makers continued denying the truth long after 1990. In my expert report for this case I listed numerous examples of the concealment campaign lasting even up to today (as does the filter fraud). Relevant here, too, is the fact that experts working for the industry continued to deny the hazard in public forums (including regulatory hearings and trial testimony) through the end of the millennium. For further evidence on this matter, see my expert report for this case, my scholarly publications, and testimony I have given in other cigarette litigation.

4. I reserve the right to amend my opinions if further information is provided in any form.

Pursuant to NRS 199.120, under penalty of perjury, I declare that I have read the foregoing document and that the facts stated in it are true.



Robert N. Proctor
Professor of the History of Science and
Professor, by courtesy, of Pulmonary and Critical Care Medicine
Stanford University

Dated: June 6, 2022.

Expert Report

Submitted by Robert N. Proctor
for:

Camacho v. Philip Morris et al.

Feb. 3, 2022

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Introduction and Qualifications

I am Robert N. Proctor, Professor of the History of Science and Professor, by courtesy, of Pulmonary and Critical Care Medicine at Stanford University. I received my BS degree in Biology in 1976 from Indiana University in Bloomington, following which I obtained my Masters of Science and doctorate from Harvard University in the History of Science (in 1984). I have published extensively on the history of cancer, tobacco, and the harms caused by cigarettes, including books such as *Cancer Wars: How Politics Shapes What We Know and Don't Know about Cancer* (Basic Books, 1995); *The Nazi War on Cancer* (Princeton University Press, 1999); *Agnotology: The Making and Unmaking of Ignorance* (Stanford University Press, 2008); and *Golden Holocaust: Origins of the Cigarette Catastrophe and the Case for Abolition* (University of California Press, 2011). I have also published extensively on the history of the growth of knowledge of tobacco-cancer links in peer-reviewed journals, including *Lancet*, the *British Medical Journal*, *Tobacco Control*, the *American Journal of Public Health*, the *Bulletin of the World Health Organization*, *Clinical Lung Cancer*, *Nature Reviews Cancer* (in the *Nature* group of journals); and the *Bulletin of the History of Medicine*. I have also testified on behalf of plaintiffs in a number of trials against the U.S. tobacco industry, including *USA v. Philip Morris*, for which I submitted an expert report (in 2004, see Appendix III). My scholarly works have been translated into several foreign languages (French, German, Italian, Polish, Turkish, Czech, and Japanese, for example), and I have lectured before medical societies in many different parts of the world.

I have also won a number of honors and awards for my scholarly work, including grants and/or fellowships from the National Institutes of Health, the National Science Foundation, the Andrew Mellon Foundation, the National Center for Human Genome Research, the National Library of Medicine, the National Endowment for the Humanities, the Howard Foundation, the Wilson Foundation, the Rockefeller Foundation, the John Simon Guggenheim Memorial Foundation, the Hamburger Institut für Sozialforschung, the Shelby Cullom Davis Center for Historical Studies at Princeton, the U.S. Holocaust Memorial Museum in Washington, D.C., and the Center for Advanced Study in the Behavioral Sciences at Stanford. In 1999 I won the Arthur Viseltear Prize from the American Public Health Association for my work on the history of German cancer research, and in 2005 I won the American Anthropological Association's Prize for Outstanding Cross-Disciplinary Research for my work on human origins. In

1999-2000 I served as Fulbright Senior Fellow and Visiting Scholar at the Max-Planck-Institut für Wissenschaftsgeschichte in Berlin, and in 2002 I was named a permanent Fellow of the American Academy of Arts and Sciences, the oldest scholarly academy in the United States. In 2014, I was awarded the Rachel Carson Prize from the Society for the Social Study of Science for my book, *Golden Holocaust* (see my resumé attached to the end of this report). That same year I served as a Senior Scientific Reviewer for the fiftieth anniversary *Report of the United States Surgeon General on Smoking and Health*. I was invited to the White House for release of that report.

In addition to the opinions summarized below, I have also included my views on the history of changing popular and medical understanding of tobacco harms—both of which are crucial for understanding consumer expectations.¹ In summary, my opinions are as follows:

- From 1953 through the end of the 1990s, the leading tobacco manufacturers in the United States conspired to hide the hazards of cigarettes from the American public. Even today they still do not admit the most important facts—that millions of Americans have died from smoking, for example, or that filters, low tars or lights are no safer. They don't admit ever marketing to kids, or having conspired to hide the hazards of cigarettes. The campaign to conceal the harms caused by cigarettes must figure as one of the deadliest conspiracies in the history of human civilization.²
- Cigarette makers used multiple means to reassure smokers, including the marketing of gimmick cigarette designs such as king sizes, filters, low tars, lights, menthols, milds, slims, and cigarettes advertised as natural, organic, or containing “no additives.” Advertising has played a crucial role in the rise of

¹ Please note that any and all documents referenced within this report, or in any of my previous expert reports or testimony, may be used as exhibits to illustrate, summarize or support my opinions. Documents cited in my book, *Golden Holocaust* or other of my publications may be used as exhibits to illustrate, summarize or support my opinions.

² Cigarettes killed a hundred million people in the twentieth century, and we are currently on track to suffer up to a billion deaths in the present century; see Robert N. Proctor, “Tobacco and the Global Lung Cancer Epidemic,” *Nature Reviews Cancer*, 1 (2001): 82-87.

the cigarette epidemic; glamorizing smoking has also helped make it a normal and acceptable part of American life, and created false consumer expectations with regard to cigarette safety.

- Cigarettes are defective and unreasonably dangerous, because they do not perform as a reasonable consumer would expect: they are unsafe when used in a reasonably foreseeable manner, and cause far more harm than is necessary. The three principal defects are **inhalability**, which causes lung disease, **nicotine maintenance**, which causes addiction, and **combustion**, which causes needlessly high levels of harmful chemicals in smoke. Cigarettes have been deliberately designed to preserve such defects, even though it would be easy to cure and avoid them. Cigarette makers have, in fact, from time to time made cigarettes that avoid one or another of these defects.
- The “filters” on cigarettes are fraudulent, because they don’t make cigarettes any safer. They don’t really even “filter” the smoke. Cigarettes with such gimmicks are not “filter-tipped” but rather “fraud-tipped.” Many brands of cigarettes have been advertised as “filtered,” with such fraudulent claims appearing right on the pack.
- Popular attitudes toward smoking have changed dramatically over time, as medical knowledge penetrated popular culture. Much of the early knowledge of harms developed in the 19th century was destroyed by mass marketing, resulting in the broad acceptance of the smoking habit even among physicians, more than half of whom were smoking by the 1950s. Many myths about cigarettes persist long after this time—that filters, low tars or lights are safer, for example (a common view even within the scientific community), or that only immoderate smoking is dangerous. It is therefore wrong to claim, as the industry often does, that knowledge or awareness of cigarette harms was widespread prior to the 1960s.
- The tobacco industry has a long history of marketing to kids, and of denying marketing to kids.
- The tobacco industry has a long history of manipulating the chemistry of nicotine, principally with the goal of creating a mild and more attractive cigarette but also to create and sustain addiction.

- The tobacco industry has a long history of using “third parties” to advance its denialist program, recognizing its own lack of credibility.
- The tobacco industry has a long history of manipulating science, with the goal of furthering its denialist and reassurance agenda.
- No tobacco company has ever admitted the most important facts about addiction, advertising, the industry’s history of marketing to youth or participation in a concealment campaign. And no company even to this day has ever admitted the true scope and severity of the cigarette epidemic—that millions of people have died from smoking, for example.

To provide support for these views, I will first give some historical background on the tobacco plant and cigarette manufacturing, including the crucial role of *inhalability* as one of three principal design defects of cigarettes—the others being *addiction*, caused by nicotine manipulation, and *combustion*, caused by the failure to replace traditional cigarettes by heat-not-burn technology. I also look at the role of cigarette design in creating false consumer expectations. I will then trace the history of the discovery of tobacco hazards and the history of popular understanding (and ignorance) of such hazards in the United States.

The Tobacco Plant

The tobacco plant is native to the Americas; it is a member of the genus *Nicotiana* and the nightshade family to which eggplant and tomatoes also belong. The species most often smoked today—*Nicotiana tabacum*—is only one of about 70 different species in the *Nicotiana* genus, all of which contain varying levels of the nicotine alkaloid. Other species formerly smoked include *Nicotiana rustica*, also known as *makhorka* (in Russia) or *mapacho* (in South America).

Nicotiana tabacum is the most commonly smoked tobacco plant in the world today, but even within this species there is significant variability in the nature of the cured leaf and the chemistry of its resulting smoke. Seed breeds vary of course, but the tobacco plant can also be modified according to how and where it is cultivated. Fertilizers can dramatically affect the smoking properties (superphosphates leave radioactive polonium-210 in the leaf and smoke, for example), and growing conditions (sun, water, density)

help to determine nicotine content. The size and shape of *N. tabacum* leaves can also be quite different: Turkish or “oriental” tobacco leaves are no more than a couple of inches in length, whereas the “bright” or Virginia tobaccos grown in the American piedmont can have leaves up to two feet long. Tobaccos grown in sunlight with reduced water will have higher levels of nicotine, as will tobaccos grown with strong applications of high-nitrate fertilizers. There is variability even within a single plant: leaves picked from higher up on the stalk, for example, will have significantly more nicotine than leaves lower on the stalk, probably as an adaptive response to herbivory. (Nicotine is a powerful pesticide, and a poison even for mammals: a single drop on the tongue of a dog, for example, can cause convulsions or even death.)

Tobacco manufacturers thus have several different methods by which they can alter the chemical properties of their products. Just as important as growing conditions or leaf selection, though, is how the leaf is treated once picked. Like olives, tobacco must be “cured” prior to consumption. Different curing techniques produce dramatic differences in the chemistry of the resulting leaf and smoke—and in the psychopharmacology of the final product. The most important of these methods involves what is known as “flue curing,” a technique that makes the resulting smoke milder and easier to inhale—and therefore far more deadly. This requires some further comment, as it goes to the heart of why so many Americans die from smoking.

Flue Curing: The Fatal Flaw of Modern Cigarette Manufacturing

The modern cigarette³ is distinguished not just by its physical size (“little cigar”) or the fact it is wrapped in paper; crucial also is the fact that cigarettes produce a form of smoke that, unlike the smoke from other forms of tobacco, is *inhalable*. The modern cigarette is inhalable, because the

³ The term *cigarette* has nineteenth century origins, though “little cigars” can be found even in pre-Columbian Mesoamerica. Mayan codices are preserved depicting gods of various sorts smoking small tubes of tobacco, which might justifiably be considered cigarettes. If, however, by *cigarette* we mean a smokable tube of tobacco wrapped in paper, then cigarettes are of more recent vintage. Spanish boys in seventeenth century Seville rolled tobacco scrap in newspaper for smoking, an early form of “cigarette” use. The modern cigarette is sometimes traced to the 1830s, when Egyptian cannons rolled tobacco into paper artillery shells and smoked them; paper-rolled tobacco was also smoked by Turkish troops in the Crimean War of 1853-56, prompting the spread of this new form of tobacco use into Western Europe and thence back into the Americas.

tobacco used in its manufacture is produced via a method of curing known as *flue curing*, which traps the native sugars in the leaf. Sugar is one of the most important constituents in tobacco leaf; it plays a crucial role in determining both the principal route of exposure (i.e., inhalation) and the extent of addiction (sugars when burned yield acetaldehydes that create a dopamine synergy with nicotine in the brain).

Flue curing is the process by which tobacco plants are heated soon after harvest, lowering the pH (acid-base balance) of the resulting smoke. High temperature radically alters the curing process: heating stops the enzymatic activity that would normally degrade the sugars in the tobacco leaf, resulting in the preservation of sugars in the finished leaf. Sugar is of crucial importance in tobacco chemistry, and plays a key role in determining the extent to which a smoking device causes harm. Tobaccos of the sort traditionally used in cigar or pipe tobacco manufacture are *air cured*—simply by drying at room temperature—which reduces the sugar content in the leaf from about 25 percent (by weight) to about 2 percent. By contrast, flue cured tobacco retains its high levels of sugar, an important determinant for the chemistry and physical properties of the resulting smoke.

Why is sugar so consequential for tobacco chemistry and human disease?

Sugar is important, because when you burn sugars you produce acids (malic, citric, etc.) that neutralize the resulting smoke, causing it to be less harsh, less alkaline. The contrast with pipe and cigar tobaccos is significant: alkaline smoke of the sort generated by pipe tobacco and cigars is not inhalable; the smoke is too harsh. Smokers of traditional cigars therefore generally-speaking do not inhale—which is why they rarely get lung cancer. Smoke from tobacco that has been flue cured, however, is significantly less alkaline, with a pH typically around 6.5 or 6.0. Cigarette smoke is significantly milder, and therefore easier to inhale than other forms of tobacco. Which is why cigarettes cause lung cancer and other maladies of the lungs.

Most cigarette manufacturing in the U.S. and elsewhere now uses flue cured tobacco, also known as “bright” or “Virginia” leaf. This is worth noting, because flue curing is the single most important manufacturing process responsible for the global lung cancer epidemic. Most of the tobacco smoked prior to the twentieth century was not flue cured but rather

air cured, which when burned produces a non-inhalable smoke. It is really first with the invention of high-sugar tobaccos (notably flue cured and Turkish) that smoking causes astronomical levels of cancer and of death.

Which is also why we find so little lung cancer prior to the twentieth century: very few people were inhaling smoke from their tobacco, it was just too harsh.⁴ Lung cancer was an extremely rare disease; only 140 cases are known in the scientific literature prior to the twentieth century. Isaac Adler in his 1912 textbook on *Pulmonary Malignant Growths of the Lung*—the first textbook on lung cancer—called it “the rarest form of disease.” By contrast, some 140,000 Americans now die annually from the malady. The lung cancer epidemic is almost entirely due to the rise of the modern flue-cured cigarette, with its “mild,” low-pH, inhalable smoke. The tobacco industry likes to claim that cigarettes are “inherently unsafe” when the reality is that much of this danger—and suffering and death—is the consequence of decisions made in the realm of cigarette design and manufacture, decisions that could have been reversed at any time (including the present). Cigarettes don’t have to cause as much harm as they do.

The industry wants us to believe that cigarettes are *inherently* dangerous, but that is misleading, given the multiple meanings of the word “inherently.” Inherently can mean “very,” in which case it is true that cigarettes are inherently dangerous. Inherently can also mean “by virtue of the property of a thing,” in which case here again it is true that cigarettes are dangerous by virtue of how they are made. But “inherently dangerous” can also mean “unavoidably dangerous,” in the sense that a knife or a car are dangerous. There will always be harms from using knives or cars; they are inherently dangerous, unavoidably dangerous. But a cigarette is *not* inherently dangerous, it is rather dangerous by design.⁵ The cigarette as most commonly manufactured is not like a car or a knife, it is rather like a car with bad brakes, or a ladder with a faulty step. The two principal defects are inhalability and addiction, both of which are defects because neither is necessary for the cigarette to be a smokable artifact. A third defect is

⁴ Cigarettes made purely from Turkish tobacco were also commonly inhaled—because Turkish (or “Oriental”) tobacco also produces a low pH smoke. Access to Turkish tobacco was largely cut off during the First World War, however, and American manufacturers of cigarettes shifted over to using more flue-cured.

⁵ *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General* (Rockville: HHS, Office on Smoking and Health, 2014), “Executive Summary,” p. 15.

combustion, which produces compounds that are far more toxic than those in cigarettes (like Premier and Eclipse) that don't involve combustion. Addiction, inhalation and combustion are design defects because they make cigarettes needlessly, avoidably, and (therefore) unreasonably dangerous. Cigarettes cause more harm than a reasonable consumer would expect.

It is easy to make cigarettes that are not inhalable, and will not create or sustain addiction. Cigarettes that deliver smoke with a pH greater than 8 will generally not be inhalable—and will not cause lung disease. Traditional cigars made from air-cured tobaccos produce a non-inhalable smoke, which is why they don't cause cancers of the lung. Cigarette makers have long pondered the utility of making cigarettes that would produce a “non-inhalable smoke”; the idea here, as discussed in many of the industry's internal documents, would be a cigarette “you can enjoy without inhaling,” cigarettes that would have a “high mouth feel” and be “non-inhalable.”⁶ At a 1983 meeting of Philip Morris' Board of Directors, the idea of a “non-inhalable high taste cigarette” was targeted as “a worthwhile idea.”⁷ Bill Farone was exploring this idea at Philip Morris in 1983: the goal was not a “little cigar,” but rather a cigarette that would “taste like a high impact, full-flavored cigarette,” albeit one “that does not require inhalation.”⁸

We find similar ideas explored at Reynolds. Claude Teague in 1973, for example, instructed his colleagues to prepare and evaluate a “non-inhalable cigarette system” with the goal of producing a “prototype cigarette system with draft, flavor, satisfaction [and the] non-inhalability” of a traditional pipe. The goal was a non-inhalable cigarette, a cigarette delivering the “convenience of a cigarette with the qualities of a pipe.”⁹ We

⁶ L. F. Meyer and T. T. Goodale (Philip Morris), “New Product Ideas,” April 13, 1983, <https://www.industrydocuments.ucsf.edu/docs/#id=gkx0112>. There are many other proposals of this sort; see, for example, C. L. Neumann et al. to Senkus (Reynolds), March 30, 1973, proposing “A non-inhalable cigarette,” <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=srml0088>.

⁷ Karol Sharp to Distribution, “Minutes of the Directors' Meeting, June 6, 1983,” June 10, 1983, <https://www.industrydocuments.ucsf.edu/docs/#id=gnjx0112>, p. 2.

⁸ William A. Farone to Leo F. Meyer and T. T. Goodale, “Option: Cigarette With High Mouth Feel/Flavor (Non-Inhalable),” Jan. 13, 1983, <https://www.industrydocuments.ucsf.edu/docs/#id=hpvd0115>.

⁹ Claude E. Teague, “Revision of ‘Proposals for New Projects or Major Expansion of Existing Projects—for 1974 and Beyond’ (5/4/73 and 5/7/73 Versions) as a Result of Discussion and Evaluation by Planning Team,” May 10, 1973, <https://www.industrydocuments.ucsf.edu/docs/#id=gpyl0095>. Compare his “Research

find this same idea expressed in a 1973 memo to the company's head of research, which listed "a non-inhalable cigarette" as part of the company's Nicotine Optimization Program.¹⁰ Time and again, in the archives of all the leading cigarette manufacturers, we find this consideration of making a non-inhalable cigarette. On March 26, 1976, for example, Reynolds explored the possibility of "A cigarette designed and labeled as being 'non-inhalable', i.e., with alkaline, high nicotine smoke."¹¹ Similar ideas were explored outside the U.S.: the British American Tobacco Company in 1984, for example, used pipe tobacco as its model for a non-inhalable cigarette, reasoning that smoke from pipes was "not inhaled and therefore presumably safer."¹² Researchers from BATCo's corporate affiliates in 1967 had stated this explicitly as a premise, indeed one of their fundamental "Assumptions": "If there is no inhaling, there is no lung cancer or respiratory disease."¹³

Such cigarettes have also been produced commercially. The American Tobacco Company from 1955 actually marketed a "Half and Half" brand, described as "a revolutionary new product for both pipe and cigarette smoker" that could be smoked either in pipes or in cigarettes, with the presumption that it didn't have to be inhaled: "a pipe tobacco in the convenience of a modern filter cigarette which need not be inhaled to be enjoyed."¹⁴ Philip Morris in 1964 also marketed a Puritan brand cigarette (a

Planning Memorandum on a New Type of Product with the Convenience of a Cigarette and the Smoking Qualities of a Pipe," Nov. 10, 1971,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ptnv0094>.

¹⁰ C. L. Neumann et al. to Murray Senkus, "Summary of Ideas Discussed by the Profitability Idea group," March 30, 1973,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=srml0088>.

¹¹ Claude E. Teague, "Planning Assumptions and Forecast for the Period 1976-1985+," March 26, 1975, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=nqpb0094>, p. 12. This same document postulates "a small market for a quality cigarette delivering essentially no nicotine."

¹² BATCo., "R&D/Marketing Conference," 1984,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qgbk0037>.

¹³ S. J. Green, "B.A.T. – R&D Conference – Montreal, Oct. 24-27, 1967," Nov. 8, 1967, <http://legacy.library.ucsf.edu/tid/ttm24a99>.

¹⁴ The Rowland Company, Inc. (for American Tobacco), "A National Publicity Program for Half and Half," <http://legacy.library.ucsf.edu/tid/xfq60a00>. For older ads for Half & Half, including budgets dating back to 1938 and instructions from the 1960s for how to place ads for "Half and Half Filter Cigarettes," including "position requests" for placement opposite an editorial and requests for separation (in a magazine) "by at least six pages" from other cigarette ads; see

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hkvy0002>.

“cigaretto”) that “need not be inhaled to be enjoyed.”¹⁵ Madison “little cigars,” made by Lorillard from 1958 to 1988, were similar, as was the PT (“Pipe Tobacco”) brand of cigarette marketed in 1964 by the Bloch Bros.—made from the company’s premium Kentucky Club tobacco to capitalize on the success of Half and Half. Madisons were also called “cigarettos,” and were advertised with the slogan: “Satisfy your smoking taste with Madison Little Cigars . . . even without inhaling!” (in the mid-1960s).¹⁶ Several companies in the 1950s and ‘60s made cigar-like cigarettes, meaning cigarettes not designed to be inhaled. Lorillard actually made three different brands along these lines: Madisons I’ve already mentioned, but Lorillard also marketed “little cigars” under the brand names Between-the-Acts and Omega (in menthol and cherry flavors), both of which were launched to capitalize on fears attached to conventional cigarettes. *Consumer Reports* commented on this trend in 1958, noting that:

Many companies are now bringing out cigar-like cigarettes—or is it cigarette-like cigars?—presumably designed to cash in on the publicity attending those broad statistical studies, which seem to establish that cigar-smokers are less likely to develop lung cancer than cigarette smokers are.¹⁷

Cigarette companies reflected on such trends, albeit privately. In 1964, for example, British cigarette makers understood this trend toward non-inhalable products—American Tobacco’s Half and Half brand, for example—to be “an attempt to exploit the finding by the SGAC [Surgeon General’s Advisory Committee] that pipe smokers have lower lung cancer rates (without saying so).”¹⁸ It is not difficult to make cigarettes that will not be routinely inhaled, all you have to do is use tobacco varieties traditionally used in cigars.

¹⁵ “Philip Morris Launches Puritan Cigarettes,” *Tobacco*, April 10, 1964, p. 19, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=xgby0126>; and for Puritan’s brand history: <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=rknn0139>, which talks about Puritan as “filled with pipe tobacco and created for smokers who want flavor without inhaling.”

¹⁶ Lorillard for many years dominated the “little cigar” market, with nearly 60 percent of the American market in 1964; see “National Sales Meeting, January 11th, 12th, 13th and 14th, 1965,” <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hrpf0121>.

¹⁷ “So You Want to Do Something,” *Consumer Reports*, July 1958, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=ynlk0026>

¹⁸ Geoffrey E. Todd, “Report on Policy Aspects of the Smoking and Health Situation in U.S.A.,” Oct. 1964, <http://legacy.library.ucsf.edu/tid/los74e00>, p. 28.

It is also easy to make cigarettes that cannot create or sustain addiction. Cigarettes with substantially reduced nicotine in the rod—say, less than three percent of what we find in a Parliament or a Marlboro—will not have sufficient nicotine to create or sustain addiction.

Both of these re-designs (no inhalation, no addiction) are eminently feasible, and both have been feasible for many decades. High pH smoke is easily obtained by using low-sugar leaf blends of the sort found in traditional cigars—whose smoke is typically not inhaled. Very low-nicotine tobaccos are also easily produced, either by solvent extraction or genetic means. Philip Morris in fact has produced three commercial cigarettes—Merit De-Nic, Benson & Hedges De-Nic, and the free-standing Next brand—none of which had sufficient nicotine to create or sustain addiction. The most successful means of removing nicotine has been through supercritical fluid extraction, though Philip Morris by 1986 had identified over a hundred different patents for techniques to denicotinize tobacco.¹⁹ These allow alternative designs to cigarettes that do not have the addiction defect.

Of course the industry may say that a cigarette that is not designed to be inhaled or does not cause addiction is not a cigarette—but that is like saying that a car without bad brakes is not a car. Cigarettes have legal definitions, and such definitions—in the Federal Cigarette Labelling and Advertising Act of 1965, for example—typically define a cigarette as “a roll of tobacco wrapped in paper.”²⁰ There is no mention of inhalation or inhalability, and no mention of addiction. And neither of these is part of *the definition* of a cigarette. Cigarettes don’t have to be inhaled, and they don’t have to be addictive; they don’t even have to be combusted (see below).

¹⁹ Joshua Dunsby and Lisa A. Bero, “A Nicotine Delivery Device without the Nicotine? Tobacco Industry Development of Low Nicotine Cigarettes,” *Tobacco Control*, 13 (2004): <https://escholarship.org/uc/item/65k6g0xw>. And for PM’s list of patents: <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=snkw0117>. One patent from 1939 outlined a method to reduce the nicotine in a cigarette by more than 95 percent; see <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=rrgj0136>, comparable to that of Philip Morris’ commercial De-Nic brands from the 1980s.

²⁰ The 1965 Federal Cigarette Labelling and Advertising Act defines a cigarette as “any roll of tobacco wrapped in paper”; see the Congressional Hearings on “Cigarette Labeling and Advertising,” March 22 – April 2, 1965, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=smmm0178>. Similar language is used to define cigarettes in the Internal Revenue Code and the U.S. Federal Criminal Code.

Inhalability, addiction and combustion are all the result of design decisions made by the manufacturers. And it would be absurd to say that a cigarette that does not addict most of its smokers is not a cigarette (which is essentially the industry's claim). It might well be true that a cigarette that does not contain nicotine will not sell as well to an addicted smoker—but that cannot be used to justify the (patently absurd) claim that a non-addictive cigarette would not be a cigarette. (Re)-elevating smoke pH and reducing nicotine in the rod would not reduce the acceptability of cigarettes to non-addicted users, a fact that cigarette makers often comment on in their internal communications.

Here we should recall that there are two kinds of smokers: *beginning smokers* who are not addicted, and for whom the nicotine is actually a negative; and *confirmed or addicted smokers*, for whom nicotine is required to satisfy their physiologic dependence. The cigarette industry in the 1960s and 1970s recognized these as two separate markets, according to what they called the “two stage” model.²¹ Young people do not start smoking to satisfy a non-existent craving, they develop that craving over time—which coincides with their development of a “need” to smoke cigarettes containing a certain level of nicotine. But for beginning smokers, the presence of nicotine in a cigarette is actually a negative.²²

Again, it could well be true that cigarettes with sub-addictive levels of nicotine will not sell as well in the current market, where most smokers are addicted. But that cannot be used to define addiction as “inherent” to the product. That would be like saying that the purpose of a cigarette is to create and sustain addiction—which violates common sense. Smokers do not smoke in order to become addicted—the reality is that nearly all come to regret having started (once they become addicted).²³ As most commonly designed, the cigarette disappoints. Of course the industry has long

²¹ Helmut Wakeham, “Smoker Psychology Research,” Nov. 26, 1969, <http://legacy.library.ucsf.edu/tid/xgw56b00>; Claude E. Teague, Jr., “Research Planning Memorandum on Some Thoughts about New Brands of Cigarettes for the Youth Market,” Feb. 2, 1973, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=hxhh0045>.

²² Claude E. Teague, Jr., “Research Planning Memorandum on Some Thoughts About New Brands of Cigarettes for the Youth Market,” Feb. 2, 1973, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=gmnx0096>.

²³ G. T. Fong et al., “The Near-Universal Experience of Regret among Smokers in Four Countries: Findings from the International Tobacco Control Policy Evaluation Survey,” *Nicotine & Tobacco Research*, 6 (Dec. 2004): S341-S351.

understood and capitalized on the addiction defect, which is why we find so many of the industry's internal documents talking about the sale of cigarettes (especially to youth) using terms such as "bonanza."²⁴ Recall the "Forwarding Memorandum" from 1953, where one of the leading industry researchers gave this assessment: "Fortunately for us, cigarettes are a habit they can't break." Or as Claude E. Teague, Jr., at Reynolds put it in 1973: "Happily for the tobacco industry, nicotine is both habituating and unique in its variety of physiological actions."²⁵

The Discovery of Tobacco Hazards

A common assumption made by experts employed by cigarette manufacturers and their legal agents is that people have essentially always known about the hazards of tobacco; the hazards are presumed to be—and have long been—"common knowledge."²⁶ This undifferentiated (for whom was knowledge common? Kids? Adults?) and ultimately ahistorical assumption fails to consider: a) the historical recency of the cigarette habit, and therefore the recency of the distinctive diseases caused by cigarettes; b) the fact that people may be "aware" of cigarettes being dangerous in the abstract, without understanding how severe or immediate or personal that danger may be; c) crucial differences between expert and "lay" opinions concerning hazards (scientists vs. ordinary smokers); and especially d) the influence of the tobacco industry in shaping popular attitudes toward cigarettes.

What can we say about the history of the discovery of tobacco hazards? How were these harms discovered, and how did this knowledge come to be recognized more broadly, by ordinary smokers?

Anecdotal evidence of harms from tobacco use dates back several

²⁴ John H. McCain (William Esty Co.) to J. O. Watson, "RE: NFO Preference Share Data—'Youth' Market," March 8, 1973, <http://legacy.library.ucsf.edu/tid/fyy49d00>.

²⁵ Claude E. Teague, Jr., "Research Planning Memorandum on the Nature of the Tobacco Business and the Crucial Role of Nicotine Therein," April 14, 1972, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=gxhh0045>.

²⁶ For the origins of the "common knowledge" defense deployed by tobacco industry historians, see Louis Kyriakoudes, "Historians' Testimony on 'Common Knowledge' of the Risks of Tobacco Use: A Review and Analysis of Experts Testifying on Behalf of Cigarette Manufacturers in Civil Litigation," *Tobacco Control*, 15 (2006): iv107-16; also Robert N. Proctor, "'Everyone Knew But No One Had Proof': Tobacco Industry Use of Medical History Expertise in US Courts, 1990-2002," *Tobacco Control*, 15 (2006): iv117-25.

centuries (we have no record of how Native Americans may have understood maladies caused by smoking). King James I (1566-1625) is often cited for his lamentation of tobacco use as “a custom loathsome to the eye, hateful to the nose, harmful to the brain [and] dangerous to the lungs,”²⁷ and numerous other tirades against Lady Nicotine can be found in subsequent years. *Nicotiana* is snubbed as dirty, smelly, or likely to stunt one’s growth or lead one (especially women or children) into vice. Tobacco was sometimes said to produce a “dry drunkenness” leading to immoral behavior, though European physicians in the 18th century also described several cancers of the lips and tongue from pipe smoking—and one instance of “nasal polyps” from snuff. Mouth and throat cancers were occasionally observed in the nineteenth century, and by the 1850s Frédéric Bouisson in France was talking about “smokers’ cancers” (*cancers des fumeurs*) in patients in whom he had diagnosed malignancies of the mouth.

Also in the U.S., such ailments were publicized from time to time and attributed to tobacco use (principally cigars and pipes, since cigarettes were not yet being widely smoked). Some early critics of tobacco even talked about having been “addicted”—John Quincy Adams, for example, the nation’s sixth president, who allowed an 1845 letter to his pastor to be published in a radical anti-tobacco tract published by Benjamin Lane. Adams is notable for his denigration of “street smoking”: a polite gentleman, he says, will not smoke on the street.²⁸ People at this time didn’t commonly smoke on public transportation—on rail lines or steamers “abaft the wheel,” for example. This illustrates some of the many inhibitions that had to be overcome for smoking to become routine and ubiquitous. Smoking was uncommon even in restaurants until the American Tobacco Company

²⁷ A facsimile of King James’ 1604 *Counterblaste to Tobacco* can be viewed at: https://www.google.com/books/edition/A_Counterblaste_to_Tobacco/igEeJzd1umoC?hl=en&gbpv=1&printsec=frontcover. The King nowhere uses “smoke” or “smoking” as a verb; his reference is only to the “use” (or “abuse”) or “taking” or “puffing” of tobacco—with no reference to “the smoker” as an identity, which only comes much later in history.

²⁸ Benjamin I. Lane, *The Mysteries of Tobacco, with an Introductory Letter by John Quincy Adams* (New York: Wiley and Putnam, 1846), pp. 12-28. Lane was an anti-tobacco zealot, characterizing tobacco as a “vile practice” leading one into “intellectual ruins”; he talks about “the unspeakable wretchedness of the tobacco consumer” and a “strong narcotic” that has “darkened the divine.” Lane also maintains that tobacco “often produces insanity” or even “total insanity”; he even claims that tobacco “sends down its influence to posterity, so that the children of those who use it to excess are more liable to insanity.” Tobacco he calls “an enemy, a mortal enemy . . . a mania . . . a monstrosity . . . an utter abomination [and] a poison of a most deceitful and malignant kind.”

pushed for diners to “reach for a Lucky instead of a sweet” (in the 1920s). Indoor smoking increased dramatically in the early decades of the century, and Reynolds by the mid-1930s was trying to get people to smoke a Camel cigarette after every course of a Thanksgiving meal—to aid in “digestion.”

As for the defect of inhalability: it’s important to appreciate that as early as the 19th century, a few prescient physicians identified the tendency to inhale as the most dangerous aspect of cigarettes. The *Boston Medical and Surgical Journal* in 1882, for example, lamented “inhaling” as one of the “pernicious fashions” of smoking cigarettes:

One of the pernicious fashions connected with cigarette smoking is “inhaling.” The ideal cigarette smoker is never so happy as when he inhales the smoke, holds it in his air-passages for some time, and then blows it out in a volume through nose and mouth. . . .

The dangers, then, which are incident to cigarette smoking are, first, the early age at which it is taken up; second, the liability to excess; and third, the bad custom of inhaling the smoke. These are dangers superadded to those attendant on the ordinary use of tobacco, and should be carefully considered by all medical men.²⁹

This same article commented that cigars were “better than pipes, and far better than cigarettes,” adding that “the ease with which these bits of paper can be lighted and smoked” contributed to the damage they caused.

The *Boston Medical and Surgical Journal* was not the only authority identifying inhalation as the distinctive hazard of cigarettes. In his 1883 *Health Notes for Students*, a Dr. Burt G. Wilder from Cornell likewise quoted a “well-known physician” that habitual inhalation was “where the great harm and peril to the smoker lie . . . it is far the most injurious form of smoking.”³⁰ And in the *Medical News* five years later, a Dr. William L. Dudley similarly expressed his belief that the distinctive hazards of cigarettes were “not due to anything peculiar in the composition of the cigarette, but to the practice of inhaling the smoke.” Dudley maintained that smoking was “injurious in proportion as the smoke is inhaled”; indeed, “Were the smoke of a cigar or pipe inhaled in the same manner as that in cigarette-smoking it would be just as injurious.”³¹ A St. Louis throat

²⁹ “The Use of Tobacco,” *Boston Medical and Surgical Journal*, 107 (1882), p. 501.

³⁰ Burt G. Wilder, *Health Notes for Students* (NY: Putnam’s Sons, 1883), p. 47.

³¹ William L. Dudley, “The Poisonous Effects of Cigarette-Smoking,” *Medical News*, 53 (1888): 304-05, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zjcy0214>.

specialist in 1895 similarly observed that “all real devotees” of the cigarette were in the practice of inhaling and that “mildness” was the principal danger: “In its mildness is concealed its very capacity for doing harm.”³²

Some of these Prohibition-era authors recognized that the habit of inhalation made cigarettes especially addictive. In 1889, a Lewis Balch from New York’s State Board of Health in Albany identified “the chief danger from the use of cigarettes” as stemming from the fact that they were “more likely to be used to excess” than tobacco in any other form; Balch also mentioned the particular danger of inhalation, which allowed the smoke to “more readily and rapidly gain access by direct absorption into the circulation than when used in any other way.”³³ Max MacLevy in his 1916 *Tobacco Habit Easily Conquered*, an early self-help guide (and text often used by the industry in court), offered advice on how to escape from the “thralldom of nicotine,” but also talked about inhalation as exacerbating the danger: “One who inhales the smoke is a deeper addict than one who doesn’t.” MacLevy claimed that tobacco was a more powerful addicting agent even than alcohol: “Men in prison quickly become accustomed to doing without alcohol, but they simply *must* have their tobacco.”³⁴

Even given this long-standing historical opposition to tobacco in certain quarters, it would be wrong to imagine that knowledge of deadly harms was therefore widespread or “universal” prior to the second half of the twentieth century. Tobacco in the 1800s was commonly used as a medicine—the plant was prescribed for many different kinds of ailments, and up until the twentieth century was listed in the official pharmacopoeia of many nations. Romantics waxed poetic over the virtues of the “Queen’s herb” (aka “the sovereign herb”), and there are countless paeans to smoke.

³² J. C. Mulhall, “The Cigarette Habit,” *New York Medical Journal*, 62 (1895): 686-87, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=zhcx0064>. Compare also the *Chicago Medical Examiner* from July-Dec. 1887 (p. 356), where a Dr. M. F. Coomes of Louisville claimed that cigarette smoking was “especially injurious because the smoke is so universally inhaled, causing pharyngitis, laryngitis and chronic irritation in the nose, not to mention the injury it may occasion to trachea and lungs.”

³³ Lewis Balch in the “Annual 23 Report of the State Board of Health of New York,” p. 516; compare also my deposition for *Cohen vs. Reynolds*, Nov. 12, 2012, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ppyg0225>, pp. 118-28.

³⁴ Max MacLevy, *Tobacco Habit Easily Conquered* (New York: Albro Society, 1916), p. 11. MacLevy talks about the havoc of tobacco “when used to excess” (p. 8); he also writes that “insane asylums hold many victims who owe their condition primarily to tobacco.”

Tobacco was used to treat numerous ailments, ranging from asthma and constipation to eye and ear infections. In England in the 17th century, smoking was prescribed as a curative against the plague. Tobacco for many years was known to physicians as “the panacea,”³⁵ to which marvelous medical virtues were ascribed.

Tobacco was sometimes blamed for diseases such as tuberculosis (phthisis) but was just as often used to cure or ward off infections. And the tobacco as most commonly consumed (i.e., as chew or smoked in pipes or cigars) was not nearly as deadly as it would become with the mass consumption of machine-rolled cigarettes. On a per-gram basis, cigarettes made tobacco an order of magnitude more deadly than the other, more traditional, ways it had been used.

Cigarette consumption grew dramatically in the late nineteenth and early twentieth century, following the invention of machines that could roll hundreds of thousands of cigarettes per day (notably the Bonsack machine, introduced in the 1880s). Cigarettes prior to this time had been rolled by hand, limiting the quantity available for sale and the price for which they could be purchased. Machine rolling increased the rate at which they could be produced, and dropped their price by about a factor of ten, making them more affordable to an enlarged fraction of the American public. It is important to appreciate how dramatically this changed American consumer habits: if all of the cigarettes smoked in the U.S. today were manufactured by the same techniques used prior to the Bonsack machine, this would require a labor force of over three million people—and cigarette rolling would be one of the most common occupations in the country.

Mass marketing was also crucial for the rise of modern cigarettes, with many of the most important innovations being pioneered by cigarette makers (chromolithography, for example, but also pre-talkie movie ads, mechanical billboards, jingle and slogan contests, product placement, and so forth). American Tobacco in the 1920s and ‘30s harnessed the power of Madison Avenue, and companies such as Reynolds made no secret of the power of advertising. R.J. Reynolds chairman S. Clay Williams in 1941, for example, testified that it was “absolutely essential to maintain advertising in

³⁵ For numerous examples of the medicinal use of tobacco, see Paul S. Larson, Harvey B. Haag, and H. Silvette, *Tobacco: Experimental and Clinical Studies* (Baltimore: Williams and Wilkins, 1961).

the cigarette business in order to maintain, and certainly to extend, the volume of consumption on Camel Cigarettes.”³⁶ Advertising was used to promote an image of the cigarette as glamorous and adventurous, or even daring (and often “naughty”). Cigarette ads appeared in many different media: tobacco companies were the first to advertise by skywriting and skycasting (by loudspeaker, from a plane), and creative new means of advertising using billboards and point of sale props were developed. The cigarette industry invented baseball trading cards, for example, as a means to stiffen early cigarette packs while also promoting the sale of cigarettes. Cigarette ads appeared in magazines and in newspapers—and in movie theaters and even in the comic strips, including the Sunday “funnies.”

