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The Nazi War on Tobacco: Ideology, Evidence, and Possible Cancer Consequences

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So many excellent men have been lost to tobacco poisoning.

Adolf Hitler, 1942

Die "Tabakdämmerung" hat begonnen.

Wolfgang Klarner, 1940

Historians of science tend to treat the 1950s as a kind of *Stunde Null* of tobacco health research, especially when it comes to the question of when a lung cancer hazard was first recognized. In a recent review of Richard Kluger's *Ashes to Ashes*, for example, Daniel J. Kevles remarked that the perceived danger of smoking to health "rested on little more than anecdotal evidence coupled with moral censure until 1950, when studies appeared in the United States and England that strongly incriminated cigarettes as a cause of lung cancer." ¹ The most commonly cited studies [End Page 435] are the retrospective epidemiological studies published in 1950, ² followed by Ernest L. Wynder's animal experimental work, ³ and the large prospective studies by E. Cuyler Hammond of the American Cancer Society in the United States and by Richard Doll and A. Bradford Hill of Oxford and London. ⁴

Without taking anything from these pioneering efforts, it is also important to realize that similar studies--albeit on a smaller scale and absent the prospective dimension--were performed in Germany in the 1930s and 1940s, leading many physicians to condemn tobacco as cause of cancer and many other human ills. German tobacco epidemiology in

fact was, for a time, the most advanced in the world, as were many other aspects of the antitobacco effort. Support for tobacco health research was strong among Germany's Nazi-leaning medical elite; indeed, it is in Germany in the early 1940s that we first find a broad medical recognition of both the addictive nature of tobacco and the lung cancer hazard of smoking. ⁵



That recognition was fostered, I shall argue, by a national political climate stressing the virtues of racial hygiene and bodily purity. Tobacco in the Nazi view of the world was a genetic poison; a cause of infertility, **[End Page 436]** cancer, and heart attacks; a drain on national resources and public health. The Nazi regime launched an aggressive antismoking campaign, involving extensive public education, bans on certain forms of advertising, and bans on smoking in many public spaces ([Fig. 1](#)). The steps taken in this direction were consistent with the regime's larger emphasis on physician-directed "health leadership" (*Gesundheitsführung*), embracing both preventive health and the primacy of the public good over individual liberties--the so-called "duty to be healthy" (*Gesundheitspflicht*). **[End Page 437]**

What may be most disturbing about the Nazi antitobacco campaign is the rather uncomfortable light it sheds on the relation between science and politics at this time. ⁶ The story is not only one of the suppression of science or the unwilling conformity of science to political ideals; the relation between science and politics--at least in the aspect I shall be treating--was more symbiotic. Public health initiatives were launched in the name of national socialism; national socialist ideals informed the practice and popularization of science, guiding it, motivating it, and reorienting it in subtle and complex ways. The Nazi war on tobacco shows that what most people would concede to be "good" science can be pursued in the name of antidemocratic ideals. It is therefore not enough to speak only of the suppression or even survival of science; one has to see how dictatorial ideals worked to inspire and guide the science and policies of the time.

Early Opposition

Antitobacco sentiments were nothing new to the twentieth century. German opposition to smoking, chewing, and snorting the dried leaf of *nicotiana* dates from the early seventeenth century, when smoking was introduced into German-speaking territories by Dutch and English soldiers fighting in the Thirty Years' War (1618-48). One of the first recorded efforts to grow tobacco, by an Alsatian farmer in Strassburg in 1620, met with resistance from the city council, apparently worried that tobacco-growing would cut into the production of more worthy crops, like cereals. Cultivation was common in many parts of Germany by the **[End Page 438]** end of the seventeenth century, though certain towns were not exactly tobacco-friendly.

In the late 1600s, smoking bans were enacted in Bavaria, Kursachsen, and certain parts of Austria. Smoking was banned in Berlin in 1723, in Königsberg in 1742, and in Stettin in 1744. ⁷ Penalties for violating such bans could be severe. In Lüneberg in 1691, for example,

persons found smoking or "drinking" tobacco within the city walls could be put to death. Elsewhere, the violation of tobacco laws could lead to fines (50 gold gulden in Cologne, for example), arrest, beatings, banishment, conscription into forced labor, or the fire-branding of a mark on the offending individual.⁸ Many such laws--though usually with lesser penalties--remained on the books until the "professors' revolution" of 1848, when most were lifted. Nazi philosophers would later use this coincidence to argue that liberalism spurred the uptake of corrupting vices like alcohol and tobacco--and that absolute states had had a more reasonable approach to such matters.

The rationale behind many of these bans is not always obvious today, though health was clearly only one of several concerns. The archbishop of Cologne in 1649, for example, complained that smoking corrupted the youth and caused fires. When Frederick the Great of Prussia banned public smoking in 1764, the fear again was that smoking could pose a fire hazard. Goethe in 1806 sneered at smoking as a companion of drunkenness, a corruption of the spirit, and a financial waste on the German nation, costing 25 million taler per year. The philosopher Arthur Schopenhauer derogated smoking as "a substitute for thought," and Immanuel Kant proclaimed tobacco a habit-forming nuisance that, like alcohol, was especially dangerous for children.⁹

The first German antitobacco organization was established in 1904 (the short-lived Deutscher Tabakgegnerverein zum Schutze für Nichtraucher); this was followed by a Bund Deutscher Tabakgegner based in the town of Trautenau, in Bohemia (1910), and similar associations in Hanover and Dresden (both founded in 1912). When Czechoslovakia **[End Page 439]** was severed from Austria after the First World War, a Bund Deutscher Tabakgegner in der Tschechoslowakei was established in Prague (1920); that same year in Graz a Bund Deutscher Tabakgegner in Deutschösterreich was founded. The Bohemian organization published the first German-language antitobacco journal, *Der Tabakgegner* (1912-32); Dresden's Bund Deutscher Tabakgegner issued a second journal, the *Deutsche Tabakgegner* (1919-35).¹⁰ The Dresden organization proved to be the most durable of the three. Dresden was Germany's major center of tobacco manufacturing and home to the country's first cigarette factory--the Russian firm Laferme, established in 1862.¹¹ Dresden also had one of Germany's highest lung cancer rates (Chemnitz topped the list) and was home to the industry's most powerful critic, Fritz Lickint, whom we shall encounter in a moment.