Ads appeared on radio and on television, and shows were very often “brought to you by” a particular brand of cigarette. For many years, cigarettes were the most widely advertised product on television, reaching millions of views with literally billions of “messages” every year—dutifully quantified on a regular basis by the industry.

It should also be noted that even when people did read or hear about “the cancer scare” or some other harm from smoking, they were also led to believe—repeatedly and from various sources—that smoking was safe. Popular sports figures, movie stars, and other high-profile personalities appeared in thousands of cheery tobacco ads with never a mention of any hazard. Ronald Reagan and Joe DiMaggio advertised cigarettes in the 1940s, as did Lucille Ball and Desi Arnaz in the 1950s. Perry Como, Jimmy Stewart, Frank Sinatra, and football and golf greats like Frank Gifford and Arnold Palmer all appeared in tobacco ads—along with myriad other popular athletes, singers, even politicians. Popular pro-smoking books reported the testimony of physicians that tobacco was safe or that the dangers had been exaggerated.³⁷ Millions of Americans were led to believe that cigarettes were sexy, satisfying, and safe.

³⁶ Harry M. Wootten, “43 Billion Camels Sold in a Year,” *Printer’s Ink*, Oct. 31, 1941, p. 20, <http://legacy.library.ucsf.edu/tid/mxu51a00>.

³⁷ Many examples of American physicians taking such a stand are reported in Lloyd Mallan, *It Is Safe to Smoke* (New York: Hawthorn, 1966). Mallan also records Senator Bass’s response, after hearing conflicting testimony in Senate Commerce Committee hearings of March 1965: “What impresses me, then—and the conclusion that I reach as a layman—is that there seems to be still a great deal of doubt as to the cause of cancer” (p. 140).

Part of this sense of safety came from the fact that cigarette makers tried very hard to establish the image of smoking as an ordinary and respectable activity. Doctors were used to advertise cigarettes, and smoking brand x, y, or z was said to help “soothe the throat” or “aid digestion” or “keep you alert,” etc. These early “white-coat” advertisements claimed many health virtues for cigarettes: Camels were said to “never get on your nerves” (1934) and wouldn’t “get your wind” (1935); Kools were “soothing to your throat” (1937); L&M Filters were “just what the doctor ordered” (1953); Kents with the Micronite Filter gave smokers “the protection they need” (1953); Old Gold you smoked “for a treat, instead of a treatment”; Larks had filters packed with “the basic material science uses to purify air”; women were told to “reach for a Lucky instead of a sweet,”; Belairs let you “breathe easy” (1960); Newports had “the ocean-breeze freshness of super-porous Micropore paper”; Salems were “Springtime fresh,” and so forth.³⁸ Philip Morris cigarettes were supposed to provide “pleasure without penalties” (1941) and to take “the fear out of smoking” (1953); Camels were good for a supposed “T-Zone—Throat and Taste.”³⁹

Cigarette consumption was also promoted by governments, which came to recognize tobacco as a convenient source of tax revenue. And though a number of U.S. states banned the sale of cigarettes in the 1890s, the end of Prohibition in the 1920s brought with it a more accepting attitude.⁴⁰ The inclusion of cigarettes with military rations also helped popularize cigarettes: General John J. Pershing, commander of America’s Expeditionary Forces, had argued that to win the war his soldiers needed “tobacco as much as bullets.”⁴¹ Millions of men returned from the Great War (1914-1918) addicted to cigarettes, thanks partly to the view that cigarettes were a “less injurious” form of smoke. Chewing tobacco, in particular, had become suspect, thanks to the *spitting* attached to that habit. Soldiers were cautioned against spitting in consequence of fears of spreading germs—a

³⁸ Thousands of downloadable high-resolution examples of such ads—including more than 600 different Salem ads and thousands of ads for Marlboro, Parliament, etc.—can be found on the website I have developed with Robert Jackler at <http://srita.stanford.edu/>.

³⁹ A Brown and Williamson document listing 186 different health slogans used in cigarette ads can be found in “A Review of Health References in Cigarette Advertising, 1927-1964,” <http://legacy.library.ucsf.edu/tid/rus56b00>.

⁴⁰ John C. Burnham, *Bad Habits: Drinking, Smoking, Taking Drugs, Gambling, Sexual Misbehavior, and Swearing in American History* (New York: NYU Press, 1993).

⁴¹ Richard Kluger, *Ashes to Ashes: America’s Hundred-Year Cigarette War, the Public Health, and the Unabashed Triumph of Philip Morris* (New York: Knopf, 1996), p. 63.

particular concern as time spent in the trenches stretched from months into years. Cigarettes did not involve spitting—which allowed them to be regarded as a more sanitary form of tobacco use. Cigarette makers advertised cigarettes as a “less injurious” form of smoke, as in 1935, when the American Tobacco Company attributed the rise of the modern cigarette to the “sedative effects of smoking” along with “the dissipation of the ancient prejudice” against cigarettes, and “a growing belief that cigarettes—being ‘milder’ than other forms of tobacco smoking—are less ‘injurious.’”⁴²

By this time, cigarette sales were growing rapidly. Americans had smoked only *1 billion* cigarettes in 1880, but by 1920 annual consumption had climbed to *45 billion*, a number that would increase ten-fold in coming decades. Groups like the Red Cross and YMCA organized efforts to send cigarettes to soldiers on the front, with prompting and financial support from Percival S. Hill, who replaced James B. Duke as president of the American Tobacco Company, and his son George Washington Hill, who succeeded Percival in this capacity. The total number of cigarettes smoked in the U.S. continued to grow until the early 1980s,⁴³ when more were being smoked in one *day* than had been smoked *in a year* a century earlier.

Lung cancer was not recognized as a tobacco hazard prior to the twentieth century. The disease must surely have existed, even among the natives of the Americas, but it was difficult to diagnose before the invention of X-rays (in the 1890s) and bronchoscopy, and could easily have been mistaken for tuberculosis or some other lung ailment. The disease cannot have been very common, however, because people were not yet routinely inhaling tobacco smoke (recall that smoke from pipes and cigars was generally not inhaled). Since inhalation was rare—because cigarettes were not yet in wide use—the diseases caused by inhalation were also rare. Indeed, the idea that tobacco might be causing lung cancer does not appear in any known medical text until 1898—and only in Germany. And even here the (mistaken) suspicion was that tobacco workers were contracting the

⁴² American Tobacco, “Improving the Taste and Character of Cigarette Tobacco with a View to Removing Irritants and Producing A Light Smoke: A Chapter in Laboratory Research,” 1935, <http://legacy.library.ucsf.edu/tid/isa95a00>.

⁴³ Figures are from the Worldwatch Institute and the U.S. Dept. of Agriculture, equating consumption with production; compare also the chart on page 12 of the *Executive Summary: The Health Consequences of Smoking, A Report of the Surgeon General* (Washington, D.C.: U.S. Govt. Printing Office, 2014), <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/exec-summary.pdf>.

disease from the inhalation of tobacco *dust* (not smoke!) while at work.⁴⁴

Lung cancer was still rare enough not to cause much worry, however: as late as the 1890s there were only about 140 cases known in published medical literature worldwide. Pulmonary tumors were an extreme rarity. Smoking was on the rise, but there was not yet much appreciation of the fact that it might take 20, 30, or even 40+ years for a tobacco cancer to develop after onset of exposure (this is the so-called “time lag” or “latency”).⁴⁵ The existence of this “time lag” helps explain why the rapid growth of smoking in the early 1900s did not show up in massive increases in lung cancer until several decades later. Physicians were not yet very familiar with diseases caused by lifetimes of exposure to carcinogens—and the first case-control epidemiological study was not published until 1939, in Germany, by Franz H. Müller at the University of Cologne. Müller here showed that lung cancer was significantly more common in smokers, even after controlling for the fact that smokers and nonsmokers often came from different socioeconomic backgrounds.⁴⁶ And it would not be until the 1950s that new methods would combine with this to create a scientific consensus.

Rigorous scientific demonstration of tobacco-disease links on a large scale does not come until the middle decades of the twentieth century. The turning point for the Anglo-American world is the 1950s, with the confluence of four types of scientific evidence:

Epidemiological studies showed that smokers were far more likely to contract lung cancer than nonsmokers. Studies performed by medically-trained statisticians showed a clear “dose response” —more smoking, more cancer—and heavy smokers were found to be over forty times as likely to

⁴⁴ Hermann Rottmann, *Über primäre Lungencarcinome* (Würzburg: Med. Diss., 1898), pp. 29, 52; and for background, see my *Nazi War on Cancer* (Princeton: Princeton University Press, 1999). Tobacco cancers were first recognized in the lips, mouth, and tongue because these are easily visible, but also because people rarely inhaled tobacco smoke prior to the invention of cigarettes. Tobacco smoke was generally too harsh to inhale, and nicotine was most often absorbed through the lining of the mouth (whether chewed or smoked).

⁴⁵ See my *Cancer Wars: How Politics Shapes What We Know and Don't Know About Cancer* (New York: Basic Books, 1995), pp. 27-48.

⁴⁶ Fritz Lickint, “Tabak und Tabakrauch als ätiologischer Factor des Carcinoms,” *Zeitschrift für Krebsforschung*, 30 (1929): 349-65; Franz Hermann Müller, “Tabakmissbrauch und Lungencarcinom,” *Zeitschrift für Krebsforschung*, 49 (1939): 57-85. *JAMA* in 1939 published an English abstract of Müller’s paper (p. 1372).

contract lung cancer as non-smokers.⁴⁷ The *New England Journal* in January 1954 observed that the statistical evidence linking smoking to lung cancer was massive, and in November of that year Horace Joules of the British Medical Association affirmed there was “no doubt whatever” that the main cause of lung cancer was “excessive smoking of cigarettes.”⁴⁸

Animal experiments showed that tobacco tars (i.e., condensed smoke) smeared on the backs of experimental animals could produce tumors. Studies of this sort date from earlier in the century, and the industry conducted its own (secret) unpublished experiments, but Wynder and Graham’s studies published in 1953⁴⁹ were widely reported and quickly replicated. A report from one secret study, commissioned by Lorillard in 1963, confirmed Gelhorn’s published observations of a “cocarcinogenic effect of tobacco tars.”⁵⁰

Studies of human lungs at autopsy showed that smokers were far more likely to have precancerous lesions than nonsmokers; smoke was shown to deaden the cleansing, whip-like “cilia” cells in the lungs that normally waft soot out of bronchial passageways. Cancers were also shown to arise at bronchial bifurcations, precisely where smoke from cigarettes was allowing inhaled tar to accumulate.⁵¹

⁴⁷ A good early review of the epidemiology is Jerome Cornfield et al., “Smoking and Lung Cancer: Recent Evidence and a Discussion of Some Questions,” *Journal of the National Cancer Institute*, 22 (1959), 173-203.

⁴⁸ See my *Golden Holocaust: Origins of the Cigarette Conspiracy and the Case for Abolition* (Berkeley: University of California Press, 2011), p. 233.

⁴⁹ Ernst L. Wynder, Evarts A. Graham and Adele B. Croninger, “Experimental Production of Carcinoma with Cigarette Tar,” *Cancer Research*, 13 (1953): 855-66, <http://legacy.library.ucsf.edu/tid/jle54c00>; and for its impact: Kluger, *Ashes to Ashes*, pp. 162-66, and Stanton Glantz et al., *The Cigarette Papers* (Berkeley: University of California Press, 1996), pp. 33-35.

⁵⁰ Bio Research Consultants, Inc., “Final Report: Lorillard Study C-131,” March 15, 1963, <https://www.industrydocuments.ucsf.edu/docs/pnyn0126>.

⁵¹ A. C. Hilding, “On Cigarette Smoking, Bronchial Carcinoma and Ciliary Action,” *New England Journal of Medicine*, 254 (1956): 1155-60, <http://legacy.library.ucsf.edu/tid/iqc74e00>; Oscar Auerbach et al., “The Anatomical Approach to the Study of Smoking and Bronchogenic Carcinoma,” *Cancer*, 9 (1956): 8376-83, <http://legacy.library.ucsf.edu/tid/jxd44e00>; also his “Changes in Bronchial Epithelium in Relation to Cigarette Smoking and in Relation to Lung Cancer,” *New England Journal of Medicine*, 265 (1961): 254-67.

Analytic chemists both inside and outside the tobacco industry showed that cigarette smoke contains known carcinogens—notably polycyclic aromatic hydrocarbons (PAHs) such as benzpyrene and methyl-cholanthrene, but also arsenic and phenols and heavy metals like cadmium and nickel, nitrosamines and, eventually (in the 1960s) the radioactive isotope polonium-210.⁵²

To this should be added that there was little or no evidence implicating the other leading candidates proposed to explain the lung cancer epidemic: air pollution, automobile exhaust, dust from newly tarred roads, lingering effects from the 1919 flu pandemic, or scars from exposure to poisonous gases during the First World War, all of which at one time or another had been blamed.

Evidence from such widely divergent research traditions—all pointing in the same direction—prompted the emergence of a consensus within the Anglo- American scientific community (in the mid-1950s). The American Cancer Society in 1954 proclaimed “without dissent” that smoking was associated with lung and other forms of cancer, emphasizing that there should be “no question of the facts.” Distinguished research leaders from the Memorial Cancer Center and Sloan Kettering Institute in Manhattan agreed, with *Time* magazine characterizing the cancer link as now proven “Beyond Any Doubt.”⁵³ Endorsements emerged from public health bodies throughout the world, including medical societies in Norway, Sweden, Finland, Denmark, Canada, and the Netherlands, along with Britain’s Medical Research Council.⁵⁴ This was a momentous discovery; indeed it would be hard to name a more significant discovery in the entire history of medicine and human health.

Also crucial to appreciate, though, is that this was *new knowledge*, a

⁵² Claude E. Teague, Jr., “Survey of Cancer Research, with Emphasis upon Possible Carcinogens from Tobacco,” Feb. 2, 1953, <http://legacy.library.ucsf.edu/tid/jad76b00>; “Report of Progress – Technical Research Department” (B&W), Dec. 24, 1952, <http://legacy.library.ucsf.edu/tid/eyt60f00>, p. 8. Angel Roffo in Argentina was the first to find polycyclic aromatics in smoke, but by the mid-1950s others were confirming this finding, e.g., A. J. Lindsey, R. L. Cooper, and R. E. Waller; see “Cancer-Producing Chemicals in Smoke of Cigarettes Identified in Britain,” *Los Angeles Times*, Nov. 19, 1954, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=fsmf0189>.

⁵³ “Beyond Any Doubt,” *Time*, Nov. 30, 1953, pp. 60-63, quoting Dr. Evarts Graham.

⁵⁴ Frank M. Strong et al., “Smoking and Health: Joint Report of Study Group on Smoking and Health,” *Science*, 125 (1957), pp. 1129-33.

discovery for which several key scholars were showered with awards. Richard Doll and A. Bradford Hill in England were both knighted for their tobacco epidemiology; Ernst Graham and Ernst Wynder in the U.S. were also honored for their experimental work, as were many others. It would be wrong, in other words, to claim that knowledge of this link between smoking and fatal disease was widespread prior to the 1950s; it was not.

The Persistence of Ignorance

Historians sometimes liken the past to a foreign country, and from our present-day vantage point it is certainly easy to forget how recently smoking was an unobjectionable part of everyday life. As recently as the 1970s and '80s smoking was ubiquitous on airplanes, in restaurants and in movie theaters, in courtrooms and on elevators. Doctors and nurses smoked during medical exams and children made ashtrays in schools. (I was born in 1954, and I recall professors smoking in the classrooms at Harvard in the late 1970s.) For the first seven or eight decades of the twentieth century tobacco was a respectable commodity, just as smoking was a dignified habit. In 1960, half the astronauts in training to go into space were smokers of cigarettes. Etiquette guides as late as the 1970s recommended that the polite hostess offer cigars to the men and cigarettes to the women. And it was not at all unusual for physicians to smoke. In 1960, according to a survey conducted for the American Cancer Society, *nearly half* of all physicians in the United States (48 percent) were regular smokers of cigarettes. And only about a third of all doctors were convinced that cigarettes could cause lung cancer. One in ten reported actually having advised their patients to smoke.⁵⁵

Prior to the 1950s, in fact, it is common to hear distinguished physicians dismissing smoking as a cause of cancer, or even denying the reality of any increase in the disease. William Boyd, a much-decorated pathologist at the University of Toronto, in his 1940 book *Diseases of the Respiratory System*, questioned the increase in tumors of the lung: "My own feeling is that this increase is apparent rather than real." And cigarettes were certainly not to blame (his Wikipedia entry shows a photograph of him from

⁵⁵ "Many Doctors Link Smoking and Cancer," *Washington Daily News*, Oct. 26, 1960, <http://legacy.library.ucsf.edu/tid/scv02a00>. Hospitals and pharmacies as late as the 1960s often had monogrammed ashtrays; in 1964, the Surgeon General of the U.S. Navy had special ashtrays made up for a "Conference of the Surgeon General" held at the National Naval Medical Center in Bethesda.

1949 holding a lit cigarette).⁵⁶ As late as the 1950s it was still perfectly respectable—indeed mainstream—for a prestigious scholar of medicine to question whether smoking was a cause of cancer. In 1942 and 1943, two articles were published on cancer causation in the *Journal of the American Medical Association*, neither of which even mentioned tobacco or cigarettes.⁵⁷ Indeed in 1949, the editor of *JAMA* summed up the opinion of many physicians by saying that tobacco “may cause little change in the total longevity of large groups.”⁵⁸ Two years previously, in 1947, an article appeared in this same journal concluding that smoking was fine even for cardiac patients:

It has been our experience, over a period of years, that most patients with a cardiac disorder, including those with disease of the coronary arteries, can smoke moderately without apparent harm. In fact, for many, smoking not only affords pleasure but aids in promoting emotional stability.⁵⁹

Psychiatrists pondered whether it was ok to smoke during examination of a patient, and at least one (in 1951) mused “Why not?”⁶⁰ Even as late as 1954, the director of the National Cancer Institute (John Heller) was not yet ready to say that smoking caused cancer: “We do not say that smoking is a cause of cancer.”⁶¹ American Medical Association President Walter B. Martin that same year said there was no “conclusive evidence” that smoking caused tumors: “I don’t think the evidence is great enough in this cigarette-versus-lung-cancer problem to warrant the A.M.A.’s advising people not to smoke.”⁶² Wilhelm Hueper at the National Cancer

⁵⁶ http://en.wikipedia.org/wiki/William_Boyd_%28pathologist%29, accessed Aug. 1, 2011.

⁵⁷ William Cramer, “Carcinogenesis,” *JAMA*, 119 (1942): 309; Peyton Rous, “The Nearer Causes of Cancer,” *JAMA*, 122 (1943): 573.

⁵⁸ “Tobacco and Longevity: Query and Minor Note,” *JAMA*, 141 (1949): 633.

⁵⁹ R. L. Levy et al., “Effects of Smoking Cigarettes on the Heart in Normal Persons and in Cardiac Patients,” *JAMA*, 135 (1947), pp. 417-22.

⁶⁰ Kenneth M. Colby, *A Primer for Psychotherapists* (New York: Ronald Press, 1951), p. 39.

⁶¹ “Transcript of Edward R. Murrow’s Second TV Show on ‘Cigarettes and Lung Cancer,’” June 7, 1955, <http://legacy.library.ucsf.edu/tid/gcn36b00>.

⁶² Bob Considine, “To Smoke or Not to Smoke,” *Cosmopolitan*, April 1954, <http://legacy.library.ucsf.edu/tid/grq34f00>. Considine also characterizes cigarettes as “votive lamps to the muse.” Cigarettes can in fact cause tuberculosis; that is the conclusion of the 2014 Surgeon General’s report.

Institute was another influential skeptic; Hueper in a 1957 deposition claimed that it was “almost inconceivable” that “one single habit factor, such as cigarette smoking, is the main reason for” geographic differences in lung cancer rates.⁶³ The tobacco industry spent a lot of time trying to amplify and broadcast Hueper’s skepticism; they also offered him the well-paying job that Clarence Cook Little eventually took as Scientific Director of the TIRC (when Hueper and several others refused).

After the 1950s, by contrast, and especially after the Royal College of Physicians’ report of 1962 and the U.S. Surgeon General’s report of 1964,⁶⁴ it becomes difficult for a medical scholar to remain an honest denier of causation. There remain of course some scholarly skeptics—stragglers one might say, but almost all in the pay of the tobacco industry.⁶⁵ Scholarly deniers retrench into a small but vocal collectivity serving the cigarette industry, with an intellectual stature in the broader medical community comparable to the Flat Earth Society—albeit with far more serious financial backing. Those well-funded deniers were able to influence popular understanding of tobacco hazards, as the tobacco industry did all it could to “keep the controversy alive.”⁶⁶

How was this controversy kept alive?

The Industry’s Denials

Political theorists remind us there is no revolution without resistance, and we certainly see this in the history of efforts to discover, publicize, and limit the extent to which tobacco harms the human body. The discovery of tobacco hazards on a very large scale—notably lung cancer and heart disease—was as “controversial” as it was, and for so many decades, largely because it was confronted with such dedicated and well-funded resistance. Indeed, a more deadly and consequential resistance would be difficult to

⁶³ Wilhelm C. Hueper, deposition testimony on behalf of the defense for *Lowe vs. Reynolds*, May 24, 1957, <http://legacy.library.ucsf.edu/tid/vbk79a00>, p 17. Hueper also admitted, though, that he didn’t know much about the constituents of cigarette smoke.

⁶⁴ Royal College of Physicians of London, *Smoking and Health* (London: Pitman Publishing Co., 1962); *Smoking and Health: A Report to the Surgeon General* (Bethesda: U.S. Govt. Printing Office, 1964).

⁶⁵ Allan M. Brandt, *The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product that Defined America* (New York: Basic Books, 2007).

⁶⁶ BAT in 1988 commented on how Philip Morris was spending vast sums of money “to keep the controversy alive”; see Sharon Boyse (BAT), “Note on a Special Meeting of the UK Industry on Environmental Tobacco Smoke, London, February 17th, 1988,” <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=fmdb0013>.

imagine. In the mid-1950s, cigarette makers organized a campaign to deny the reality of tobacco harms, utilizing ridicule of science and governmental health authorities, financial support for scientific skeptics, the establishment of myriad and diverse fronts, and a broad campaign to influence the media and popular opinion.

In the tobacco case, we know precisely when the denialist conspiracy began. In New York, the presidents of the leading American companies (all but Liggett) met at the Plaza Hotel in Manhattan on December 14, 1953, to craft a plan to combat the congealing consensus. Hill and Knowlton, the world's largest PR firm, was hired to coordinate the early phase of this campaign, which centered around an effort to create doubt about the reality of tobacco hazards. Tobacco manufacturers and their PR agents stressed the need for "more research" to resolve a purported "cigarette controversy," using their extensive media contacts to orchestrate a public relations blitz. The campaign was well-funded and effective, utilizing bodies expressly created for this purpose, such as the Tobacco Institute (founded in 1958), the Tobacco Industry Research Committee (founded in 1954 and continued after 1963 as the Council for Tobacco Research) and many other legal and/or PR agents and academic ("third party") fronts.

How did this scheme work?

For decades, from the mid-1950s into the late 1990s and in certain respects beyond, tobacco manufacturers denied the reality of tobacco hazards and did everything in their power to obstruct efforts to curtail tobacco advertising, to limit governmental regulation, to defeat litigation, to keep ordinary citizens from learning the truth.

A turning point in the industry's own recognition and proof of a hazard is the early 1950s, when efforts were undertaken to find out why cigarettes were causing so much harm; this requires some explanation.

One common theory at this time (early 1950s)—and a topic of intensive research—was that it might be *the paper* rather than *the tobacco* that was causing all this cancer. Cigars and pipes, after all, were not causing such a problem, so perhaps it was the paper wrapper? James Rand's specially purified cellulose paper was thought by some to help reduce this danger, and several tobacco companies explored this as an early form of a "safer cigarette." The American Tobacco Co. investigated this question in

the summer and fall of 1953, through an elaborate collaboration with the Medical College of Virginia and the Ecusta Paper Corporation, and the fall of 1953 had largely exonerated paper as a significant carcinogenic agent. American-funded animal experiments conducted at the Ecusta Paper Corporation found that the tobacco leaf in cigarettes was a far more potent cause of cancer than the paper being used as wrappers, laying the blame squarely on the tobacco.⁶⁷ The Ecusta experiments were never reported to the public or to any governmental agency. The same is true of the secret experiments financed by Reynolds into smoking-mouth cancer links.

In the early 1950s, when cigarette manufacturers started worrying about the impact of cancer concerns on cigarette sales,⁶⁸ a number of different technical solutions were explored, ranging from filters that were supposed to “selectively” reduce carcinogens to additives (like platinum or palladium) that would catalyze them. A number of different nitrate compounds were explored, for example, to destroy polycyclic aromatic hydrocarbons such as benzpyrene. Efforts were also made to limit the amount of arsenic in cigarette smoke (from the lead arsenates and arsenates used as pesticides), and preparations were made (already in the 1930s) to defend menthol, in the event that a movement should ever arise to criticize that additive. Proposals were also put forward to stop the use of certain known toxic additives—like coumarin, which several companies were using in their commercial cigarettes.⁶⁹

⁶⁷ This topic is discussed in my *Golden Holocaust: Origins of the Cigarette Conspiracy and the Case for Abolition* (Berkeley: University of California Press, 2011).

⁶⁸ On May 15, 1953, Imperial Tobacco (of London) Chairman Robert Sinclair wrote to T. V. Hartnett, President of Brown & Williamson: “I think we all felt that it would be a good thing if we established some regular machinery for the exchange of information relating to, inter alia, published statistics, and articles in medical journals, and other publications.” Sinclair was worried about “work that is being done on both sides of the Atlantic in connection with smoking and health”; see Robert Sinclair to T. V. Hartnett, May 15, 1953, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=gnnk0141>.

⁶⁹ K 235 was Imperial Tobacco’s secret code for coumarin; R.J. Reynolds’s code name for the additive was H-2. Reynolds apparently stopped adding coumarin to its Winston cigarettes in 1963, though the compound continued to be used in other cigarettes. Brown & Williamson was still using coumarin (aka wild vanilla) in the 1980s, despite decades-old suspicions it could be toxic. In 1953, for example, Monsanto wrote to its American Tobacco Company client about “our decision to withdraw Coumarin Monsanto from sales for Food and Flavor uses because of its toxicity. . . . in the concentrations administered to the test animals Coumarin is definitely toxic.” See Ray F. Caulk, Manager, Flavors and Condiments Sales, Monsanto, to American Tobacco, July 23,

Filters were also introduced and marketed with such intensity that they quickly became the dominant form of tobacco use—despite zero evidence of providing any health benefit. Lorillard’s marketing campaign for Kent, with the “Micronite Filter,” was among the more aggressive reassurance campaigns ever deployed by a tobacco company. The 1950s advertising for Kent promised a safer cigarette, which gave smokers “the protection they need.” Another part of Lorillard’s marketing campaign was to infiltrate the medical profession with Micronite propaganda. Lorillard advertised its new filter gimmick in numerous medical journals, handed out Kent cigarettes and Micronite brochures at medical conferences, and mailed out letters such as the following to physicians all across the country:

Dear Doctor,

It is a pleasure to draw your attention to a new cigarette recently introduced by P. Lorillard Company and called “Kent”. The cigarette contains the remarkable Micronite filter.

This Micronite filter is remarkable because it permits the passage of the satisfying aroma of fine tobacco, which you will observe for yourself in the near future when you receive your gift box of Kent cigarettes. . . . the filter exerts a phenomenal filtering action on the so-called harmful components of the smoke stream. This effect is demonstrated by smoke analysis and also by specific physiological tests on human subjects. We hope that you will take time to read the enclosed folder, which describes these tests and the conclusions of which have real health implications for you and your patients.⁷⁰

The new packaging read:

KENT

The cigarette with the “Micronite” filter; scientifically the most effective filter ever developed to free cigarette smoke of impurities . . . No other cigarette approaches such a degree of health protection and taste satisfaction.

The Kent Micronite Filter, introduced in 1953, was intended to appease smokers and would-be smokers concerned about the mounting evidence that smoking could cause lung cancer. On September 15, 1964,

1953, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=gjnk0002>.

⁷⁰ Harris B. Parmele, “Dear Doctor,” March 12, 1952, <https://www.industrydocuments.ucsf.edu/docs/ltjk0126>.

Lorillard sales director Manuel Yellen wrote to M. J. Cramer, the company's president and CEO, describing the history of Kent's marketing strategy:

As we are all aware, KENT was marketed as a "safer" cigarette for the smoker who was concerned about smoking and health. In 1956 when an innocent third party (Reader's Digest) created an awareness to the consumer that Kent was the "safest" of all popular filter cigarettes, Lorillard exploited this advantage so that within a short period of two years the KENT volume grew from less than four billion cigarettes to thirty-eight billion annually. Between the years of 1956 and 1960 several competitive brands appeared on the market in an attempt, with substantial advertising budgets, to erase the "KENT image of safety". . . It was a decision of management to immediately fight back, whenever brands competitive to KENT appeared on the scene with hard-biting copy in order to retain the "KENT safety image" and protect Lorillard's "bread-and-butter" brand. I feel we were successful in accomplishing our objective in maintaining the safety image of Kent among consumers sensitive to health.⁷¹

Lorillard had created an image for Kent as the safe cigarette, while understanding that filters were actually useless in providing any genuine health protection. A 1957 investigation commissioned by the company concluded that "a large number of filters have been evaluated, and it is probably safe to say that filters offer little hope for removing or materially decreasing carcinogenic compounds in cigarette smoke tars."⁷²

"Filters" grew from about one percent of the cigarette market in 1950 to over half the market by the end of that decade. Lorillard's 1960 Annual Report boasted that, over the previous year,

sales of our Kent king-size cigarettes increased sizably and according to authoritative industry analysts, Kent with the Micronite filter was the second biggest-selling filter cigarette in the country in 1960 (and the fifth best-selling cigarette brand of any type).⁷³

⁷¹ Manuel Yellen to M. J. Cramer (President, CEO), "Lorillard Sales Position," Oct. 15, 1964, <https://www.industrydocuments.ucsf.edu/docs/rjpm0104>, p. 1.

⁷² Armour Research Foundation of Illinois, "A Research Investigation to Study the Precursors of Certain Polynuclear-Type Aromatic Hydrocarbons Found in Cigarette Smoke Tars," June 20, 1957, <https://www.industrydocuments.ucsf.edu/docs/sxym0104>, p. 2.

⁷³ P. Lorillard Company, *Annual Report*, Dec. 31, 1960,

Menthols were another reassurance gimmick. Menthols had been introduced in the 1930s as a cigarette you were supposed to smoke when you had a cold, with safety being a common theme in ads. Consumers were supposed to “play it safe” by smoking Kools, the first successful menthol, a cigarette Brown & Williamson promoted with ads featuring a penguin sporting a stethoscope.⁷⁴ Menthol carried the implication of a medicinal cigarette, and explicit therapeutic claims for the minty additive were common from the 1930s into the 1950s. Explicit reassurances were thereafter replaced by implicit reassurances—by which time menthols were becoming a smoke for everyday use.

Menthol sales skyrocketed in the mid-1950s, following with the discovery, proof, and publicity of deadly harms from smoking (see **Figure 1**). Advertisers by this time were using themes of purity and the refreshing outdoors to sell menthol brands: Bowman Gray at Reynolds, for example, celebrated the “Springtime” marketing theme of Salem in a published review:

The delightful green of the Salem pack itself suggests the perennial green buds that draw the whole of America outdoors. It suggests gentle waters lapping a shoreline, a breeze permeated with pine scents, the aroma of apple blossoms, and the myrrh of the first roses. In a word, “springtime.”⁷⁵

We also know from surveys that many smokers of such cigarettes thought they would be safer. A 1960 study prepared by the William Esty Agency (for Reynolds) found that about two thirds of Salem smokers thought that filtered cigarettes were the “safest” to smoke.⁷⁶ Among the 24 brands surveyed, Salem ranked number two (behind Kent) among consumers with a “safety” (vs. taste) orientation.⁷⁷ Lawyers working for the industry explained that Salem cigarettes

<https://www.industrydocuments.ucsf.edu/docs/ggwx0129>.

⁷⁴ For ads featuring the Kool penguin wearing a stethoscope, see <http://srita.stanford.edu/>.

⁷⁵ See Bowman Gray, “Winston and Salem: The Change to Filter Cigarettes” (1969), <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=rzkl0094>.

⁷⁶ William Esty Co., “National Study of Cigarette Smoking,” Aug. 1960, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=klmh0091>.

⁷⁷ *Ibid.*, pp. 14, 16. Coughs, colds and “irritation” were the principal reasons given for switching to Salems: only one percent of those polled listed the “cancer scare” as a principal reason for switching to Salems (p. 26), suggesting that cancer was not necessarily high on smokers’ list of concerns—a fact we know from other surveys at this time; see, for example, Roper’s ranking poll from Jan. 1959:

were perceived as safer “due to the presence of menthol and a filter.”⁷⁸ Philip Morris about this same time (1961) commissioned the Opinion Research Corporation to do a study of smoking behavior and smoker motivation, which found that safety was one of the motivations for choosing a menthol cigarette:

The image of the menthol cigarette is that of a therapeutic cigarette, i.e., one which would be used to help repair the “damage” done by non-mentholated cigarettes.⁷⁹

And menthols retained this sense of relative safety in subsequent decades. Marketing researchers at Reynolds in 1976, for example, recognized that menthol smokers were more “concerned” about their health than non-menthol smokers, and that menthol itself had a “safer” halo; that’s how it was perceived.⁸⁰

Similarly deceptive gimmicks over the years include micropore paper, countless novelties in filter design, king sizing (said to “travel the smoke further”), low tars, lights, milds, ultra-lights, slims, and (most recently) cigarettes advertised as natural, organic, and/or “additive free.” None of these reduced harms, though they were all broadly perceived as doing so—which is why they were introduced in the first place: to reassure.

Cigarette makers admitted this internally, that people smoking “light” cigarettes perceived them to be safer. In 1974, for example, James Morgan from Philip Morris (later CEO) admitted that the term “Light” was not one that “means anything in terms of taste.”⁸¹ R.J. Reynolds came to similar conclusions. In 1974, in a marketing document reflecting on the fact that consumers were “beginning to be more health conscious than ever before,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=fzgv0106>.

⁷⁸ Jones, Day, Reavis and Pogue (for Reynolds), “Corporate Activity Project,” Nov. 17, 1986, <http://legacy.library.ucsf.edu/tid/rx95a00>, p. 289. Authors of this report include Paul G. Crist, William E. Marple, Steve Kaczynski, and Thomas Abrams.

⁷⁹ Opinion Research Corporation (for Philip Morris R&D Dept.), “Smoking Behavior and Smoker Motivation--Their Implications for Packaging,” Nov. 1961, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=jkmw0119>.

⁸⁰ For the quote: “Menthol itself has ‘safer’ halo,” see the document titled “Product Direction” from Reynolds’ Marketing Research Department, April 21, 1976, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=hsdx0099>. This same document talks about the “key demographic target” of a menthol competitor to Kool as being “young, liberal, masculine—with significant Black appeal.”

⁸¹ Deposition testimony of James J. Morgan, Oct. 15, 1974, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=kypc0099>.

and will be even more so as time goes on,” marketers working for Reynolds divided cigarettes (as perceived) into three categories: “Least Safe,” “Safer,” and “Safest.” In the “Least Safe” category were brands like Camel and Marlboro, while Winston was perceived as “Safer” and Winston Lights was perceived as “Safest.” As Rosenfeld, Sirowitz & Lawson explained to Reynolds: “Smokers of these brands are very concerned about health and quite aware of T&N numbers. Their concern . . . causes them to switch to brands with low T&N numbers.” Brown & Williamson’s marketing consultants came to similar conclusions in 1977, noting that “Almost all smokers agree that the primary reason for the increasing acceptance of low ‘tar’ brands is based on the health reassurance they seem to offer.”⁸²

And smokers were rapidly switching over to such brands. The market share of this purportedly “safest” category had grown by 48 percent from 1970 through 1973, with “Lights” being the principal beneficiary: “the most dramatic evidence of the growing interest in Safer Cigarettes may be seen in the growth of the various Lights/Milds line extension products.”⁸³ People who liked Winston considered it to be (in the words of yet another internal study) a “‘safe’ cigarette.” Winston Lights in particular was positioned as a “‘feel safe’ cigarette: focus groups from 1974 showed that the cigarette’s basic appeal was “the possibility of being able to enjoy good taste and at the same time ‘feel safe’”; Winston Lights would give smokers “a feeling of safety by moving to a low flavor cigarette . . . without the fear.”⁸⁴

An equally important technique used by cigarette makers was to fund scholarly research, nominally on “smoking and health,” in order to be able to say “we are studying the problem.” Millions and eventually hundreds of millions of dollars were given to scientists all across the U.S. and to over a

⁸² Hawkins, McCain & Blumenthal, Inc., “Low ‘Tar’ Satisfaction: Step 1. Identification of Perceived and Unperceived Consumer Needs,” July 25, 1977, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=gkwf0189>.

⁸³ Rosenfeld, Sirowitz & Lawson, Inc., for Reynolds, “An Evaluation of the 120mm Market and its Potential for RJR,” Nov. 17, 1975, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=xskm0096>, pp. 33-35.

⁸⁴ Consumer Diagnostics, Inc., for William Esty Co., Inc., “Qualitative Consumer Evaluation for Winston Lights Positioning,” April 1974, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=zjvk0191>. For a history of Winston and Winston Lights design modifications, see G. W. McKenna, “History of Product Changes,” Oct. 13, 1983, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=qfpm0095>.

hundred different academic institutions as part of this effort. Little of this research, however, had anything to do with “smoking and health.” The goal instead was to give the *appearance* of funding honest research, when only rarely did the research ever address whether smoking might cause cancer or any other disease. The philosophy was basically to “research *the disease*” rather than “research *the causes*.”⁸⁵ Smokers could then be reassured that the companies were acting responsibly, trying to get to the root of a purported smoking and health “controversy”—which existed only because of the industry’s refusal to admit the truth. This is explicit in the industry’s archives. In 1978, for example, conspiracy executives and lawyers meeting in New York noted how vital the continued funding of research was to the maintenance of the myth of an “open controversy”:

It is extremely important that the industry continue to spend their dollars on research to show that we don’t agree that the case against smoking is closed.⁸⁶

One key instrument in the conspiracy was the Tobacco Industry Research Committee (TIRC/CTR), established in 1954 to create the impression that cigarette makers were taking seriously the question of whether smoking caused disease. The CTR funded a great deal of research—over \$350 million over a period of some 40-odd years—but only rarely any kind of study that would cast tobacco in a bad light. Most of the research was basic biology having little or nothing to do with tobacco—a deliberate and calculated ploy. Geoffrey Todd, director of Britain’s powerful Tobacco Research Council and BAT’s top-ranking researcher, grasped this fact, noting that the CTR had been “instructed not to support research concerned with smoking as a cause of disease.”⁸⁷ When scholars funded by the industry

⁸⁵ Addison Yeaman to Committee of Counsel, Jan. 19, 1968, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=mgbw0138>.

⁸⁶ R. B. Seligman to CTR File, “Meeting in New York,” Nov. 17, 1978, <http://legacy.library.ucsf.edu/tid/tlx27c00>.

⁸⁷ Geoffrey F. Todd, “A Record of Discussions in U.S.A. and Canada” (reporting confidentially to the Chairman of BAT), Dec. 2, 1971, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=tfpv0223>. Other arms or instruments of the conspiracy include the Tobacco Institute, Hill & Knowlton, the Tobacco Merchants Association, the AMA-ERF, the Committee of Counsel, the Ad Hoc Committee (of outside counsel), the Industry Technical Committee, the TI Executive Committee, the International Committee on Smoking Issues (ICOSI), the Center for Indoor Air Research (CIAR), the Philip Morris External Research Program, the ETS Consultancy, the TANs, the Tobacco Working Group, and the Associates for Research

did find evidence of significant harm, the pattern was for that research to be cut off.

Freddy Homburger in Cambridge, Massachusetts, for example, had his CTR funding cut after showing (in 1973) that inhaled tobacco smoke caused laryngeal cancer in Golden Syrian hamsters.⁸⁸ Homburger was told he would “never get a penny more from CTR” if he published his results; he later testified that his contract was changed mid-study so the CTR “could control publication.” Homburger reported that the CTR “didn’t want us to call anything cancer” and claimed to have been told that he would “never get a penny more” if his paper were published without deleting the word “cancer.” Gary Huber at Harvard also had his funding cut off, after cigarette industry lawyers told him he was “getting too close to some things.”⁸⁹

For decades, tobacco industry pronouncements on smoking and health, issued either through the TIRC/CTR (established in 1954) or the Tobacco Institute (established in 1958) or the companies themselves or one of their many fronts, were consistently misleading. Newspapers and other media from the 1950s into the 1990s are filled with the industry’s denials, often phrased in such a way as to suggest that “more research” was needed to resolve a purported “controversy” about whether cigarettes actually cause cancer. The strategy was clever, insofar as it exploited liberal rhetorics of openness and the need for research: the industry would oppose all efforts to claim that the science was sufficient to conclude that cigarettes cause cancer; the industry would proclaim instead the existence of an “open controversy,” and then warn that those who denied the honesty of such a controversy were “closed minded.” Or wanting to close off research. This was “the open-minded approach” advocated by the industry for so many decades.

As part of this scheme, calls for “more research” often appeared in the

into the Science of Enjoyment (ARISE), inter alia.

⁸⁸ See my *Golden Holocaust*, p. 265.

⁸⁹ See Gary Huber’s deposition testimony for *Texas v. American Tobacco*, Sept. 20, 1997, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=kthl0001>, pp. 49-50.

The lawyers who warned Huber included Lee Stanford from Shook, Hardy & Bacon, Ernest Pepples from Brown & Williamson, and Arthur Stevens from Lorillard. When subpoenaed to testify for the State of Texas, Huber was again contacted by industry lawyers (from Jones Day and Shook Hardy), who advised him to “keep the faith, hold the line.” He later testified that this caused him to fear for his safety and the safety of his family (ibid., pp. 99-102).

industry's press releases and public statements. Much of the industry's rhetoric was highly lawyered: there was much talk of there being "no proof" or "no real proof" of harm, that the evidence was "merely statistical" or that results from animal tests could not be extrapolated to humans.⁹⁰ To this was eventually added an elaborate rhetoric of "adult choice" and "legal product"; tobacco harms were said to be "common knowledge" and eventually "old news."

This new strategy of claiming "common knowledge" (or "universal awareness") was first used in the mid-1960s to weaken warnings on the packs of cigarettes. William Kloefer, vice president for public relations at the Tobacco Institute, in 1969 testified before the House Committee on Interstate and Foreign Commerce that there was no need for a warning, since the public was already "adequately alerted" about the existence of a "possible hazard":

From published material readily available to this Committee, no one can challenge that there is complete awareness by the American public—young and old alike—of the smoking and health controversy—complete cognizance of the caution that cigarette smoking may be a hazard to the smoker's health—and a deep-rooted conviction that smoking is a real hazard.⁹¹

Kloefer went on to cite, out of context, remarks by Daniel Horn, director of the National Clearinghouse for Smoking and Health, who in November 1968 said that:

You could stand on a rooftop and shout "Smoking is dangerous" at the top of your lungs and you would not be telling anyone anything they did not already know.⁹²

Horn's "rooftop" remark was cited as part of an effort to thwart efforts to strengthen warnings about the hazards of smoking. Kloefer in his 1969 remarks mentioned 625.4 million "exposures" to public health service

⁹⁰ For examples, see my *Golden Holocaust*, pp. 253-304.

⁹¹ Statement of William Kloefer, Jr., before the House Committee on Interstate and Foreign Commerce, April 24, 1969, <http://legacy.library.ucsf.edu/tid/mul10j00>, pp. 673-86.

⁹² Ibid. Horn didn't say that Americans had a deep or sophisticated understanding of the hazards of cigarette smoking. As discussed elsewhere in this report, many Americans underestimate the health risks of smoking even today.

announcements on television, from which he concluded that

there is among the American public, including every youngster who can read or listen, a thorough awareness that smoking may be a hazard to health. That is true despite the scientific dispute as to the medical facts, and the insistence of eminent scientists upon 'may be,' rather than 'is' as a fair and factual representation of medical knowledge as distinguished from statistical association.⁹³

From the Tobacco Institute's point of view the public had been adequately warned or indeed over-warned, so nothing would be gained by placing yet another scary message on postal trucks. Indeed, the warning was not even true, according to Kloepper et al. and other leading industry spokesmen,⁹⁴ because it was based on faulty statistics.

Cigarette makers were consistent in this message that there was no need to warn the public; indeed, they ridiculed the public health community for trying to do so. In countless appearances by the Tobacco Institute on broadcast media, public health advocates were ridiculed as part of a "health lobby" bent on an "anti-tobacco crusade."⁹⁵ Public health advocates were labeled "shower adjusters" and "anti-smoking crusaders," and Tobacco Institute VP William Kloepper characterized the industry's foes as suffering from "fanaticism, militancy, stridency, free-floating hostility and unbridled rescue fantasies."⁹⁶ This was an oft-heard message from the industry, that anyone trying to limit cigarette use was some kind of freedom-hating puritanical zealot—in the 1980s and '90s there was even talk of "nico-Nazis" and a "tobacco Taliban." Kloepper in 1969 talked

⁹³ Statement of William Kloepper, Jr., before the House Committee on Interstate and Foreign Commerce, April 24, 1969, <http://legacy.library.ucsf.edu/tid/mul10j00>, pp. 673-86.

⁹⁴ A good example is Robert Heimann's "dead wrong" remark in his 1986 deposition for *Horton vs. American* from Dec. 19, 1986. Heiman had served as president of American Tobacco until 1980; see <http://legacy.library.ucsf.edu/tid/upi12i00>, pp. 96-101.

⁹⁵ For examples, see my *Golden Holocaust*, pp. 328-29; also Bill Dwyer's sneering rants from his perch at the Tobacco Institute. For an example of the latter, see "Good Morning America" from March 3, 1976: https://archive.org/details/tobacco_qsp91f00, esp. from 3:35 to 5:25.

⁹⁶ Report by William Kloepper to the Board of Directors, Tobacco Institute, May 15, 1976, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=jydc0040>, p. 5; nearly identical rhetoric can be found in William F. Dwyer's 1978 speech for the College of Tobacco Knowledge, titled "The Cigarette Consumer Controversy," <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=mzw10004>, p. 15.

about “an increasing crescendo of inflammatory insistence” that smoking could harm your health;⁹⁷ he also cautioned about the public being subject to a kind of “mass hypnosis” (from anti-cigarette claims).

Tobacco manufacturers also developed numerous marketing gimmicks posing as breakthroughs in cigarette design. This includes toasting, filters, menthols, king sizing, low tars, lights, slims, and milds—and more recently cigarettes advertised as “organic,” “natural,” or “additive-free”—all of which were offered for “health reassurance” while delivering nothing of the sort. From the industry we often hear the claim that “FTC tar and nicotine numbers” declined significantly from the 1950s into the 1990s, but the reality is that the actual amount of tar delivered into the lungs did not change during this period—because smokers are typically addicted, and can extract however much tar and nicotine they need from a cigarette to satisfy that craving. Cigarette manufacturers developed techniques to manipulate the potency of the nicotine molecule—using ammonia as a free-basing agent, for example, to boost its potency even as claims were being made that some particular brand was lower in tar (or nicotine) than some other brand.⁹⁸

Too often forgotten in historical accounts is the enormous political power of the industry, a power exercised in many different parts of society. While it is true, for example, that some anti-tobacco publications urged especially young people not to smoke—and we find this even in the *Florida Health Notes* from the first two decades of the twentieth century—it is important to realize how exceptional such critiques were. We know, for example, that in many instances magazines and newspapers felt pressure not to publish articles unfriendly to cigarettes, given the substantial dependence of such publications on tobacco advertising revenues.⁹⁹ Gloria Steinem, founding editor of *Ms. Magazine* in the United States, lamented this dependence on cigarette advertising as “a kind of prison.”¹⁰⁰ We also know that many of the same witnesses who testified for the industry in Congress

⁹⁷ Statement of William Kloefer, Jr., before the House Committee on Interstate and Foreign Commerce, 1969, <http://legacy.library.ucsf.edu/tid/uly15f00>.

⁹⁸ See my *Golden Holocaust*, pp. 390-405.

⁹⁹ Kenneth E. Warner and Linda M. Goldenhar, “The Cigarette Advertising Broadcast Ban and Magazine Coverage of Smoking and Health,” *Journal of Public Health Policy*, 10 (1989): 32-42; Elizabeth M. Whelan et al., “Analysis of Coverage of Tobacco Hazards in Women’s Magazines,” *Journal of Public Health Policy*, 2 (1981): 28-35.

¹⁰⁰ Gloria Steinem, “Sex, Lies & Advertising,” *Ms.*, July-Aug. 1990, cited in <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=fsfj0035>.

also appeared in Tobacco Institute propaganda films such as “Smoking and Health—the Need to Know,” films designed to cast doubt on the reality of the cigarette-cancer link. The Tobacco Institute took pains to ensure that such films would have their intended effect, and at one point actually measured one such film’s impact on popular understanding of health risks. In 1973, the Tobacco Institute measured attitudes toward smoking and health before and after watching “Smoking and Health—the Need to Know,” and found that watching the film made people significantly less likely to agree that smoking caused lung cancer. The shift was substantial: those expressing themselves in agreement with the Surgeon General (and the general scientific consensus) declined about 17.8 percent after viewing the film.¹⁰¹

Crucial to keep in mind is how far the industry’s public reassurances were from scientific reality. By the 1970s, the industry’s cries of “no proof” were basically tantamount to flat earth geology. Such was the opinion even of tobacco industry insiders, who wrote in such terms when they thought no one would be listening. Imperial Tobacco of Canada’s research director, Robert M. Gibb, in 1977 characterized the industry’s “not proven” stance as “totally lacking in credibility,” adding that BAT’s R&D people were comparing such a stance to pronouncements of “The Flat Earth” society.¹⁰²

Cigarette industry insiders also recognized the industry’s denialist stance as a contrivance for purposes of litigation. Sydney J. Green, BAT’s senior research scientist, in a confidential 1976 memo reflected on how the industry’s public position with regard to causality was “dominated by legal considerations”:

The public position of tobacco companies with respect to causal explanations of the association of cigarette smoking and diseases is dominated by legal considerations. In the ultimate, companies wish

¹⁰¹ Anne Duffin to William Kloepfer, June 29, 1973, “Audience Testing of ‘Smoking & Health: The Need to Know,’” June 29, 1973, <http://legacy.library.ucsf.edu/tid/hew93f00>.

¹⁰² Robert M. Gibb (ITL) to Norman Dann (IMASCO), Jan. 1, 1977, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=hjmv0223>. The “Flat Earth” society reference is to ICOSI, the International Committee on Smoking Issues, which tobacco industry insiders recognized as essentially a propaganda organ. (It does in fact represent the spread of the formal denialist conspiracy into Europe.) A BAT document from March 1978 characterized the Committee’s principal goal as follows: “The aim of ICOSI is defensive research aimed at throwing up a smoke screen and to throw doubt on smoking research findings which show smoke causes diseases” (<http://legacy.library.ucsf.edu/tid/vzl63a99>).

to be able to dispute that a particular product was the cause of injury to a particular person. By repudiation of a causal role for cigarette smoking in general they hope to avoid liability in particular cases. This domination by legal consideration thus leads the industry into a public rejection in total of any causal relationship between smoking and disease and puts the industry in a peculiar position with respect to product safety discussions. . . . The industry has retreated behind impossible demands for “scientific proof.”¹⁰³

Countries outside the U.S. often felt pressure from American litigators. Geoffrey Todd at BAT in 1971, for example, reported on how Britain’s Tobacco Research Council (T.R.C.) also followed—albeit imperfectly—the lead of the Americans:

From 1956 to 1960, T.R.C. largely followed the American policy of expressing the view that it had not been proved that smoking caused lung cancer. From about 1961, T.R.C. quietly adopted the policy of avoiding comment in this field, neither admitting nor denying causation.¹⁰⁴

U.S. manufacturers wanted to guarantee a unified front, however, and in 1967 sent a delegation consisting of their “three top lawyers”—Addison Yeaman from Brown & Williamson, Henry Ramm from R.J. Reynolds, and Paul Smith from Philip Morris—to persuade the T.R.C. “to re-adopt the American ‘not proven’ position.” The Americans were rebuffed, though Todd did note in consolation (in his 1971 report) that T.R.C. operations in Britain had “never actually proved an embarrassment to the industry in its lawsuits.” Todd also observed that “the U.S. industry does not believe in the health value of low tar- and nicotine cigarettes,” explaining that “it will supply any kind of cigarettes that the American people will buy.”¹⁰⁵

A great deal is revealed in Todd’s long report on his visit to the U.S., during which he interviewed many of the industry’s top scientific and legal personnel, representing each of the “big six” companies, including Lorillard.

¹⁰³ Sydney J. Green (BAT), “Cigarette Smoking and Causal Relationships,” Oct. 27, 1976, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=lljj0194>.

¹⁰⁴ G. F. Todd, “A Record of Discussions in U.S.A. and Canada, November-December 1971,” Dec. 2, 1971, <https://industrydocument.library.ucsf.edu/tobacco/docs/#id=tfpv0223>.

¹⁰⁵ Ibid., pp. 3 and 9.

Brown & Williamson's chief counsel, for example, admitted that the industry had been "forced by the lawsuits to take the 'not proven' provision and to assert it 'affirmatively' (i.e., aggressively)." The refusal to admit causation was clearly litigation-driven: cigarette makers had won all of their cases thus far, but plaintiffs' attorneys were learning from their mistakes and pooling their experience, posing an ever more formidable challenge. Todd reported that this constant threat of litigation had pushed the industry to reinforce its denialist stance:

This "not proven" position had therefore to be followed consistently in all fields of industry policy, since any implied admission anywhere could be used by plaintiffs' lawyers in lawsuits. For example, even though it might make the industry appear in an irresponsible light, the same "not proven" line had to be asserted in hearings before Congressional Committees.¹⁰⁶

We should not underestimate the gravity of this situation: cigarette makers were refusing to admit the dangers of their products—in court and in public hearings and in statements to the press and public—as part of a calculated strategy dictated by tobacco industry lawyers. The net effect was a corruption of popular knowledge and consumer expectations. The "not proven" claim was a contrivance intended to allow tobacco manufacturers to keep on selling cigarettes—and for a time at least this worked.

The "main issue" for tobacco harm denialists was typically lung cancer causation—and it is to repudiate this link that we find the most vehement and persistent denials, right through the end of the second millennium. We should not forget, however, that the industry denied *every*

¹⁰⁶ Ibid., p. 2. Todd concluded from his conversations with Brown & Williamson that the Executive Committee of the Tobacco Institute was the true "seat of power" in the American industry, controlling all smoking and health policy, with advice from the Committee of Counsel (aka "Lawyers Committee" or "Policy Committee" or "Committee of Six"). Philip Morris CEO Joseph F. Cullman, III, had taken over as Chairman of the Executive Committee (from Ed Finch) in the 1960s. The CTR was "also directed by an Executive Committee with advice of a Legal Committee, each having very much the same membership as the corresponding T.I. Committee." And since "T.I. matters are much more important to the manufacturers than research considerations, the Executive Committee of T.I. in practice determines the general smoking and health policy of the industry" (p. 2). The Committee of Counsel governed all matters of smoking and health, including CTR policy; for an organization chart from 1968 (by B&W's Addison Yeaman), see <http://legacy.library.ucsf.edu/tid/pos76b00>.

other form of tobacco harm revealed by modern medical science. The industry denied any impact of smoking on heart disease, and denied any evidence of a danger from smoking during pregnancy. The claim was made that nicotine was not addictive, and that smoking caused neither bronchitis nor emphysema—nor leg and foot rot from vascular degeneration (Buerger’s Disease). The industry also denied its own history of misconduct: marketing to youth, for example, or concealing evidence of harms.

Some examples:

1. In 1971, during a televised interview, Philip Morris President and CEO Joseph Cullman, III, conceded that women who smoke during pregnancy often have “smaller babies”; Cullman also reassured his viewing audience, however, that “some women would prefer having smaller babies.”¹⁰⁷
2. Tobacco manufacturers denied—and still today deny—having ever marketed to youth, contradicting the long trail of documents revealing such efforts. In some surveys, children as young as ten were asked about their smoking behavior. (We shall return to youth marketing in a separate section).
3. Cigarette manufacturers also worked hard to deny the reality of harms from secondhand smoke. Secondhand smoke denial was a centerpiece of global tobacco industry propaganda in the 1980s and ‘90s, primarily through denialist organizations such as the Center for Indoor Air Research, the ETS Consultants Program, ARISE and ICOSI, the International Committee on Smoking Issues. Denialist propaganda was linked with a PR campaign to equate smoking with freedom; another strategy was to sponsor tobacco-friendly research. This latter strategy involved diluting published medical literature with negative results, so claims could

¹⁰⁷ Cullman’s remarks during his 1971 interview with “Face the Nation” can be found at: <http://www.youtube.com/watch?v=VpwcF3Malj8>. Smoking during pregnancy at this time was not universally condemned: Laury Oaks in her *Smoking and Pregnancy* shows that until the late 1970s, physicians were not generally opposed to pregnant women smoking in moderation: “Until the late 1970s, pregnancy advice mainly promoted the idea that smoking in moderation was acceptable, although quitting was most desirable” (p. 66). Physicians sometimes even argued that quitting smoking was worse than continuing, because the newly non-smoking mother would gain weight. See Laury Oaks, *Smoking and Pregnancy: The Politics of Fetal Protection* (New Brunswick: Rutgers UP, 2001).

be made about the aggregate of published evidence showing no real effect.¹⁰⁸

4. Cigarette makers also denied the reality of nicotine addiction, typically by trivializing it as purely a matter of semantics. This tactic is not so common prior to the 1980s, as there was not yet even a finding from the Surgeon General that nicotine was addictive. Tobacco manufacturers would eventually develop numerous ways to trivialize nicotine addiction, comparing it to jogging, watching TV, or eating chocolate. The corollary claim was that if cigarettes are addictive, then so are many other aspects of modern life. Philip Morris President and CEO James Morgan in 1997 compared cigarettes to Gummy Bear candies: “I love Gummy Bears and . . . I eat Gummy Bears and I don’t like it when I don’t eat my Gummy Bears, but I’m certainly not addicted to them.”¹⁰⁹ Addiction was purely a matter of semantics, by this logic, and if doctors had come to agree that smoking is addictive, this was only because the definitions had changed. BAT’s Sharon Boyse in a letter to the *Daily Telegraph* from June 29, 1994, resorted to ridicule:

It has been suggested that smoking must be addictive because it contains nicotine. So do many common vegetables, including tomatoes, aubergines and potato skins. Are vegetable eaters also drug users? - physically dependent on their ratatouille, perhaps, in the same way that heroin addicts are dependent on their heroin? Isn’t it time to get a little perspective back into the debate on smoking?¹¹⁰

5. As late as 1997, the industry’s official position remained essentially denialist on all matters of tobacco and health. Admissions of causality would only come in the new millennium, and even today there is no admission that millions of Americans have died from smoking cigarettes, or that the industry for decades

¹⁰⁸ Deborah E. Barnes and Lisa A. Bero, “Why Review Articles on the Health Effects of Passive Smoking Reach Different Conclusions,” *JAMA*, 279 (1998): 1566-70.

¹⁰⁹ James J. Morgan, deposition testimony in *Broin v. Philip Morris*, April 17, 1997, <http://legacy.library.ucsf.edu/tid/uah46b00>, p. 78.

¹¹⁰ Sharon Boyse (BAT), letter to *The Daily Telegraph*, June 29, 1994, <http://legacy.library.ucsf.edu/tid/qyl24a99>; compare also “Depending on Nicotine?” *BAT Bulletin*, Nov. 1994, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=qzcm0197>.

lied to the public, or that low tar numbers and the branding of certain cigarettes as “lights” were deceptive, or that the companies have deliberately marketed to kids, etc.

6. The industry sought to blame the rise in lung cancer and other respiratory maladies on factors other than cigarettes, such as environmental pollution (“alternative causation”).

Tobacco executives were sometimes explicit about their efforts to foment ignorance—in their internal correspondence. Often this was done under the rubric of “health reassurance,” though we also find cigarette makers talking about the importance of manufacturing doubt or “keeping the controversy alive.” “Doubt is our product” is perhaps the most notorious confession of this sort, from a Brown & Williamson marketing document drafted in 1969,¹¹¹ but there are others.

Cigarette makers did not want people to know certain things about cigarettes—how addictive they were, for example—despite having a good understanding of this from work in their own laboratories (especially from the 1960s on). I’ve mentioned BAT and Brown & Williamson’s use of the term “addiction” prior even to the 1964 Surgeon General’s report, and there are other internal industry admissions. Marketing planners in the late 1960s divided cigarette users into “Steady Smokers” and “Unables”—meaning smokers unable to quit smoking—and by the 1960s “Unables” outnumbered “Steady Smokers” by a significant margin.¹¹² Robert Bexon at ITL in the 1980s knew that most smokers wished they could stop; he was emphatic on this point, reasoning that continued prosperity of the tobacco trade depended on the addictive properties of cigarettes:

If our product was not addictive we would not sell a cigarette next week *in spite of* these positive psychological attributes.¹¹³

¹¹¹ John W. Burgard to Robert A. Pittman et al., “Smoking and Health Proposal,” Aug. 21, 1969, <http://legacy.library.ucsf.edu/tid/zqy56b00> and <http://legacy.library.ucsf.edu/tid/pzi66b00>.

¹¹² Eastman Chemical Products, “1969 Survey of Cigarette Smoking: Behavior and Attitudes, vol. 1,” 1969, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=fjvg0129>, p. 12.

¹¹³ Robert L. Bexon to ITL President Wilmat Tennyson and W. Sanders, “File Viking,” 1985, p. 2. (emphasis in original), <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=tzfb0223>.

Bexon compared smokers not just to drinkers but *to alcoholics*: “Like alcoholics, smokers realize that they will always be smokers and can always fall off the wagon.”¹¹⁴ Claude Teague in the United States developed very similar views, confiding in a 1972 memo that “we cannot ever be comfortable selling a product which most of our customers would stop using if they could.” He also noted that “if the exit gate from our market should suddenly open, we could be out of business almost overnight.”¹¹⁵

All of the companies knew that most smokers wanted to quit, and developed tools to explore the minimum nicotine required to keep smokers smoking—to avoid what was sometimes referred to as “weaning” smokers from their nicotine habit.¹¹⁶ Lorillard recognized that cigarette satisfaction was “almost totally related to nicotine intake”;¹¹⁷ the goal of Lorillard’s RT Task Force (in 1980) was therefore to determine “the minimum level of nicotine that will allow continued smoking.”¹¹⁸ Reynolds in 1971 listed as an item for future research: “Habituating level of nicotine (How low can we go?),”¹¹⁹ and a 1982 BAT report on “Smoking Behaviour” cautioned that: “If delivery levels are reduced too quickly or eventually to a level which is so low that the nicotine is below the threshold of pharmacological activity then it is possible that the smoking habit would be rejected by a large number of smokers.”¹²⁰ Ronald A. Tamol at Philip Morris, the process engineer who helped that company developed its reconstituted tobacco sheet, in 1965 commented on the need to determine the “minimum nicotine

¹¹⁴ Ibid. In 1997 Bexon was hired by Brown & Williamson, makers of Kool, Viceroy and Raleigh cigarettes, as Senior Vice President for Marketing and Sales, where he worked to help fulfill BAT’s goal of becoming “the No. 1 tobacco company in the world.”

¹¹⁵ Claude E. Teague, Jr., to G. R. Di Marco, “Nordine Study,” Dec. 1, 1982, <http://legacy.library.ucsf.edu/tid/tjf76b00>.

¹¹⁶ Benito Vila (Lorillard) on Nov. 3, 1977, wrote to Richard E. Smith, outlining directions for future product development: “I don’t know of any smoker who at some point hasn’t wished he didn’t smoke. If we could offer an acceptable alternative for providing nicotine, I am 100 percent sure we would have a gigantic brand,” <http://industrydocuments.library.ucsf.edu/tobacco/docs/gqcj0045>, p.1.

¹¹⁷ Harry J. Minnemeyer (Lorillard) to A. W. Spears, “Present Status of the Nicotine Enrichment Project,” April 13, 1977. <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=jzmn0189>,

¹¹⁸ Richard E. Smith to Alexander Spears et al., Feb. 13, 1980, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=lsln0189>.

¹¹⁹ A. H. Laurene to Murray Senkus, “RE: Possible IBT Projects,” May 24, 1971, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qqhn0093>.

¹²⁰ BATCo, “Smoking Behaviour,” 1982, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=kqyd0203>.

req'd to keep normal smokers 'hooked.'" ¹²¹

Internal Agnotology and “Third Party” Denialism

One interesting aspect of cigarette-science denialism is the industry's *lying to itself*, by which I mean its own employees: cigarette makers knew that not everyone would buy the deception, and worried about how knowledge of the morbid realities of smoking might impact corporate morale. Philip Morris censored the health information sent to employees by its insurance providers, for example, and worked also to suppress Merrell Dow's manufacture of nicotine replacement therapies (which it feared would cut into cigarette sales).¹²² R.J. Reynolds included denialist messaging in its internal corporate newsletters and in lectures and brochures designed for sales personnel and staff.¹²³ We also know that companies produced handbooks for their employees, explaining the “position” to be taken when confronted with unfriendly facts about smoking and health.

British firms were also involved in such internal policing. BAT in 1981, for example, produced an “Employee Handbook on Smoking and Health,” offering a more “balanced view” of smoking and health than what employees might hear from the “active and skilled lobby of pressure groups” opposing smoking. And the central message was simple: “Despite extensive research, some of it initiated and carried out by the tobacco industry itself, there has been no scientific proof that smoking causes any diseases in humans.” Reassurances are offered on multiple fronts, that moderns cigarettes are “vastly different” from those of earlier generations, for example, and that “the great majority of smokers do not die from lung cancer.” Yes, carbon monoxide had been found in cigarettes, but this was not such a big deal, since “healthy individuals are well able to tolerate the effects of carbon monoxide in the atmosphere and from tobacco smoke.”

¹²¹ Ronald A. Tamol laboratory notes, Feb. 1, 1965, <http://legacy.library.ucsf.edu/tid/rrc76b00>. In this same document Tamol talks about a “threshold level” of tpm. The word after “minimum nicotine” is hard to read, but Tamol in his July 12, 1996, deposition for *Castano* identified the word as “required”; see <http://legacy.library.ucsf.edu/tid/isr07a00>, pp. 104, 113, and 119. The same lettering appears at: <http://legacy.library.ucsf.edu/tid/esc76b00>.

¹²² On Philip Morris's censorship of health information sent to its employees, see Monique E. Muggli and Richard D. Hurt, “A Cigarette Manufacturer and a Managed Care Company Collaborate to Censor Health Information Targeted at Employees,” *American Journal of Public Health*, 94 (2004): 1307-11.

¹²³ Numerous examples are included in my *Golden Holocaust*, pp. 292-97.

And as for smoking during pregnancy, rest assured: “the allegations are based on statistical associations.” As for nicotine: “nicotine is not generally believed to present any problems for healthy smokers,” especially since “Smoking is not an addiction, but is better described as a habit.” As for “Should I work for a tobacco company?” a bit of fatalistic humor is invoked: “We have made that decision already.”¹²⁴

Rothmans International had a similar handbook (circulated to employees in 1990), describing the smoking-cancer link as “a statistical association” comparable to that between “reading ability in children and their height.” The company insisted that “a statistical association alone is not enough to prove causation” and noted that “the vast majority of smokers do not get lung cancer and that some non- smokers do. Epidemiology cannot explain that paradox.” For these and other reasons “we do not accept that it has been scientifically proven that smoking causes disease. Our position is that more research is necessary”¹²⁵

In Canada, we have examples of internal agnotology¹²⁶ even earlier. In 1969, for example, Imperial Tobacco drafted a document instructing its employees in how to think about smoking and health, urging their reconciliation to the fact that “[d]espite publicity campaigns that have attempted to link smoking with many diseases,” the subject was still “a matter of scientific controversy.” The document mentioned Cohen and Heimann’s study from October 1963 in which it was claimed that deaths from all types of cancer, including cancers of the lung, were distinctly low amongst tobacco workers, despite having significantly higher smoking rates. ITL failed to inform its employees, though, that the coauthor of this report, Robert K. Heimann, was an executive in the American Tobacco Company, whose epidemiology had already been discredited in world medical literature. The handbook also failed to note that the report suffered from what is known as “healthy worker bias,” the fact that sick workers leave the workplace, inflating the apparent average health of the working remnant.

¹²⁴ BAT Co., “Employee Handbook on Smoking and Health,” Jan. 19, 1981, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=kplc0200>.

¹²⁵ Rothmans International Tobacco (UK) Limited, “Tobacco Issues: The Company’s View,” Feb. 1990, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=hfwb0223>.

¹²⁶ Agnotology is the scholarly study of ignorance; see Robert N. Proctor and Londa Schiebinger, eds., *Agnotology: The Making and Unmaking of Ignorance* (Stanford: Stanford University Press, 2007).

ITL was here feeding “junk science” to its employees, in an effort to enforce the denialist party line.¹²⁷ Tobacco manufacturers used many other methods to make sure its employees or stockholders toed the line on tobacco. Rothmans and IMASCO both refused to allow shareholders’ resolutions on smoking and health,¹²⁸ and BAT in 1991 printed yet another brochure instructing employees on how to answer questions about smoking and health. This last-mentioned brochure basically asked BAT workers to question the entirety of medical evidence linking smoking to harms—lung cancer, heart disease and emphysema, of course, but lesser-known impacts as well. The brochure challenged its employees to repudiate claims that “Smokers die younger” or that “Smoking is dangerous for pregnant women.” The instruction in each instance was to deny all evidence of harm, along with all evidence of pharmacologic dependency or increased medical costs. Comparable instructions were given for how to respond to queries about addiction, the constituents in cigarettes, and so forth. The company even denied it was denying anything: “we do not deny that smoking is harmful; we simply believe that science has not yet proven whether it is or not.”¹²⁹

Tobacco manufacturers had already realized by the 1950s that claims of this sort were more convincing when coming from (seemingly) disinterested “third parties”; efforts were therefore made to have denials come from authorities who could ventriloquize the industry, typically for a sizeable fee. That was one reason research at so many universities was funded: CTR Special Projects were granted to scientists who would deconstruct one or another aspect of the “cigarette hypothesis,” for example, and CTR funding was used as a kind of farm to generate a “stable of experts” for use in litigation.¹³⁰ Experts of this sort could then be trotted forth as “independent,” without their claims being tainted by seeming to come from an interested party. Judge Kessler in her “Amended Final Opinion” from 2006 called this the “illusion of independence.”¹³¹ Many

¹²⁷ Hill and Knowlton (for ITL), “Suggested Lead-In Copy Related to Health Factor,” March 4, 1969, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=hycb0223>.

¹²⁸ Rob Cunningham, *Smoke and Mirrors: The Canadian Tobacco War* (Ottawa: IDRC Press, 1996), p. 153.

¹²⁹ BAT “Smoking Issues: Claims and Responses,” circa 1991, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=mtfb0194>.

¹³⁰ The “stable of experts” metaphor for witness development is found in Jones, Day, Reavis and Pogue (for Reynolds), “Corporate Activity Project,” Nov. 17, 1986, <http://legacy.library.ucsf.edu/tid/rrx95a00>, p. 327.

¹³¹ Gladys Kessler, “Amended Final Opinion” in *USA v. Philip Morris et al.*, Sept. 8,

such experts were paid handsomely for this service, and very often the payoff was not disclosed.

One remarkable example of the industry using the authority of “third party” experts can be found in the January 1968 issue of *True* magazine, the most popular men’s magazine of its time, with a circulation of over 3 million copies. A sportswriter by the name of Stanley Frank published an article therein, asking (in the subtitle) “Are cigarettes really ‘hazardous to our health’ like the package says? Nobody knows.” Frank cited 14 medical and scientific authorities in support of his concluding paragraph, insisting that “all we can say for sure is that the cause of cancer is not known and that there is absolutely no proof that smoking causes human cancer.”¹³² Two months later, a very similar article titled “Cigaret Cancer Link is Bunk” appeared in the *National Enquirer*, this time under the authorship of a certain (fictional) “Charles Golden.”¹³³ Criticism of the Frank piece began immediately after its publication, especially after a *Wall Street Journal* investigation found that Frank and Golden were one and the very same person. It also turned out that the Tobacco Institute (via the Tiderock Corporation) had paid to have its propaganda placed in both publications—and Frank had started working for Hill & Knowlton by the time the first piece had appeared. The crucial point, however, is that among the 14 authorities cited by Frank in defense of his “nobody knows” claim, 13 had been paid by the tobacco industry. None of this was disclosed in the article, making it seem as if there really was an honest controversy. A perfect example of the industry’s “third party” deception. As a result of this embarrassment, Hill & Knowlton resigned from its Tobacco Institute account—and it could well be that one reason John Hill preserved and eventually released many of his crucial papers documenting the 1953 conspiracy was his sense of betrayal at the hands of Big Tobacco.

2006, <http://www.usdoj.gov/civil/cases/tobacco2/amended%20opinion.pdf>, pp. 1330-41.

¹³² Stanley Frank, “To Smoke or Not to Smoke—That is Still the Question,” *True*, Jan. 15, 1968, <http://legacy.library.ucsf.edu/tid/xso12i00>. Frank’s article was part of a larger Tiderock effort—Project Lighthouse, funded by Brown & Williamson—to cast doubt on smoking-disease links. John W. Burgard was the point man for Brown & Williamson, with Rosser Reeves acting for Tiderock; see <http://legacy.library.ucsf.edu/tid/txe24f00>.

¹³³ Charles Golden, “Cancer Link is Bunk,” *National Enquirer*, March 7, 1968. The *National Enquirer* had earlier published an article making this (bogus) claim on its front cover: “Cancer Warning! Eating a 1 lb. Charcoal-Broiled Steak Is Same as Smoking 3000 Cigarettes,” citing research by William Lijinsky; see the issue from Oct. 22, 1967, p. 8, <http://legacy.library.ucsf.edu/tid/gxg00c00>.

Another notable example of using “third party” tactics dates from only a few years later, when the cigarette industry organized an effort to discredit evidence of harms from exposure to secondhand smoke. Two powerful epidemiological studies from 1981 had linked lung cancer to exposure to secondhand smoke, and by the mid-1980s this link was starting to be certified by public health authorities—including the U.S. Surgeon General and the National Research Council of the U.S. National Academy of Sciences.¹³⁴ Cigarette makers saw this as a serious threat to their business: it was one thing for smokers to be killing themselves, but quite another to be killing non-smoking spouses, babies, bystanders, colleagues in the workplace, and other “innocents.” The new science of secondhand smoke threatened to undermine the central ideological bulwark of the industry, that smoking was a purely voluntary act and an “adult choice.”¹³⁵

The industry responded by trying to stake out the high ground of freedom, recasting the “right to smoke” as much like the right to free speech. But they also attacked the science. Following Hirayama’s publication, for example, the Tobacco Institute launched a media campaign to discredit his research, organizing critiques in print media but also on radio and on television. Attacks of this sort appeared all over the U.S.¹³⁶

Massive efforts were also organized to undermine the epidemiology implicating secondhand smoke in causing harm. Compliant scholars were mobilized through the Special Projects branch of the CTR, but also through a new global “ETS Consultancy Program,” tasked with discrediting the evidence linking secondhand smoke to cancer and other diseases. More than 70 scientists were enrolled in the ETS Consultancy Program, including 49 university-affiliated scholars and 21 scholars from private research

¹³⁴ Takeshi Hirayama, “Non-smoking Wives of Heavy Smokers Have a Higher Risk of Lung Cancer: A Study from Japan,” *British Medical Journal*, 282 (1981), pp. 183–85; D. Trichopoulos et al., “Lung Cancer and Passive Smoking,” *International Journal of Cancer*, 27 (1981), pp. 1–4; *The Health Consequences of Involuntary Smoking: A Report of the Surgeon General* (Rockville: USDHHS, 1986); National Research Council, *Environmental Tobacco Smoke* (Washington, DC: National Academy Press, 1986).

¹³⁵ Brandt, *Cigarette Century*, pp. 279–315.

¹³⁶ The Tobacco Institute, Public Relations Department, “The Hirayama Controversy; an Analysis of Media Activity June 15 – July 31, 1981,” Aug. 1981, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=gfc0043>, esp. Bates T110150732 and T110150684.

institutions (or “think tanks”). In 1989 alone these consultants were sent to three scientific conferences, published 43 papers and three books in seven languages, gave over 1,100 media interviews, and signed ten affidavits in litigation—all denying any reality to harms from secondhand smoke.

John Rupp from Covington and Burling, the law firm responsible for organizing the conference (which cost the Tobacco Institute upwards of \$800,000), described the purpose of this “ETS Symposium”:

On November 3 and 4, 1989, approximately 60 of our consultant scientists from the United States, Canada, Asia, and Western Europe will convene for a private symposium devoted to ETS and risk assessment. The purpose of the symposium is to produce an authoritative monograph that will serve to neutralize two reports that are scheduled to be released near the end of this year - an ETS risk assessment that is being prepared by the U.S. Environmental Protection Agency and a detailed assessment of ETS health effects that is being prepared in Canada under Professor Spitzer's supervision.¹³⁷

The strategy was simple, if costly and nefarious: if you don't like the science, generate some of your own.

* * * * *

The tobacco industry's orchestrated campaign of deception involved many different elements: misrepresentations to the public and before governmental bodies; a calculated use of “third party” experts to disguise the fact that cigarette-friendly opinions have originated from the industry; research funded to create the appearance of caring about the safety of one's products; ridicule of scholarly and public health authorities trying to protect the public; and the marketing and sale of products with implicit assurances of safety, when the manufacturers knew such claims were untrue.

Central to many of the industry's public statements regarding cancer was this stress upon a purported need for “more research” given the merely

¹³⁷ John P. Rupp (Covington and Burling), “Asia ETS Project: Status Report,” Sept. 27, 1989, <http://legacy.library.ucsf.edu/tid/ffy76b00>; and for expenses and fees, see <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=gknx0146>. And for background: Monique E. Muggli, Richard D. Hurt, and D. Douglas Blanke, “Science for Hire: A Tobacco Industry Strategy to Influence Public Opinion on Secondhand Smoke,” *Nicotine & Tobacco Research*, 5 (2003), pp. 303-14.

“statistical” nature of the link between smoking and cancer. The claim was typically that the evidence against smoking was shaky at best, but also—and here we skirt contradiction—that smokers were already well informed about the “alleged” hazards, possessing “common knowledge” to this effect. There was also the perennial refrain that assertions of harms from smoking were based on “emotional propaganda,” “mere statistics” or “junk science.”

What, though, can we say about the impact of such deceptions? The tobacco industry in many of its legal forums tries to argue that whatever the industry did had little impact on public actions or beliefs; is there any truth to such claims?

What can we say about the growth and obstruction of popular knowledge?

Popular Knowledge and Ignorance of Harms

Cigarette manufacturers did not publicly admit that tobacco caused lung cancer or heart disease or any other deadly malady until the close of the twentieth century. Prior to this time, in fact, they vigorously denied such links. How did this impact popular knowledge? What do scientific surveys reveal about what Americans knew about the hazards of smoking?