One of the interesting things about these early antitobacco associations was their opposition to alcohol as well as tobacco. The situation was not unlike that in the United States, where "temperance" was intended to apply not just to alcohol but to other vices--idleness, gaming, and swearing, for example.¹² The founders of the Dresden-based Antitobacco League were almost without exception advocates of alcohol abstinence; the same was true of Hanover's association, whose very name proclaimed the link (*Alkohol- und Tabakgegnerverein* = Association of Foes of Alcohol and Tobacco). American-style prohibition was applauded by many racial hygienists, who feared the power of drink to corrupt the German germ plasm. Germany's antialcohol campaign would remain important for the antitobacco movement of

the Nazi era. ¹³ [End Page 440]

Medical Moralism

Coincident with the establishment of these antitobacco groups was the emergence of a strong, medically oriented critique of tobacco. The military physician E. Beck documented the ill effects of tobacco during his service on the front in the First World War, and J. F. Lehmann's *Münchener medizinische Wochenschrift* in 1921 published a call "To All German Physicians" to combat smoking as both harmful to the body and a financial drain on the impoverished German nation. ¹⁴ Edgar Bejach in a 1927 medical thesis surveying German antismoking movements called for tobacco bans in trains, streetcars, passenger ships, and public waiting rooms, and for Germany's health insurance administrators (the *Krankenkassen*) to publicize the hazards of the yellow leaf. ¹⁵ Louis Lewin, a professor of pharmacy at the University of Berlin, argued that smoking overstimulated women's reproductive organs, reducing their ability to bear healthy children. Women were asked to cultivate "a different flame: the fire that warms the hearth and home." ¹⁶ Robert Hofstätter, a Viennese misogynist gynecologist, in his 1924 book *Die rauchende Frau* attributed dozens of female maladies--including menstrual cramps, uterine atrophy, and ovarian dysfunction--to the action of tobacco, and called for the conversion of tobacco fields into fruit and vegetable gardens. ¹⁷

Similar themes were featured in Nazi antitobacco rhetoric. Tobacco was opposed by racial hygienists fearing the corruption of the German germ plasm, by industrial hygienists fearing a reduction of work capacity, by nurses and midwives fearing harms for the "maternal organism." Tobacco was said to be "a corrupting force in a rotting civilization that has become lazy," a cause of impotence among men and frigidity among women. ¹⁸ The Nazi-era antitobacco rhetoric drew from an earlier generation's eugenic rhetoric, combining this with an ethic of bodily purity and performance at work. Tobacco use was attacked as "epidemic," as a "plague," as "dry drunkenness" and "lung masturbation"; tobacco and alcohol abuse were "diseases of civilization" and "relics of a liberal lifestyle." ¹⁹ [End Page 441]

By the 1930s, the specter of cancer had also begun to figure in antitobacco rhetoric. Tobacco had been suggested as a cause of cancer as early as the eighteenth century: the English physician John Hill in 1761 had linked smoking to cancer of the nasal passages, and Samuel T. von Soemmerring in Germany three decades later identified pipe smoking as a cause of cancer of the lip. ²⁰ These early insights were confirmed in the 1850s, when a Montpellier physician by the name of Etienne Frédéric Bouisson found that 63 of his 68 patients with cancer of the mouth were pipe smokers. ²¹ Rudolf Virchow confirmed this connection shortly thereafter. ²² Smoking remained a relative luxury throughout the nineteenth century, however, and the cancer contribution must have been minimal. As recently as the First World War, lung cancer was still a rarity in Germany as elsewhere in the

world. A turn-of-the-century review put the number of published cases at only 140. ²³ In 1912, when the American Isaac Adler produced the first book-length review of the anatomy and **[End Page 442]** pathology of lung cancer, he felt he had to apologize for writing at length on such a rare and insignificant disease. ²⁴

Smoking had become more popular toward the end of the nineteenth century, in consequence of the development of mechanized cigarette rolling, tobacco advertising, and state promotion or monopoly--as in Austria or France--of cigarettes to generate tax revenues. Cigarettes were provided with rations to the soldiers of the First World War (on both sides), facilitating the social acceptance of the habit in both Europe and America. German cigarette consumption rose from about 8 billion cigarettes in 1910 to 30 billion only fifteen years later, culminating in 80 billion in 1942 (more on the meaning of this in a moment). ²⁵ The introduction of milder types of tobacco and so-called flue curing made it easier to inhale the smoke, encouraging a shift from pipes and cigars to cigarettes. ²⁶ By contrast with pipe smoking, cigarette smoke tended to be drawn deep into the lungs, delivering a much higher dose of tar, nicotine, and other noxious substances to the bronchial passageways. ²⁷

The cancer consequences were profound, as lung cancer rates grew by leaps and bounds. Dresden, Hamburg, and Berlin physicians were among **[End Page 443]** the first to note an increase around the turn of the century, followed by university physicians in other German cities. ²⁸ The dramatic growth of lung cancer in the 1920s and 1930s was not at first attributed to smoking: the influenza pandemic of 1919 was sometimes blamed, as were automobile exhaust, dust from newly tarred roads, diverse occupational exposures (including tar and diverse polycyclic hydrocarbons), increasing exposure to X rays, exposure to chemical warfare agents during the First World War, malnutrition in the aftermath of the war, or even the upsurge of racial mixing. ²⁹ Some scholars doubted the reality of the increase--a 1930 article in the *Medizinische Klinik* argued that the widespread use of X rays was simply allowing lung cancers to be diagnosed more often ³⁰ --but **[End Page 444]** the more common view by the middle of the Weimar era was that the disease was genuinely on the rise, for reasons that were not yet clear. ³¹

Part of the difficulty in sorting out this question of causes, of course, was that many other things were on the rise, several of which might plausibly be contributing to lung cancer incidence. Automobility was growing even faster than lung cancer rates, which led some to suggest that engine exhausts might be the decisive factor. Roads were being paved at an accelerating pace: Günther Lehmann of Dortmund pointed out in 1934 that German road-tar production had increased from 3,000 tons in 1924 to 120,000 tons only five years later, a fortyfold increase. Particulates of all sorts were blamed, as people began to realize that the increasing use of power tools in mining, metalwork, and many other "dusty trades" was raising ever higher levels of irritating dust. Many of the other theories advanced in the 1920s and early 1930s--miscegenation, X rays, and so forth--could be lumped under the broader rubrics of modernization, industrialization, or urbanization, making it difficult to say what was

cause and what was effect.