Judging from historical survey data, the most important generalizations about popular knowledge of tobacco hazards are the following:

1. Prior to the 1960s most Americans did not know—were not convinced, did not believe—that smoking could cause deadly diseases such as coronary illness and cancer.
2. With the publicity surrounding the Surgeon General’s report of 1964 and further reports in the popular press, an increasing number of ordinary Americans started to realize that smoking could cause death and disease, with a majority of adults coming around to this view in the 1970s.
3. Educated people have been more likely to recognize the hazards than people with less education, with the gap growing significantly after the 1960s (when the industry started targeting “the less educated.”¹³⁸

¹³⁸ On targeting the “less educated,” see the Reynolds document “Less-Educated: Today’s Trend Tomorrow’s Market???” 1985,

4. Smokers have generally been less convinced of the hazards of smoking than non-smokers—by a significant margin. They are also more vulnerable to reassurances, grasping at straws to rationalize their smoking.
5. Smokers of brands marketed as “filtered,” “light” or “low tar” tend to be more conscious of cigarette-disease links than smokers of other kinds of cigarettes; they also, though, tend to be wrong in their view that filtered, low tar, or light cigarettes offer any genuine margin of safety (see #8).
6. Smokers have generally been profoundly misinformed about the number of cigarettes that can be safely smoked.
7. Even people who recognize the reality of cigarette hazards often rank such hazards low in the list of things they worry about—far lower than as recognized by medical professionals.
8. Many Americans, even those convinced of the reality of tobacco hazards, have been falsely reassured by gimmicks such as filters, low-tars and “lights.” As a result, while many smokers are willing to admit that smoking may be unsafe in general, they very often believe that the particular brands they smoke are “safer.”
9. Many people have been falsely led to believe that secondhand smoke poses no risk to life, a common claim of tobacco manufacturers until very recently.
10. Any effort to assess what people have known about the hazards of smoking must be clear about which particular hazards are in question. Lung cancer, macular degeneration, and spontaneous abortion have all been linked to smoking, for example, but people who know about one of these links may not know about some other.

Public opinion surveys reveal a fairly steady increase in popular knowledge of the most important hazards of tobacco use from the 1950s

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pqlj0095>. Discount brands were one way to target the poor and less educated. Philip Morris launched its Basic brand in 1992, for example, recognizing that most users (59 %) would be “working class” with “no college”; see “1998 PMI Marketing Training Program,” July 23, 1998, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=lzbp0043>. Philip Morris understood that its target audience would be “Average everyday folks like me . . . hard-working, unpretentious.” For more on the brand history of Basic, see Leo Burnett for Linda Hadel (Philip Morris), “The Best Things in Life Are Basic,” Jan. 24, 2000, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qtbh0165>.

onwards, albeit neither so fast nor as complete as the industry's experts would have us believe.¹³⁹ And while it is true that the majority of Americans today will recognize that smoking causes life-threatening illness, it would be wrong to project our current understanding into the distant past.¹⁴⁰

Understanding polling also requires that we appreciate that the answers we get depends very much on what kinds of questions are asked. When people are simply asked whether smoking is “harmful” in the abstract, for example, it has always been easy to get fairly broad assent. Probing a little further, however, we find that people often have unrealistic notions of the nature and severity of that harm. Smokers are often poorly informed about whether the danger is the same for different kinds of cigarettes (filtered v. non-filtered, for example) and different patterns of use (moderate vs. immoderate smoking, for example). People also have inaccurate notions about what happens when you stop smoking—whether the danger persists, for example—and how much you have to smoke before doing yourself any harm. Many smokers believe that only “heavy” or “immoderate” smoking is dangerous, and a surprising number believe they can smoke for a while and then stop before it poses any real risk. Many smokers do not realize that the risk of smoking is cumulative, and that a small amount of damage is done to the body with each cigarette. Many people believe that smoking is only dangerous for certain kinds of people, not for everyone; and many people, even when recognizing a danger to others, do not feel this danger applies to themselves.

¹³⁹ For surveys of popular knowledge of tobacco in the United States circa 1980, see Matthew L. Myers et al., *Federal Trade Commission Staff Report on the Cigarette Advertising Investigation*, esp. Chapter III: “Consumer Knowledge of the Health Hazards of Smoking” (FTC: May 1981),

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=tycl0056>, which concluded that 40 percent of smokers believed that “only heavy smoking is dangerous” and that half of all Americans felt that smoking was “merely a habit, not an addiction” (pp. 3-40 and 3-15); compare also Kenneth E. Warner, *Selling Smoke: Cigarette Advertising and Public Health* (Washington, D.C.: American Public Health Association, 1986), <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=mhhx0149>.

¹⁴⁰ In 1954, the *Santa Fe New Mexican* reported on six people interviewed about an AMA report linking cigarettes to cancer; each of the six expressed doubts as to the dangers of smoking; see “What Do You Think? Have You Cut Down Smoking Since the AMA Cancer Report?” *Santa Fe New Mexican*, June 27, 1954, <https://www.industrydocumentslibrary.ucsf.edu/docs/#id=mrhf0118>.

Surveys conducted by (or for) the tobacco industry and for public health agencies reveal how public attitudes toward “smoking and health” have changed over time:

- In 1954, a Gallup poll found that 90 percent of Americans had “heard or read about” a connection between smoking and lung cancer. When this same group was asked whether they *believed* what they had read, fewer than half of those polled answered “yes.” And smokers were even less convinced.¹⁴¹
- In 1958, a Gallup poll found that when American smokers were asked “do you think that smoking is or is not one of the causes of cancer of the lung?” 33 percent answered “yes,” with the remainder answering either “no” or “undecided.” Only 28 percent of the smokers of unfiltered cigarettes answered “yes” to this same question.¹⁴²
- In 1965, a Louis Harris poll found that when 1,250 Americans were asked whether smoking was a “major” or a “minor” cause of lung cancer, only 20 percent of the heavy smokers said “major cause.”¹⁴³
- In 1968, a survey conducted by Chilton Research Services found that when American teenagers were asked whether they expected to be smoking five years hence, only 3 percent said “definitely,” with another 12 percent answering “probably.” The reality would prove closer to about 35 percent—which means that teenagers were profoundly misinformed about the grip of addiction, the seductiveness of tobacco, and their inability to quit.¹⁴⁴

¹⁴¹ George H. Gallup, *The Gallup Poll: Public Opinion 1935-71*, vol. 2 (New York: Random House, 1972),

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=tpvp0062>.

¹⁴² George H. Gallup, “Health Service Report Yet to ‘Sink in’ with Smokers: Little Change in Beliefs on Cigaret-Cancer Link in New Poll” (press release), Aug. 10, 1958,

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=lzdy0138>.

¹⁴³ Louis Harris, “The Harris Survey,” *Washington Post*, Feb. 1, 1965. The best survey of polls from the 1950s and early 1960s is the Gallup Organization’s “Trends in Public Attitudes on the Possibility of a Health Hazard in Cigarette Smoking,” March 1964,

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=ntbm0104>, p. R-4.

¹⁴⁴ Daniel Horn, “Current Smoking among Teenagers,” March 25, 1968,

- In 1979, a BAT Southampton study found that among smokers who had never tried to quit and had no intention of doing so, fully 90 percent agreed there was “nothing wrong with smoking as long as a person smokes moderately.” BAT’s Project Libra found that 70 percent of all smokers agreed that “mild cigarettes are safer than strong cigarettes” and that “Low Tar Cigarettes Are Safer than Other Cigarettes.”¹⁴⁵

Surveys cannot always of course be taken at face value; when people agree to a pollster asking (yes or no?) whether smoking causes lung cancer, for example, they may be guessing, or trying to please the interviewer, or simply trying to sound “smart.” The apparent “knowledge” of smokers and non-smokers alike is therefore very often inflated. Brown & Williamson in the late 1960s asked a number of Los Angeles residents whether smoking causes *diphsomia*, for example, and found 27 percent of smokers and 50 percent of non-smokers answering “yes”—even though there is no such disease. Tobacco industry PR men used this story to suggest the gullibility of the public,¹⁴⁶ but it also reveals a weakness in questionnaires that ask “do you believe” or “do you know. . . ?” with the expectation being a simple “yes” or “no.”

One way to get around this difficulty has been to ask open-ended or *unprompted* questions, typically of the form: “what do you think is wrong with smoking cigarettes?” or “what kinds of diseases do you think one might get from smoking?” Surveys of this sort show a much lower level of concern about the threats posed by smoking. In 1958, for example, a poll by Elmo Roper and Associates revealed the public’s “shocking lack of awareness” of the magnitude of health harms from smoking. When asked to complete the sentence, “The trouble with cigarettes is that they . . . ,” only one percent volunteered “could cause cancer.” And only 3 percent offered that cigarettes could be “harmful to your lungs, wind, breath.” A “Highlights” section of the report concluded that while cigarettes were regarded as “bad for you to a greater extent than the other products we asked about” (air pollution,

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=nkmf0115>.

¹⁴⁵ Martin Oldman, “Cigarette Smoking, Health, and Dissonance (Project Libra),” Oct. 18, 1979, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=hnlk0134>, pp. 80-82.

¹⁴⁶ “Trace Outbreak of Diphsomia to Anti-Smoking Absurdities,” *United States Tobacco Journal*, Nov. 5, 1970, <http://legacy.library.ucsf.edu/tid/agx09d00>.

climbing out of a bathtub, etc.) there was “surprisingly little concern” about cigarettes. What little concern there was seemed “largely directed at the avoidance of throat irritation and the consequent search for mildness” in the form of filters.¹⁴⁷

Another problem has been that even after learning to associate lung cancer and heart disease with smoking, many people still do not know about risks from less publicized cancers, such as cancers of the kidney, bladder,¹⁴⁸ larynx or esophagus. This has sometimes even been a problem for distinguished physicians. As recently as 1987, Dr. John Jeffery, chairman of the Kidney Foundation of Canada’s National Medical Advisory Board—and a distinguished kidney transplant specialist—did not know that smoking could cause kidney cancer. Jeffery’s foundation was criticized for appointing ITL’s Paul Paré as a corporate fund-raiser, which critics linked to Jeffery’s ignorance.¹⁴⁹ If knowledge of smoking causing kidney cancer was not even “common” enough to reach a leading physician at Canada’s Kidney Foundation, how can we expect non-specialists to have had such knowledge?

Cigarette makers often claim that knowledge of cigarette hazards goes back many decades, prior even to the 1940s and 1950s. The reality is that there were lots of scholars—even into the 1960s and sometimes later—who did not believe it had been proven that cigarettes cause cancer. And publicly made such claims on behalf of distinguished scholarly societies. Here are some examples of late ignorance (laggards, one could say, slow to recognize the science):

- On May 29, 1948, Edward D. Churchill, a Professor of Surgery at Harvard and Chief of Surgical Services at Massachusetts General Hospital, published an article in *JAMA* stating with regard to lung cancer that “Nothing is known about the cause of the disease that can be translated into effective preventive measures.” There was thus “no factual evidence on which

¹⁴⁷ Elmo Roper and Associates, “A Study of Attitudes toward Cigarette Smoking and Different Types of Cigarettes, Volume I” (prepared for Philip Morris), Jan. 1959, <http://legacy.library.ucsf.edu/tid/ynl02a00>.

¹⁴⁸ Cigarettes cause about half of all cancers of the bladder in American women; see <http://www.nih.gov/researchmatters/august2011/08292011cancer.htm>.

¹⁴⁹ Kim McLeod, “Doctor Admits He Made Error,” *Edmonton Journal*, Jan. 13, 1987, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=lqgb0223>.

advice to give up smoking” could be based.¹⁵⁰ A *JAMA* editorial from that same year stated there was no “preponderance of evidence that would indicate the abolition of the use of tobacco as a substance contrary to the public health.”¹⁵¹

- In 1953 Wilhelm Hueper, head of the Environmental Cancer Section at the National Cancer Institute, wrote in the *Rhode Island Medical Journal* that if smoking plays a role in the production of lung cancer “it seems to be a minor one.”¹⁵²
- In 1953 the Metropolitan Life Insurance Company was not yet ready to accept the cigarette-lung cancer link, characterizing the role of smoking in the rise of cancer as “still far from conclusive.”¹⁵³
- In 1953 Raymond Passey, Director of Cancer Research at the University of Leeds and a Fellow of the Royal Society of Medicine, wrote that while smoking might eventually be proven to cause cancer, “at the moment we do not know” and “let us be sure of our evidence before we scare the public.”¹⁵⁴
- In 1953 four scholars at the National Cancer Institute questioned the cigarette-cancer link, calling its etiological significance “unestablished.”¹⁵⁵ NCI director John Heller also described the link as not yet proven “to our satisfaction.”¹⁵⁶
- On Dec. 17, 1953, Dr. Walter B. Martin, President-Elect of the

¹⁵⁰ Edward D. Churchill, M.D., “Primary Carcinoma of the Lung,” *JAMA*, May 29, 1948, pp. 455-61, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=jqkg0055>.

¹⁵¹ “The Advertising of Cigarettes” (Editorial), *JAMA*, Oct. 30, 1948, p. 652, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=kklc0115>

¹⁵² Wilhelm C. Hueper, M.D., “Air Pollution and Cancer of the Lung,” *Rhode Island Medical Journal*, 36 (1953): 24-30, 34-36, 52, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ggxw0077>.

¹⁵³ Metropolitan Life Insurance Company, *Statistical Bulletin*, 34 (Feb. 1953), p. 3. This passage is often cited in cigarette industry’s propaganda, including the TIRC’s first “white paper”; see “A Scientific Perspective on the Cigarette Controversy,” April 1954, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zmfy0059>,

¹⁵⁴ Raymond D. Passey, M.D., “Smoking and Lung Cancer,” *British Medical Journal*, Feb. 14, 1953, p. 399, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=jydh0067>.

¹⁵⁵ D. A. Sadowsky, A. G. L. Gilliam, and J. Cornfield, “The Statistical Association Between Smoking and Carcinoma of the Lung,” *JNCI*, 13 (1953): 1237-58.

¹⁵⁶ Heller is cited in a *New York Times* interview from April 20, 1953, cited in TIRC, “A Scientific Perspective on the Cigarette Controversy,” April 1954, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zmfy0059>, p. 12.

AMA, on national television claimed there had been “no positive proof” of the connection between smoking and cancer. His assessment: “I don’t think the evidence is convincing.”¹⁵⁷

- In June of 1954, the American College of Chest Physicians doubted the sufficiency of the evidence linking cigarettes to cancer: “While many theories have been advanced, further work must be carried out before any single agent or agents can be definitely implicated.”¹⁵⁸
- In 1955 Elmer Hess, President-Elect of the American Medical Association, on Edward R. Murrow’s nationally-broadcast “See it Now” confessed: “I’ve been a smoker all my life and I can’t see where it’s done me a great deal of harm.”¹⁵⁹ On that same show Wilhelm Hueper reaffirmed his skepticism: “I do not believe that cigarette smoking is one of the major causes of cancer of the lung.”¹⁶⁰
- In 1955, R. D. Passey from the Institute of Cancer Research in London maintained that while there were carcinogens in smoke, “the quantities are possibly insufficient to induce cancer.”¹⁶¹
- In 1956 Dr. Richard H. Overholt, one of the nation’s foremost thoracic surgeons, praised the tobacco industry for showing “concern and sincere interest” in the cancer problem. Overholt also commented that with filters, “about one-third of the nicotine and coal-tar content is filtered out.”¹⁶²

¹⁵⁷ “Answers for Americans,” ABC Network broadcast reported in Hill and Knowlton, “The Weight of Scientific Research Still Says: No Data Prove Theory that Cigarettes Cause Lung Cancer,” 1954,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=tfmp0042>.

¹⁵⁸ Hill and Knowlton to TIRC, “Preliminary Report of AMA Convention, San Francisco,” June 23, 1954,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=kycm0007>.

¹⁵⁹ “Transcript of Edward R. Murrow’s First TV Show on ‘Cigarettes and Lung Cancer’,” May 31, 1955,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qzcn0011>.

¹⁶⁰ Ibid. p. 3.

¹⁶¹ R. D. Passey to Robert C. Hockett, Feb. 1, 1955,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=mspy0215>.

¹⁶² “Points to Cancer Link,” *Kansas City Times*, March 22, 1956,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=jlgg0028>. Overholt in June of 1956 had stated that the cause of cancer of the lung was “unknown”; see his 1960 testimony in *Pritchard v. Liggett*,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zsmn0132>, p. 24.

- In 1957 and 1958, Sir Ronald A. Fisher, Britain's leading statistician, published a series of articles accusing scholars of confusing cause and effect: people with cancer, he proposed, ease their pain by smoking, creating the semblance of a causal relation which, in fact, is a spurious coincidence.¹⁶³
- In 1959 Seymour Farber, President of the American College of Chest Physicians, claimed that "While many theories have been advanced" with regard to what causes lung cancer, it was vital "that further work be carried out before any single agent or agents can be definitely implicated." The College thus "declined, without further research, to pin the increase in lung cancer on smoking."¹⁶⁴ The Board of Regents of the College approved this statement "without dissenting."
- In 1959, *JAMA* editor John H. Talbott wrote that while medical studies revealed a cigarette-cancer relationship, there was much they didn't explain and that "Neither the proponents nor the opponents of the smoking-theory have sufficient evidence to warrant the assumption of an all-or-none authoritative position."¹⁶⁵
- In 1959, the UPI reported that a group of Birmingham scientists led by Thomas McKeown had found that smoking a pack or more a day "may help health"—by keeping one's blood pressure low.¹⁶⁶
- In 1960, in a review financed by the National Science Foundation, Dr. Joseph Berkson from the Mayo Clinic found it "very doubtful that smoking causes cancer of the lung."¹⁶⁷
- Also in 1960, in research funded by the NCI and the American Cancer Society, pathologists Paul Kotin and Hans L. Falk found

¹⁶³ Sir Ronald A. Fisher, *Smoking: The Cancer Controversy* (Edinburgh: Oliver and Boyd, 1959), <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=nxnl0178>.

¹⁶⁴ Hill and Knowlton to Members, Tobacco Institute and TI, "Tobacco News Summary," Oct. 19, 1959, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=zycv0023>.

¹⁶⁵ "Smoking and Lung Cancer" (editorial by John H. Talbott), *JAMA*, Dec. 12, 1959, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hmvd0122>.

¹⁶⁶ "Heavy Smoking May Help Our Health, Scientists Say," *The Louisville Times*, Sept. 26, 1959, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zycv0023>.

¹⁶⁷ Joseph Berkson, "Smoking and Cancer of the Lung," *Proceedings of the Mayo Clinic*, 35 (1960): 367-85, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=tpcm0178>.

the contribution of cigarette smoke to lung cancer “at present incapable of quantitative determination.”¹⁶⁸

- In 1962 Lewis Robbins, Chief of Cancer Control Programs at the Public Health Service, in a *Minnesota Medicine* review found that the evidence “still does not add up to conclusive proof that cigarette smoke causes lung cancer.”¹⁶⁹
- In 1962, the Royal College of Physicians characterized smoking as a habit “most smokers enjoy without injury.”¹⁷⁰
- In 1962 Henry I. Russek, MD, President of the Russek Foundation, wrote that it was “not clear whether tobacco consumption is causally related to coronary atherosclerosis or merely a reflection of augmented psychic stress and personality make-up.”¹⁷¹
- In 1964 Dr. Milton B. Rosenblatt, reviewing two centuries of medical literature, concluded that the modern rise in the lung cancer was not real but rather “only apparent,” an artifact of improved techniques of detection and diagnosis.¹⁷²
- In 1964 Frank L. Horsfall, Jr., Director of the Sloan-Kettering Institute in New York, “publicly expressed his doubt” that smoking causes cancer.¹⁷³
- In 1965, 49 scientific experts testified before the U.S. Senate committee looking into whether labels should be required on cigarette packs; 39 of these 49 claimed there was insufficient proof of a hazard to warrant such a label.¹⁷⁴

¹⁶⁸ Paul Kotin and Hans L. Falk, “The Role and Action of Environmental Agents in the Pathogenesis of Lung Cancer: II. Cigarette Smoke,” *Cancer* 13 (1960): 250-62, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=nfkg0055>.

¹⁶⁹ Lewis C. Robbins, MD, “Medical Practice and Lung Cancer,” *Minnesota Medicine*, 45 (Jan.-Dec. 1962), p. 135, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=jlg10223>.

¹⁷⁰ *Smoking and Health: Summary and Report of The Royal College of Physicians of London* (New York: Pitman Publishing, 1962), <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=gnmw0189>, p. 50.

¹⁷¹ Henry I. Russek, “Tobacco Consumption and Coronary Heart Disease,” 1962, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=lycd0124>.

¹⁷² Milton B. Rosenblatt, “Lung Cancer in the 19th Century,” *Bulletin of the History of Medicine*, 38 (Sept.-Oct. 1964): 395-425, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=njgh0067>

¹⁷³ James C. Bowling to C. H. Kibbee, “Sloan-Kettering Contributions,” Nov. 23, 1964, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=yjyb0040>

¹⁷⁴ *Cigarette Labeling and Advertising: Hearings before the Committee on Commerce*,

- In 1965 Prof. Louis H. Clerf, a laryngologist at Jefferson Medical College in Philadelphia, when asked by Senator Vance Hartke of Indiana whether only “a handful” of physicians agreed there was “no danger in cigarette smoking,” answered “If it was a handful, I would say it is an enormous handful.”¹⁷⁵
- In 1965, *Science Mechanics* published an article naming Lark, Philip Morris, Tempo, and Galaxy “the safest cigarettes.”¹⁷⁶
- In 1966, Torbjörn Lundman concluded from a study of Swedish twins that cigarette smoking “is probably not associated with coronary heart disease.”¹⁷⁷
- In 1967 Dr. Lloyd Mallan, author of *It IS Safe to Smoke*, issued a press release calling it a “misconception” that all physicians agreed with the U.S. Surgeon General. Mallan labeled the link between cigarettes and cancer “an unproved theory” supported only by “private fund-raising health organizations and certain persons in our Government.”¹⁷⁸
- In 1967, the second U.S. Surgeon General’s Report concluded it was “not known” whether smoking during pregnancy was “deleterious or not.”¹⁷⁹
- In 1968, Dr. Carl Seltzer from Harvard published an article in *JAMA* disputing any proven causal link between cigarette smoking and coronary heart disease.¹⁸⁰
- In 1969, American Heart Association president Lewis E. January testified before Congress that while the evidence was

United States Senate, March 22-25, 29-30, and April 1 and 2, 1965:

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pjxf0189>, p. 335

¹⁷⁵ Ibid., p. 335.

¹⁷⁶ Lloyd Mallan, “Nervous Smokers Relax! The Lark Filter proved most efficient in reducing the toxicity,” 1965,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=fmvy0174>.

¹⁷⁷ Torbjörn Lundman, “Smoking in Relation to Coronary Heart Disease and Lung Function in Twins,” *Acta Medica Scandinavica*, 180 (1966): 1-75,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=rgjl0199>, p. 65.

¹⁷⁸ “Statement by Lloyd Mallan” (press release), Feb. 28, 1967,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=prmw0000>.

¹⁷⁹ *The Health Consequences of Smoking: A Public Health Service Review* (Washington, D.C.: PHS, 1967), <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=sgfk0012>, p. 187.

¹⁸⁰ Carl C. Seltzer, “An Evaluation of the Effect of Smoking on Coronary Heart Disease,” *JAMA*, Jan. 15, 1968: 127-34,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=fshv0015>

becoming “more and more compelling,” an absolute cause and effect relationship between smoking and heart disease “has not been established.”¹⁸¹ Carl Seltzer at this same hearing testified it was “not known whether or not cigarette smoking results in any excess coronary heart disease.”¹⁸²

- In 1969 Dr. Milton B. Rosenblatt, president of the Medical Board at New York Doctor’s Hospital, testified before the U.S. Congress there was “no valid experimental evidence confirming the smoking-lung cancer theory.”¹⁸³ U.S. Surgeon General William H. Stewart testified at these same hearings that cigarette smoking was not “physiologically addictive.”¹⁸⁴
- In 1969, in testimony before the U.S. Congress, Dr. Robert H. Browning from the board of the National Tuberculosis and Respiratory Disease Association expressed ignorance about why there was less emphysema in females in males: “We don’t really know, sir, whether there is inherent resistance or better lung tissue” in women as compared to men.¹⁸⁵
- At these same 1969 hearings, Prof. K. Alexander Brownlee from the University of Chicago testified that lung cancer was a genetic disease, having nothing to do with smoking.¹⁸⁶ Dr. Victor Buhler, a former president of the College of American Pathologists, testified that the cause of cancer of the lung was “unknown,”¹⁸⁷ and Hiram T. Langston, president of the American Association of Thoracic Surgeons, compared “preachment” against cigarettes to unfounded beliefs in ghosts, goblins, or “the devil.”¹⁸⁸ Dr. Ray Rosenman from the Harold Brunn Institute for Cardiovascular Research in San Francisco testified that diet and personality (“type A”) were more

¹⁸¹ *Cigarette Labeling and Advertising—1969*, Hearings before the Committee on Interstate and Foreign Commerce, House of Representatives (Washington: U.S. Government Printing Office, 1969), *Part I*, April 15 to May 1, 1969, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=kpkw0189>, pp. 508-10.

¹⁸² *Ibid.*, pp. 532-33.

¹⁸³ *Ibid.*, p. 140.

¹⁸⁴ *Ibid.*, p. 182.

¹⁸⁵ *Ibid.*, p. 648.

¹⁸⁶ *Ibid.*, pp. 740-68.

¹⁸⁷ *Ibid.*, pp. 769-75.

¹⁸⁸ *Ibid.*, pp. 788-808. Langston testified that “a considerable number” of his colleagues were equally skeptical.

important causes of heart disease than smoking,¹⁸⁹ and Duane Carr, a thoracic surgeon from Tennessee, cited data “incompatible with the theory that cigarette smoking causes cancer,” a theory put forward by “dedicated zealots.”¹⁹⁰ Several other scholars testified there was no justification for the conclusion that smoking causes cancer: the statistician Leo Katz, the twin researcher Rune Cederlof, the pathologist John P. Wyatt, the computer scientist Theodor Sterling, the statistician Darrell Huff, the cancer researcher Arthur Furst, the pathologist R. H. Rigdon, and several others. Several witnesses testified that cigarettes were actually good for you.¹⁹¹

Such examples show, contrary to the industry’s “common knowledge” or “public awareness” claims, that many influential scholars were slow to accept the deadly harms from smoking. Which makes it easier to understand why so many ordinary Americans underestimated the hazards.

Even today, many Americans are in the dark about some of the less talked about dangers from smoking. Most don’t know that smoking can cause stroke, for example, or vascular degeneration requiring amputation, or that most lung cancers prove fatal. Most don’t know that smoking causes cancers of the pancreas, bladder and stomach. Most by now seem to know that smoking can cause lung cancer and heart disease, but few know anything about the less common illnesses caused by smoking. They don’t know about the damage they are doing to their stomach or their eyes, or that smoking is a significant cause of spontaneous abortions. They know that most smokers gain weight after quitting, but they don’t know that about a third actually *lose* weight. Most smokers don’t know that secondhand smoke shows up in breast milk, or that smoking causes SIDS (Sudden Infant Death Syndrome). Smokers rarely have any solid idea of the chemicals in cigarette smoke; most will have heard of “tar” and nicotine, but few know anything about the gas phase of cigarette smoke containing cyanide and other poisonous vapors.¹⁹² Very few know that cigarette smoke contains the radioactive isotope polonium-210, or that cigarette smoke is the most common way most Americans will be exposed to deadly alpha radiation.

¹⁸⁹ Ibid., pp. 808-48.

¹⁹⁰ Ibid., p. 851-52.

¹⁹¹ Ibid., pp. 952-53, 1009.

¹⁹² “Project Day – Exploratory Phase in Edmonton,” Sept. 6, 1988, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=zsnv0223>.

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Statistics, as the saying goes, is suffering with the tears wiped away. I've canvassed surveys of tobacco knowledge, but we should not forget that behind such numbers are people with real sufferings and, quite often, poorly informed views on the nature and severity of harms from smoking. This is relevant for our topic, but there are other sources that can be used to shed light on the history of popular knowledge (and ignorance), if only by way of illustration. Tens of thousands of letters to and from ordinary smokers are preserved in the online Legacy Tobacco Documents Library, for example, and many of these letters express clear ignorance of tobacco hazards. Here are some typical examples:

- In 1965, a man from Ft. Lauderdale wrote to Reynolds, suggesting that the diseases associated with smoking were actually from the germs transferred from the hands of the smoker; so he recommended packing the cigarettes upside down "so people would grab the butt end and place the filter into the mouth without touching or handling it, thus eliminating a source of disease."¹⁹³
- In 1968, a 63-year old man from Saugus, Massachusetts, wrote to Reynolds, confessing that even though he himself had long smoked cigarettes and now had cancer, he nonetheless considered the idea of cigarettes causing cancer to be "a LOTTA HOG WASH."¹⁹⁴
- In 1971, a Gainesville man wrote to Reynolds, urging the company to investigate whether it was not true that "tobacco is less harmful than butter and/or meat with fat on it?" This man suggested further research that might show that "smoking is related to cancer only where other pollutants abound," meaning that smoking is "of itself, not necessarily dangerous to health." Smoking could even be healthy, given that "the factor most likely to cause a heart attack is tension, and smoking reduces my tension."¹⁹⁵

¹⁹³ Wilbur L. Simms to Reynolds, July 28, 1965, <http://legacy.library.ucsf.edu/tid/cxn23a00>.

¹⁹⁴

Ellsworth H. Peak to Reynolds, "Cancer Research," Oct. 19, 1968, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=yjny0005>.

¹⁹⁵ O. A. Hamilton to Reynolds, Jan. 8, 1971, <http://legacy.library.ucsf.edu/tid/pox79d00>.

- In 1986, a seventy-year Camel smoker from Granite Falls, Minnesota, wrote to Reynolds to say that “This idea of smoking being bad for one’s health to me is a lot of malarky. . . . I don’t think smoking is bad at all.”¹⁹⁶
- In 1985, a Newcastle, Wyoming, man wrote of his view that “drunk driving kills more people than smoking ever did,” emphasizing also “how many lives have probably been saved, and most likely prolonged due to smoking when under stress . . . most likely many more than lost due to lung disease!”¹⁹⁷
- In 1995 a man from Bradenton, Florida, wrote to Reynolds, noting that:

For some time now I have been a little concerned about this Cigarette smoking and Lung Cancer. I am sure smoking has an effect on the Lungs but, I think it is only a drop in the bucket. . . . Smoking, they say . . . is what causes most Lung problems. I am not so sure. . . . I don’t think the Tobacco Companies should bear all the burden when it comes to Lung Problems because there is so much impurities in the air.¹⁹⁸

- In 1996, Brian Stevens, a distinguished professor of chemistry at the University of South Florida, wrote to the president of R.J. Reynolds, outlining his theory that smokers get cancer not because they smoke, but rather because they are “more likely than non-smokers to be given chest X-rays, either routinely, or as a result of relatively minor respiratory ailments.” Professor Stevens pointed out that X-rays can cause cancer, and proposed that this theory might be of use to “undermine current litigation against the tobacco industry.”¹⁹⁹
- In 1997, a Margate, Florida, man wrote to tell Reynolds how

¹⁹⁶ Buckley Riley to Reynolds, Feb. 10, 1986. <http://legacy.library.ucsf.edu/tid/det18c00>.

¹⁹⁷ A. Rex to Reynolds, Dec. 6, 1985, <http://legacy.library.ucsf.edu/tid/bet18c00>. Reality check: in 2005, according to the U.S. Department of Transportation, 16,885 Americans died from alcohol-related traffic accidents, compared with 440,000 deaths from smoking.

¹⁹⁸ Philip W. Conley to Reynolds, Dec. 28, 1995, <http://legacy.library.ucsf.edu/tid/ijj70d00>.

¹⁹⁹ Brian Stevens to Andrew J. Schindler, Jan. 23, 1996, <http://legacy.library.ucsf.edu/tid/cbb50d00>.

inappropriate it was to blame the tobacco industry:

I started smoking cigars and Lucky Strike cigarettes when I was 14 years of age. I am now 74 years of age and I still smoke cigars, Camel cigarettes and pipe tobacco. I am in excellent health and ride my 21 speed Schwinn bike 15/20 miles every day.²⁰⁰

- In 1999, a 54-year old Albuquerque man wrote to the Marketing Dept. of Reynolds, offering his own life story as proof of the relative safety of cigarettes, noting that while he had smoked for many years, his health was “definitely much better than [the] physical fitness of the vast majority of younger non-smokers.”²⁰¹

Reynolds responded to most such inquiries—there are many thousands preserved in the archives—by repeating its denialist routine. On October 10, 1966, for example, T. K. Cahill from Reynolds’s Public Relations Department wrote to a woman from Palmetto, Florida, who had inquired about cancer and cigarettes:

Yes, there is much talk today about cancer, but the fact is that cancer was known to afflict the human race hundreds of years before tobacco appeared on the scene. In spite of all the activities and statistical theories we have been hearing so much about, the cold fact is that nobody knows the real cause of cancer in human beings.²⁰²

Reynolds wrote a similar response to two Gulf Breeze, Florida, children—aged ten and eleven—who had written to the company in June of 1969:

The tobacco industry is most concerned about the charges being made that smoking is responsible for so many serious diseases . . . Despite all the research going on, medical science has not found any conclusive evidence that an element in tobacco or tobacco smoke causes any human disease. The answers to the many unanswered smoking and health questions—and the true causes of human diseases—can, we believe, be determined by scientific

²⁰⁰ Walter Same to Steven Goldstone, Aug. 11, 1997, <http://legacy.library.ucsf.edu/tid/poa51d00>.

²⁰¹ Josef Dolejs to Reynolds, Dec. 14, 1999, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ysxk0091>

²⁰² T. K. Cahill to Kay Ormund, Oct. 10, 1966, <http://legacy.library.ucsf.edu/tid/lga79d00>.

research. Our Company intends, therefore, to continue to support such research until the truth is known.²⁰³

Virtually identical letters would be sent to Massachusetts residents; here is one sent to a certain Austin Roper of Boston, in 1989:

Despite all the research going on, the simple and unfortunate fact is that scientists do not know the cause or causes of the chronic diseases reported to be associated with smoking. The answers to the many unanswered controversies surrounding smoking--and the fundamental causes of the diseases often statistically associated with smoking--we believe can only be determined through much more scientific research. Our company intends, therefore, to continue to support such research in a continuing search for answers.²⁰⁴

Not all letters to the company were friendly. In June 1997, for example, a woman from Dundee, Florida, noted that while she had just received a birthday card from the company addressed to her mother, she could not wish her a happy birthday as she had recently “past away from cancer.” The daughter didn’t want to pass along the company’s coupon because she “did not want to be guilty of accessory to murder.”²⁰⁵

Reynolds typically responded to such letters with sympathy—and denial of responsibility. On March 26, 1976, for example, the Camel-maker wrote this letter to the survivor of a loved one:

We are deeply sorry to hear of this unfortunate occurrence. However, as to the alleged cause of the illness which befell your father, we believe that there is a misunderstanding.

This Company does not regard itself as being in any way responsible. We firmly believe that cigarettes have been unfairly blamed as a cause of human disease. The proposition that cigarettes are at fault has been so widely accepted as fact by so many otherwise responsible people, and the evidence to the contrary has been so uniformly disregarded, that we cannot blame you and other members of the public for accepting the proposition

²⁰³ C. B. Wood (Reynolds) to Vicki Alexander and Deborah Branch, June 17, 1969, <http://legacy.library.ucsf.edu/tid/kkx69d00>.

²⁰⁴ Joan F. Cockerham to Austin Roper, July 17, 1989, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=rydn0081>.

²⁰⁵ M. Baxter to Reynolds, June 6, 1997, <http://legacy.library.ucsf.edu/tid/fto80d00>.

as fact. I do not wish to burden you, especially at this difficult time in your life, with the details of the smoking-and-health controversy. However, on the assumption that you may be interested in our side of the matter, we are enclosing a copy of a booklet entitled “The Cigarette Controversy.”²⁰⁶

It is important to realize that when Reynolds wrote to these people, the response very often included the denialist routine:

Despite opinions and charges to the contrary, there is little evidence, and certainly nothing which proves scientifically, that cigarette smoke causes disease in nonsmokers. This is not merely the wishful thinking of a tobacco company. It is a statement supported by the findings and views of highly respected independent scientists.²⁰⁷

We only have a minuscule fraction of the entire corpus of letters that must have been sent to the companies, but we still have thousands expressing this same denialist routine. And not a single one (!) ever admitted cancer causation—or any other malady being caused by smoking.

* * * * *

Part of the significance of the popular ignorance illustrated above stems from the fact that most smokers begin smoking in their early teens. Young teenagers do not yet have the maturity to make life or death decisions, and by the time they do have this capacity they are often addicted. The tobacco industry has long realized this asymmetry, and has capitalized on it. What can we say about the history of tobacco industry marketing to minors in the American context?

Marketing to Youth

The cigarette industry for decades has reassured the public that it does not market to youth—and still today claims it has never done so in the past.

Despite such public protests, the archival record makes it clear that cigarette makers have long tried to capture what they call the “young” or “youth market.” Cigarette makers have many different terms for this market:

²⁰⁶ T. K. Cahill (Reynolds) to J. T. Accardo, March 26, 1976, <http://legacy.library.ucsf.edu/tid/nrz79d00>.

²⁰⁷ This exact same passage appears in multiple Reynolds letters to ordinary smokers.

starters, young starters, triers, new triers, learners, new smokers, pre-smokers, novices, rookies, fledglings, first time smokers, the young adult franchise, tomorrow's cigarette business, and even replacement smokers. A search of the tobacco industry's archives for the term "youth market" returns thousands of documents, as does a search for "starters" (15,901 documents), "learners" (1,529 documents), "young smokers" (23,950 documents) and so forth.

Thousands of documents illustrate this interest in selling cigarettes to kids. Teenagers were clearly a prime target for all cigarette manufacturers, a priority reflected in the fact that smoking is more prevalent among people in their early 20s than in any other age group (smoking prevalence steadily declines from that point on). This is one reason cigarette manufacturers have always feared the loss of youth markets for their business as a whole: as the Roper Organization put it in a 1974 report for Philip Morris: "We are not sure that anything can be done to halt a major exodus if one gets going among the young."²⁰⁸

Of course the companies have always known how dangerous it would be to give the appearance of trying to capture the youth market, which is why so much lip service has been given to using "older models" in advertisements. In the 1960s, the announced policy of the industry was to run cigarette ads only on those shows with less than a 45 percent youth viewership. Later policies were to place ads in print media where no more than 15 percent of readers would be underage. But there has also been a longstanding recognition within the industry that adult themes could be of interest to kids. Smoking has often been recognized as a form of youth rebellion—"acceptable rebellion" was Reynolds's definition—and the theme of kids starting smoking to try to look and act older has been prominent in a great of industry thinking about marketing. The industry knows that smokers usually experiment with smoking in an effort to look older—and in this sense the very definition of smoking as an "adult habit" implies a certain appeal to kids.

In 1969, for example, in a draft report titled "Why One Smokes," Philip Morris research chief Helmut Wakeham reflects on how:

²⁰⁸ Roper Organization (for Philip Morris), "A Study of Smoking Habits among Young Smokers," July 1974, <http://legacy.library.ucsf.edu/tid/brp34e00>, p. 6.

Smoking a cigarette for the beginner is a symbolic act. The smoker is telling his world, "This is the kind of person I am . . . I am no longer my mother's child . . . I am tough . . . I am an adventurer . . . I'm not a square."²⁰⁹

Wakeham here also notes that once these symbolic motives have subsided, other motives take over: "As the force from the psychological symbolism subsides, the pharmacological effect takes over to sustain the habit."²¹⁰ By this time of course the "pharmacological effect" can be quite strong: "Long after adolescent preoccupation with self-image has subsided, the cigarette will even preempt food in times of scarcity on the smoker's priority list."²¹¹

Recognizing this need to keeping the youth market is one reason cigarette manufacturers have fought so hard against any and all efforts to limit advertising. Cigarette makers knew they needed to create attractive role models for youngsters, and knew that the loss of advertising would mean the loss of such models and therefore the loss of "experimentation" (with cigarettes). Youthful imagery was also important for how cigarette marketers interpreted trends in smoking fashions. One reason menthols were never so popular in Canada, for example, was their association with what cigarette marketers called "older femininity." Menthols carried an implication of "smoking and health moderation"—a desirable feature—but apparently not enough to overcome this "unflattering" image of "older female" and historical associations with "occasional use during illness."²¹²

In the United States, youth has long been regarded within the industry as a crucial market target. R.J. Reynolds as early as 1927 urged its sales force to be aggressive in this realm: "School days are here. And that means BIG TOBACCO BUSINESS for somebody. Let's get it. -- and start after it RIGHT NOW."²¹³

²⁰⁹ Helmut Wakeham, "Why One Smokes," draft report to the PM Board of Directors, Fall 1969, <http://legacy.library.ucsf.edu/tid/pnp10j00>.

²¹⁰ Ibid.

²¹¹ Helmut Wakeham, "Smoker Psychology Research: R&D presentation to the Board of Directors," Nov. 26, 1969, <http://legacy.library.ucsf.edu/tid/xgw56b00>.

²¹² Robert Bexon, "R&D/Marketing Conference," June 1984, pp. 44-47. Bexon here noted that menthols accounted for about 30 percent of all cigarettes sold in the U.S., vs. only 6 percent for Canadians. In the U.S., that proportion has recently grown to nearly 40 percent.

²¹³ R.J. Reynolds, "School Days are Here," Sept. 9, 1927,

Candy cigarettes were another early form of youth marketing, albeit indirectly. There is no evidence that cigarette makers ever manufactured candy cigarettes, but we do know that they often tolerated or even encouraged their manufacture, including candies that were clearly brand infringements. In 1946, for example, Addison Yeaman at Brown & Williamson assisted the makers of one candy company with their packaging artwork, recognizing that the sale of candy cigarettes using Brown & Williamson's brand name and imagery was "not too bad an advertisement" for makers of the combustible item.²¹⁴ Yeaman must have known that giving confectioners permission to make brand-exact candy cigarettes was a questionable business practice, judging from the caution he added to his correspondent, that his remarks were "for your more or less private information."

Reynolds was often quite explicit about the value of kids to its future survival and prosperity, as we learn from Claude Teague's 1973 "Thoughts about New Brands of Cigarettes for the Youth Market":

Realistically, if our Company is to survive and prosper, over the long term, we must get our share of the youth market. In my opinion this will require new brands tailored to the youth market; I believe it unrealistic to expect that existing brands identified with an over-thirty "establishment" market can ever become the "in" products with the youth group. Thus we need new brands designed to be particularly attractive to the young smoker, while ideally at the same time being appealing to all smokers.²¹⁵

The whole point of the Joe Camel campaign, launched by Reynolds in the late 1980s, was to attract the young, using a "fuzzy camel" mascot developed by French marketers in the 1970s. A Reynolds memo from February 7, 1974, observed that:

The French advertisement for Camel Filters is a smash. It would work equally well, if not better, for Camel Regular. It's about as young as you can get, and aims right at the young adult smoker

<http://legacy.library.ucsf.edu/tid/atc19d00>.

²¹⁴ Addison Yeaman (Brown & Williamson) to W. E. McCabe, Dec. 3, 1946, <http://legacy.library.ucsf.edu/tid/clb60f00>.

²¹⁵ Claude E. Teague, Jr., "Some Thoughts about New Brands of Cigarettes for the Youth Market," Feb. 2, 1973, <http://legacy.library.ucsf.edu/tid/owq76b00>.

Camel needs to attract.²¹⁶

Reynolds marketers shortly thereafter commented on the importance of capturing this younger crowd:

To ensure increased and longer-term growth for CAMEL FILTER, the brand must increase its share penetration among the 14-24 age group which have a new set of more liberal values and which represent tomorrow's cigarette business.²¹⁷

We also have documents where this same aged "14-20" market was described as an opportunity, or even a "great bonanza." In 1973, for example, the William Esty company, working for Reynolds, talked about capturing the "14-20 market" in the following terms: "Creating a 'fad' in this market can be a great bonanza."²¹⁸ Philip Morris talked about "today's teenager" being "tomorrow's potential regular customer," and clearly was happy about being so effective in selling to teens. In 1975, Myron Johnston from the research department described the recent success of Marlboro as "phenomenal," and attributed this success to the company's ability to attract teenagers:

Marlboro's phenomenal growth rate in the past has been attributable in large part to our high market penetration among younger smokers . . . 15 to 19 years old . . . my own data, which includes younger teenagers, shows even higher Marlboro market penetration among 15-17 year-olds.²¹⁹

In parallel fashion, we have documents where tobacco executives expressed disappointment when teenagers were found to be smoking less than hoped. Johnston in the document just cited, for example, was clearly *worried* about Marlboro's declining growth rate caused by, among other things, "Slower growth in the number of 15-19 year-olds" smoking. Johnston also pointed out that with such a high share in the teenage market,

²¹⁶ Dana Blackmar to Rick McReynolds, "French Camel Filter Ad," Feb. 7, 1974, <http://legacy.library.ucsf.edu/tid/eve76b00>.

²¹⁷ Jim F. Hind (Reynolds) to C. A. Tucker, Jan. 23, 1975, <http://legacy.library.ucsf.edu/tid/lve76b00>.

²¹⁸ John H. McCain (William Esty Co.) to J. O. Watson, "RE: NFO Preference Share Data—'Youth' Market," March 8, 1973, <http://legacy.library.ucsf.edu/tid/fyy49d00>.

²¹⁹ Myron Johnston to R. B. Seligman, May 21, 1975, <http://legacy.library.ucsf.edu/tid/lvj46b00>.

Philip Morris will “*suffer more* than the other companies from the decline in the number of teenage smokers” (emphasis added). Johnston worried about not being able to rely on “a rapidly increasing pool of teenagers from which to replace smokers through lost normal attrition.”²²⁰ As late as 1992, Philip Morris reported in its Worldwide Marlboro Monitor that “the ability to attract new smokers and develop them into a young adult franchise is key to brand development.”²²¹

R.J. Reynolds expressed similar disappointment when faced with obstacles to capturing the youth market. Claude Teague in his 1973 “Thoughts about New Brands of Cigarettes for the Youth Market” begins by expressing his disappointment that “we are presently, and I believe unfairly, constrained from directly promoting cigarettes to the youth market; that is, to those in the approximately twenty and under group.”²²² Diane Burrows at Reynolds would later use the expression “young adult market” as a code word (or euphemism)²²³ for youth targeting, as when she claimed, in a 1984 strategy document (marked “Secret”), that “Younger adult smokers have been the critical factor in the growth and decline of every major brand and company over the last 50 years. They will continue to be just as important to brands/companies in the future.” Burrows went on to comment that “If younger adults turn away from smoking, the industry must decline, just as a population which does not give birth will eventually dwindle.”²²⁴

²²⁰ Myron Johnston, “Young Smokers: Prevalence, Trends, Implications, and Related Demographic Trends,” March 31, 1981, <http://legacy.library.ucsf.edu/tid/tnw74e00>.

²²¹ PMI Marketing Research, “Worldwide Marlboro Monitor: Five Year Trends 1988-1992,” <http://legacy.library.ucsf.edu/tid/mzw56b00>.

²²² Claude E. Teague, Jr., “Research Planning Memorandum on Some Thoughts about New Brands of Cigarettes for the Youth Market,” Feb. 2, 1973, <http://legacy.library.ucsf.edu/tid/owq76b00>.

²²³ The word I use to designate this kind of CYA rhetoric is *eavescasting*, meaning rhetoric that is nominally private but “guarded” or even falsified for the eventuality it might one day be overheard. Cigarette makers began using rhetoric of this sort (eg., to define the “young adult market” after the 1960s, with the emergence of new threats that their internal documents might one day be exposed (from new federal rules of civil procedure enacted in 1970). Deceptive rhetoric of this sort was sometimes mandated according to the “mental copy rule” or “*New York Times* rule,” meaning: don’t put anything on paper you don’t want to see printed in the *New York Times*. See, for example, BAT, “Records Management Programme,” <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=yggf0214>.

²²⁴ Diane S. Burrows, “Younger Adult Smokers: Strategies and Opportunities,” Feb. 29, 1984, <http://legacy.library.ucsf.edu/tid/jlu76b00>.

Targeting kids became more urgent in the 1970s and '80s, when the average age of "rookies" just starting to smoke dropped from the high teens to around 13 or 14. This created new market opportunities, and a new urgency to capture this vital juvenile market. Lorillard in 1978, for example, confided that "the base of our business is the high school student."²²⁵ Competition for teenagers became more intense, which is one reason Reynolds introduced its Joe Camel campaign, in the late 1980s. Joe Camel was launched as part of a Reynolds plan to "youthen" its image to compete with Marlboro; this proved to be an effective campaign, judging from the fact that from the beginning of the blitz in 1987, Camel's share of the under-eighteen market jumped from 0.5 to a whopping 33 percent in just three years. A 1991 study published in *JAMA* found that among children aged 3 to 6, Joe Camel was as well-known as Mickey Mouse.²²⁶ A *Wall Street Journal* article covering the story headlined: "Joe Camel Is Also Pied Piper."²²⁷

We often hear about surveys indicating some fraction of the population considering smoking as "risky" or "dangerous," but this was also something easily exploited by the companies. Cigarette makers recognized the desire of kids to become adults, the sense of risky adventure or naughty transgression; and R.J. Reynolds in the U.S. once characterized smoking behavior as "acceptable rebellion."²²⁸ Scholars outside the industry have also recognized this "forbidden fruit" aspect. In 1952, a study by Social Research, Inc., for the *Chicago Tribune* captured this sense of starting to smoke as a form of naughty rebellion:

For many—especially younger people and some older beginners—smoking is a *daring* act. There is the quality of playing with fire, taking a chance, the thrill of venturing into the forbidden. Smoking cigarettes shows too that one is *liberated*; the achievement of adult status is proved by smoking, and adult status means that one is free to do many things previously denied. The feeling is "I can do as I please now; I'm old enough to smoke"

²²⁵ T. L. Achey to Curtis Judge (Lorillard), "Product Information," Aug. 30, 1978, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=kljp0060>.

²²⁶ Paul M. Fischer et al., "Brand Logo Recognition by Children Aged 3 to 6 Years: Mickey Mouse and Old Joe the Camel," *JAMA*, 266 (1991): 3145–48.

²²⁷ Kathleen Deveny, "Joe Camel Is Also Pied Piper, Research Finds," *Wall Street Journal*, Dec. 11, 1991, pp. B1–4.

²²⁸ Rebakah S. Dunn, "Camel and the Hollywood Maverick," 1986, <http://legacy.library.ucsf.edu/tid/jti61d00>.

Smoking is a particularly potent symbol for adolescents. It signifies adulthood with its powers and privileges; and since parents often forbid it (and certainly don't encourage it), it serves as a weapon of rebellion . . .²²⁹

Another noteworthy aspect of the industry's youth marketing was their effort to capitalize on their understanding of links between smoking and drinking. Cigarette makers researched the concurrent use of alcohol and cigarettes, and clearly understood the high prevalence of co-use of cigarettes and alcohol (especially beer)—and planned to use these findings to sell more cigarettes. Magazine ads and promotions in bars and nightclubs were both used for this purpose.²³⁰

Tobacco companies also relied on a process known as “sampling”—meaning giving away free samples—to attract new smokers and to maintain sales. Cigarette makers always denied that sampling was aimed at youth; the industry's public position has always been that sampling, like all of its advertising, was designed to get established smokers to change brands. While one can find internal company documents claiming that sampling was to be restricted to people over 21 (more eavescasting), the locations at which the companies provided free samples were often places where youth could be expected to congregate: rock concerts, sporting events, recreational areas and shopping malls. Documents from Lorillard show that sampling was an important part of its marketing efforts from the 1950s into the 1980s.²³¹

²²⁹ The passage is from “Cigarettes, Their Role and Function,” a 1952 study for the *Chicago Tribune* by Social Research, Inc., that ended up in Liggett's files:

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qrlc0014>.

²³⁰ N. Jiang and Pamela M. Ling, “Reinforcement of Smoking and Drinking: Tobacco Marketing Strategies Linked with Alcohol in the United States,” *American Journal of Public Health*, October 2011 101(10): 1942-54. Youth of course was just one of many industry targets; others included the “ethnic,” the “exotic,” and even the “geriatric”; see <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=xnyv0143>.

²³¹ See, for example, Lorillard's “1959 Work Plan,” <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qrcf0191>; also L. W. Vaught to J. S. Benson, March 25, 1963, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=llvl0104> and letters from Lorillard dated Sept. 9, 1963, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ksskw0110>; Aug. 27, 1963, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=lyyl0115>; and Dec. 16, 1963, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=lxdb0116>. Compare also Manuel Yellen's memo from Sept. 15, 1964,

There is also evidence that youth marketing documents have been destroyed, and that the language contained in some existing documents has been sanitized to cover up youth marketing.²³²

One particularly disturbing aspect of youth targeting is that tobacco manufacturers knew that the youngest smokers were also those least likely to be concerned about their health. Cigarette makers understand that education can pose a threat to the continued sale of cigarettes; this “threat” posed by education (of young people) is explicit in the industry’s archives. Cigarette makers have long worried about “drying up the supply of new smokers to replace the old,”²³³ which is one reason they have worried about the “threat” posed to the industry by “educational programs to prevent young, non-smokers taking up the practice of smoking.”²³⁴

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=rjpm0104>; also Lorillard, “4’s packages–Kent, Newport,” Nov. 19, 1964, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=msmm0077>; Lorillard, “Work Plans – September–November, 1965,” July 19, 1965, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=szdf0191>; V. Friedman, “The Female Smoker Market,” June 28, 1973, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=fmph0045>; C. W. Toti, “Young Adult Extra Effort – Newport,” Oct. 24, 1974, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=xndp0115>; Marketing Corp. of America, “Lorillard - New Products Work Session: LFI, LIM, Next Steps,” Aug. 11, 1975, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=fybg0129>; Will Graham Company, Inc., “Lorillard ‘76: Options and Recommendations,” March 2, 1976, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=yrlg0045>; R.W. Davis, “Newport Information for Marketing Managers Meeting,” Oct. 18, 1978, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hjnb0116>; R. Davis, “Black Marketing Research – Findings and Recommended Actions to Date,” June 9, 1978, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=xsfi0045>; J. K. Wells III to I. W. Hughes et al., Sept. 7, 1984, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pzpg0045>.

²³² K. M. Cummings, C. P. Morley, J. K. Horan, C. Steger, N-R. Leavell, “Marketing to America’s Youth: Evidence from Corporate Documents,” *Tobacco Control*, 11 (2002), <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=mfmj0191>.

²³³ Diane S. Burrows to J. R. Moore, “NBER Models of Price Sensitivity by Age/Sex,” Sept. 27, 1982, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pzxx0096>. Burrows quantified the “importance to the industry” of “Teenagers 12-17”—which she calculated as accounting for 13.7 billion cigarettes per year as of 1982.

²³⁴ Ernest Pepples to J. J. Blalock, Feb. 14 1973, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qsm10041>. Education has long been a concern of the industry, which is one reason the companies have targeted the “less educated market”; see Reynolds, “Less-Educated: Today’s Trend, Tomorrow’s

We should not forget that the industry's marketing to kids undercuts any claim that the "decision to smoke" is a choice made freely by well-informed adults. By and large it is not. Smokers typically have their first cigarette at age 12 or 13, and become addicted shortly thereafter. Addiction compromises a person's ability to choose freely, and the fact that most smokers start as young teens means that by the time they reach maturity, they will unfortunately be in the grip of a powerfully addicting drug.

Product Deception and Nicotine Manipulation

Denial was only one of many methods used by cigarette makers to achieve what they commonly called "health reassurance." In the 1930s and '40s, cigarette makers often made extravagant claims for a particular brand being "milder" or "easier on your throat," in consequence of using one humectant rather than some other (diethylene glycol vs. glycerine, for example.) "**More Doctors**" were said to smoke Camels, and L&Ms were hailed as "just what the doctor ordered."²³⁵ And similar slogans were crafted for many other brands. Toasting was supposed to remove poisons from tobacco (just as fire preserved meats or sterilized medical instruments), and king sizing was supposed to "travel the smoke further," purifying it from dangerous compounds. Brand names were often chosen to carry this message of health reassurance: tobacco was sold with brand names like "Athlete" or "Red Cross" or "Sportsman," with slogans often assuring that a particular brand incorporated "the purest form in which tobacco can be smoked" (Sweet Caporals) or "will not affect the throat" (Craven A's boast from 1951). Nothing was left to chance, and even the colors used on cigarettes packs were vetted for their health implications—as perceived by potential smokers. Imperial Tobacco in 1968, for example, rejected "cranberry" as a color for its Du Maurier packaging, fearing that this color might be "suggestive of the health hazards in smoking."²³⁶

Market???" 1985, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pqlj0095>.

²³⁵ A search of "just what the doctor ordered" in the Truth Tobacco archive returns over 1400 documents, most of which are ads for L&M cigarettes. For samples of such ads, see also those reproduced in SRITA at <https://tobacco.stanford.edu/>.

²³⁶ Canadian Facts Co. Ltd. (for ITL), "Four Group Discussions on Du Maurier Package Design," Jan. 11, 1968,

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=mpkv0223>, p. 5. There was also a sense of cranberry being too "harsh" or even "bloody red," with some smokers associating the color with "fire-engines and thus 'hot' cigarettes."

All of these tricks helped sell cigarettes. American's "toasting" campaign helped boost the sales of Lucky Strikes, and much of Philip Morris's early success can be traced to its much-hyped DEG cigarettes ("less irritating"). King-sizing also profited from health fears: king sized (85 mm) brands were only 5 percent of the market in 1948, but by 1954 had risen to nearly 30 percent of the market, with the "consensus" within the industry being that "millions of smokers were trying to put as much filtering space as possible between the glowing tip of their cigarette and their lungs."²³⁷ Smokers also turned to menthols with the broader publicity given to health harms: charts of the proportion of menthol purchases kink sharply upward in 1954 (see **Figure 1**), precisely as the health crisis comes to a head.²³⁸ Filters were clearly the biggest winner, going from essentially zero sales in the early 1950s to over half the market within the space of a decade—pivoting right around the rise and publicity of a cancer consensus.

Another method of reassurance involved the promise of honestly supporting research into "smoking and health." Support for research was supposed to demonstrate a sincerity of intent, to convey an impression that "we, the manufacturers, are taking this seriously." For members of the cigarette conspiracy, however, the hope in supporting research was very often simply to continue the denialist enterprise. Basic research becomes a vehicle for the denialist conspiracy, with the presumption being that "more research" would imply "an open controversy." The TIRC in the U.S., for example, supported a great deal of research into basic biology, biochemistry and genetics, with the principal criterion for funding being that the research would not produce results unfriendly to the enterprise. A great deal of research also went into exploring aspects of modern life that might plausibly serve to distract attention from tobacco's role in causing disease.

Environmental pollution was heavily researched, along with indoor air pollution from carpet fumes, psychological stress, and occupational hazards of various sorts. Hundreds of millions of dollars of cigarette profits went to fund research into genetic or constitutional predispositions, viral causes of

²³⁷ Bob Considine, "To Smoke or Not to Smoke," *Cosmopolitan*, April 1954, <http://legacy.library.ucsf.edu/tid/grq34f00>.

²³⁸ Vello Norman (Lorillard), "The History of Cigarettes," 1983, <http://legacy.library.ucsf.edu/tid/ghr91e00>, Fig. 9.

cancer, immunology and allergies, and so forth.²³⁹

Support for research was used as a means of buying time—a delaying tactic. BAT’s Richard Dobson in a confidential 1969 report on “Smoking and Health” denied a “proven cause/effect relationship between smoking and lung cancer” but also identified three further “lines of defense” to keep people smoking. The first was basically to buy time via research: “The industry’s object is to gain time for research, during which it is hoped that the dangerous components (if any) in smoke will be identified and removed. This is a political activity.” The second line of defense was to insist on the following public position with regard to the lung cancer link:

we do not believe it but just in case it is true we will:

- (a) not encourage children to smoke
- (b) make available lower tar and nicotine or other “safer” products;
- (c) pursue our researches harder than ever.²⁴⁰

Dobson noted the continued value of the “nothing is proved” stance and of “proclaiming the industry’s great scientific effort,” but he also listed “voluntary action” as a third line of defense, a last-ditch strategy to avoid adverse legislation.

Crucial also to realize, though, is that cigarettes were also designed and marketed in such a way as to give the appearance of being “safer.” Advertisers hinted that certain kinds of cigarettes were better for you than others, and that switching to such brands was tantamount to—or at least the next best thing to—quitting. Switching to lights or low tars, for example, was described as a “compromise” or “downshifting.” Some strategies of this sort are quite old in the cigarette business. In the 1930s, ‘40s and ‘50s, for example, Brown & Williamson’s flagship menthol brand (Kool) was commonly regarded by smokers as

²³⁹ Glantz et al., *Cigarette Papers*.

²⁴⁰ Richard P. Dobson (BAT), “Smoking and Health,” March 25, 1969, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=mlhk0201>, p. 4. In an extraordinary exhibition of “glass half full” optimism, Dobson cited a passage from the 1962 report by the Royal College of Physicians (*Smoking and Health*) to the effect that smoking was “a habit which most smokers enjoy without injury to their health.”

more a “medicine” than a cigarette. Some people smoke them all the time, but they are most consistently and definitely thought of as something to change to when one has a cold, a very bad cough, or a dulled palate. In a sense, they provide a way of “giving up smoking without actually stopping.”²⁴¹

The principal goal of advertising, after all, was to make smokers (or starters) feel comfortable about buying and smoking cigarettes. Brand choice was one target, but there was also a more generalized effort to make the smoking habit seem fun, attractive, and exciting—and polite, a social activity one could engage in without shame or anxiety. Rothmans of Pall Mall was relatively honest about this in its internal corporate memos and reports:

cigarette advertising undoubtedly plays a tremendous role in defining smoking habits. A prominent characteristic of cigarette advertising is the fact that it is “always everywhere.” People are constantly reminded that cigarettes are a prevalent cultural object; this serves to press them toward smoking, in general.²⁴²

And with increasing publicity of health harms, reassurance was essential:

But, again, advertising should provide reassurance in this regard. There is enough anxiety about smoking to require some relief of concern.²⁴³

“Reassurance” was one of the principal goals of advertisers—the word appears over fifteen thousand times in the industry’s archives—and cigarette marketers used a wide range of methods to achieve this goal. Testimonials from sports heroes and movie stars were common in the 1930s, ’40s and ’50s, as were marketing innovations like skywriting, large-format billboards, point-of-sale novelties, contests and coupons, movie co-branding and product placement, and countless ads on radio and television. Advertisers used medical authority to sell cigarettes, but also comedy and romance and even Santa Claus. Health reassurance was also a central theme

²⁴¹ H.Q. Sales Office, Rothmans of Pall Mall Canada Ltd., “Sales Lecture No. 3 – Motivation Research: Cigarettes – Their Role and Function,” Oct. 1957, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=lkwb0223>, p. 18.

²⁴² Ibid.

²⁴³ H.Q. Sales Office, Rothmans of Pall Mall Canada Ltd., “Sales Lecture No. 6,” Oct. 1957, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=ggwb0223>, p. 5.

in product design, with reassurance offered through “toasting,” filters, king sizing, mentholation, “selective filtration,” low tars, lights, milds, slims, and myriad other gimmicks—none of which delivered genuine safety.

Perceptions (i.e., illusions) were crucial in such efforts. Cigarette manufacturers knew that smokers liked to see their filters darkening after smoking—believing this to be proof that poisons were being trapped—which is why Claude Teague at Reynolds in December of 1953 proposed adding color-change chemicals to the filter tips of cigarettes, to give the impression that poisons were being filtered out.²⁴⁴ There is no evidence that color change chemicals of this particular sort were ever added to filters, but we do know that filters were made to appear as white as possible (e.g., by the addition of whitening agents like titanium dioxide) to achieve this same deceptive effect. Advertisements aired on “The Flintstones” and elsewhere emphasized the “pure white filter” of Winston cigarettes.

The advertising campaign for Lorillard’s Kent cigarette “with the Micronite filter” combined several of these themes. Kent was a health reassurance cigarette, marketed with themes stressing scientific research and health protection. The earliest ads claimed that Kent:

gives you the greatest health protection in cigarette history

takes out up to 7 times more nicotine and tars than other filter-tip cigarettes

goes to the extra expense to give you the exclusive, scientific Micronite Filter

Strong claims were made for Kent’s “amazing” Micronite filter:

the Micronite Filter is made of a *pure, dust-free* material that is so *safe*, so *effective* it is even used to help filter the air for hospital operating rooms

the Micronite Filter is made of a material which has been used to purify the air in atomic energy plants of microscopic impurities

²⁴⁴ Claude E. Teague, Jr., “Disclosure of Invention: Filter Tip Material Undergoing Color Change on Contact with Tobacco Smoke,” Dec. 17, 1953, <http://legacy.library.ucsf.edu/tid/ude53d00>.

Kent's Micronite Filter is the only filter that takes out *enough* of the nicotine and tars in tobacco smoke to give sensitive smokers the health protection they need

One series of ads showed a laboratory experiment in which the smoke from two competing filtered cigarettes dripped residues onto a sheet of paper, while the smoke from Kents dripped no such residue.

Lorillard used other techniques to capture and deploy medical authority for its products. The company admitted as much in a 1957 marketing report, acknowledging that the Micronite Filter had originally been introduced as a "quasi-medicinal product."²⁴⁵ In a 1955 letter to a consumer, Lorillard made numerous medical claims on behalf of its Kent Micronite filter, boasting that it either alleviated or completely cured "smokers' throat," reduced peripheral blood vessel constriction, reduced stomach acidity, and greatly reduced or eliminated "smoker's cough."²⁴⁶ In a press release titled "What Tobacco Companies are Doing with Respect to the Possible Relationship Between Cigarette Smoking and Lung Cancer," Lorillard Research Director H. B. Parmele announced that the company's response to the threat was to create the Micronite filter. Parmele explained that since the filter removed half the tar and nicotine, consumers could transform themselves from heavy to moderate smokers without reducing their cigarette consumption.²⁴⁷

Lorillard during this same time was deflecting attention from the dangers of its cancer-causing cigarettes by comparing the concentration of particulates found in urban air pollution to the concentration of such particulates in the smoke of Kent cigarettes. In a 1954 letter to Alden James, the Vice President who oversaw Kent's advertising, Parmele produced air pollution figures for three cities: Jersey City, NJ; Richmond, VA; and Louisville, KY. Parmele reassured James that the data he was providing was "sufficient to enable you to say that 'the air you breathe through a Kent Cigarette is several times cleaner than the air you normally breathe in an

²⁴⁵ Young & Rubicam, "Kent Cigarettes: Marketing and Advertising Plans 1957," Nov. 1956, <https://www.industrydocuments.ucsf.edu/docs/pkkg0118>.

²⁴⁶ H.B. Parmele to John Anacker, March 4, 1955, <https://www.industrydocuments.ucsf.edu/docs/ppyn0126>.

²⁴⁷ H.B. Parmele, "What Tobacco Companies are Doing with Respect to the Possible Relationship Between Cigarette Smoking and Lung Cancer," 1954, <https://www.industrydocuments.ucsf.edu/docs/yrpc0124>.

average American city.’”²⁴⁸

Looking back on the history of cigarettes, it is important to realize that it is not just what the industry *says* or *depicts* that is deceptive—through marketing slogans or deceptive imagery, for example—we also have to realize that the product itself has been fraudulent: deceptive by design (and/or negligence). By this I mean that tobacco manufacturers could have made cigarettes significantly less deadly and less addictive, simply by changing the pH of cigarette smoke and reducing the mass of nicotine in the cigarette rod to sub-compensable levels—meaning levels so low that a smoker could not extract enough nicotine to create or sustain dependency (as in a cigarette containing significantly less than .1 percent nicotine by weight in the rod, say .02 or .01 percent or even less.)²⁴⁹ But they have not, apart from trivial gestures or as complements to more traditional cigarettes.

Instead, cigarettes have been designed to create and sustain addiction—and to maximize profits. Sir Charles Ellis at a BAT research conference in Montreal in 1967 made this point explicit, noting that it was good to remove substances “harmful or alleged to be harmful” so long as this didn’t hurt sales: “The improvement of current brands should be continued by removing from the smoke any substances judged to be harmful or alleged to be harmful, *provided consumer acceptance is not adversely affected*”.²⁵⁰ (Emphasis added.)

A clear example of this manipulation is the fact that tobacco

²⁴⁸ H.B. Parmele to Alden James (Vice President, Lorillard), Sept. 10, 1954, <https://www.industrydocuments.ucsf.edu/docs/fnhg0055>. From 1952 to 1956 the Kent Micronite Filter was made from blue crocidolite asbestos, a fact never revealed to consumers. When Lorillard stopped using asbestos in its filters in 1956, the switch was made quietly, without alerting anyone to the change. And cigarette stocks were not pulled from the shelves. Retailers just kept selling them until they were gone. From 1952 to 1956, Lorillard sold an estimated 15 billion asbestos-laden cigarettes to unsuspecting customers. See my *Golden Holocaust*, pp. 344-45.

²⁴⁹ Neal L. Benowitz and Jack E. Henningfield, “Establishing a Nicotine Threshold for Addiction: The Implications for Tobacco Regulation,” *New England Journal of Medicine*, 331 (1994), pp. 123–25. Benowitz and Henningfield claim that a cigarette containing less than about .5 mg of nicotine in the rod could not create or sustain addiction, though to achieve a margin of safety the level should be significantly lower than this.

²⁵⁰ Sydney J. Green, “B.A.T.: R&D Conference - Montreal - October 24 to 27, 1967,” Nov. 8, 1967, <http://legacy.library.ucsf.edu/tid/ttm24a99>.

manufacturers have maintained the nicotine content in cigarettes at a level of about two percent by weight in the rod, knowing that a) smokers are addicted to the nicotine in cigarettes, and that b) nicotine pushed much lower than this would not allow the cigarette to create or sustain addiction. In those few, remarkable, instances where brands have been manufactured with very low levels of nicotine in the rod, this (genuine) virtue could not be advertised honestly, given the conspiracy. When Philip Morris made Benson and Hedges De-Nic, and Merit De-Nic, and a stand-alone Next De-Nic brand, for example, the company never advertised these as incapable of creating and sustaining addiction—because this would imply that their regular cigarettes were, in fact, addictive. So even when individual companies did the right thing, they couldn't be honest about it, without violating the broader denialist conspiracy.

A similar problem confronted Reynolds, when it introduced its “heat-not-burn” brands—Premier and Eclipse—in the late 1980s and early '90s. These were genuinely safer (less deadly) cigarettes, developed by Reynolds at great expense to lessen the combustion defect in cigarettes. Recognizing that most of the harmful compounds in cigarettes come from the combustion, Reynolds designed its Premier cigarettes using “heat-not-burn” technology developed in the 1960s as part of BAT's Project Ariel. Ariel was a “space age cigarette” (Ariel was Britain's first spacecraft) designed to avoid what Addison Yeaman in 1963 called the “unattractive side effects” of traditional cigarettes—notably cancer and emphysema.²⁵¹ BAT never commercialized its Ariel cigarette, but Reynolds adopted similar methods in the 1980s to develop Premier and then Eclipse. Premier and Eclipse were advertised as offering a “cleaner” smoke, but in line with the ongoing conspiracy, they stated publicly the crucial fact, that these were genuinely safer cigarettes. In 1988, for example, when Reynolds published its 740-page Premier monograph, there was no mention of these cigarettes causing less cancer.²⁵² Reynolds did not start making explicit claims about Eclipse being a “safer cigarette” until the 2000s, once the broader admission had

²⁵¹ Addison Yeaman, “Implications of Battelle Hippo I & II and the Griffith Filter,” July 17, 1963, <http://legacy.library.ucsf.edu/tid/xrc72d00>.

²⁵² R.J. Reynolds Tobacco Co, *Chemical and Biological Studies on New Cigarette Prototypes that Heat Instead of Burn Tobacco* (Winston-Salem, 1988), <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=fnnny0046>. This is a highly-lawyered conspiracy document: nowhere in its 740 pages is there even a mention that cigarettes cause cancer or that nicotine is addictive. Accord was a comparable cigarette manufactured by Philip Morris, and that, too, was not revealed as safer.

been made that ordinary cigarettes like Winstons do in fact cause cancer.

Cigarette makers clearly knew that cigarettes cause cancer and could be addictive by the 1950s. We find this in the interviews conducted by Hill & Knowlton for the American companies in the earliest phase of the denialist campaign. In December of 1953, for example, the PR firm recorded one company's research chief commenting on how "fortunate" it was for the companies that cigarettes were "a habit" that smokers "can't break."²⁵³ "Nicotine addicts" is the expression BAT's Chief Scientist Charles Ellis used to refer to smokers in an internal memo from 1961, and in 1963 Brown and Williamson Chief Counsel Addison Yeaman stated in yet another internal report that "nicotine is addictive."²⁵⁴ There was not yet much of a push to optimize nicotine levels in cigarettes, however, since there was not yet much pressure to lower tar and nicotine deliveries. Efforts to reassure smokers increased in the 1960s as more and more smokers started trying to quit, fearing for their lives (while also trusting in the logic of shifting to "lower tar" cigarettes). Cigarette makers responded by marketing cigarettes ever lower in tar and nicotine (as measured by standardized smoking robots); the tar and filter wars of the 1950s and '60s were part of this, as was the introduction of novel filter gimmicks and "light" and "ultralight" brands in the 1970s.

Philip Morris introduced a number of such gimmicks in the 1950s, including a rebranded Parliament cigarette with a trademarked "recessed" filter. Parliament had been one of the flagship brands of Benson & Hedges, a brand originally advertised as a "mouthpiece" cigarette (stuffed with cotton, beginning in 1931) and later, in the 1950s, as a "hi-fi" (high filtration, high fidelity) cigarette.²⁵⁵ The Benson & Hedges (B&H) company was acquired by Philip Morris in 1954—which is how the Cullmans arrived at the new company, along with B&H's legacy brands. Philip Morris soon thereafter redesigned Parliament to include a recessed filter, largely to compete against Kent, another popular reassurance brand. Parliament was

²⁵³ Edwin F. Dakin, "Forwarding Memorandum: To Members of the Planning Committee," late Dec. 1953, <http://legacy.library.ucsf.edu/tid/lho66b00>, p. 2.

²⁵⁴ Sir Charles Ellis, "Meeting in London with Dr. Haselbach," Nov. 15, 1961, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=ljgd0040>; Addison Yeaman, "Implications of Battelle Hippo I & II and the Griffith Filter," July 17, 1963, <http://legacy.library.ucsf.edu/tid/xrc72d00>.

²⁵⁵ Pat Walford to Ed Wickham, Nov. 9, 1979, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=kjwb0184>.

later refitted with a “charcoal filter” (in 1964), and in 1979 was given the new name “Parliament Lights,” following a trivial change in Hauni ventilation.²⁵⁶ The rebranding was done “to attain low tar status in tune with trends,”²⁵⁷ though nothing was done to change the cigarette itself, from a health point of view (the constituent tobacco was unchanged, for example). This is further evidence that the designation of certain cigarettes as “light” (or low tar) was a deception. A press release accompanying Parliament’s rebranding announced that while the name was changing, the product itself “will not change.”²⁵⁸ As if a bottle of ordinary water had suddenly become a bottle of vitamin water, with the implication of being “better for you.”

Safety was an implied feature of Parliament advertising throughout the 1960s and ‘70s. On television and on radio, this “upscale” brand was advertised as offering an “extra margin” of safety, with safety implied by a comparison of Parliament’s “recessed filter” to crash helmets, face masks, roll bars (on a dune buggy), life preservers, protective goggles, hard hats, protective padding (for a rodeo stuntman), spare parachutes, safety harnesses, and seat belts. The suggestion was that Parliament’s recessed filter would give you an “extra margin” of safety: “This man knows the value of an extra margin—in the life jacket he wears, in the cigarette he smokes.” Parliament was said to put the filter “where it does you the most good—recessed a neat, clear, quarter inch away.”²⁵⁹

Philip Morris was well aware that Parliament was perceived as a safer cigarette. A 1977 New York City focus group, for example, found that smokers of this brand were “moderate, orderly people” who wanted a clean cigarette, believing the recessed filter to provide “a more hygienic and pleasurable smoke.” Parliament’s filter was regarded as giving smokers the feeling “they are smoking a healthier, safer cigarette because the filter keeps them from having physical contact with the trapped tar and nicotine impurities.”²⁶⁰ A 1994 history of the brand noted that it was still being

²⁵⁶ K. T. Sanderson to J. E. Wickham, “History of Parliament Cigarettes,” March 24, 1983, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=kjwb0184>.

²⁵⁷ “Parliament Lights Brand History,” 1994, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=grnw0109>.

²⁵⁸ “Parliament Lights A New Name in Low-Tar Smoking” (press release), March 19, 1979, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zyjn0019>.

²⁵⁹ For a series of Parliament ads shown on television in the 1950s and ‘60s, see: https://archive.org/details/tobacco_uhq23e00.

²⁶⁰ Fay Ennis Creative Research Services (for Philip Morris), “Summary of Three Focus

perceived as “Low in tar and nicotine.”²⁶¹

Ads for Parliament often featured wordplay: couples were depicted as having a “perfect recess” together,²⁶² and Parliament was even advertised in romance novels.

And Parliament advertising bore fruit. William Dunn in 1966, for example, noted that when charcoal was added to filters, this proved to be “an effective advertising gimmick.”²⁶³ Cigarette makers actually calculated the efficacy of advertising on different television shows, measured in terms of thousands of consumers reached per dollar invested. Parliament in the late 1950s, for example, was advertised on the Perry Mason show, reaching of millions of viewers at a cost the Philip Morris of only \$2.39 per thousand commercial minutes (TCM).²⁶⁴

By the mid-1990s, Parliament was selling billions of cigarettes per year, especially in the northeastern states of the U.S. A brand review from the 1990s bragged about the brand’s increasing share of “young adult smokers,” following launch of the Parliament Party Zone “Bar night” campaign in summer resort markets of New England, which had reached over 100,000 “young adults” and caused 46,000 “young adult” smokers (YAS) to actually try the product. The brand by this time was also targeting

Groups: Perceptions of Present Parliament Cigarettes,” June 17, 1977, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=fznp0117>, p. 6. This same study found that Parliament smokers “expect to reach a compromise between safety and satisfaction. Their ambivalence about smoking waivers between trying to find an acceptable healthier but satisfying cigarette and giving up smoking altogether” (p. 13). Smokers of Parliaments imagined themselves to be “a discriminating, elite corps” who were “pleased to think that they were smoking a cigarette which was healthier than some of the low tar brands” (p. 16).

²⁶¹ “Parliament Lights Brand History,” 1994, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=grnw0109>.

²⁶² For examples of Parliament’s print ads: <https://tobacco.stanford.edu/?s=parliament>.

²⁶³ Myron Johnston, “Market Potential of a Health Cigarette,” June 1966, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=jfvc0123>.

²⁶⁴ TCM (Thousand Commercial Minutes) was an industry metric for advertising reach, with 1 TCM representing a thousand people seeing one minute of any given ad. See “Estimated Network Television Cost Efficiencies by Cigarette Type and Brand October-December 1958,” 1959, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=lmvx0049>. Parliament also got a boost from *Readers Digest* and *Consumer Reports*, both of which embraced filters in the 1950s.

an “older female” audience through its “romance adventure theme,” featuring ads in romance novels like the “Claire & Philippe Romance Saga” series. Advertising had also incorporated “Perfect Recess visuals,” joining the physical feature of the “filter” with a suggestion of the cigarette being enjoyed by romantic couples, all of which was intended to provide “older female smokers with an escape/fantasy in their everyday lives.”²⁶⁵

As for addiction: cigarette manufacturers by the 1970s were clearly aware that nicotine levels had to be kept above a certain level to create and sustain addiction. Lorillard researchers in 1976 expressed this as follows: “A cigarette with substantially lowered nicotine could not deliver the smoking satisfaction to sustain consumer purchase.”²⁶⁶ The challenge was to keep the nicotine level in cigarettes high enough to create and sustain addiction, while simultaneously giving the appearance of lowering yields as determined by the standardized smoking robots of the FTC and ISO.