By the middle of the 1920s cigarettes began to come under suspicion, especially through the work of Fritz Lickint, a Dresden physician who in 1929 published some of the first statistical evidence linking lung cancer and cigarettes. ³² He was not the first to suggest a link--Isaac Adler and others had already done this ³³ --but his was the most comprehensive review of the literature up to that time, while also presenting new statistical **[End Page 445]** facts. His evidence was fairly simple, constituting what epidemiologists today call a "case-series" showing that lung cancer patients were particularly likely to be heavy smokers. Lickint's article served as a springboard for many subsequent investigators: Victor Mertens, Angel Roffo, and T. Chikamatsu, for example, all of whom demonstrated the carcinogenic potency of tobacco tar while crediting Lickint's pioneering vision. ³⁴

Lickint went on to become Germany's foremost exponent of the antismoking message, cautioning that tobacco had surpassed alcohol as a public health menace and that strong steps were needed to counter the threat. In his monumental *Tabak und Organismus* (Tobacco and the organism), published in 1939, Lickint chronicled an extraordinary range of ills deriving from smoking, chewing, or snorting tobacco. ³⁵ The 1,200-page volume, produced in collaboration with the Reich Committee for the Struggle Against Addictive Drugs and the German Antitobacco Association, was advertised as *Das Standardwerk*; it is arguably the most comprehensive scholarly indictment of tobacco of the century. Surveying 8,000 publications worldwide, the author blamed tobacco for cancers all along the *Rauchstrasse*--lips, tongue, lining of the mouth, jaw, esophagus, windpipe, and lungs. Tobacco was an instigator not just of cancer but of arteriosclerosis, infant mortality, ulcers, halitosis, and dozens of other maladies. Lickint identified tobacco as a powerful drug: tobacco addiction he characterized as *Nikotinismus* (or, more properly, *Tabakismus*), and tobacco addicts as *Nikotinisten* (or *Tabakisten*); he also compared tobacco addicts to morphine addicts, and made a convincing argument that "passive smoking" (*Passivrauchen*--he seems to have coined the term) posed a serious threat to nonsmokers. ³⁶ He argued that thousands of cancer deaths could be prevented by curtailing tobacco use. Twenty percent of all male German fatal cancers began in the area he dubbed **[End Page 446]** the "Rauchstrasse," leading him to speculate that tobacco might play a role in as many as 7,000 male cancer deaths per year in Germany. ³⁷

Lickint in 1939 was praised as the physician "most hated by the tobacco industry," ³⁸ but he was only one of many authors derogating tobacco at this time. Tobacco was said to hinder the military prowess of the German soldier; tobacco temperance was needed to preserve the soldier's "physical fitness and military readiness." ³⁹ Luftwaffe physicians found that nicotine hampered a pilot's ability to function, and forensic physicians found that smoking contaminated the blood with carbon monoxide. ⁴⁰ The habit was said to cause automobile accidents, prompting criminal penalties for accidents caused by driving "under the influence" (of cigarettes). ⁴¹ Rudolf Friedrich, a Viennese physician, reported that 80 percent of the men he had examined with ulcers were smokers and blamed smoking for the

skyrocketing incidence of stomach distress since **[End Page 447]** the First World War. ⁴² Karl Westphal and Hans Weselmann argued that tobacco was the single most common cause of gastritis--but also that, since gastritis had been linked to stomach cancer, tobacco was probably also a cause of gastric malignancies. ⁴³ This was especially damning, given that stomach cancer was the leading cause of cancer death among European (and American) men in the 1920s and 1930s.

German physicians were also aware that smoking was a major cause of heart disease. Nicotine abuse was often blamed for Germany's increased incidence of heart attacks; heart disease was sometimes said to be the single most serious illness brought on by smoking. ⁴⁴ Late in the war, nicotine was suspected as a cause of the coronary heart failure suffered by German soldiers on the eastern front. Military physicians debated the culpability of tobacco in this regard: a 1944 report by an army field pathologist found that the thirty-two young soldiers examined by him--all of whom had died from heart attacks at or near the front--had all been "enthusiastic smokers." The author cited the Freiburg pathologist Franz Büchner's view that cigarettes should be considered "a coronary poison of the first order"; he also recognized, though, that certain "spiritual changes" brought on by the war were likely to have contributed to the disease. ⁴⁵

Reproductive politics played a major role in the Nazi opposition to smoking. Smoking women were said to be less marriageable, given that they tended to age prematurely. ⁴⁶ Werner Hüttig of the NSDAP's Office of Racial Policy pointed out that nicotine had been found in the breast milk of smoking mothers, and Martin Stämmeler, an influential Nazi physician, argued that tobacco use by pregnant women was responsible for the growing incidence of stillbirth and miscarriage. ⁴⁷ A 1943 article in Germany's leading gynecology journal reported that women who smoked **[End Page 448]** three or more cigarettes per day were almost ten times as likely to be childless as women who did not smoke. ⁴⁸ Agnes Bluhm, Germany's most prominent female racial hygienist, argued in a 1936 book that smoking could cause spontaneous abortions; this was especially disturbing to Nazi authorities, who placed a premium on ensuring a high birthrate among healthy German women. ⁴⁹ Smoking was also said to interfere with male sexual performance: a 1941 health manual published by the Hitler Youth told how tobacco had sometimes been used by sailors to suppress their sexual desires; the same text cited a nineteenth-century proposal by a Frenchman, D(ésiré?) Demeaux, that tobacco use should be encouraged in French schools to combat *onanisme* (masturbation). ⁵⁰

All of these dangers were magnified, in the Nazi view of the world, by the fact that tobacco was addictive. Reich Health Führer Leonardo Conti expressed this view in 1939, and there were many others who shared his judgment. ⁵¹ Tobacco tended to create an alien allegiance in an era when both mind and body were supposed to belong to the Führer. The charge was a serious one, given that addictions were often regarded as hereditary and hereditary ailments were said to be incurable. ⁵² The impression broadly shared was that while anyone might become addicted, the genetically weak and degenerate were far more

vulnerable; hence the charge that smoking was "especially popular among young psychopaths." ⁵³ It is not yet clear whether tobacco addicts were ever incarcerated for their addiction, but we do know that that fate befell persons addicted to other substances. In 1941, Reich Health Führer Conti ordered the establishment of an office to register addicts and combat addiction (Reichsmeldestelle für Suchtgiftbekämpfung); similar registries were established to identify alcoholics, the homeless, and other "asocials." ⁵⁴ **[End Page 449]** Smokers may have been fearful of such moves, given the widespread conception of tobacco use as a "first stage" in the move toward abusing ever-stronger substances--like morphine or cocaine. ⁵⁵

Franz H. Müller's 1939 Case-Control Study

Documenting the lung cancer hazard of smoking was one of the more remarkable achievements of this period. Angel H. Roffo of Argentina (1882-1947), who published much of his work in German cancer journals, had already shown by 1930 that tars derived from tobacco smoke could induce cancer in experimental animals; in subsequent experiments he found that certain tobacco tar distillates could produce tumors in as many as 94 percent of all animals exposed. ⁵⁶ (Roffo was important in shifting the emphasis from nicotine to tar as the primary tobacco cancer hazard; Lickint by 1936 could state that nicotine was "probably innocent" of carcinogenic potency and that benzpyrene was probably the guilty party.) ⁵⁷ Neumann Wender, a Viennese professor, in 1933 showed that tobacco smoke contained not just nicotine and tar but methyl alcohol and other toxins; he also showed that the tar content of cigarette smoke increased when the woody stems of tobacco leaves were used in the manufacturing process. ⁵⁸ Enrico Ferrari of Trieste that same year pointed out that since tar was known to have "excellent cancer causing properties" it was not hard to imagine that the increasing use of these woody parts might be responsible for the upsurge in lung cancer. Ferrari claimed to have been long convinced ("without a doubt") that cigarettes were a major cause of lung cancer; how else did one explain the fact that his **[End Page 450]** native Trieste had both the highest smoking rate in Italy and the highest lung cancer rate in that country? ⁵⁹

Lickint had pointed to the preponderance of smokers among lung cancer patients in 1929, and his was the lead most often followed when physicians began to nail down the statistical link. Rudolf Fleckseder of Vienna, for example, reported in 1936 a very high proportion of smokers among his 54 male lung cancer patients (94 percent were smokers, and of these, 69 percent were heavy smokers), and others noted the disproportion. ⁶⁰ The stage was thereby set for the era's two most powerful statistical analyses: a 1939 paper by Franz Hermann Müller, a young physician at Cologne's Bürgerhospital, and a 1943 paper by two scholars--Eberhard Schairer and Erich Schöniger--working at Jena's Institute for Tobacco Hazards Research. The papers are of historic interest, given that they provided the most sophisticated proofs up to that time that smoking was the major cause of lung cancer. The 1943 paper is also noteworthy in that it probably would not have been written without the personal intervention of Hitler in the antitobacco effort.

Franz H. Müller's 1939 paper--essentially his medical thesis--is apparently the world's first controlled epidemiological study of the tobacco/lung cancer relationship. ⁶¹ The paper, published in Germany's leading cancer research journal, began by noting the dramatic increase in lung cancers in the bodies autopsied at Cologne's university pathology institute. Lung cancer had been rare in the nineteenth century, but had recently become the second largest cause of cancer death in Germany, **[End Page 451]** accounting for 23 percent of all cancer mortality. (Stomach cancer still held first place, with about 59 percent). Müller mentioned the most commonly cited causes of the increase--road dust and macadam tars, automobile exhaust, trauma, TB, influenza, X rays, industrial pollutants--but argued that "the significance of tobacco smoke has been pushed more and more into the foreground." ⁶² German tobacco use had grown by a factor of five between 1907 and 1935, exposing lung tissues to unprecedented levels of carcinogenic tar. Roffo and Lickint had shown that smokers of three packs a day would inhale a total of four kilograms of tar over a period of ten years; Müller added that the tar content of cigarettes had risen in recent years, a phenomenon he blamed--following Wender and Ferrari--on the increasing use of tobacco stems in cigarette manufacture. He was also worried about the economic burden of smoking, trotting out the widely publicized fact that 10 percent of the entire national income was going to cigarettes and alcohol.

Müller's most important contribution, however, was his epidemiologic investigation, prompted by his observation that the lung cancer patients in his care were very often heavy smokers and that men were far more likely than women to contract the disease (his own Cologne data showed a sex ratio of 6:1; a Lickint review of twenty-five publications gave a figure of 5:1). ⁶³ Müller's analysis was what we today would call a survey-based retrospective case-control study--meaning that he compared, through questionnaires and medical histories, the smoking behavior of two groups of people: (a) lung cancer patients, and (b) a healthy "control group" of comparable age. The survey was sent to the relatives of the deceased (lung cancer kills rather quickly), and included the following questions: **[End Page 452]**

1. Was the deceased, Herr . . . a smoker? If so, how high was his daily consumption of cigars, cigarettes, or pipe tobacco? (Please be precise in your answer!)
2. Did the deceased smoke at an earlier time in his life and then stop? Until when did he smoke? If he did smoke at one time, what was his daily consumption of cigars, cigarettes, pipe tobacco? (Please be precise!)
3. Did the deceased ever smoke more cigarettes than he did at a later time, and then cut down on his smoking? How high was his daily use of tobacco products, before and after he cut back? (Please be precise!)
4. Is there anything you can say about whether the deceased was ever exposed to unclean air for any length of time, either while at work or off the

job? Did this unclean air contain smoke, soot, dust, tar, fumes, motor exhaust, coal or metallic dust, chemical substances, cigarette smoke, or similar substances? [64](#)

Müller does not say how many questionnaires were sent out, but we are told that 96 "cases" (*Krankheitsfälle*) were eventually obtained--86 males and 10 females. All had died of lung cancer, confirmed at autopsy by the University of Cologne's pathology institute or by one of six other pathology institutes at Cologne's regional hospitals. Additional information was gathered from the patients' medical records, and in some cases from a patient's workplace. The 86 male "cases" were divided into five classes: "extremely heavy smoker," "very heavy smoker," "heavy smoker," "moderate smoker," or "nonsmoker." The same was done for a group of 86 healthy "controls" (*gesunden Männern*) of the same age as the cases. [65](#)