Machine-level deliveries were deceptive, however, since the manufacturers knew that cigarettes could be smoked more or less intensively, yielding however much pharmacologic nicotine a smoker might desire. Cigarettes were “elastic” in this sense, and manufacturers capitalized on this tendency of smokers to “self titrate,” adjusting their smoking behavior to maintain whatever nicotine levels to which they have become accustomed. Cigarette makers also learned that they could fool the FTC’s machines by punching tiny holes into the wrapper near the mouth end of the cigarette, which smokers could easily cover up, allowing higher deliveries to the smoker than would be expected from the industry’s (and FTC’s) “tar and nicotine” measurements. Cigarette makers thus knew that cigarettes labeled “low tar” and “light” delivered the same levels of toxins as “regular” cigarettes—thanks to “compensation” (i.e., addiction).

These companies’ (confidential, unpublished) acknowledgement of compensation is significant, because it reveals that the tobacco industry knew that cigarettes advertised as “lights” or “low tar” would deliver levels of nicotine far higher than what was revealed on standardized smoking

²⁶⁵ “Parliament Lights Brand History,” 1994,

<https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=grnw0109>.

²⁶⁶ R. E. Smith to F. J. Schultz (Lorillard), “Lowered Nicotine Project,” Nov. 9, 1976,

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=pgvc0040>.

machines.²⁶⁷ It also helps us to understand why such efforts were made to add compounds such as diammonium phosphate (DAP, an ammonia salt), which produced a more potent (“freebased”) nicotine molecule. Philip Morris began adding ammonia to its recon sheet in the early 1960s, and competitors spent a great deal of time trying to figure out exactly how the company was ammoniating its products—to the tune of millions of pounds of ammonia added every year—which competitors judged to be the “secret” and “soul” of Marlboro.²⁶⁸

* * * * *

The main goal of marketing certain cigarettes as “low tar” or “light” was to reassure smokers. From the internal records of the companies, however, we know that cigarette manufacturers knew that neither of these gimmicks provided any real health benefit. Cigarette manufacturers realized that smokers tended to smoke such cigarettes more intensively, compensating for low-rates of (robot) delivery by smoking more, or holding the smoke for longer or taking more puffs or larger puffs, or by drawing the smoke more deeply into the lungs or smoking further down on the butt—to obtain their desired nicotine “fix.” Smokers were addicted to a certain level of nicotine, which meant that anyone who switched to a (nominally) “light” or “low tar” cigarette could simply alter their behavior to obtain more of the addicting alkaloid (and with it, the carcinogenic tars). That is why “low delivery” cigarettes were, and remain today, fraudulent: the descriptors

²⁶⁷ The earliest example I have found of recognition of the basic mechanisms of compensation is from 1933, in the *Nebraska Medical Journal*, where we hear that “In the process of manufacturing cigarettes where the greater percentage of nicotine had been taken out of a certain brand, it was found that the habitué consumed thrice the number of the one that had the tobacco blend in the original state”; see Henry Farrell, “The Billion Dollar Smoke,” *Nebraska Medical Journal*, 18 (1933): 226-28. Farrell here also traced the rise of the cigarette to “an advertising performance stealthy in the extreme” and “magnificent in its summons and invocation.” Industry insiders were also recognizing titration: Hiram Hanmer at American Tobacco in 1935 talked about how smokers would adjust the intensity with which they smoked to maintain a constant intake: “Actually, the smoker compensates for this; that is he exerts a greater suction on the cigarettes with poor draft and less on those with good draft, and, unconscious perhaps, attempts to approximate a standard size of puff.” See <http://legacy-dc.ucsf.edu/tid/pko54f00/pdf>. Hanmer here describes nicotine and carbon monoxide as the “toxic” substances in smoke; he seems to have believed that cigarettes were safer than cigars, consistent with his view that “In cigarette smoking, less CO is produced than in any other form of tobacco smoking” (p. 3).

²⁶⁸ Terrell Stevenson and Robert N. Proctor, “The ‘Secret’ and ‘Soul’ of Marlboro: Philip Morris and the Origins, Spread, and Denial of Nicotine Free-Basing,” *American Journal of Public Health*, 98 (2008): 1184-94.

“low tar” or “light”—and even “filter”—misrepresent the fact that cigarettes with such descriptors are no less hazardous.

Tobacco manufacturers eventually learned that “low-tar” cigarettes could pose an even greater hazard, insofar as smokers would be forced to pull harder on such cigarettes to obtain “satisfaction” (a euphemism for nicotine or sometimes even for addiction). Filters also tended to reduce the average particle size of cigarette smoke, which made it easier for smoke to penetrate even further into the lungs. Tumors in these distal regions tend to be both harder to treat and more difficult to diagnose, elevating morbidity. Surgeons in the 1990s started noticing increasing numbers of tumors in these more distant reaches of the lungs, especially adenocarcinomas, caused by the smaller size of smoke particles (from filtration) and the practice of deeper inhalation (from compensation).²⁶⁹

Philip Morris conducted extensive research into human smoking behavior, finding that smokers inhaled the same amount of nicotine from “light” cigarettes as from regular (non-“light”) brands, but never disclosed the results of this research.²⁷⁰ Nor did the company reveal that it had developed a “human smoke simulator” to more accurately mimic human smoking than the FTC’s approved smoking machine, or that tests using the “human smoke simulator” showed that smokers who switched from regular

²⁶⁹ Gary M. Strauss et al., “Creation of an Epidemic: The Tobacco Industry (TI) and Smoking-related Adenocarcinoma (AD) of the Lung,” *Journal of Clinical Oncology*, 25 (2007): 7583.

²⁷⁰ For a compilation of studies, see PM’s “Human Smoking Behavior,” 1983, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ymfx0045>; W. L. Dunn, Jr., “Project 1600 Consumer Psychology,” Aug. 25, 1967, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=slhc0131>; Helmut Wakeham to Hugh Cullman, “Trends of Tar and Nicotine Deliveries over the last 5 Years,” March 24, 1961, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pqip0124>; W. L. Dunn, Jr. to Robert Seligman, “A Study of the Effect of Lip Occlusion of Air Holes on Mainstream Delivery in Air Diluted Cigarettes,” July 28, 1967, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=fnxc0115>; Helmut Wakeham to Paul D. Smith, “Plastic Dilution Tipped Parliament,” Aug. 11, 1967, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ggm0127>; Helmut Wakeham to PM Board of Directors, “Smoker Psychology Research,” Nov. 29, 1969, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=gqpx0037>; Helmut Wakeham, “Some Unexpected Observations on Tar and Nicotine and Smoker Behavior,” March 1, 1974, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=phgp0124>.

Marlboros to Marlboro “lights” did not end up receiving less tar or nicotine.²⁷¹ Philip Morris also conducted, but never revealed, tests that showed that the smoke from its ventilated “lights” cigarettes was more mutagenic, and thus would have a greater likelihood of generating tumors.²⁷²

Though some Philip Morris executives publicly claimed that smokers were choosing “lights” because of a preference for “lighter taste,” the marketing research performed for the company stated unequivocally that smokers were choosing lights for one “simple and single” reason: “better for you, less harmful, easier on the lungs, throat, etc.”²⁷³ “Lights” helped derail the company’s customers from quitting.²⁷⁴ And Philip Morris, working with the other tobacco companies, continued until the 1990s to tell the FTC that it should not change its method for reporting tar and nicotine levels, even though internally the company acknowledged that “people smoke in such a way that they get much more than predicted by [the] machine.”²⁷⁵

²⁷¹ Barbro Goodman to Leo F. Meyer, “Marlboro-Marlboro Lights Study Delivery Data,” Sept. 17, 1975, <https://www.industrydocuments.ucsf.edu/docs/#id=yxky0125>; Barbro Goodman to Leo F. Meyer, “Smoking Parameters for R&D Personnel,” Sept. 23, 1976, <https://www.industrydocuments.ucsf.edu/docs/#id=rrnd0107>; Barbro Goodman to Leo F. Meyer, “Summary of Human Smoke Simulator Program,” Aug. 19, 1977, <https://www.industrydocuments.ucsf.edu/docs/#id=lyyd0107>.

²⁷² J. Booker & S. Drew to R. A. Pages, “Models II Cigarettes (Set II): *S. typhimurium* Activities,” Nov. 29, 1977, <https://www.industrydocuments.ucsf.edu/docs/#id=tslm0109>; R.A. Pages to W. F. Kuhn, “6906 Annual Report - Biological Effects of Smoke,” May 4, 1978, <https://www.industrydocuments.ucsf.edu/docs/#id=smky0116>; INBIFO, “Mouse Skin Painting at INBIFO,” May 11, 1982, <https://www.industrydocuments.ucsf.edu/docs/#id=mxhp0124>; Wolf Reininghaus to Cathy Ellis, “Smoke Comparisons,” Jan. 28, 1994, <https://www.industrydocuments.ucsf.edu/docs/#id=nyjj0045>; INBIFO, Ames Mutagenicity Assays, Aug. 13, 2001, <https://www.industrydocuments.ucsf.edu/docs/#id=qmgw0073>.

²⁷³ The Roper Organization, Inc., “A Study of Smokers’ Habits and Attitudes with Special Emphasis on Low Tar and Menthol Cigarettes,” March 1979, <https://www.industrydocuments.ucsf.edu/docs/#id=kxhp0042>. Roper here found that the appeal of menthols was “more in terms of their effects than their tastes.”

²⁷⁴ Wells, Rich & Greene, “Reactions to a Proposed New 85mm Benson & Hedges,” Aug. 28, 1978, <https://www.industrydocuments.ucsf.edu/docs/#id=trpx0119>: “Those who are currently smoking ‘Lights’ do so because ‘. . . they are better for you. . .’ than full flavor cigarettes.” Smoking Lights “is an alternative to quitting -- which most cannot accomplish.”

²⁷⁵ Helmut Wakeham, “Some Unexpected Observations on Tar and Nicotine and Smoker Behavior,” March 1, 1974, <https://www.industrydocuments.ucsf.edu/docs/#id=phgp0124>; “Conclusion: The FTC standardized test should be retained. . . It gives low numbers.” In

Filtration also had the unfortunate consequence that by eliminating certain “irritants” from smoke, the smoke became easier to inhale and therefore more deadly. That is probably the single greatest tragedy—or tragic irony—in twentieth century cigarette manufacturing: the quest for ever “milder” brands, originally perhaps with the honest goal of making a genuinely safer cigarette, ended up being a cigarette that was easier to inhale and therefore far more deadly. This is particularly remarkable in retrospect, given the long-standing stress by advertisers on certain brands of cigarettes being “milder” or “easier on your throat.” The irony here, again, is that by lessening “irritation,” cigarette designers were actually elevating hazards.

Finally, we should also keep in mind that the (false) promise of a “lighter” or “lower-yielding” smoke made it easier for smokers to rationalize their continued smoking. Filters, lights, and low tars—and even menthols and “king-sizing” to a certain degree—all provided smokers with a psychological crutch or rationale to continue their habit, a kind of compromise or middle ground between quitting and continued smoking. The promise of lights led smokers down this path, which manufacturers clearly knew was false and misleading.

* * * * *

I have stressed throughout this report the crucial role of legal considerations in the decisions made by cigarette manufacturers; lawyerly considerations have defined what would be said or not said to the public, what kinds of research would be done and what kinds not done. The law firms assisting the industry were as heavily involved as the companies in perpetrating this general fraud. Shook, Hardy and Bacon lawyers and attorneys from other firms to a certain extent—notably Covington and Burling—were not just lawyers for the defense but also industry strategists, propagandists and co-conspirators.

Many of these lawyerly manipulations first became evident with the release of millions of pages of internal tobacco industry documents in consequence of litigation. Even today, while it is true that several key

1980, rather than disclosing to the Surgeon General the companies’ internal research about compensation, the Tobacco Institute called for “more research”; see Scientific Affairs Division, “Suggested TI Response to the 1981 Surgeon General’s Report,” Dec. 15, 1980, <https://www.industrydocuments.ucsf.edu/docs/#id=lpkp0146>.

elements of the public health consensus are now admitted by tobacco manufacturers, it seems that lawyerly concerns still dictate the limits of those concessions. The industry now admits that cigarettes cause certain diseases, for example, but they have not yet admitted that the chemistry of cigarette smoke has been manipulated to sustain addiction, or that millions of Americans have died from diseases caused by smoking. Some companies now admit that secondhand smoke can cause disease, but none has admitted to the scale of the toll or that cigarette manufacturers for decades lied to the public. Considered in the frame of its global reach, a more deadly deception in the entirety of human history would be difficult to name.

Note on Certain Limitations of this Study

All historians must grapple with the incompleteness of historical evidence; we never have a “complete” record of the past. In the tobacco context this is complicated by the fact that cigarette manufacturers have deliberately destroyed certain documents, apparently to prevent their discovery in litigation. Of course we can only know about destruction that was imperfect, having left some kind of trace or shadow. What we do know is that orders were given for certain documents to be destroyed, and research personnel appear to have complied with such orders.

An important turning point in this regard came in the late 1960s, when cigarette makers became increasingly concerned about the possibility of embarrassing facts or projects being discovered within their archives. Reynolds in 1969, for example, began taking great pains to make sure there would be no embarrassing admissions in its files. That is one reason Reynolds dissolved its animal research facility at Winston-Salem in the spring of 1970, in the so-called “Mouse House massacre.”²⁷⁶ A recent change in American Federal Rules of Civil Procedure had made it easier to obtain internal records from industries facing lawsuits,²⁷⁷ which led Reynolds to try to cleanse its files of incriminating documents. Such efforts were imperfect, which helps explain why we have preserved a number of documents describing different methods for how to destroy documents—and how to cover this up—from December of 1969. Murray Senkus on

²⁷⁶ See Joseph Bumgarner’s deposition from Nov. 11, 1996, for *Texas v. American Tobacco Co.*,

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=xffg0021>.

²⁷⁷ David R. Hardy to DeBaun Bryant, Esq., Aug. 20, 1970,

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=hfvw0048>.

December 18 of that year wrote to Max Crohn in Reynolds's Legal Department, offering to "rewrite" or "invalidate" certain documents, should that become necessary "for the successful defense of our present and future suits."²⁷⁸

About this same time (1970), Reynolds also began destroying correspondence and reports from its collaboration with Clifford Chappel of Bio-Research Laboratories in Montreal. Chappel had been doing contract research for the Camel maker since 1968,²⁷⁹ principally looking into whether smoke from a tobacco substitute known as "Sutton material" might be less tumorigenic than that from a reference cigarette. By 1970, however, Rodgman and others at Reynolds had become concerned that, since the reference cigarette was Camel, Chappel's inquiries might leave evidence in Reynolds's files of the company knowing that its cigarettes cause cancer. Rodgman supervised the destruction of such reports and correspondence which, as he notes in a hand-written document from the spring of 1970, were destroyed "for legal reasons."²⁸⁰

It may seem surprising to learn that Reynolds took steps to make sure that its foreign collaborators wouldn't have embarrassing materials in their files, but this cross-border collaboration is important. Reynolds made sure that its international subsidiaries were on the same denialist past, as we learn from a 1975 memo sent from Derick Crawford in Canada to G. Dee Smith in Winston-Salem (reporting on his recent phone conversation with RJR research chief Murray Senkus). Crawford here makes it clear that Canada was following the American "no proof" position with regard to cancer:

I stressed [to Senkus] that we are following the same attitude here as in the U.S. – namely that the link between smoking and lung cancer has not been proven.²⁸¹

²⁷⁸ Murray Senkus (research director, Reynolds) to Max H. Crohn (Legal Department), "Invalidation of Some Reports in the Research Department," Dec. 18, 1969, <http://legacy.library.ucsf.edu/tid/pye89d00>. This letter is interestingly out of sequence in the industry's files, explaining perhaps how or why it survived.

²⁷⁹ Alan Rodgman to W. M. Bright, "Visit to Bio-Research Laboratories, Ltd., Montreal, P.Q.," July 15, 1968, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=hrbm0088>.

²⁸⁰ Alan Rodgman, "Chappel," handwritten note from spring 1970, <http://legacy.library.ucsf.edu/tid/jrg79d00>.

²⁸¹ D. A. Crawford to G. Dee Smith (Reynolds), "CTMC Sponsored Medical Research," Jan. 27, 1975,

Canadian cigarette makers were also supposed to eliminate embarrassing documents from their own files, which caused a certain amount of consternation amongst Canadian manufacturers.²⁸² By the 1970s, Macdonald Tobacco was taking orders from Winston-Salem, e.g., to “purge our files of references to ages below 18 years.”²⁸³

The fact that steps were taken to destroy documents is made clear in a 1969 document, where Murray Senkus wrote to Max Crohn in Reynolds’s Legal Department, commenting with regard to the “invalidation of some reports in the research department” as requested by the company’s lawyers:

We do not foresee any difficulty in the event a decision is reached to remove certain reports from Research files. Once it becomes clear that such action is necessary for the successful defense of our present and future suits, we will promptly remove all such reports from our files.

Senkus then provided a cover-story for such removal, noting that “we can cite misinterpretation of data as reason for invalidation.”²⁸⁴

Reynolds clearly did not want these documents seeing the light of day; the company did not want potentially embarrassing documents in its files. Some of these documents have been recovered from other sources, but it is reasonable to assume that others, more perfectly destroyed, will never be recovered.²⁸⁵

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=mnnv0223>.

²⁸² David Hammond et al. “Destroyed Documents: Uncovering the Science that Imperial Tobacco Canada Sought to Conceal,” *CMAJ*, 181 (2009): 691-98, <http://davidhammond.ca/wp-content/uploads/2014/12/2009-CMAJ-Industry-Documents-20091.pdf>.

²⁸³ Robert C. Shropshire (President, Macdonald Tobacco) to G. Dee Smith (President, RJR Tobacco International), “Age Reference in Marketing Plans,” Sept. 7, 1978, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=fzwb0223>.

²⁸⁴ Murray Senkus to Max Crohn, “Invalidation of Some Reports in the Research Department,” Dec. 18, 1969, <http://legacy.library.ucsf.edu/tid/pye89d00>.

²⁸⁵ Those known to have been destroyed and recovered include studies exploring the cancer-causing potential of cigarettes with low-visible sidestream smoke; see, for example, A. G. Barnes and E. D. Massey, “Ames Mutagenic Activity of Sidestream Condensate,” Jan. 26, 1987, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=mfdc0140>.

Note on the Magnitude of the Harms Caused by Cigarettes

Cigarettes are the largest preventable cause of death in the U.S., as in most other nations of the world. In 2013, according to the U.S. Office on Smoking and Health, cigarettes were responsible for 480,000 annual deaths in the country.²⁸⁶ This unparalleled toll is largely because of the immense volume of cigarettes smoked: Americans still smoke about 250 billion cigarettes per year, a figure that is down about 60 percent from the peak value of 630 billion in 1981 (see **Figure 2**).

In the aggregate, this total number of cigarettes smoked and deaths caused is remarkable. If Americans smoked an average of 400 billion cigarettes per year from 1950 to 2000, this means a total of about 20 trillion cigarettes smoked during this period. Twenty trillion cigarettes is enough to make a continuous chain of cigarettes some 1600 million kilometers long, or enough to circle the globe about forty thousand times. It is enough to stretch from the earth to the sun and back, with enough left over for several round trips to Mars. We can think of this as a velocity: if 250 billion cigarettes are smoked every year, this means that Americans still smoke about 680 million cigarettes per day, or 28 million per hour. Picture a cigarette rod of infinite length, burned and inhaled at twice the speed of sound.

Cigarettes cause about one death per million smoked,²⁸⁷ which means that the 20 trillion cigarettes smoked from 1950 to 2000 caused about 20 million deaths. That number is consistent with the estimate of the 2014 report of the U.S. Surgeon General, which calculated 20,830,000 deaths from smoking in the U.S. over the fifty year period from 1965 to 2014.²⁸⁸ This does not mean that these 20 million Americans would not have died; it simply means that twenty million Americans would have lived to die from something other than their cigarettes. Tobacco deaths are entirely preventable. One can think about this in terms of years of life lost: Every

²⁸⁶ The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General (Rockville: Office on Smoking and Health, 2014), <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>.

²⁸⁷ Robert N. Proctor, “Tobacco and the Global Lung Cancer Epidemic,” *Nature Reviews Cancer*, 1 (2001): 82-87; also Proctor, *Golden Holocaust*.

²⁸⁸ The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General (Rockville: HHS, Office on Smoking and Health, 2014), <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>.

cigarette you smoke takes 10 minutes off your life (on average),²⁸⁹ which means that cigarettes robbed Americans of about 400 million years of life in the second half the twentieth century.

Cigarette death can also be translated into mass (weight) equivalents. If each cigarette contains about a gram of tobacco and one person dies for every million cigarettes smoked, then one person dies for every thousand kilograms of tobacco harvested and turned into cigarettes.²⁹⁰ We can also calculate the number of deaths produced by individual factories. If Philip Morris's Richmond plant produces 146 billion cigarettes per year, for example, this means that this one factory is responsible for the deaths of 146,000 smokers per year (along with roughly 15,000 deaths from secondhand smoke).²⁹¹

There is also a simple economic calculus that can be applied to such figures. Tobacco manufacturers make about a penny in profit for every cigarette sold, which means we can also calculate the de facto value of a life to a cigarette manufacturer. If every million cigarettes smoked causes one premature death, then a cigarette manufacturer makes about \$10,000 from each of the deaths of its customers. One can consider this an economic measure of the indifference of cigarette manufacturers, or at least the trade-off they are not willing to make to prevent death and suffering from their products. If cigarette makers make \$10,000 for every million cigarettes sold, then cigarette makers are apparently not willing to forego \$10,000 in profit to save one human life. One can infer from this that the value of a human life to a modern cigarette manufacturer is on the order of \$10,000.²⁹²

²⁸⁹ Mary Shaw, Richard Mitchell, and Danny Dorling, "Time for a Smoke? One Cigarette Reduces Your Life by 11 Minutes," *BMJ*, 320 (2000): 53.

²⁹⁰ Howard Barnum at the World Bank in 1994 calculated that "every ton of tobacco consumed results in approximately one death"; see his "The Economic Burden of the Global Trade in Tobacco," *Tobacco Control*, 3 (1994): 358-61. Richard Peto et al. that same year figured that a metric ton of tobacco kills about 1.3 people per year; see R. Peto, A. Lopez, J. Boreham, M. Thun, and C. Heath, Jr., *Mortality from Smoking in Developed Countries 1950-2000* (Oxford: Oxford University Press, 1994).

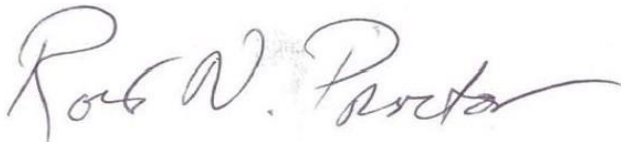
²⁹¹ Robert N. Proctor, "The History of the Discovery of the Cigarette-lung Cancer Link: Evidentiary Traditions, Corporate Denial, Global Toll," *Tobacco Control*, 21 (2012): 87-91.

²⁹² Ibid.

Please note: In addition to the above opinions, I may testify about the testimony or opinions of other witnesses and experts, including opinions not explicitly stated in this report.

Signed:

Jan. 31, 2022

A handwritten signature in dark ink, appearing to read "Rob N. Proctor", with a long, sweeping horizontal stroke extending to the right.

Robert N. Proctor
Professor of the History of Science and
Professor, by courtesy, of Pulmonary and Critical Care Medicine
Stanford University

Figures 1 & 2

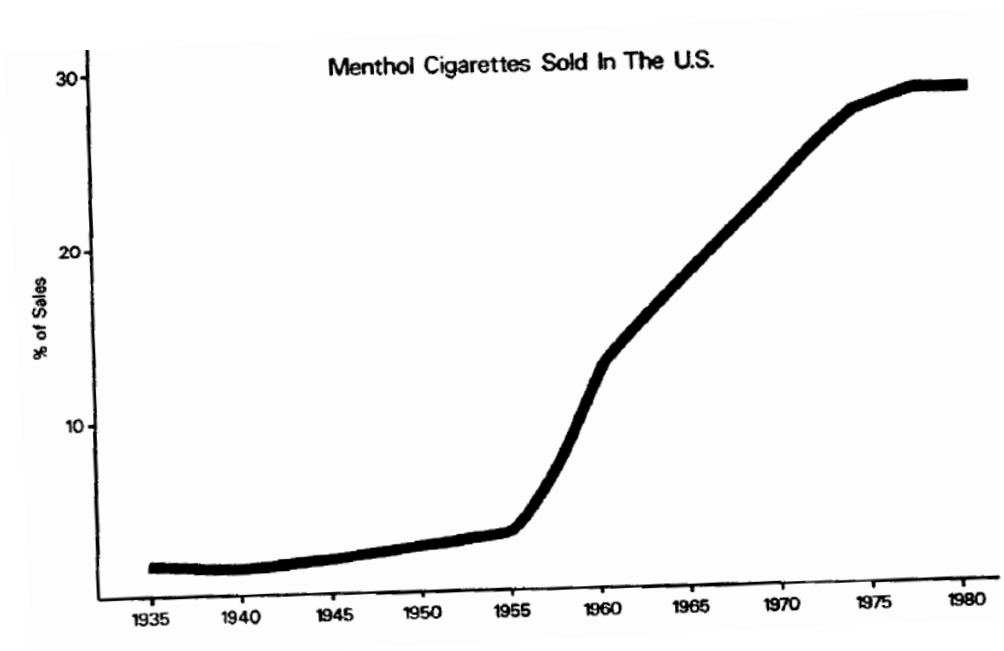
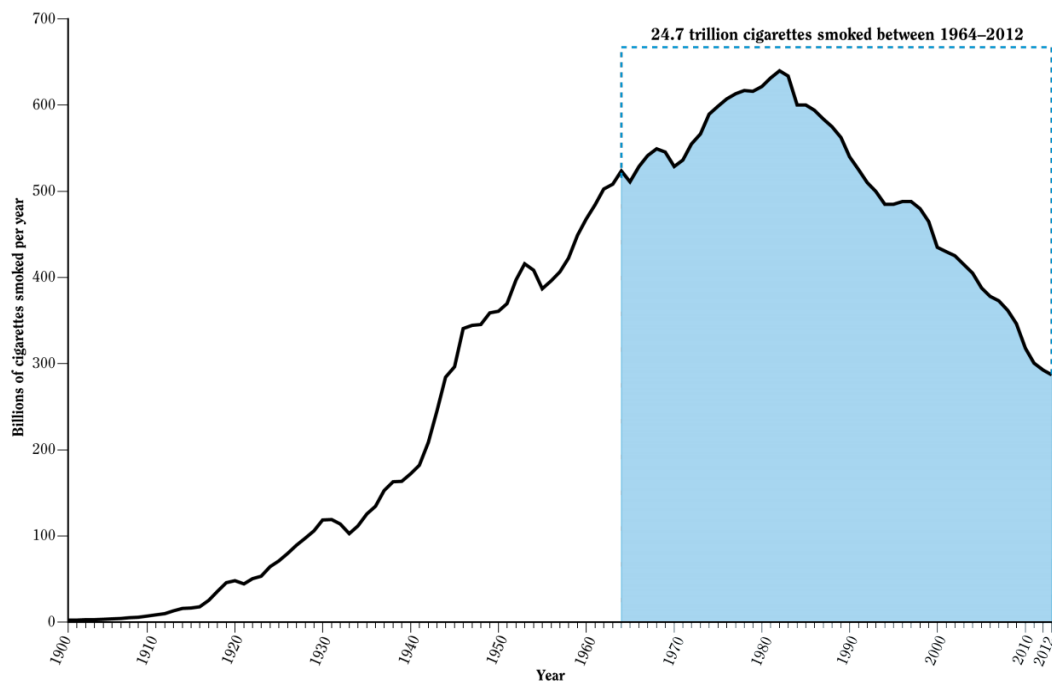


Figure 1: Menthol Sales in the United States, 1935 to 1980. From Vello Norman (Lorillard), “The History of Cigarettes,” 1983, <http://legacy.library.ucsf.edu/tid/ghr91e00>, Fig. 9. Note the sharp increase in sales with the proof and publicity of cancer harms in the mid-1950s: As with “filters,” menthols were a reassurance design; smokers thought they would be safer.

Figure 2 Total cigarette consumption, United States, 1900–2012

Source: Miller 1981; U.S. Department of Agriculture 1987, 1996, 2005, 2007a,b; Centers for Disease Control and Prevention 2012.

Note: Data shown are annual total consumption of cigarettes. This differs from Figure 2.1, which reports the annual adult (18 years of age and older) per capita consumption.

Figure 2: The Arc of the Epidemic: Cigarette consumption in the U.S. from 1900 to 2012. From the Executive Summary of the 2014 Surgeon General's Report, p. 12.

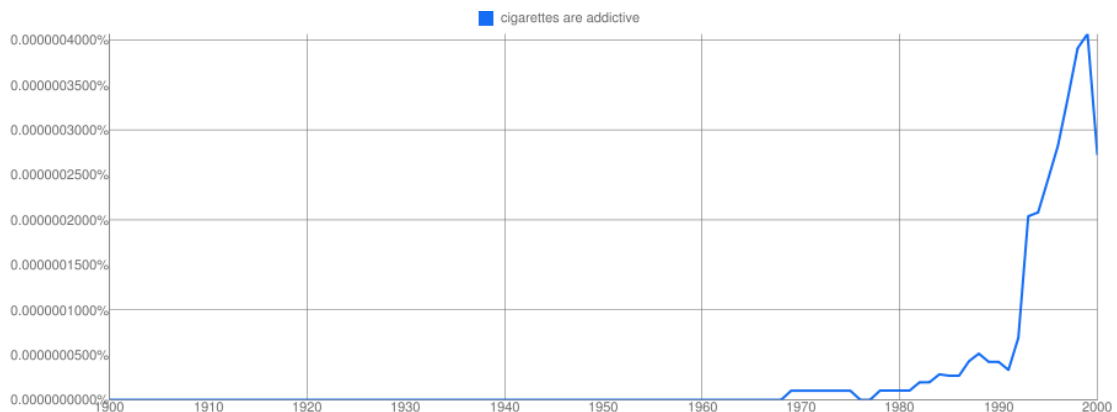
Appendix I: Ngrams for Certain Cigarette Expressions in English

NB: Ngrams measure the relative frequency in use over time of a particular expression in the five million books scanned by Google.

(a) The expression “tried to quit smoking” was not common in the English language prior to the 1970s:



(b) The expression “cigarettes are addictive” was not in wide use prior to the 1980s:

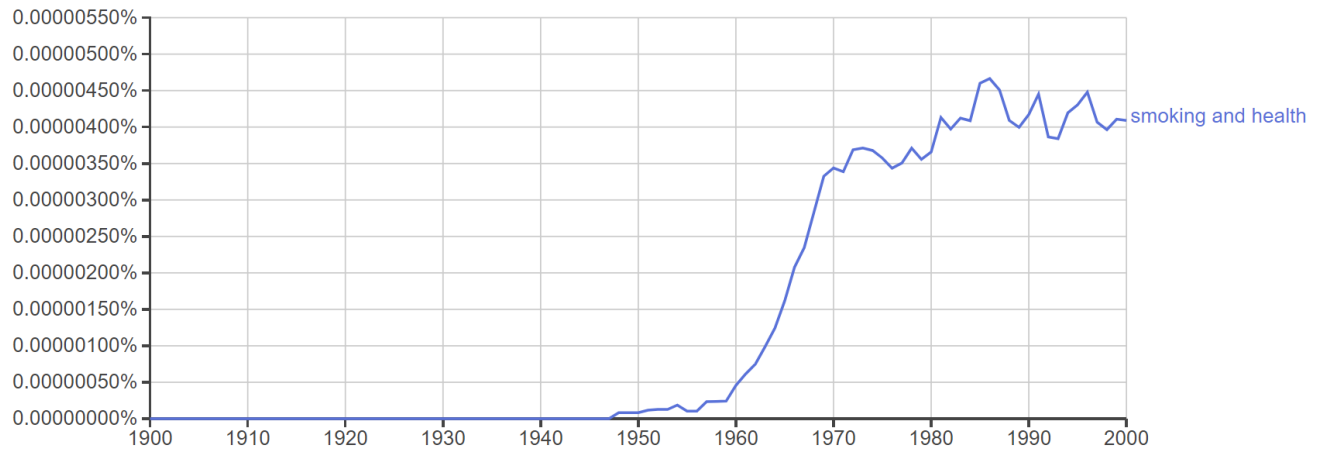


Sources:

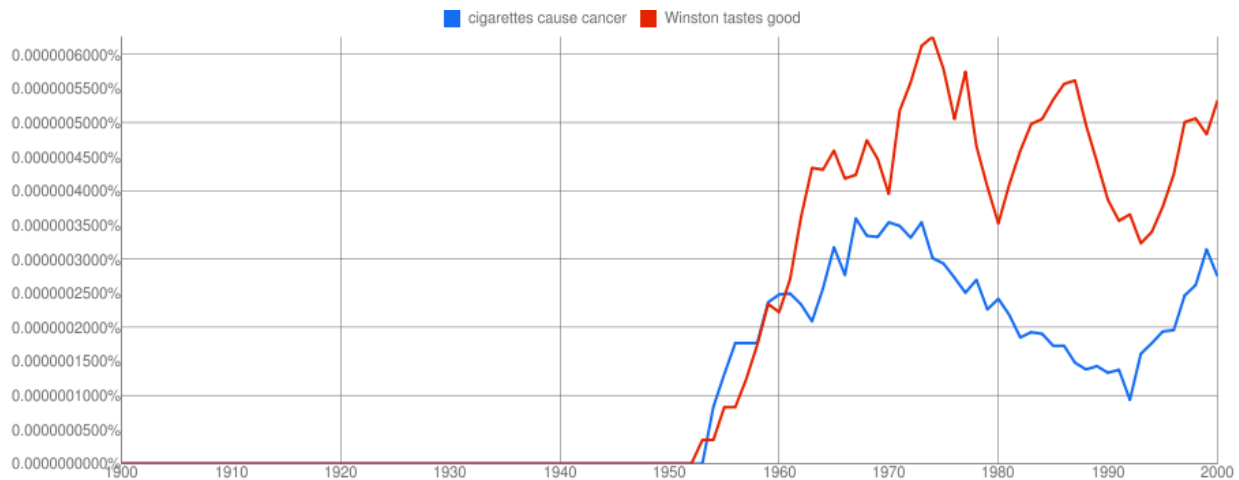
http://ngrams.googlelabs.com/graph?content=tried+to+quit+smoking&year_start=1850&year_end=2000&corpus=5&smoothing=3

http://ngrams.googlelabs.com/graph?content=cigarettes+are+addictive&year_start=1900&year_end=2000&corpus=5&smoothing=3

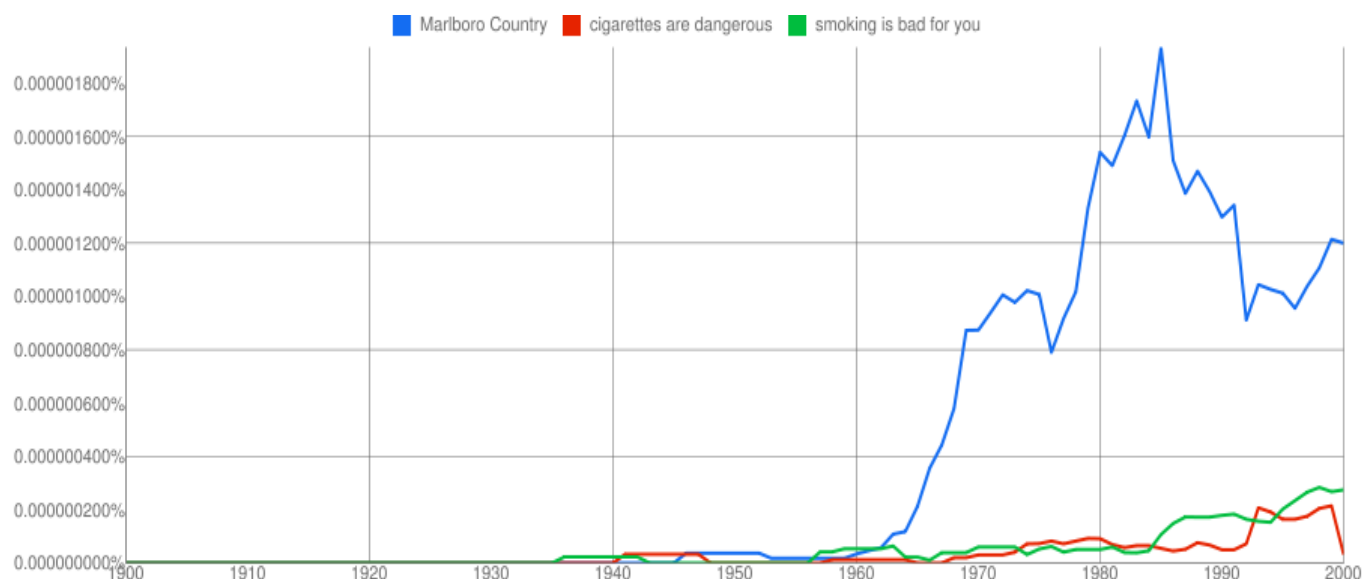
(c) “Smoking and health” was not part of the lingua franca in the U.S. until the 1950s:



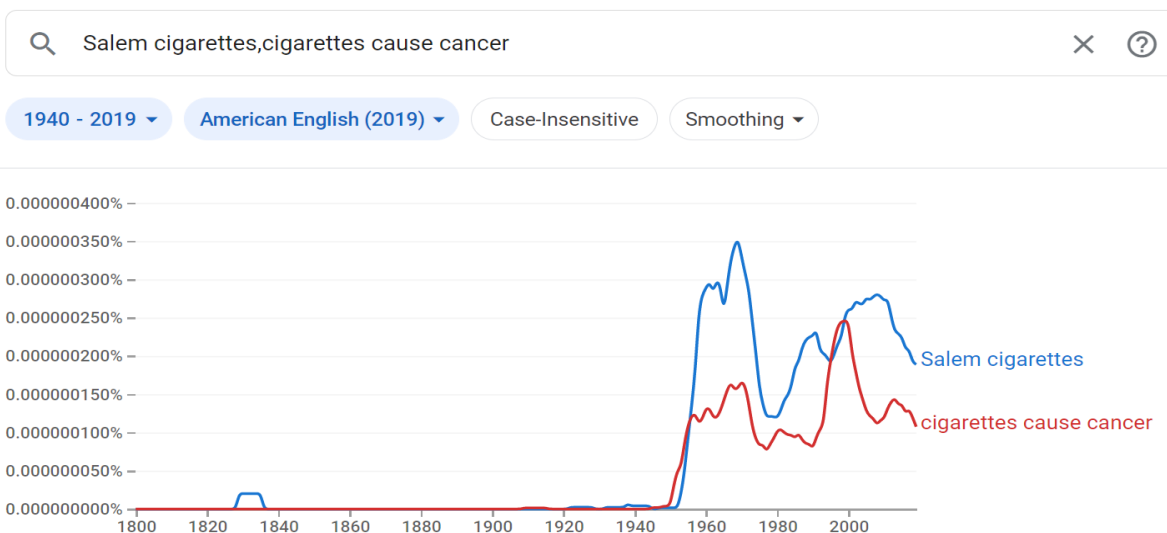
(d) From 1960 to 1990, Reynolds’s slogan “Winston tastes good” was more common than “cigarettes cause cancer”:



(e) From the mid-1960s on, the expression “Marlboro Country” was far more common than either “smoking is bad for you” or “cigarettes are dangerous”:



(f) “Salem cigarettes” was written as frequently as “cigarettes cause cancer”:



Sources:

http://ngrams.googlelabs.com/chart?content=cigarettes%20cause%20cancer%2CWinston%20tastes%20good&corpus=5&smoothing=3&year_start=1900&year_end=2000.

http://ngrams.googlelabs.com/graph?content=Marlboro+Country%2Ccigarettes+are+dangerous%2Csmoking+is+bad+for+you&year_start=1900&year_end=2000&corpus=5&smoothing=3.