The results were stunning. The lung cancer victims were more than six times as likely to be "extremely heavy smokers"--defined as daily consumers of 10-15 cigars, more than 35 cigarettes, or more than 50 grams of pipe tobacco. Furthermore, the healthy group had a much higher proportion of nonsmokers: 16 percent, compared with only 3.5 percent for the lung cancer group. The 86 lung cancer patients smoked a total of 2,900 grams of tobacco per day, while the 86 healthy men smoked only 1,250 grams. Müller concluded not just that tobacco was "an important cause" of lung cancer but that "*the extraordinary rise in tobacco use*" was "*the single most important cause of the rising incidence of lung cancer*" in recent decades. [66](#) [End Page 453]

Müller's article is notable in several other respects. For one thing, there is no obvious Nazi ideology or rhetoric in the piece. There is one brief hint that "the genetically vulnerable" should be advised not to smoke, [67](#) but race is never mentioned and there are no other remarks that would lead one to identify the article as a "Nazi" piece of scholarship. The bibliography (twenty-seven sources) refers the reader to the work of at least three Jewish scientists (Max Askanazy, Walther Berblinger, and Marx Lipschitz), each of whom is also cited approvingly in the text. This is not as unusual as one might imagine: Jewish scientists were frequently cited in Nazi-era medical literature, despite occasional pressures to put an end to the practice.

Also interesting is Müller's discussion of possible causes of lung cancer other than tobacco. He was well aware that tobacco was unlikely to be the sole cause, given that a third of all of his cases were either moderate smokers or nonsmokers. He disagreed with the Englishman W. Blair Bell and other "lead therapy" advocates who claimed that the metal showed promise as a cancer treatment (the theory was that lead selectively destroyed cancer cells); Müller's inclination was rather to follow Carly Seyfarth's view that workers exposed to the metal--printers, metalworkers, plumbers, and typesetters, for example--faced an *increased* risk of contracting the disease. In his own sample of 86 men with lung cancer, 17 showed a history of exposure to lead dust, from which he concluded that lead inhalation must be considered a "promoting factor" (*fördernder Einfluss*) in the development of cancer. That other factors must be involved was suggested from the different work histories of his

patients, including a forty-eight-year-old locksmith exposed to soot, smoke, and coal dust; a twenty-six-year-old housewife who for two years had worked in a cigarette factory, inhaling tobacco dust; three women who had worked during the First World War in a munitions factory, exposing themselves to nitrates, phosphorus, mercury, chromium, picric acid, and other noxious substances; a forty-eight-year-old dye worker known to have inhaled aniline vapors; and several workers exposed to chromium in one form or another. All were moderate smokers or nonsmokers, leading one to believe that occupational exposures may have played a role in their becoming ill. ⁶⁸

Müller's pathbreaking article was sometimes cited in the 1950s, when Doll, Wynder, and others reconfirmed the lung cancer-tobacco link. ⁶⁹ **[End Page 454]** What is not often recognized, however, is that Müller's was not the era's only case-controlled documentation of the tobacco-lung cancer hazard--nor even the most sophisticated. That honor would have to go to a lesser-known paper published in Germany's leading cancer journal in 1943, a paper that extended Müller's analysis and provided the most conclusive evidence up to that time, anywhere in the world, that tobacco was the major cause of lung cancer. We shall turn to that paper in a moment, but first some words on the practical steps taken to combat tobacco in the late 1930s and early 1940s.

Moving into Action

Armed with the requisite scientific expertise and political power, Nazi authorities moved to limit smoking through a combination of propaganda, public relations, and official decrees. ⁷⁰ The Ministry of Science and Education ordered elementary schools to discuss the dangers of tobacco, and the Reich Health Office published pamphlets warning young people not to smoke. Public lectures sponsored by the Reich Health Office--on maternal health or vaccination, for example--were declared "smoke-free," and the Reichsstand des Deutschen Handwerks, the Nazified craft guild, advised its members against smoking while at work. ⁷¹ A Bureau Against the Hazards of Alcohol and Tobacco (Reichsstelle gegen die Alkohol- und Tabakgefahren) was established in June 1939 from the remnants of Germany's leading antialcohol association, ⁷² while a Bureau for the Struggle Against Addictive Drugs (Reichsstelle für Rauschgiftbekämpfung) performed similar work against morphine, sleeping **[End Page 455]** pills, Coca Cola, Pervitin (a prescription stimulant), and occasionally tobacco. Fifteen thousand people attended a March 1939 congress on the hazards of tobacco and alcohol, at which Reich Health Office president Hans Reiter and others in the Nazi medical elite--notably Leonardo Conti and Ferdinand Sauerbruch--attacked both vices as reproductive poisons and drains on the German economy. ⁷³

Throughout this period, magazines like *Genussgifte* (Poisons of taste or habit), ⁷⁴ *Auf der Wacht* (On guard), and *Reine Luft* (Pure air) published a regular drumbeat against this "insidious poison," along with articles charting the unhealthful effects of alcohol, teenage dancing, cocaine, and other vices. Dozens of books and pamphlets denounced the "smoking slavery" or "cultural degeneration" feared from the growth of tobacco use. ⁷⁵ Tobacco was

branded "the enemy of world peace," and there was even talk of "tobacco terror" and "tobacco capitalism." ⁷⁶ Karl Astel of Jena labeled tobacco "an enemy of the people" (*Volksfeind*), and at least one medical thesis--on tobacco addiction--characterized cigarettes as "coffin nails." ⁷⁷ Hitler himself in 1941 denounced tobacco as "one of man's most dangerous poisons." ⁷⁸ **[End Page 456]**

In the late 1930s and early 1940s, antitobacco activists called for increased tobacco taxes, for advertising bans, and for bans on unsupervised vending machines and on tobacco sales to youth and to women in their childbearing years. Activists called for a ban on smoking while driving and for an end to smoking in the workplace. ⁷⁹ The Hitler Youth and the League of German Girls both published antismoking propaganda, ⁸⁰ and the Association for the Struggle Against the Tobacco Danger organized counseling centers where the "tobacco ill" (*Tabakkranke*) could seek help. ⁸¹

Another response was to initiate research into the production of nicotine-free cigarettes. Nicotine had been recognized as the active ingredient in tobacco since early in the nineteenth century, and by the 1890s techniques were available to lower or remove entirely the offending/delighting substance. ⁸² The Reich Institute for Tobacco Research in **[End Page 457]** Forchheim, near Karlsruhe, launched a series of studies to remove nicotine from cigarettes through novel breeding techniques and chemical treatments. By 1940 fully 5 percent of the entire German harvest, or 30,000 hundredweights, was "nicotine-free tobacco." ⁸³

Research was also launched to investigate the psychology and psychopharmacology of smoking. A 1940 medical thesis explored why blind people seldom smoked, and why soldiers found smoking more pleasurable in the daylight than at night. ⁸⁴ Dozens of preparations were available to assist people in quitting smoking, ranging from a silver nitrate mouthwash (1 part in 10,000 was said to create an unpleasant taste for tobacco) to a substance known as "transpulmin," injected into the bloodstream to produce a similar effect (it was said to bond with the terpenes and other aromatic compounds in tobacco, producing an unpleasant sensation). Trade-name compounds such as "Analeptol" and "Nicotilon" were offered, as were tobacco substitutes in the form of chewing gums, ginger preparations, atropine, and menthol cigarettes. Hypnotism was apparently popular, as were various forms of psychological counseling. ⁸⁵

Legal sanctions began to be put into place in 1938. The Luftwaffe banned smoking in its barracks that year, and the post office did likewise. Smoking was barred in many workplaces, government offices, hospitals, and rest homes. ⁸⁶ "No-smoking" cars were established on all German trains, with a fine of two reichsmarks to be levied for violators. ⁸⁷ The NSDAP announced a ban on smoking in its offices in 1939, at which time SS chief Heinrich Himmler announced a smoking ban for all uniformed police and SS officers while on duty. ⁸⁸ (The secret police apparently were still allowed to smoke while working under

cover.) The *Journal of the [End Page 458] American Medical Association* that year reported Hermann Göring's decree barring soldiers from smoking on the streets, on marches, and on brief off-duty periods. ⁸⁹ Sixty of Germany's largest cities banned smoking on streetcars in 1941. ⁹⁰ Smoking was banned in air-raid shelters--though there is evidence that some reserved separate rooms for smokers. ⁹¹ During the war years, tobacco-rationing coupons were denied to pregnant women (and to all women below the age of twenty-five or over fifty-five) and restaurants and cafés were barred from selling cigarettes to female customers. ⁹² In July 1943, a law was passed making it illegal for anyone under the age of eighteen to smoke in public. ⁹³ Smoking was banned on all German city trains and buses in the spring of 1944; Hitler personally ordered the measure to protect the health of the young women serving as ticket takers. ⁹⁴

Some of these wartime bans were designed primarily to prevent fires. That was clearly the case with the 23 May 1940 ban on smoking in fire-endangered factories, but it was also true for the 18 May 1940 ordinance against smoking near open grain storage bins. ⁹⁵ Fire-sensitive workplaces were required by law to have "no-smoking" areas clearly marked, though violations were apparently so common that Himmler ordered a redoubling of enforcement efforts. The SS chief also decreed that any persons found smoking in a restricted area would have their tobacco control cards confiscated "as a prophylactic measure" against further fire danger. ⁹⁶



Health was clearly the predominant concern, however, in the restrictions placed on tobacco advertising. The term *Damen-Zigarette* (ladies' cigarette) was banned, as was the use of women or of female imagery to **[End Page 459]** advertise tobacco products. Ads implying that smoking possessed "hygienic values" were barred, as were images depicting smokers as athletes or sports fans, or otherwise engaged in "manly" pursuits. Advertisers were no longer allowed to show smokers behind the wheel of a car, given the concern that a substantial number of automobile accidents were being caused by smoking. Tobacco advertisers were also barred from ridiculing opponents of smoking, as they once had done quite unabashedly ([Fig. 2](#)). ⁹⁷ **[End Page 460]**

Tobacco advertisements did continue to be published, however, even in Nazi magazines. The weekly storm trooper periodical *Die SA*, for example, published full-page ads for Reemtsma cigarettes in nearly every issue in 1940 and 1941. These typically featured rustic farm or village scenes in Bulgaria, Turkey, Greece, and Macedonia, from which Germany imported much of its raw tobacco. The peaceful, romantic landscapes contrast sharply with the more usual fare of war images perfusing the magazine.

Karl Astel's Antitobacco Institute at Jena

German antitobacco activism culminated in the seventh, eighth, and ninth years of Nazi rule--

encouraged, perhaps, by the success of the early military campaigns and the recognition that rationing might provide a palatable excuse for a broader effort to curb tobacco consumption. Wolfgang Klärner began his 1940 Erlangen medical thesis by proclaiming that Germans were witnessing "the beginning of the end" of tobacco, ⁹⁸ amidst rumors that tobacco was slated to "disappear entirely from the Reich" after the completion of the war. ⁹⁹ Hitler in April 1941 issued a strongly worded order barring any increase in the acreage devoted to tobacco farming. ¹⁰⁰ Nazi party leaders by this time had already begun to pressure tobacco manufacturers to convert their factories to non-tobacco ends--the initiative apparently coming from Gauleiter Fritz Sauckel's office in Thuringia, but also from the NSDAP's Economic Policy Commission. ¹⁰¹ **[End Page 461]**



The single most important antitobacco institution established in the Nazi period was the Institute for Tobacco Hazards Research (Wissenschaftliches Institut zur Erforschung der Tabakgefahren), established by **[End Page 462]** a 100,000 RM gift from Hitler's Reichskanzlei to the University of Jena amidst great media fanfare in

April 1941. ¹⁰² The institute--housed in the medical school, but with collaborators from many other faculties--was advertised as the first such institute anywhere in the world, and the boast is probably not without merit. The conference celebrating the opening of the institute--comprising two days of lectures on 5-6 April 1941 in Weimar--featured many of Germany's foremost antitobacco activists. Gauleiter Fritz Sauckel (under whose *Schirmherrschaft* the event took place) proclaimed that the struggle against tobacco was necessary to keep the German working man healthy and strong; Reich Health Führer Leonardo Conti pointed out that tobacco was an addictive drug, weakening the ability of leaders to serve their nation. Karl Astel, the SS officer and physician who founded and directed the institute, denounced the health and financial costs of smoking, but also the "ethic of apathy" fostered by the habit. Hans Reiter of the Reich Health Office emphasized the harms to female fertility and called for research into tobacco's role in causing stomach cancer. The chief of Germany's Reich Accounting Office outlined the economic costs of smoking (approaching RM 4 billion per annum--see [Fig. 3](#)), while the deputy director of the Bureau Against the Hazards of Alcohol and Tobacco attacked the tobacco industry for propagating deceptive terms like "tobacco enjoyment" (*Tabakgenuss*) and "tobacco abuse" (*Tabakmissbrauch*).