Appendix II: Chronology of Conspiracy

1. 1911: Buck Duke's American Tobacco trust is broken up by exercise of the Sherman Antitrust Act.
2. 1913: R.J. Reynolds launches "American blend" Camel cigarettes with a coast-to-coast marketing campaign.
3. 1917-18: Cigarettes are distributed to troops on the front in WWI, an effort organized by the American Tobacco Company.
4. 1927: R.J. Reynolds sends a memo to all sales division managers announcing: "School Days are Here. And that means BIG TOBACCO BUSINESS for somebody. Let's get it—and start after it RIGHT NOW."²⁹³
5. 1928: Reynolds sends another memo urging its Sales personnel to target high schools, prep schools, colleges and universities: "Get your men intensely interested in lining up these students for our brands - both as CONSUMERS and BOOSTERS. And see to it that the stores and stands near the schools have a good supply of our products."²⁹⁴
6. 1929: American Tobacco pays women to smoke cigarettes while marching in New York's Easter Sunday parade, with the goal of identifying cigarettes as "torches of freedom" and smoking with women's liberation. American's "Reach for a Lucky Instead of a Sweet" campaign is part of this same effort to market to women: women were urged to smoke a cigarette after dinner, instead of a dessert, to keep slim and trim. Marketing to women would continue throughout the twentieth century, culminating in tie-ins to sports with the Virginia Slims Tennis campaigns of Philip Morris from the late 1960s into the 1990s.
7. 1932: Charles F. Neiley, Vice President at American Tobacco, points out with regard to filters that "The idea of a filter in a cigarette is not new - we have had many suggestions offered along these lines."²⁹⁵
8. 1932: Hiram R. Hanmer, a chemist at American, points out to one of his superiors that while a filter could be constructed "which would absorb any desired quantity of the constituents of the smoke," this could not be done "without sufficient change in character and flavor as to be readily detected and probably condemned by the habitual smoker." Hanmer added that the

²⁹³ R.J. Reynolds, "School Days Are Here," Sept. 9, 1927, <http://legacy.library.ucsf.edu/tid/atc19d00>.

²⁹⁴ R.J. Reynolds, "Regular School is Over," June 13, 1928, <http://legacy.library.ucsf.edu/tid/zsc19d00>.

²⁹⁵ Charles F. Neiley to Hiram Hanmer, Dec. 14, 1932, <http://legacy.library.ucsf.edu/tid/boc54f00>.

- drawback of all such devices was that “they cannot be made to absorb selectively or proportionally” without the resulting smoke becoming “unbalanced and unsatisfying.”²⁹⁶
9. 1932: Hiram Hanmer writes to his medical consultant, Clarence W. Lieb, that with regard to the present of carbon monoxide in cigarette smoke, they should just “let sleeping dogs lie unless we are able to eliminate the compound practically entirely from the smoke of LUCKY STRIKE cigarettes.”²⁹⁷
 10. 1936: Angel H. Roffo of Argentina uses tobacco tars to produce tumors on the ears of experimental animals (rabbits) and publishes graphic images of these cancers in his *El tabaco como cancerígeno* (Buenos Aires: Imprenta de la Universidad, 1936).
 11. 1938: Willard Greenwald, Director of Research at Philip Morris, proposes establishing a “tobacco institute” to forge “closer and more friendly relations between the companies.”²⁹⁸
 12. 1939: Greenwald describes efforts by Philip Morris to get physicians to smoke that brand, adding that “under no circumstances would we want anyone to smoke Philip Morris cigarettes were smoking definitely deleterious to his health.”²⁹⁹ Philip Morris and the other companies subsequently make similar claims, but after 1953 all of these are made publicly and never in private. This suggests that such claims were honest prior to 1953 and dishonest thereafter.
 13. 1939: Alton Ochsner and Michael DeBakey in 1939, after operating on dozens of lung cancer sufferers and reviewing the global medical literature, explain the dramatic rise in lung cancer: “In our opinion the increase in smoking with the universal custom of inhaling is probably a responsible factor, as the inhaled smoke, constantly repeated over a long period of time, undoubtedly is a source of chronic irritation to the bronchial mucosa.”³⁰⁰
 14. 1941: American Tobacco, Reynolds, and Liggett, along with George Washington Hill, Paul M. Hahn, Ed Darr, and a dozen other executives, are convicted on counts of “conspiracy in restraint of trade, attempt to

²⁹⁶ H. R. Hanmer to C. F. Neiley, Dec 15, 1932, <http://legacy.library.ucsf.edu/tid/aoc54f00>.

²⁹⁷ H. R. Hanmer to Charles Lieb, Aug. 20, 1932, <http://legacy.library.ucsf.edu/tid/hak54f00>.

²⁹⁸ Memorandum of Meeting between Dr. Haag and Dr. Greenwald,” Jan. 18, 1938, <http://legacy.library.ucsf.edu/tid/xvx44f00>.

²⁹⁹ Willard Greenwald, “Activities of the Research Department for 1938,” Jan. 6, 1939, <http://legacy.library.ucsf.edu/tid/srd38e00>.

³⁰⁰ Alton Ochsner and Michael DeBakey, “Primary Pulmonary Malignancy,” *Surgery, Gynecology & Obstetrics*, 68 (1939): 435-51, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=xmyl0123>.

monopolize, conspiracy to monopolize, and monopolizing in the tobacco industry, in violation of the Sherman Anti-Trust Act.” Convictions are upheld by the U.S. Supreme Court on December 18, 1944,³⁰¹ helping us to understand the sense of concern over potential anti-trust implications of the subsequent meetings at the Plaza Hotel in 1953.

15. 1941: Edward S. Harlow at the American Tobacco Co. (in the research dept.) characterizes the Medical College of Virginia as “sold American.”³⁰²
16. 1941: R.J. Reynolds Chairman S. Clay Williams testifies it “was absolutely essential to maintain advertising in the cigarette business in order to maintain, and certainly to extend, the volume of consumption on Camel Cigarettes.”³⁰³
17. 1941: Harry M. Wootten, an investment advisor at Reynolds and an influential chronicler of tobacco business statistics, attributes “the phenomenal growth of cigarette consumption in this country” to “the development of nation-wide and unprecedented advertising campaigns in promotion of this product.”³⁰⁴
18. 1946: Harris Parmele, Director of Research at Lorillard, points out that “Certain scientists and medical authorities have claimed for years that the use of tobacco contributes to cancer development in susceptible people” and that “Just enough evidence has been presented to justify the possibility of such a presumption.”³⁰⁵
19. 1946: Addison Yeaman, an influential lawyer at Brown & Williamson, in a letter from December of that year characterizes candy cigarettes imitating the tobacco company’s brands as “not too bad an advertisement” for kids that will eventually learn to smoke.³⁰⁶ Cigarette makers over subsequent decades turn a blind eye to infringements on their trademarks by candy makers.
20. 1948: Willard Greenwald at Philip Morris urges his company to “get the student before he becomes a doctor.”³⁰⁷
21. 1949: Joe Cahn of Philip Morris describes the “College Plan” for his

³⁰¹ “Transcript of Record, Supreme Court of the United States, October Term, 1944,”

<http://legacy.library.ucsf.edu/tid/cwz24f00>.

³⁰² Edward S. Harlow to Hiram Hanmer, “The Importance of Biological Research,” Feb. 3, 1941, <http://legacy.library.ucsf.edu/tid/df34f00>, p. 2.

³⁰³ Harry M. Wootten, “43 Billion Camels Sold in a Year,” *Printer’s Ink*, Oct. 31, 1941, p. 20, <http://legacy.library.ucsf.edu/tid/mxu51a00>.

³⁰⁴ Harry M. Wootten, “Cigarettes’ High Ceiling,” *Printers’ Ink Monthly*, 42 (Feb. 1941): 5-8, 56.

³⁰⁵ H. B. Parmele to Adam Riefner, July 29, 1946, <http://legacy.library.ucsf.edu/tid/lrg56b00>.

³⁰⁶ Addison Yeaman (Brown & Williamson) to W. E. McCabe, Dec. 3, 1946, <http://legacy.library.ucsf.edu/tid/clb60f00>.

³⁰⁷ Recommendations and Budget for Activities of the Research Department,” 1948, <http://legacy.library.ucsf.edu/tid/krd38e00>.

- company, adopting as a slogan: “Get ’em young, train ’em Right.”³⁰⁸
22. 1952: Brown & Williamson achieves “a partial isolation and identification of a carcinogenic hydrocarbon, benzopyrene,” in cigarette smoke—but does not disclose this to the public.³⁰⁹ Three years later, TIRC Scientific Director Clarence Cook Little is asked (on national television) whether “cancer-causing agents” had been found in cigarette smoke, and replies: “No. None whatever.”³¹⁰
 23. 1946-53: R.J. Reynolds runs a massive television and magazine advertising campaign, claiming that “**More Doctors Smoke Camels.**”
 24. 1952: Kent cigarettes are introduced with the “Micronite” (asbestos) filter, and over the next four years an estimated 15 billion cigarettes are smoked through this filter made from crocidolite “blue” asbestos—even after it had been shown that fibers could be released and inhaled from the filter tips.³¹¹
 25. 1953: In February, Claude Teague completes his “Survey of Cancer Research” for his superiors at R.J. Reynolds, concluding that “The closely parallel increase in cigarette smoking has led to the suspicion that tobacco smoking is an important etiologic factor in the induction of primary cancer of the lung,” and that “Studies of clinical data tend to confirm this relationship.”³¹²
 26. 1953: On July 1, Lorillard receives results of the Ecusta Paper Corporation’s secret experiments showing it was the tobacco, and not the paper, that was responsible for cigarettes causing cancer.³¹³ Paul M. Hahn would later testify that prior to 1954, his company had done nothing to prove or disprove smoking-lung cancer claims “except in the continuing investigation of the chemical composition of smoke.”³¹⁴ American in fact had funded the Ecusta experiments and Hahn had received notification of the results shortly prior to

³⁰⁸ Joe Cahn (PM), “College Plan For 1949,” <http://legacy.library.ucsf.edu/tid/ojk78e00/pdf>.

³⁰⁹ “Report of Progress—Technical Research Department” (B&W), Dec. 24, 1952, <http://legacy.library.ucsf.edu/tid/eyt60f00>.

³¹⁰ Transcript of Edward R. Murrow’s Second TV Show on “Cigarettes and Lung Cancer,” June 7, 1955, <http://legacy.library.ucsf.edu/tid/mmx71e00>.

³¹¹ For photos of asbestos particles tapped out from Kent’s Micronite filter cigarettes, see Owens-Corning Testing Division to Lorillard, June 4, 1953, <http://legacy.library.ucsf.edu/tid/web20e00>.

³¹² Claude E. Teague, Jr., “Survey of Cancer Research, with Emphasis upon Possible Carcinogens from Tobacco.” Feb. 2, 1953, <http://legacy.library.ucsf.edu/tid/jad76b00>.

³¹³ Ecusta Paper Corporation, “Results of Accelerated Animal Tests,” June 9, 1953, <http://legacy.library.ucsf.edu/tid/yam51e00>; data are attached to a letter from Lorillard’s J. J. Blacknall, Director of Manufacture, to H.B. Parmele, Director of Research, July 1, 1953, <http://legacy.library.ucsf.edu/tid/xam51e00>.

³¹⁴ “Green Depositions,” 1960, <http://legacy.library.ucsf.edu/tid/vv196b00>, p. 27.

- calling the Plaza Hotel meeting in December 1953.³¹⁵
27. 1953: A confidential Roper poll for Philip Morris (in August) shows that when people are asked “What harm, if any, do you think cigarette smoking does to you either mentally, physically, emotionally?” only one percent volunteered “cancer.” The study concluded that while roughly half of those polled recognized there was “something harmful” about smoking in the abstract, cancer was “almost never mentioned as a reason for concern over smoking.”³¹⁶
 28. 1953: Alton Ochsner of Tulane University predicts that by 1970 “one out of every two or three men with cancer will have a cancer of the lung.”³¹⁷
 29. 1953: Wynder, Graham and Croninger publish their mouse painting experiments (in December), showing that cigarette tars can cause tumors on the shaved backs of mice.³¹⁸ Publicity surrounding the paper causes a panic on Wall Street, tobacco stocks fall, and cigarette sales decline—from a peak of 395 billion in 1952 to 389 billion in 1953 and a low of 370 billion in 1954—before recovering to 380 billion in 1955.³¹⁹ Total U.S. consumption would nearly double over the next twenty years (the peak is 1982), before it would start to fall.
 30. 1953: On December 10, American Tobacco Co. CEO Paul M. Hahn invites the other cigarette CEOs to meet to plan a response to the cancer evidence.³²⁰ Eight chief executives of the leading tobacco companies (all but Liggett) meet at the Plaza Hotel on December 14, and decide to hire Hill & Knowlton

³¹⁵ Proctor, *Golden Holocaust*, pp. 210-23.

³¹⁶ Elmo Roper, “A Study of People’s Cigarette Smoking Habits and Attitudes,” August, 1953, <http://legacy.library.ucsf.edu/tid/rwd56b00>, p. XVII; <http://legacy.library.ucsf.edu/tid/odh64e00>, vol. III, pp. 507-14.

³¹⁷ Bob Considine, “To Smoke or Not to Smoke,” *Cosmopolitan*, April 1954, <http://legacy.library.ucsf.edu/tid/grq34f00>. Considine also characterizes cigarettes as “votive lamps to the muse.” Cigarettes can in fact cause tuberculosis: in today’s India, for example, more people die from cigarette-caused tuberculosis than from cigarette-caused lung cancer; see Prabhat Jha et al., including R. Peto, “A Nationally Representative Case-Control Study of Smoking and Death in India,” *New England Journal of Medicine*, 358 (2008): 1137–47.

³¹⁸ Ernst L. Wynder, Evarts A. Graham, and Adele B. Croninger, “Experimental Production of Carcinoma with Cigarette Tar,” *Cancer Research*, 13 (1953): 855–66, <http://legacy.library.ucsf.edu/tid/jle54c00>.

³¹⁹ “An Historical Perspective on the Smoking and Health Controversy in the U.S., 1951-1977,” in ICOSI, “Working Party on Social Acceptability of Smoking,” July 27-29, 1977, <http://legacy.library.ucsf.edu/tid/zqf56b00>, p. 15.

³²⁰ Paul M. Hahn (AT) to E. A. Darr (Reynolds), Dec. 10, 1953, <http://legacy.library.ucsf.edu/tid/aka50i00>.

to defend the industry against “recent attacks on cigarette smoking.”³²¹ The Plaza Hotel meetings mark the beginning of the conspiracy to hide the harms caused by cigarettes.

31. 1953: John Hill from Hill & Knowlton meets with tobacco executives and research directors at the Plaza Hotel on December 15th. A Hill & Knowlton “Forwarding Memorandum” drafted shortly thereafter quotes one of the research directors exclaiming: “Boy! Wouldn’t it be wonderful if *our* company was first to produce a cancer-free cigarette. What we could do to competition!” Another says “It’s fortunate for us that cigarettes are a habit they can’t break.”³²² Internal admissions of cancer causation and addiction (“habit they can’t break”) thus date from early in the conspiracy—though neither would be disclosed for the duration of the conspiracy.
32. 1953: Also in December, Claude E. Teague, Jr., a PhD chemist at Reynolds, authors a “Disclosure of Invention” of a technique by which chemicals added to a filter would change color upon contact with smoke, leading smokers to believe that harmful agents were being removed by the contraptions fastened to the mouth ends of their cigarettes.³²³
33. 1954: The newly-formed TIRC, established at Hill and Knowlton in the Empire State Building, publishes “A Frank Statement to Cigarette Smokers” in 448 newspapers (circulation 43,245,000) on January 4th. 200,000 reprints are ordered for distribution by the sponsoring companies.³²⁴ The “Frank Statement” claims (falsely) that the statistics invoked to link smoking and cancer “could apply with equal force to any one of many other aspects of modern life” and that “one by one” the charges leveled against tobacco had been “abandoned for lack of evidence.” Some of the language is taken from earlier statements by American Tobacco CEO Paul M. Hahn, including a press release issued by the company on Nov. 26, 1953. Subsequent press releases would repeat this claim that medical and scientific opinion remained “widely divided” over whether cigarettes cause harm.³²⁵

³²¹ Memorandum regarding “Tobacco Industry Meeting, New York, December 14, 1953,” Dec. 14, 1953, <http://legacy.library.ucsf.edu/tid/pop56b00>.

³²² Edwin F. Dakin, “Forwarding Memorandum: to Members of the Planning Committee,” late Dec. 1953, p. 2, <http://legacy.library.ucsf.edu/tid/lho66b00>.

³²³ Claude E. Teague, Jr., “Disclosure of Invention: Filter Tip Material Undergoing Color Change on Contact with Tobacco Smoke,” Dec. 17, 1953, <http://legacy.library.ucsf.edu/tid/ude53d00>.

³²⁴ TIRC, “A Frank Statement to Cigarette Smokers,” Jan. 4, 1954, <http://legacy.library.ucsf.edu/tid/ysd1aa00>; Fuller & Smith & Ross, “The Tobacco Industry Research Committee: A Report on Expenditures to Date and a Discussion of Possible Additional Media,” Jan. 15, 1954, <http://legacy.library.ucsf.edu/tid/jld6aa00>.

³²⁵ TIRC Press Release, Oct. 12, 1954,

34. 1954: On April 26, the TIRC holds the first meeting of its Scientific Advisory Board, hand-picked by Paul Hahn. The TIRC still has trouble finding a director, and C. C. Little finally agrees to serve, which is announced on June 15.³²⁶
35. 1954: In April, the TIRC issues its first “white paper,” titled “A Scientific Perspective on the Cigarette Controversy.”³²⁷ This paper is already being drafted by Tommy Ross, chief counsel for American Tobacco, in December 1953.³²⁸
36. 1954: Liggett & Myers’s research chief, Frederick Darkis, at a Liggett research conference comments that “if we can eliminate or reduce the carcinogenic agent in smoke we will have made progress.”³²⁹
37. 1954: Hill & Knowlton’s progress report for the first six months of the TIRC’s operations notes numerous revisions of popular news and feature stories on tobacco, including “seven revisions and five qualifying additions” to a story published in *Cosmopolitan*, even though that story “was already in type.”³³⁰ The resulting article (by Bob Considine) stresses the “many conflicting reports” and echoes the industry’s basic “he said, she said” position, leaving the smoker confused:

Eminent Authority No. 1 tells him he’s giving himself lung cancer by smoking. Eminent Authority No. 2 says bosh, go ahead and smoke. Eminent Authority No. 3 says both No. 1 and No. 2 are right; the trick is to use a filter.

Considine also parrots the industry’s view that cigarettes cannot cause tuberculosis because that malady “has been dying out since 1920 in the face

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=kzyj0191>; compare the TIRC’s Press Release from June 4, 1955:

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=lqhg0099>.

³²⁶ Hill and Knowlton to T. V. Hartnett, “Report of Activities,” July 31, 1954,

<https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=sjmn0141>

³²⁷ TIRC, “A Scientific Perspective on the Cigarette Controversy,” April 14, 1954,

<http://legacy.library.ucsf.edu/tid/twe21a00>.

³²⁸ Bert Goss (Hill & Knowlton), “Background Material on the Cigarette Client,” Dec. 15, 1953,

<http://legacy.library.ucsf.edu/tid/fbl36b00>.

³²⁹ R. L. Swaine to R. Stevens, “Liggett & Myers Conference on March 25, 1954,” March 29, 1954, <http://legacy.library.ucsf.edu/tid/uy168e00>.

³³⁰ Hill & Knowlton, Inc., to T. V. Hartnett, “Report of Activities through July 31, 1954,”

<http://legacy.library.ucsf.edu/tid/egt61f00>.

- of a ten-fold increase in cigarette smoking.”³³¹
38. 1954: In June, E. Cuyler Hammond, director of statistical research for the American Cancer Society, announces at the AMA convention in San Francisco that it is now proved “beyond a reasonable doubt” that smoking causes lung cancer.³³² Only three months earlier Hammond had been a skeptic, claiming that he would want “very strong proof indeed before I would be willing to state as an absolute fact that cigarettes are responsible.”³³³ Hill and Knowlton reports that the Hammond report causes “hysteria.”³³⁴
39. 1954: In August, E. Cuyler Hammond in a lecture to the American Pharmaceutical Association says it will “not take too long” (“one or two years”) for the tobacco industry to create cigarettes that are safe.³³⁵ Hammond’s remarks illustrate the typical over-confidence in the industry’s ability to create a “technical fix” for the cigarette-cancer problem. (“single factor” theory).
40. 1955: TIRC Scientific Director Clarence Cook Little appears on Edward R. Murrow’s popular “See it Now” TV show, and when asked “have any cancer- causing agents been identified in cigarettes?” responds “No. None whatever, either in cigarettes or in any product of smoking.”³³⁶ Elmer Hess, president-elect of the American Medical Association, appears on this same show, claiming with regard to lung cancer: “I don’t think smoking cigarettes particularly has anything much to do with it.” Asked whether he himself is a smoker, Hess admits that while being a smoker all his life, “I can’t see where it’s done me a great deal of harm.”
41. 1955: Menthol sales skyrocket, with the broader publicity given to cancer hazards. The percentage of cigarettes sold as menthols jumps from about 3

³³¹ Bob Considine, “To Smoke or Not to Smoke,” *Cosmopolitan*, April 1954, <http://legacy.library.ucsf.edu/tid/grq34f00>. Considine also characterizes cigarettes as “votive lamps to the muse.” NB: Cigarettes can in fact cause tuberculosis; see the 2014 Surgeon General’s report.

³³² Does Smoking Shorten Life?” (Interview with E. Cuyler Hammond), *U.S. News & World Report*, July 2, 1954, <http://legacy.library.ucsf.edu/tid/jzh92f00>.

³³³ Hammond is cited in “To Smoke or Not to Smoke,” *Cosmopolitan*, March 1954, <http://legacy.library.ucsf.edu/tid/xhy47a00>.

³³⁴ Hill and Knowlton to T. V. Hartnett, “Report of Activities through July 31, 1954,” <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=sjmn0141>

³³⁵ “Cancer Society Research Director Says Companies Can Develop Safe Cigaretts,” *Wall Street Journal*, Aug. 27, 1954, <http://legacy.library.ucsf.edu/tid/dzh92f00>.

³³⁶ “Transcript of Edward R. Murrow’s Second TV Show on ‘Cigarettes and Lung Cancer,’” June 7, 1955, <http://legacy.library.ucsf.edu/tid/gcn36b00>.

- percent in 1955 to nearly 30 percent in the mid-1970s.³³⁷ (see **Figure 1**).
42. 1955: Philip Morris researchers learn that Ernst Wynder was not so much “anti-tobacco” as “pro-improved tobacco”—easing his path to earn millions of dollars from the cigarette companies now willing to fund his research.³³⁸
 43. 1956: Reynolds launches Salem, the first mentholated “filter” cigarette. The brand quickly becomes the best-selling menthol cigarette, with total sales of more than 40 billion sticks per year by the early 1960s.³³⁹
 44. 1956: Murray Senkus writes to Kenneth H. Hoover, R.J. Reynolds’s director of research, noting that the smoke from Winston cigarettes had been found to have 2.5 times the levels of polycyclic aromatic hydrocarbons (PAHs) as smoke from the company’s non-filtered Camel brand.³⁴⁰
 45. 1957: The U.S. Congress holds hearings on “False and Misleading Advertising” by the cigarette industry, especially with regard to claims made on behalf of filter-tips. Prof. Harry Greene of Yale, testifying for the industry, comments that “If I have a bad cold coming on, I smoke a lot of cigarettes and usually wake up the next morning without the cold.”³⁴¹
 46. 1957: In internal corporate reports, BAT researchers in England use the code word Zephyr to designate “cancer” and Borstal to designate “benzpyrene.”³⁴²
 47. 1957: Ed Darr, President and CEO of Reynolds, writes to Paul Hahn, President of American Tobacco, thanking him for his “bold and courageous action” in forging the industry’s alliance:

You took a bold and courageous action in December 1953 when you called for a meeting of manufacturers and other industry groups to discuss ways and means of presenting a united front against the claims that were being made that cigarette smoking causes lung cancer.

³³⁷ Vello Norman (Lorillard), “The History of Cigarettes,” 1983, <http://legacy.library.ucsf.edu/tid/ghr91e00>, Fig. 9.

³³⁸ A. E. O’Keeffe to R. N. DuPuis, “Visit to Sloan-Kettering Institute,” Oct. 4, 1955, <http://legacy.library.ucsf.edu/tid/dpb77e00>.

³³⁹ Reynolds, “Salem Review,” Nov. 1, 1955, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=lgf10185>.

³⁴⁰ Murray Senkus to Kenneth H. Hoover, “Monthly Research Report,” Nov. 23, 1956, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=zrhb0099>.

³⁴¹ *False and Misleading Advertising (filter-tip cigarettes). Twentieth Report by the Committee on Government Operations, Legal and Monetary Affairs Subcommittee*, Feb. 20, 1958, <http://legacy.library.ucsf.edu/tid/pvp10j00>, p. 217.

³⁴² “A Possible Alternative Hypothesis,” Jan. 30, 1957, <http://legacy.library.ucsf.edu/tid/nwo10a99>.

There is absolutely no question in my mind that if this Committee had not been formed, the cigarette industry by now would have been in a deplorable position. Instead, a very fine job has been done in counteracting unverified, unjustified and unsubstantiated claims of the anti-cigarette fanatics. In other words, the TIRC has been a successful defensive operation.³⁴³

For decades thereafter, however, the industry would publicly describe the TIRC not as a “successful defensive operation” but rather as proof of the industry’s honest efforts to support honest and independent research. Success of the conspiracy in these early years is reflected in the rapid growth of cigarette consumption in the years after the formation of the conspiracy.³⁴⁴

48. 1958: The Tobacco Institute is founded as offshoot from the TIRC and begins publication of *Tobacco and Health Research*, pushing non-tobacco causes of disease and casting doubts on “the cigarette theory.”
49. 1958: Philip Morris researchers characterize selective filtration of particulates in smoke as “a thermodynamic impossibility.”³⁴⁵
50. 1958: Three leading British tobacco industry researchers in their “Report on Visit to U.S.A. and Canada, 17th April–12th May 1958” note that “with one exception . . . the individuals we met believed that smoking causes lung cancer if by ‘causation’ we mean any chain of events which lead finally to lung cancer and which involves smoking as an indispensable link.”³⁴⁶
51. 1959: BAT researchers caution that that if they “reduce the nicotine per cigarette” beyond a certain point, they “might end in destroying the nicotine habit in a large number of consumers and prevent it ever being acquired by new smokers.” With regard to the question of how much nicotine to maintain in cigarettes, there was thus a need to find the “optimum offer.”³⁴⁷
52. 1959: A Roper poll for Philip Morris reveals that while most of those surveyed had *heard* that smoking had been linked to cancer, nearly 70 percent agreed that “as long as you are careful not to smoke too much, cigarettes won’t do you any real harm.” Unprompted recall was even lower,

³⁴³ Edward A. Darr to Paul M. Hahn, July 30, 1957, <http://legacy.library.ucsf.edu/tid/ags94f00>.

³⁴⁴ Statement by James P. Richards, President, The Tobacco Institute, Dec. 17, 1959, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=thcg0099>.

³⁴⁵ A. E. O’Keeffe (Philip Morris) to R.N. DuPuis, “Selective Filtration,” Sept. 16, 1958, <http://legacy.library.ucsf.edu/tid/lgo38e00>.

³⁴⁶ H. R. Bentley, D.G.I. Felton, and W.W. Reid, “Report on Visit to U.S.A. and Canada, 17th April–12th May 1958,” June 11, 1958, <http://legacy.library.ucsf.edu/tid/pwu05a99>.

³⁴⁷ RDW (BAT), “Complexity of the P.A.S.A. Machine and Variables Pool,” June 1959, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qzpj0199>.

- with only about one percent mentioning cancer when asked to identify “the trouble with cigarettes.”³⁴⁸
53. 1960-62: “The Flintstones” is brought to you by Winston cigarettes, with Fred and Barney sneaking around to the back of the garage to smoke, hiding from their “wives.” They do this instead of “taking a nap,” as one might expect from boys—not grown men.³⁴⁹ The same company sponsors “The Beverly Hillbillies” in subsequent years.
 54. 1961: Larson, Haag and Silvette publish their massive *Tobacco: Clinical and Experimental and Clinical Studies* (aka “the Green Monster”), concluding that there is “no evidence that carcinoma of the lung is produced by tobacco . . . no proof of causation.”³⁵⁰ Research for the book is entirely funded by the tobacco industry, and the book is repeatedly used from that point on as proof of the industry’s purported cooperation with public health authorities.
 55. 1961: Helmut Wakeham (Philip Morris) in his review of “Tobacco and Health” concludes that “carcinogens are found in practically every class of compounds in smoke.”³⁵¹ Wakeham lists dozens of carcinogens in smoke, but neither he nor anyone else at Philip Morris (or any other cigarette company) discloses the presence of cancer-causing chemicals in smoke to the general public. A separate list of compounds is provided to the Surgeon General’s advisory committee. Wakeham’s review represents the end of the “single factor” theory—the (honest) notion from the 1950s that there was some small number of “bad elements” in cigarettes that could be removed, rendering cigarettes completely safe.
 56. 1962: J. Morrison Brady, associate scientific director of the TIRC, writes to his superior Clarence Cook Little, describing the industry’s public relations woes as “like the early symptoms of diabetes—certain dietary controls kept public opinion reasonably healthy. When some new symptom appeared, a shot of insulin in the way of a news release, a [Joseph] Berkson antidote, a

³⁴⁸ Elmo Roper and Associates, “A Study of Attitudes toward Cigarette Smoking and Different Types of Cigarettes” (prepared for Philip Morris), vol. 1, Jan. 1959, <http://legacy.library.ucsf.edu/tid/ynl02a00>.

³⁴⁹ The Flintstones video can be viewed at: <http://www.youtube.com/watch?v=mZvHiiWFbBU>. The video can be read as two “naughty boys” hiding from their wives (or mothers).

³⁵⁰ Paul S. Larson, Harvey B. Haag, and H. Silvette, *Tobacco: Experimental and Clinical Studies: A Comprehensive Account of the World Literature* (Baltimore: Williams and Wilkins, 1961).

³⁵¹ Helmut Wakeham, “Tobacco and Health—R&D Approach,” Nov. 15, 1961, <http://legacy.library.ucsf.edu/tid/ehs76b00>.

- [Milton] Rosenblatt television rebuttal, etc., kept the patient going.”³⁵²
57. 1962: Free samples of Kent cigarettes are handed out at the annual meeting of the National Medical Association (“the largest Negro medical organization in the United States”) in Chicago, Illinois.
 58. 1962: Alan Rodgman at Reynolds reports to his superiors that while the evidence in favor of cigarettes causing lung cancer is “overwhelming,” the evidence against is “scant.”³⁵³
 59. 1962: U.S. Surgeon General’s Advisory Committee is formed at the request of President Kennedy to explore whether smoking causes cancer and other maladies. Half the 10-member committee is appointed on the recommendation of tobacco manufacturers, and half are smokers.
 60. 1963: Lorillard produces an internal report (“Kent and the Physician”) stressing the importance of convincing physicians “that if a patient finds it impossible to quit smoking, the patient should at least switch to the best filter cigarette available – Kent with the Micronite filter.”³⁵⁴
 61. 1963: Addison Yeaman at Brown & Williamson admits in an internal memo describing BAT’s Hippo I and II projects that “we are, then, in the business of selling nicotine, an addictive drug effective in the release of stress mechanisms.” Yeaman also characterizes lung cancer, emphysema, and heart disease as “unattractive side effects” of smoking.³⁵⁵
 62. 1963: Brown & Williamson decides to withhold Hippo Project data from the U.S. Surgeon General. Hippo data are shared with other industry lawyers; Yeaman sends reports to Henry Ramm of Reynolds, for example.³⁵⁶
 63. 1963: CTR scientific director Clarence Cooke Little admits to his British counterparts that, with respect to the type of research funded by the CTR, tobacco was “only incidentally considered as one of the possible causes” of

³⁵² J. Morrison Brady to C. C. Little, April 9, 1962, “TIRC Program,” April 9, 1962, <http://legacy.library.ucsf.edu/tid/onk93f00>.

³⁵³ Alan Rodgman, “The Smoking and Health Problem: A Critical and Objective Appraisal,” 1962, <http://legacy.library.ucsf.edu/tid/jxe56b00>.

³⁵⁴ “Kent and the Physician” (for Lorillard), July 2, 1963, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qnhd0066>. Three of ten national medical publications were still accepting cigarette ads in 1963, and Lorillard was here advised to establish *Science Fortnightly*, a general science publication used as a vehicle to sell Kent cigarettes. See also Lennen & Newell, “Recommendations Concerning Science Fortnightly,” Oct. 1964, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=nzkw0110>.

³⁵⁵ Addison Yeaman, “Implications of Battelle Hippo I & II and the Griffith Filter,” July 17, 1963, <http://legacy.library.ucsf.edu/tid/xrc72d00>.

³⁵⁶ Addison Yeaman to Ed Jacob and Henry Ramm, Aug. 5, 1963, <http://legacy.library.ucsf.edu/tid/yex95a00>; Addison Yeaman to Anthony McCormick, July 3, 1963, <http://legacy.library.ucsf.edu/tid/kcm36b00>.

- the many diseases with which smoking had been associated.³⁵⁷
64. 1963: On December 7, the tobacco industry agrees to fund the American Medical Association in exchange for an alliance on matters of smoking and health; on February 7, 1964, the AMA accepts \$10 million from the industry to form the Education and Research Foundation (ERF).³⁵⁸ Maurice H. Seevers, appointed chairman of the AMA's ERF, was a former tobacco industry consultant and the principal scholar responsible for convincing the Surgeon General's Advisory Committee to characterize cigarette smoking as a "habit" rather than an "addiction."³⁵⁹ The AMA in 1964 refuses to endorse the recent Surgeon General's report, and in subsequent years would side with the industry on many policy issues—opposing warning labels on cigarettes, for example, and a ban on broadcast advertising.
 65. 1964: George Weissman at Philip Morris writes to his CEO, Joseph F. Cullman III, insisting with regard to the recent Surgeon General's report that "we must in the near future provide some answers which will give smokers a psychological crutch and a self-rationale to continue smoking."³⁶⁰
 66. 1964: Howard Cullman, President of the Tobacco Merchants Association, appears on a CBS News Extra program on Smoking and Health (with Harry Reasoner), responding to the Surgeon General's report. Cullman issues yet another promise that if anything bad is ever found in tobacco, the industry is confident it can eliminate "the mysterious thing they are looking for."³⁶¹
 67. 1965: Philip Morris researcher Ronald A. Tamol, in handwritten notes dated Feb. 1 detailing arguments for and against a "health cigaret," and affirms the importance of determining the "minimum nicotine req'd to keep normal

³⁵⁷ "Minutes of the 49th Meeting of the Technical Sub-Committee of the TRC," Sept. 5, 1963, <http://legacy.library.ucsf.edu/tid/nzh84a99>.

³⁵⁸ Kluger, *Ashes to Ashes*, pp. 360-62; Brandt, *Cigarette Century*, p. 249.

³⁵⁹ The tobacco industry had exerted pressure on the AMA even earlier. In March of 1960, for example, the AMA's powerful Council on Drugs had rejected a proposed plan to formulate "a national policy" on smoking and health. Harvey Haag, a senior member of the Council and long-time American Tobacco consultant, assured the Council that after reviewing "thousands of articles on the subject," he and his colleagues had concluded there was "insufficient evidence to support a statement that smoking causes lung cancer or heart disease." Haag shortly thereafter reported to his American Tobacco handlers that his presence on the Council "probably was the most important factor in preventing any action by the AMA"; see E. S. Harlow to H. R. Hanmer and W. R. Harlan, "American Medical Association's Stand on Cigarette Smoking—Lung Cancer Controversy," March 8, 1960, ; and for background, <http://legacy.library.ucsf.edu/tid/oel31a00>.

³⁶⁰ George Weissman to Joseph F. Cullman III, "Surgeon General's Report," Jan. 29, 1964, <http://legacy.library.ucsf.edu/tid/byg56b00>.

³⁶¹ <http://www.youtube.com/watch?v=akRDStdXWws>.

- smokers 'hooked.' "³⁶²
68. 1966: Myron Johnston at Philip Morris, describing the “Market Potential of a Health Cigarette,” comments that “A cigarette that does not deliver nicotine” would “almost certainly fail.” Johnston also notes that “the illusion of filtration is as important as the fact of filtration.”³⁶³
 69. 1966: John V. Blalock (B&W) in a memo to Addison Yeaman comments with respect to the public’s poor understanding of tar and nicotine numbers that “Obviously, the key word is ‘confusion,’ and anything we can do to confirm such a situation could work to our advantage.”³⁶⁴
 70. 1967: BAT Group R&D Conference in Montreal has as one of its “Assumptions”: “If there is no inhaling, there is no lung cancer or respiratory disease.”³⁶⁵
 71. 1967: The American Medical Association issues a press release endorsing the cigarette industry’s “open mind” stance with regard to causality:

For the past three years, wide ranging research into many questions at this level has been sponsored by the Project for Research on Tobacco and Health of the American Medical Association- Education and Research Foundation. But direct and incontrovertible evidence for a cause and effect relationship between smoking and disease - including cancer, respiratory and cardiovascular disease - is difficult to obtain. The answers are still years away.³⁶⁶

65. 1967: The U.S. Federal Trade Commission releases its report on federal cigarette labeling, pointing out that “The belief appears to be widely held that filter cigarettes are less hazardous to health than regular cigarettes.” The FTC notes that the word “mild” is widely used “as a euphemism for cloaking the dangers of increased cigarette smoking,” and points to themes ignored in cigarette advertising: “the health hazards posed by smoking,” for example,

³⁶² Ronald A. Tamol, “Health Cigaret,” Feb. 1, 1965, <http://legacy.library.ucsf.edu/tid/rrc76b00>. In this same document Tamol talks about a “threshold level” of total particulate matter (tpm). The word after “minimum nicotine” is hard to read, but Tamol himself in a deposition identifies the word as “required.”

³⁶³ Myron E. Johnston (approved by William Dunn), “Market Potential of a Health Cigarette,” June 1966, <http://legacy.library.ucsf.edu/tid/diw56b00>.

³⁶⁴ John V. Blalock to Addison Yeaman, Oct. 20, 1966, <http://legacy.library.ucsf.edu/tid/fuk96b00>.

³⁶⁵ S. J. Green, “B.A.T. – R&D Conference – Montreal, Oct. 24-27, 1967,” Nov. 8, 1967, <http://legacy.library.ucsf.edu/tid/ttm24a99>.

³⁶⁶ AMA, “Three-Year Program Stimulates Tobacco-Health Research” (press release), Sept. 5, 1967, <http://legacy.library.ucsf.edu/tid/dzs2aa00>.

but also the fact that “after a person smokes cigarettes regularly for a while, smoking is no longer a matter of choice . . . but becomes a matter of need”:

Advertisements for cigarettes never show this side of smoking. They never show an habituated cigarette smoker with a hacking cough, groping for a cigarette upon awakening in the morning. They never suggest the tension felt by a chain smoker when he runs out of cigarettes. In terms of public understanding of the health hazards, knowledge of this aspect of smoking is essential. Only when one realizes that cigarette smoking cannot automatically be stopped and started at will, can he fully understand how dangerous it is even to start. In making a decision on whether to start smoking, youngsters especially have a right to know that once they start, they may never be able to stop. A viewer of cigarette commercials and advertisements would never hear of this aspect of smoking.³⁶⁷

66. 1968: Stanley Frank, a sportswriter hired by Tiderock for the Tobacco Institute, publishes an article in the January issue of *True Magazine*, citing 14 authorities in defense of the industry’s claim that smoking does not cause cancer. Nowhere is it disclosed that 13 of these 14 authorities have been financed by the industry.³⁶⁸ This is a typical example of the industry’s “third party” strategy: medical authorities are paid to carry water for the industry, and the public is not told who is paying for this expertise.
67. 1968: In March, the *National Enquirer* publishes an article by “Charles Golden” claiming that “Cancer Link is Bunk.”³⁶⁹ “Golden” is none other than Stanley Frank, and the article is just a rehash of his article in the January issue of *True Magazine*. Golden (i.e., Frank) here claims that “39 of the 49 medical experts who testified before the Senate and House Committee on Commerce” in 1965 “disagreed strenuously” with the recent Surgeon General’s report. Golden (i.e., Frank) also writes that “only two of the dissenting experts were connected with the tobacco industry,” when the reality is that most of those defending the industry were being paid to do so.
68. 1968: William Kloefer, Vice President for Public Relations at the Tobacco Institute, writes to TI President Earle Clements, commenting that

Our basic position in the cigarette controversy is subject to the charge, and may be subject to a finding, that we are making false or misleading

³⁶⁷ Federal Trade Commission, “Report to Congress Pursuant to the Federal Cigarette Labeling and Advertising Act, June 30, 1967,” <http://legacy.library.ucsf.edu/tid/cii21a00>.