Johann von Leers, editor of the journal *Nordische Welt* and a rabid anti-Semite, added a "comical" tone to the meeting, accusing "Jewish capitalism" of having helped to spread the tobacco habit in Europe. Leers described how Jews had brought the first tobacco to Germany and still controlled the tobacco industry of Amsterdam, the main port of entry for tobacco into Europe. The French Revolution had spurred the uptake of tobacco (*Der liberale Revoluzzer rauchte*), as had the ambient salon culture. Leers's talk was one of only two to mention a link to "the Jewish question"; his was also the only speech characterized by the *Deutsches Ärzteblatt* as "humorous"--the amusement apparently lying in his ridicule of Jews.

¹⁰³ **[End Page 463]**



The conference featured other high-profile representatives of German medicine and academe. The director of the Forensic Medical Institute of



Danzig's Medical Academy, Prof. O. Schmidt, described the toxic effects of carbon monoxide, and Fritz Lickint trotted out his by-now-familiar tally of hazards. The director of Dortmund's Institute for Labor Physiology (a Prof. Graf) argued that tobacco should be entirely banned at the workplace, due to the dangers of "passive smoking." Germany's leading medical journals reported at length on the conference, and Hitler sent a telegram wishing those assembled "best of luck in your work to free humanity from one of its most dangerous poisons." ¹⁰⁴ There may never have been a more august assemblage of antitobacco activists (Figs. [4](#)-[5](#)).

Jena by this time was a center of antitobacco activism. ¹⁰⁵ Karl Astel, director of the new institute, was also president of Thuringia's Office of Racial Affairs, and rector--since the summer of 1939--of the University of Jena. Astel was not just a notorious anti-Semite and racial hygienist (he had joined the Nazi party and the SS in July 1930), he was also a militant antismoker and teetotaler who once characterized opposition to smoking as a "national socialist duty." ¹⁰⁶ On May Day of 1940 he banned smoking in all buildings and classrooms of the University of Jena; he soon became known for snatching cigarettes from the mouths of students who dared to violate the ban. ¹⁰⁷ One year later, in the spring of 1941, as head of Thuringia's public health office, he announced a smoking ban for all state health offices and all German schools. Tobacco abstinence was, as one might imagine, a condition of employment at Astel's antitobacco institute: the original proposal sent to Hitler--written by Gauleiter Sauckel--noted that this was "as important as Aryan **[End Page 464]** **[Begin Page 467]** ancestry"; freedom from tobacco addiction was said to be necessary to guarantee the "independence" and "impartiality" of the science produced. ¹⁰⁸

Astel's antitobacco institute promoted both medically informed propaganda--including the production of an antismoking film ¹⁰⁹ --and politically informed scientific work. The radiologist Wolf Dietrich von Keiser investigated the influence of nicotine on the stomach, and the pathologist Eberhard Schairer compared the damage caused by nicotine to that caused by rheumatism. The institute funded the work of Günther Just, director of Greifswald's Institute for Human Genetics and Eugenics, and Karl Thums, director of Prague's Institute for Genetic and Racial Hygiene. ¹¹⁰ Cancer was a prominent focus, as illustrated by Horst Wüstner's 1941 medical thesis confirming the increase of lung cancer and the likely connection to the upsurge in smoking. ¹¹¹

The most intriguing work of Astel's institute, however, was Eberhard Schairer and Erich Schöniger's 1943 paper on experimental lung cancer epidemiology--the most convincing demonstration up to that time of the role of smoking in the development of lung cancer. ¹¹² The paper is remarkable for its subtlety, surpassing even Müller's study of four years earlier. The authors began their paper by noting that lung cancers were **[End Page 467]** increasingly common among the cancers revealed at autopsy--exceeding 12 percent for persons over the age of twenty in the period 1940-41--and that men were far more likely than women to contract the disease (six times more often, in their data). They rejected several of the more customary, non-tobacco explanations of the increase--automotive

exhausts, for example--by noting that rural as well as urban lung cancer rates were on the rise, and that operators of motorized equipment did not have exceptionally high lung cancer rates. They then drew attention to the fact that a heavy smoker could easily inhale as much as 4 kilograms of tar over a lifetime--a frightening figure given Roffo's discovery of benzpyrene in cigarette smoke and his demonstration that animals painted with tobacco tars develop high rates of cancer.

The innovative aspect of Schairer and Schöniger's study was their investigation of how lung cancer rates varied with smoking behavior. Following closely the method pioneered by Müller, the authors sent questionnaires to the relatives of 195 lung cancer victims, inquiring into the smoking habits of the deceased. Going beyond Müller, however, they sent an additional 555 questionnaires to the families of patients who had died from other kinds of cancer--320 stomach, 108 colon, 60 prostate, 35 esophagus, and 32 tongue--the presumption being that smokers would be more likely to develop certain kinds of cancer but not others. Questionnaires were also sent to 700 male residents of Jena aged 53-54, the average age of death of the lung cancer victims, to determine the smoking habits among a population apparently free of cancer. ¹¹³ The response rate was just over half for the lung cancer cases (109), and roughly forty percent for the noncancer controls (270).