³⁶⁸ Stanley Frank, “To Smoke or Not to Smoke—that is Still the Question,” *True Magazine*, Jan. 15, 1968, <http://legacy.library.ucsf.edu/tid/xso12i00>.

³⁶⁹ Charles Golden, “Cigaret Cancer Link is Bunk,” *National Enquirer*, March 3, 1968,

statements to promote the sale of cigarettes.³⁷⁰

Kloepfer's letter is copied to all members of the industry's powerful Committee of Counsel.

69. 1968: Brown & Williamson plans to award a prize of one million dollars "to any individual, group, organization, or government source who can prove scientifically, beyond all doubt, that cigarettes cause cancer during the next 12 months."³⁷¹ Part of the Kool and Viceroy maker's "Project Truth."
70. 1968: Tobacco Working Group is formed by the NCI and tobacco manufacturers to research a "less hazardous cigarette";³⁷² the cigarette companies allow some of their top researchers to participate, but only on the condition that they a) admit no health harms from smoking and b) participate not as representatives of the companies paying their salaries. Murray Senkus from Reynolds, for example, made his participation contingent on a representation that he was "in no manner accepting the view (1) that present cigarettes are hazardous or (2) that the smoke of such cigarettes causes or contributes to the development of human lung cancer."³⁷³ Senkus also requested that the name of the group be changed (from Less Hazardous Cigarette Working Group) to avoid the implication that cigarettes were hazardous. The TWG was ultimately a failure and an embarrassment, resulting in no benefits to smokers. TWG director, Gio Gori, goes on to work for the tobacco companies. In historical retrospect, the true purpose of the TWG was espionage and obstruction.
71. 1969: Carl G. Thompson of Hill & Knowlton issues a "Procedural Memo" prescribing the kinds of articles that are to appear in the Tobacco Institute's *Tobacco and Health Research* (sent to all American physicians): "The most important type of story is one that casts doubt on the cause and effect theory of disease and smoking. Headlines should strongly call out the point — Controversy! Contradiction! Other factors! Unknowns!"³⁷⁴
72. 1969: Brown & Williamson in a presentation to its marketing staff observes

³⁷⁰ William Kloepfer to Earle Clements, April 15, 1968, <http://legacy.library.ucsf.edu/tid/bse15b00>.

³⁷¹ Post-Keynes-Gardner, Inc., "Project Truth" (for Brown & Williamson), Oct. 17, 1968, <http://legacy.library.ucsf.edu/tid/epe66b00>.

³⁷² "The Tobacco Working Group: Minutes," Oct. 3-4, 1968, <http://legacy.library.ucsf.edu/tid/obs92f00>.

³⁷³ Murray Senkus (Reynolds) to Kenneth M. Endicott (Director, NCI), March 27, 1968, <http://legacy.library.ucsf.edu/tid/elf54e00>.

³⁷⁴ Carl Thompson (Hill & Knowlton) to William Kloepfer (TI), "Tobacco and Health Research Procedural Memo," Oct. 18, 1969, <http://legacy.library.ucsf.edu/tid/vxu58b00>.

- that “Doubt is our Product.”³⁷⁵
73. 1969: Helmut Wakeham reports to Philip Morris’s Board of Directors that a smoker “tends to seek his own level of intake” and that “Even while smoking a single cigarette he adjusts the volume of his puff as he goes down the rod, compensating for the change in the density of the available smoke.” Wakeham concludes that “A smoker’s intake level is determined by the smoker himself, not by the manufacturer of the cigarettes.” He also outlines a two-stage (bait and hook) theory for why people smoke: young *nonsmokers* start for “psychosocial reasons,” but *confirmed* smokers (i.e., addicted smokers) continue their habit in consequence of “the pharmacological effect of smoke upon the body of the smoker.”³⁷⁶
74. 1970: Helmut Wakeham writes to Joseph F. Cullman III with regard to the funding of CTR research: “Let’s face it. We are interested in evidence which we believe denies the allegations that cigarette smoking causes disease”³⁷⁷
75. 1970: In March, in the so-called “Mouse House Massacre,” Reynolds fires all 26 of its biological research staff at the company’s headquarters in Winston-Salem. Corporate lawyers feared that the team was getting too close to findings that could hurt the company.³⁷⁸
76. 1970: *United States Tobacco Journal* comments on a recent Brown & Williamson survey of Los Angeles smokers, finding that “27 percent of smokers who were interviewed felt that diphesmia was related to cigarette smoking”³⁷⁹
77. 1971: Federal broadcast ban goes into effect, barring cigarette ads from the airwaves. Tobacco companies increase funding for advertising in magazines and other media, and start funding sports to keep brand names on the air.
78. 1971: Notice from Ralph L. Rowland at R.J. Reynolds clarifies that while company researchers were encouraged to publish on innocuous topics, papers on “polycyclic hydrocarbons, hydrogen cyanide, carbon monoxide and similar materials” were not to be submitted for publication, considering the

³⁷⁵ John W. Burgard to R. A. Pittman et al., “Smoking and Health Proposal,” Aug. 21, 1969, <http://legacy.library.ucsf.edu/tid/zqy56b00> and <http://legacy.library.ucsf.edu/tid/pzi66b00>.

³⁷⁶ Helmut Wakeham, “Smoker Psychology Research,” Nov. 26, 1969, <http://legacy.library.ucsf.edu/tid/xgw56b00>.

³⁷⁷ Helmut Wakeham to J.F. Cullman III, “ ‘Best’ Program for C.T.R.,” Dec. 8, 1970, <http://legacy.library.ucsf.edu/tid/alz54e00>.

³⁷⁸ Proctor, *Golden Holocaust*, pp. 263-64.

³⁷⁹ “Trace Outbreak of Diphesmia to Antismoking Absurdities,” *United States Tobacco Journal*, Nov. 5, 1970, <http://legacy.library.ucsf.edu/tid/agx09d00> ; compare also the deposition of James Bowling, Dec. 18, 1984, <http://legacy.library.ucsf.edu/tid/sma85a00>.

- company's "intangible legal situation."³⁸⁰
79. 1971: BAT researchers exploring the possibility of a "non-inhalable cigarette" recognize that with "no inhalation" there is "no cancer."³⁸¹
 80. 1971: Philip Morris CEO Joseph F. Cullman III appears on "Face the Nation," commenting with regard to a recent Royal College of Physicians study (on how smoking reduces birth weights) that "some women prefer having smaller babies."³⁸²
 81. 1972: Fred Panzer (TI) authors "Roper Proposal," describing the "holding strategy" of the industry, involving "Creating doubt about the health charge without actually denying it."³⁸³
 82. 1972: Claude E. Teague at Reynolds drafts a "Research Planning Memorandum" suggesting that "In theory, and probably in fact, a given smoker on a given day has a rather fixed per hour and per day requirement for nicotine."³⁸⁴ Teague here also points out that for the typical smoker "nicotine is the dominant desire" and "the primary reason smokers smoke."
 83. 1972: CTR finances a conference on the island nation of St. Martin, addressing "why people smoke" (Project Carib, aka "the Caribbean Caper"). Tom Osdene of Philip Morris would later characterize this conference as "cluttered up with lawyers."³⁸⁵
 84. 1972: William Dunn (aka "the Nicotine Kid") at Philip Morris in the draft text for a CORESTA speech characterizes the cigarette as "a dispenser for a dose unit of nicotine" and the pack of cigarettes as "a storage container for a day's supply of nicotine."³⁸⁶
 85. 1972: The Tobacco Institute premieres its denialist film: "Smoking and Health: The Need to Know," featuring paid industry experts disputing the tobacco-cancer link. A survey commissioned by the Tobacco Institute shortly

³⁸⁰ Ralph L. Rowland to Managers, Section Heads, "Management Meeting, March 22, 1971," April 20, 1971, <http://legacy.library.ucsf.edu/tid/qmj95a00>.

³⁸¹ "Non-Inhalable Cigarette," circa 1971, <http://legacy.library.ucsf.edu/tid/ijk86a99>.

³⁸² Joseph F. Cullman III, interviewed on "Face the Nation," Jan. 3, 1971, <http://www.youtube.com/watch?v=VpwcF3Malj8>.

³⁸³ Fred Panzer to Horace R. Kornegay, May 1, 1972, <http://legacy.library.ucsf.edu/tid/whz50e00>.

³⁸⁴ Claude E. Teague, Jr., "Research Planning Memorandum on a New Type of Cigarette Delivering a Satisfying Amount of Nicotine with a Reduced 'Tar'-to-Nicotine Ratio," March 28, 1972, <http://legacy.library.ucsf.edu/tid/hct68d00>.

³⁸⁵ David G. Felton to Dr. S. J. Green, "Discussion with Dr. T. S. Osdene (Philip Morris Inc.) London, 4th October, 1974," <http://legacy.library.ucsf.edu/tid/ltk05a00>; and for context, Proctor, *Golden Holocaust*, pp. 376-78.

³⁸⁶ William L. Dunn, "Motives and Incentives in Cigarette Smoking," draft text of speech presented at CORESTA conference in Williamsburg, VA, Oct. 22-28, 1972, <http://legacy.library.ucsf.edu/tid/jcl78e00>.

- thereafter shows that watching the film significantly reduced (by 17.8 percent) the number of people convinced that smoking causes lung cancer.³⁸⁷
86. 1973: Claude E. Teague at Reynolds drafts a “Research Planning Memorandum” lamenting how his company was “presently, and I believe unfairly, constrained from directly promoting cigarettes to the youth market.” Teague comments that “Realistically, if our Company is to survive and prosper, over the long term, we must get our share of the youth market.” He also suggests “new brands tailored to the youth market” and identifies cigarette attributes that will appeal to “pre-smokers” and “learners,” including a bland low pH (sub 6) smoke and “some implied risk.” Teague also advises “A careful study of the current youth jargon” and “high school American history books and like sources” to find themes that will appeal to youth.³⁸⁸
 87. 1973: John H. McCain of William Esty Co. (working for Reynolds) writes to J. O. Watson at Reynolds, noting the “real need to become more aggressive against young adult males.” McCain also talks about RJR’s “current preoccupation with the ‘youth’ market” and characterizes Marlboro’s share among the 14-15 year old segment as “a phenomenal 51.0%.” McCain also talks about how “Creating a ‘fad’ in this market can be a great bonanza.”³⁸⁹
 88. 1974: R. A. Pittman of Brown & Williamson instructs his colleagues to avoid any reference to “young smokers,” “young market,” or “youth market,” and to use instead terms such as “young adult smoker” or “young adult smoking market.”³⁹⁰ The expression “young adult smoker” becomes much more common in the English language after this time, judging from its rapid vertical increase on an Ngram chart.
 89. 1974: Lorillard researchers characterize the company’s Aqua filter’s claims to selectively reduce carbon monoxide as “false and misleading” but also as a “theoretical impossibility.”³⁹¹
 90. 1975: A. Kay Comer at BAT, commenting on a lecture by Michael Russell,

³⁸⁷ Anne Duffin to William Kloefer, “Audience Testing of ‘Smoking & Health: The Need to Know,” June 29, 1973, <http://legacy.library.ucsf.edu/tid/hew93f00>.

³⁸⁸ Claude E. Teague, Jr., “Research Planning Memorandum on Some Thoughts about New Brands of Cigarettes for the Youth Market,” Feb. 2, 1973, <http://legacy.library.ucsf.edu/tid/owq76b00>.

³⁸⁹ John H. McCain (William Esty Co.) to J. O. Watson, “RE: NFO Preference Share Data—‘Youth’ Market,” March 8, 1973, <http://legacy.library.ucsf.edu/tid/fyy49d00>.

³⁹⁰ R. A. Pittman to J. A. Broughton et al., Jan. 24, 1975, <http://legacy.library.ucsf.edu/tid/gxq83f00>.

³⁹¹ Alex W. Spears to C. H. Judge and A. J. Stevens, Dec. 13, 1974, <http://legacy.library.ucsf.edu/tid/bxp20e00>.

concludes that it is “quite correct” to use the word “addiction” with regard to smoking behavior.³⁹² Creighton about that same time called regular smokers “nicotine dependent”: 650008449

91. 1976: Horace Kornegay, President of the Tobacco Institute, writes to the Committee of Counsel, warning them that the American Psychiatric Association was going to be adding a category of “compulsive smoking syndrome” to its *Diagnostic and Statistical Manual*. This was of concern to the industry, given that any classification of tobacco use as a mental health syndrome would mean that “the cost of cessation clinics would be covered by any health insurance contract that included treatment of mental illness.”³⁹³ The danger was that smokers wanting to quit could get financial help in this effort, as they already could from programs assisting in overcoming other drug habits. The industry was opposed to any such assistance, recognizing this as contrary to their efforts to keep smokers smoking. Within a couple weeks Kornegay had gotten Richard C. Proctor, chair of Psychiatry at Bowman Gray Medical School, to agree to work with the industry to influence the DSM. Proctor had agreed to write to “a substantial number of his colleagues to object” to efforts underway to classify smoking as a form of dependence.” The intermediary in this effort was Colin Stokes of Reynolds, who got Proctor on board for the industry.³⁹⁴
92. 1975: Tobacco Institute spokespersons—aka their so-called “Truth Squad”—log over 130,000 miles in 42 states delivering the industry’s “no proof of harm” message.³⁹⁵
93. 1976: Per capita consumption of cigarettes peaks in the U.S. at about 3000 cigarettes per person per year.³⁹⁶
94. 1976: Ernest C. Pepples, a top lawyer for Brown & Williamson, in an internal memo characterizes claims made on behalf of filters as “extraordinary,” given that in most cases “the smoker of a filter cigarette was

³⁹² A. Kay Comer, “Comments on a Talk Given by Dr. M.A.H. Russell,” July 14, 1975, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hgwn0042>.

³⁹³ Horace R. Kornegay to Committee of Counsel, Nov. 4, 1976, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=lnhf0129>.

³⁹⁴ Horace R. Kornegay to Committee of Counsel, Nov. 18, 1976, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=gryv0101>.

³⁹⁵ TI internal video from circa 1975, narrated by William Kloefer, http://tobsources.com/index.php?option=com_content&view=article&id=437:kloefer-narrates&catid=108:tobacco-institute-videos&Itemid=38.

³⁹⁶ Orzechowski and Walker (for Altria, Lorillard and Reynolds), *Tax Burden on Tobacco: Historical Compilation*, vol. 46, June 13, 2012, http://www.taxadmin.org/fta/tobacco/papers/Tax_burden_2011.pdf, p. 3.

- getting as much or more nicotine and tar as he would have gotten from a regular cigarette.” Pepples also notes that smokers switching to filters had abandoned their regular cigarette “on the ground of reduced risk to health.”³⁹⁷
95. 1976: Helmut Wakeham and James Bowling are interviewed for the Thames Television documentary “Death in the West,” trivializing the harms from smoking. Wakeham compares smoking to eating applesauce, and states that “if the company as a whole believed that cigarettes were really harmful, we would not be in the business.”³⁹⁸
 96. 1977: The conspiracy extends its tentacles overseas, with the formation of ICOSI (the International Committee on Smoking Issues) at Shockerwick House in England in the summer of 1977. The plan is to avoid having companies in different parts of the world be “picked off one by one”; an agreement (“one voice”) is forged between Philip Morris, Reynolds, BAT, Rothmans, Reemtsma, and UK companies Gallaher and Imperial, to coordinate efforts to redress the decline in social acceptability (of smoking) while never admitting “a causal relationship between smoking and various diseases.”³⁹⁹
 97. 1978: Paul Eichorn in the research department at Philip Morris comments on the danger of publicizing the presence of radioactive polonium-210 in cigarette smoke, comparing this to “waking a sleeping giant.”⁴⁰⁰
 98. 1978: R. B. Seligman at Philip Morris cites the characterization of the CTR (by Bill Shinn of Shook, Hardy and Bacon) as a “front” and a “shield.”⁴⁰¹
 99. 1978: T. L. Achey of Lorillard in a letter to Lorillard president Curtis Judge comments on the “fantastic” success of the Newport brand in recent years, adding that “the base of our business is the high school student.”⁴⁰² Judge was pleased with Achey’s proposal, affirming his idea of attracting “starters” and “new entrants” to the cigarette market; Achey was to be “congratulated” for his “efforts on behalf of Newport.”⁴⁰³

³⁹⁷ Ernest C. Pepples, “Industry Response to Cigarette/Health Controversy,” Feb. 4, 1976, <http://legacy.library.ucsf.edu/tid/pcz95a00>.

³⁹⁸ Helmut Wakeham and James Bowling interviewed for “Death in the West” (Thames Television, 1976), <http://www.youtube.com/watch?v=ln204rPdTfQ>.

³⁹⁹ “Operation Berkshire,” April 15, 1977, <http://legacy.library.ucsf.edu/tid/dmv56b00>; Neil Francey and Simon Chapman, “‘Operation Berkshire’: The International Tobacco Companies’ Conspiracy,” *British Medical Journal*, 321 (2000): 371–74.

⁴⁰⁰ Paul A. Eichorn to Robert Seligman, June 2, 1978, <http://legacy.library.ucsf.edu/tid/evp08e00>.

⁴⁰¹ R. B. Seligman to CTR File, “Meeting in New York,” Nov. 17, 1978, <http://legacy.library.ucsf.edu/tid/tlx27c00>

⁴⁰² T. L. Achey to Curtis Judge (Lorillard), “Product Information,” Aug. 30, 1978, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=kljp0060>.

⁴⁰³ Curtis Judge to T. L. Achey, “Newport,” Sept. 11, 1978,

100. 1978: Reynolds's "Mission Statement for Behavioral Aspects of Smoking" articulates that company's need to combat quitting.⁴⁰⁴
101. 1978: Tom Perfetti at Reynolds compares the brain binding sites of nicotine to those involved in addiction to opiates, and identifies nicotine (in an inter-office memorandum) as "an addictive drug."⁴⁰⁵
102. 1978: Raleigh brand managers at Brown & Williamson point out that "Very few consumers are aware of the effects of nicotine, i.e., its addictive nature and that nicotine is a poison."⁴⁰⁶
103. 1979: Dovemead Ltd. in London (Pinewood Studios) agrees to include extensive Marlboro imagery ("the material") in its production of "Superman II" (starring Christopher Reeves) in exchange for payments from Philip Morris.⁴⁰⁷ Anne Browder from the Tobacco Institute is later asked about these product placements (by John Stossel, on national television, who has no access to the industry's internal documents) and responds: "You think Philip Morris had something to do with that? Cigarette manufacturers don't make movies."⁴⁰⁸
104. 1979: The Tobacco Institute launches a preemptive strike on the new Surgeon General's report, released in January of that year on the 15th anniversary of the original report. William S. Dwyer from the Institute denigrates the report as "suspect from the start" and "an insult to serious science."⁴⁰⁹ Dwyer's speech also includes a chart depicting a dramatic reduction in sales-weighted average 'tar' deliveries from 1954 through 1978. The Tobacco Institute shortly thereafter characterizes this as "a preemptive strike against the Surgeon General's report" and observes that "we made our presence known to the American public through news coverage. This was the closest the industry has ever come to equal time."⁴¹⁰
105. 1980s: In an undated handwritten document, Thomas S. Osdene of Philip Morris comments with regard to sensitive scientific documents: "Ship all

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=jtkv0121>.

⁴⁰⁴ "Mission Statement for Behavioral Aspects of Smoking," 1978,

<http://legacy.library.ucsf.edu/tid/wow59d00>.

⁴⁰⁵ T. A. Perfetti to D. H. Pehl, "Research Dealing with Nicotine and Enkephalins," Jan. 5, 1978,

<http://legacy.library.ucsf.edu/tid/axe56b00>.

⁴⁰⁶ H. D. Steele to M. J. McCue, "Future Consumer Reaction to Nicotine," Aug. 24, 1978,

<http://legacy.library.ucsf.edu/tid/rsd53f00>.

⁴⁰⁷ Pierre Spengler (Dovemead) to P. McNally (Philip Morris Europe), Oct. 18, 1979,

<http://legacy.library.ucsf.edu/tid/abe56b00>.

⁴⁰⁸ For the Stossel/Browder clip, see <http://www.youtube.com/watch?v=Ay3Ts6rmROk>.

⁴⁰⁹ William F. Dwyer, "Statement," Jan. 10, 1979, <http://legacy.library.ucsf.edu/tid/puu92f00>.

⁴¹⁰ Horace Kornegay, Tobacco Institute speech from March 1, 1979,

<http://legacy.library.ucsf.edu/tid/lba35b00>.

- documents to Cologne . . . Keep in Cologne . . . OK to phone & telex (these will be destroyed).”⁴¹¹ When deposed about this and other work he did for the company, including contacts with the secret INBIFO research facility in Cologne, Osdene claims Fifth Amendment protection against self-incrimination 135 times.⁴¹²
106. 1980: Paul K. Knopick at the Tobacco Institute (TI) writes a confidential memo to TI Vice President William Kloepper, recalling a comment by Shook, Hardy and Bacon that “addiction is the most potent weapon a prosecuting attorney can have in a lung cancer/cigarette case. We can't defend continued smoking as ‘free choice’ if the person was ‘addicted’.”⁴¹³
 107. 1981: Myron Johnston of Philip Morris in an internal memo recognizes that “the overwhelming majority of smokers first begin to smoke while in their teens” and defines “Today’s teenager” as “tomorrow’s potential regular customer.”⁴¹⁴
 108. 1981: An FTC Staff Report reviews the state of popular understanding of tobacco harms in the U.S., and concludes that millions of Americans still know little about the nature and extent of harms caused by smoking.⁴¹⁵
 109. 1982: Claude Teague at Reynolds observes that “Most of those who have smoked for any significant time would like to stop” but that most are unable to do so. He also comments that “we cannot ever be comfortable selling a product which most of our customers would stop using if they could.” He also notes that “if the exit gate from our market should suddenly open, we could be out of business almost overnight.” And if effective techniques are ever developed to help smokers stop, then the company’s options include 1) “Go out of business” and 2) “Find a way to eliminate the desire of smokers to stop smoking.”⁴¹⁶
 110. 1982: A Roper poll for the Tobacco Institute finds that only a quarter of the American public regarded smoking as “an addiction,” while more than half

⁴¹¹ Undated document by Thomas Osdene, <http://legacy.library.ucsf.edu/tid/ytu82i00>.

⁴¹² David Phelps, “Tobacco Scientist’s Video Causes Stir on Both Sides,” *Star Tribune* (Minneapolis), Feb. 18, 1998, <http://legacy.library.ucsf.edu/documentStore/q/1/x/qlx29b00/Sqlx29b00.pdf>.

⁴¹³ Paul K. Knopick to William Kloepper, Sept. 9, 1980, <http://legacy.library.ucsf.edu/tid/eok20g00>.

⁴¹⁴ Myron E. Johnston, “Young Smokers: Prevalence, Trends, Implications, and Related Demographic Trends,” March 31, 1981, <http://legacy.library.ucsf.edu/tid/nbg56b00>.

⁴¹⁵ Matthew L. Myers et al. for the Federal Trade Commission, “Staff Report on the Cigarette Advertising Investigation,” May 1981, <http://legacy.library.ucsf.edu/tid/sxb47b00>.

⁴¹⁶ Claude E. Teague, Jr., to G. R. Di Marco, “Nordine Study,” Dec. 1, 1982, <http://legacy.library.ucsf.edu/tid/tjf76b00>.

- of those polled regarded it as just “a habit.”⁴¹⁷
111. 1982: Cigarette consumption peaks in the U.S. at 640 billion; the subsequent fall is caused by a doubling of the federal excise tax (to 16 cents per pack) and increases in the whole prices charged by manufacturers. The 1982 peak is partly a consequence of pricing, since the early 1980s is also a time when cigarettes were more affordable than at any time before or since.⁴¹⁸
 112. 1983: Lorillard develops a plan to target military personnel, commenting that “the plums are here to be plucked.”⁴¹⁹ Military personnel were commonly targeted by cigarette manufacturers; Brown & Williamson, for example, had an entire “Special Markets Department”—with about fifty account managers—devoted exclusively to military sales.⁴²⁰
 113. 1983: “Rambo” and “Rocky” icon Sylvester Stallone agrees to use “Brown & Williamson tobacco products in no less than five feature films” for a fee of \$500,000.⁴²¹ Initial schedule of films includes *Rhinestone Cowboy*, *Godfather III*, *Rambo*, *50/50*, and *Rocky IV*.⁴²²
 114. 1984: Colin Greig of BAT comments with regard to Oscar Wilde’s characterization of smoking as “the perfect type of a perfect pleasure [because it] leaves one unsatisfied”; Greig comments on this: “Let us hope that they . . . remain unsatisfied. All we would want then is a larger bag to carry the money to the bank.”⁴²³
 115. 1984: Ed Horrigan of R.J. Reynolds (the CEO) appears on ABC’s “Nightline” with Ted Koppel, claiming that “while we are accused of being associated with heart disease, there have been studies conducted over ten years that would say, again, that science is still puzzled over these forces.”⁴²⁴

⁴¹⁷ Roper Organization, “A Study of Public Attitudes Toward Cigarette Smoking,” July 1982, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=nhkk0000>, p. 31.

⁴¹⁸ Jeffrey E. Harris, “The 1983 Increase in the Federal Cigarette Excise Tax,” in *Tax Policy and the Economy*, vol. 1, ed. Lawrence H. Summers (Cambridge: MIT Press, 1987), <http://core.ac.uk/download/pdf/6871123.pdf>; John E. Tindall (PM USA), “Cigarette Market History and Interpretation,”

<https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=sqkj0191>, p. 3.

⁴¹⁹ G. R. Telford to R. D. Hammer et al., “Newport Planning,” Jan. 26, 1983, <http://legacy.library.ucsf.edu/tid/koh41e00>.

⁴²⁰ “Special Markets,” Pipeline (May 1983): 3, <http://legacy.library.ucsf.edu/tid/kgd81d00>.

⁴²¹ Sylvester Stallone to Bob Kovoloff, April 28, 1983, <http://legacy.library.ucsf.edu/tid/cjn76b00>.

⁴²² James F. Ripslinger to Sylvester Stallone, June 14, 1983, <http://legacy.library.ucsf.edu/tid/hlm56b00>

⁴²³ Colin Greig, “Structured Creativity Group” (BAT R&D Southampton), 1984, <http://legacy.library.ucsf.edu/tid/fsm86a99>.

⁴²⁴ Transcript of Ed Horrigan interview with Ted Koppel on ABC’s “Nightline,” Feb. 2, 1984,

116. 1984: In an April 1984 deposition for *Cipollone*, Lorillard president Curtis H. Judge is asked whether he would continue smoking if he were convinced that smoking causes lung cancer. He is also asked whether he regarded Lorillard's position on smoking and health as important, to which he responds: "tremendously important." Asked (by lawyers for the plaintiffs) "Why?" he replies "I think that's obvious":

Q: I want to know why you think it's obvious.

A: Because if we are marketing a product that we know causes cancer, I'd get out of the business. . . . I wouldn't be associated with marketing a product like that.

Q: Why?

A: If cigarettes caused cancer, I wouldn't be involved with them. . . . I wouldn't sell a product that caused cancer.

Q: Why, though? . . . Because you don't want to kill people? . . . Is that the reason?

A: Yes.

Q: It would be difficult to live with yourself knowing that you were selling a product that caused cancer. Isn't that correct?

A: Yes.

Q: . . . If it was proven to you that cigarette smoking caused lung cancer, do you think cigarettes should be marketed?

A: No.

Q: Why?

A: I think it's perfectly obvious from my previous testimony. No one should sell a product that is a proven cause of lung cancer.⁴²⁵

<http://legacy.library.ucsf.edu/tid/zcq36b00> (exhibited will be the actual video clip).

⁴²⁵ Deposition of Curtis H. Judge for *Cipollone v. Liggett*, April 27, 1984, <http://legacy.library.ucsf.edu/tid/kms07a00>, pp. 251-54,. Judge here also claims that he himself would stop smoking, if he were convinced it was causing cancer:

Q. Sir, if today you were convinced that cigarette smoking caused lung cancer, would you continue to smoke?

A. No.

Q. Why?

A: Isn't that an obvious answer?

Q. No.

A: Because I wouldn't want lung cancer (pp. 242-43)

Judge also says he would "hand in my resignation" if Lawrence Tisch were to come to him and say he was "convinced that cigarette smoking caused lung cancer" (p. 261); see also the summary version of this cited in Jones Day's 1986 "Corporate Activity Project," p. 22, <http://archive.tobacco.org/Documents/jonesday1.html>.

117. 1986: Rebakah S. Dunn from Reynolds' Bowman Gray Technical Center characterizes the appeal of cigarettes as "acceptable rebellion."⁴²⁶
118. 1986: Robert Heimann, former president of American Tobacco, testifies in a video-taped deposition that the Surgeon General was "dead wrong" in saying that cigarettes caused bodily harm.⁴²⁷ He also claims that the "people who know" will tell you that "this whole statistic machine is a reprehensible propaganda campaign, that it is based on spurious statistics and that it is socially irresponsible."
119. 1988: U.S. Surgeon General's report concludes that smoking is addictive;⁴²⁸ the Tobacco Institute characterizes this in a draft press release as "irresponsible" and "scare tactics."⁴²⁹
120. 1988: Attorney J. Michael Jordan from Womble Carlyle (for Reynolds) writes to Shook, Hardy and Bacon, observing that:

the aggressive posture we have taken regarding depositions and discovery in general continues to make these cases extremely burdensome and expensive for plaintiffs' lawyers, particularly sole practitioners. To paraphrase General Patton, the way we won these cases was not by spending all of Reynolds' money, but by making that other son of a bitch spend all his.⁴³⁰

121. 1989: Only one in six CTR grantees says their work has anything to do with the relationship between smoking and health.
122. 1989: Responding to a request from Congress, Philip Morris supplies a list of dozens of films for which "product" (i.e., Philip Morris cigarettes or cigarette ads) was supplied for use in popular movies.⁴³¹
123. 1990: Philip Morris in its *Archetype Project* explores the idea that new

⁴²⁶ Rebakah S. Dunn, "Camel and the Hollywood Maverick," 1986, <http://legacy.library.ucsf.edu/tid/jti61d00>.

⁴²⁷ Robert Heimann, videotaped deposition for *Horton vs. American*, Dec. 19, 1986, <http://legacy.library.ucsf.edu/tid/upi12i00>, pp. 96-101.

⁴²⁸ U.S. Dept HHS, *The Health Consequences of Smoking: Nicotine Addiction. A Report of the Surgeon General* (Rockville: Office on Smoking and Health, 1988).

⁴²⁹ Tobacco Institute Press Release (draft), "Claims that Cigarettes are Addictive Irresponsible and Scare Tactics," May 16, 1988, <http://legacy.library.ucsf.edu/tid/pwa12f00>. In final form, the headline was toned down to read "Claims that Cigarettes are Addictive Contradict Common Sense"; see <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zzjj0191>.

⁴³⁰ Mike Jordan to S&H Attorneys, April 29, 1988, <http://legacy.library.ucsf.edu/tid/lyw56b00>.

⁴³¹ "List by Year of Movies for which Product was Supplied," 1989, <http://legacy.library.ucsf.edu/tid/fbe56b00>; John A. Kochevar to Thomas A. Luken, May 18, 1989, <http://legacy.library.ucsf.edu/tid/gbe56b00>.

- recruits could be attracted by identifying smoking as “for adults only”; Gilbert Clotaire Rapaille, a French marketing consultant with expertise in adolescent psychology, develops a series of recommendations for the company that include: “Make it difficult for minors to obtain cigarettes” and “Stress that smoking is dangerous [and] for people who like to take risks, who are not afraid of taboos, who take life as an adventure to prove themselves.”⁴³²
124. 1992: Covington and Burling lists 630 different ingredients that have been added to American cigarettes, along with the total pounds added for each ingredient, some of which (like licorice and ammonia) are in the millions of pounds per year.⁴³³
 125. 1993: Marlboro Menthol Lights are launched; Marlboro Menthols follow shortly thereafter, in 1995.
 126. 1994: In February, Arthur J. Stevens of Lorillard retires as Chairman of the industry’s powerful Committee of Counsel. The naming of Steven C. Parrish from Philip Morris to replace Stevens is described in internal industry documents as the “Coronation of [the] God King.”⁴³⁴
 127. 1994: In April, CEOs from the major tobacco manufacturers testify under oath before the Waxman Committee in the U.S. Congress that they do not believe that smoking causes cancer or is addictive.
 128. 1994: Brown and Williamson purchases the American Tobacco Company. Ten years later, in 2004, R.J. Reynolds purchases Brown and Williamson. When Reynolds purchases Lorillard in 2015, it acquires liability for the top six brands of cigarettes smoked in the U.S. in 1962 topped by Pall Mall, with 72 billion sold that year.
 129. 1995: The *Wall Street Journal* publishes “Tobacco Firm Shows How Ammonia Spurs Nicotine Delivery,”⁴³⁵ for which the authors win the Pulitzer prize.
 130. 1997: The fraction of high school students smoking reaches a peak of 37 percent, a figure that has since declined to only 18 percent.⁴³⁶

⁴³² See “Archetype Project Summary,” Aug. 1991, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=tqjm0065>.

⁴³³ Covington & Burling, “Sorted by Ingredient,” Feb. 24, 1992, <http://legacy.library.ucsf.edu/tid/nkk30f00>.

⁴³⁴ “Committee of Counsel Draft Agenda, February 9, 1994,” <http://legacy.library.ucsf.edu/tid/tgr88h00>.

⁴³⁵ Alix M. Freedman, “‘Impact Booster’: Tobacco Firm Shows How Ammonia Spurs Delivery of Nicotine,” *Wall Street Journal*, Dec. 28, 1995,

⁴³⁶ USHHS, *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General* (Rockville: Office on Smoking and Health, 2012),

131. 1997: In March, Liggett becomes the first cigarette maker to admit that cigarettes cause cancer, coincident with a legal settlement that Minnesota Attorney General Hubert H. Humphrey III likens to “busting a street drug dealer to get to the Columbia drug cartel.”⁴³⁷ Liggett agrees to place a warning label on its L&M, Chesterfield and Lark brands stating that “Smoking is Addictive.” Philip Morris two years later (in 1999) purchases these brands from Liggett and removes the warning label.
132. 1998: The Master Settlement Agreement between the leading tobacco manufacturers and state attorneys general requires the companies to stop their denialist campaign with regard to addiction and cancer causation.
133. 1999: Liggett sells its Lark, Chesterfield and L&M brands to Philip Morris, which promptly (in May) removes the warning on all such cigarettes that reads “Smoking is Addictive.”
134. 2001: *Monograph 13* of the National Cancer Institute concludes that low tar, light, and filter cigarettes offer no health benefit.⁴³⁸
135. 2003: A Philip Morris brochure titled “Raising Kids who Don't Smoke” advises parents who smoke: “Don't be afraid to admit that you might have made a different choice had you understood then what you do now.”
136. 2004: The FTC reports that annual funding for marketing and promoting cigarettes has reached \$12.5 billion per year (in 2002), nearly double the amount spent in 1998. Cigarette makers are still spending \$110 million on sponsorship of sporting events (including individual athletes) and giving away 11.1 billion free cigarettes annually—just in the U.S.⁴³⁹
137. 2008: The National Cancer Institute calculates that from the 1940s into the new millennium, cigarette manufacturers spent \$250 billion to advertise and promote the sale of cigarettes.⁴⁴⁰
138. 2011: The FDA publishes a final rule requiring graphic warning labels on all packs of cigarettes. Several cigarette makers file suit against the FDA for violating their rights to free commercial speech, and a federal court sides

<http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>, p. 141.

⁴³⁷ Myron Levin and Sheryl Stolberg, “Tobacco Company Admits Smoking Leads to Cancer,” *Los Angeles Times*, March 21, 1997, <https://www.latimes.com/archives/la-xpm-1997-03-21-mn-40672-story.html>.

⁴³⁸ National Cancer Institute, *Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine—Monograph 13* (Bethesda, MD: USDHHS, 2001).

⁴³⁹ FTC, *Federal Trade Commission Cigarette Report for 2002, 2004*, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=njld0151>.

⁴⁴⁰ National Cancer Institute, *The Role of the Media in Promoting and Reducing Tobacco Use—Monograph 19* (Bethesda, MD: USDHHS, 2008), p. 11.

- with the cigarette makers, vacating the FDA’s ruling.
139. 2013: Michael Thun et al. in the *New England Journal of Medicine* report that “the disease risks from cigarette smoking increased in the United States over most of the 20th century.”⁴⁴¹
 140. 2014: U.S. Surgeon General’s report concludes that cigarettes have killed more than 20 million Americans in the fifty years since the first Surgeon General’s report in 1964. The Report also concludes that “The tobacco epidemic was initiated and has been sustained by the aggressive strategies of the tobacco industry, which has deliberately misled the public on the risks of smoking cigarettes.” The Report estimates that smoking is responsible for causing over 480,000 deaths per year in the United States.⁴⁴²
 141. 2020s: Cigarette makers start removing the word “filter” from their packs of cigarettes, suggesting a recognition of the deceptive nature of that label.
 142. 2021: FDA authorizes sale of 22nd Century’s “very low nicotine” cigarettes, ruling that with “95% less nicotine” they are unlikely to lead to addiction.⁴⁴³
 143. 2022: As of January, no cigarette manufacturer has admitted any of the following crucial facts:
 - 1) No company has admitted that millions of people have died from smoking cigarettes;
 - 2) No company has admitted that cigarettes kill half their long term users;
 - 3) No company has admitted that filters, lights, and low tars are no safer;
 - 4) No company has admitted lying to the public, or to Congress;
 - 5) No company has admitted forming a conspiracy to hide the hazards of smoking;
 - 6) No company has admitted that the purpose of the TIRC/CTR was to distract from the hazards of smoking;
 - 7) No company has admitted marketing to kids (though Liggett has come close);
 - 8) No company has admitted that advertising causes some young people to take up smoking;

⁴⁴¹ Michael J. Thun et al., “50-year Trends in Smoking-Related Mortality in the United States,” *New England Journal of Medicine*, 368 (2013): 351-64.

⁴⁴² *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General* (Rockville: Office on Smoking and Health, 2014).

⁴⁴³ “FDA Authorizes Marketing of Tobacco Products that Help Reduce Exposure to and Consumption of Nicotine for Smokers Who Use Them” (press release), Dec. 23, 2021, <https://www.fda.gov/news-events/press-announcements/fda-authorizes-marketing-tobacco-products-help-reduce-exposure-and-consumption-nicotine-smokers-who>.

- 9) No company has admitted manipulating the chemistry of nicotine to create and sustain addiction;
- 10) No company has ever admitted that cigarettes are as addictive as heroin or cocaine;
- 11) No company has ever admitted that most people who smoke are addicted;
- 12) No company has admitted that most smokers would like to quit, and regret having started;
- 13) No company has admitted that nicotine addiction causes disease, suffering and death;
- 14) No company has admitted that the cigarettes sold today are as deadly and addictive as any ever sold.

And no company has ever apologized for any of the above.

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NB: I charge a fee of \$6000 per day for testimony, at trial or in deposition. I charge this same daily rate for travel days, and \$750 per hour for whatever research or preparation I may do prior to trial. I also charge a non-refundable retainer of \$10,000 for agreeing to testify in a case.