The results were clear: among the 109 lung cancer cases for which usable data were obtained, only 3 were nonsmokers--a far lower proportion than among the population as a whole (about 3 percent, vs. 16 percent for the noncancer controls). The smokers were not necessarily "cancer prone," because when other kinds of cancer were looked at--stomach, for example--smokers were found to be no more likely to develop cancer than nonsmokers. The authors' conclusion: smoking was very likely a cause of lung cancer, but much less likely a cause of other kinds of cancer. The results were declared to be of the "highest" statistical significance, though the authors did not use the mathematical tools available at that time (e.g., chi-square analysis) to quantify that level of significance. A reevaluation of the study half a century later showed that **[End Page 468]** the probability that the results could have come about by chance was less than one in ten million. ¹¹⁴

Schairer and Schöniger's study provided the most conclusive epidemiological evidence up to that time, anywhere in the world, that smoking posed a major lung cancer hazard. The paper is also notable, however, for its discussion of possible biasing factors. Attention was drawn to the fact that both this study and Müller's included a surprisingly high fraction of male nonsmokers (15-16 percent--compared with Lickint's estimate of only 5 to 10 percent for the general population), one possible explanation being that smokers might have been less likely than nonsmokers to respond to the survey. The authors suggested further that the sample they investigated--with an average age of 54--might have had more nonsmokers than would a younger population; they also raised the possibility that smokers might not have been "entirely candid" in their responses. The authors suggested that the low response rate of the 700 noncancer controls (only 270 men responded in a completely satisfactory manner) might have had something to do with "war conditions," but they also noted that one would not have expected such a bias to yield a difference between the reported smoking behavior of lung and stomach cancer victims--which was, after all, the major finding of the

study. By contrast with the lung cancer cases, stomach cancer sufferers were found no more likely to have smoked than the general population. [115](#)

Support for Schairer and Schöniger's 1943 study was made possible, as already noted, by a major grant from Hitler's Reichskanzlei. It is sobering to realize that work of such quality could have come from such a source--but then again, the Nazi era was not the era of intellectual slumber it is sometimes thought to have been. Innovations of the Nazi era include television, jet-propelled aircraft (including the ejection seat), guided missiles, electronic computers, the electron microscope, atomic fission, new data-processing technologies, new pesticides, and the world's first industrial murder factories--all of which were either first developed in Nazi Germany or reached their high point at that time. Appreciating this, it is perhaps not so surprising that German physicians by the early 1940s were pretty well convinced that smoking was both addictive and the major cause of lung cancer. That consensus died with the Nazi **[End Page 469]** regime, displaced at first by more immediate public health concerns, and eventually by memories of the more murderous legacies of the era. [116](#)

"Gesundheit über Alles"

How are we to understand the Nazi-era campaign against tobacco? The emphasis on preventive medicine was one source, but pressure also came from the insurance bureaucracy, whose administrators worried that smoking-caused illnesses could lead to financial drains on the health insurance system. [117](#) Cancer treatments cost an estimated 15 million reichsmarks in 1933, and Nazi authorities worried that this would grow with the aging of the population. [118](#) Pressure also came from industrial hygienists worried about a tobacco-instigated loss of German manpower. By the end of the 1930s, people missing more than four weeks of work due to "cigarette stomach" (especially gastritis or ulcers) were required to report to a hospital for examination; repeat offenders--people who failed to quit smoking and kept missing work--could be remanded to a nicotine-withdrawal clinic. [119](#)

Nazi policies also had, as already hinted, an important gender aspect. Women and girls were much more strongly dissuaded from smoking than were men and boys. The Nazi antitobacco campaign was rooted in a presumption of the sanctity and delicacy of the female body; hence the ubiquitous slogan "Die deutsche Frau raucht nicht!" Part of this had to do with the notion that the primary duty of females was to bear and care **[End Page 470]** for children; there was also the notion that the female body was inherently more fragile than the masculine body--and therefore more in need of protection. A great deal of research at this time focused on the vulnerability of the female organism to tobacco smoke and tobacco habits. [120](#) One remarkable medical thesis at the University of Jena looked at how female prisoners coped with withdrawal from cigarettes while incarcerated (women were not allowed to smoke in prison); the subtext of the study was not just that "bad women" smoked, but also that women were more easily addicted and more easily damaged. [121](#) Women's groups joined in the struggle, [122](#) though by 1942 the deterioration of Germany's military

situation was also beginning to dampen antitobacco sentiments. The Reichsmütterdienst launched an antismoking and antialcohol initiative in the summer of 1942, but the effort was supposed to be "low-key" in order to avoid "unrest among the population." ¹²³

It is therefore an oversimplification to say that the antitobacco movement can be traced either to the personal fanaticism of Hitler, or to the effort to stem the flow of precious hard currency out of the country. ¹²⁴ Hitler was clearly disgusted by the tobacco habit: he was never particularly happy about the fact that Hermann Göring continued to puff away in public (early in the war he asked how the Reichsmarschall would like being commemorated in a statue with a cigar in his mouth); ¹²⁵ we also know that the Führer at one point characterized tobacco as "the wrath of the Red Man against the White Man, vengeance for having been given hard liquor." ¹²⁶ Hitler seems to have regretted allowing his soldiers to smoke: on 2 March 1942 he noted that "it was a mistake, traceable to the army leadership at the time, to have started giving our soldiers daily rations of tobacco at the beginning of the war"; he added that it was "not **[End Page 471]** correct to say that a soldier cannot live without smoking" and vowed to put an end to military tobacco rations once peace was achieved. ¹²⁷ Hitler himself had smoked 25 to 40 cigarettes per day in his Viennese youth, until he realized how much money he was wasting, whereupon he "tossed his cigarettes into the Danube and never reached for them again." He also claimed that Germany might never have achieved its present glory if he had continued to smoke: "perhaps it was to this, then [that is, his giving up smoking], that we owe the salvation of the German people." ¹²⁸ Then again, contra Hitler, it is perhaps worth expanding upon Freud to note that sometimes giving up smoking is just giving up smoking.

Hitler's personal aversion was only one of several factors in the Nazi war on tobacco. The more important concern, repeated over and over again in the medical and public health literature of the era, was the productive and reproductive performance of the German Volk. Tobacco, like alcohol, was said to be sapping the strength of the German people--at work, at school, in sports, on the field of battle (experiments conducted in the late 1930s found that smoking impaired a soldier's marksmanship and reduced his ability to march for long distances), ¹²⁹ in the bedroom and the birthing clinic. What we find is a merger of the earlier moral critique with an increasingly medical critique. The moral element is not lost, but is in fact strengthened through the incorporation of the Nazi-era rhetoric of bodily purity, ¹³⁰ racial hygiene, performance at work (*Leistungsfähigkeit*), and the "duty to be healthy." "Gesundheit über Alles" is one of the hallmarks of Nazi ideology.

This leads us to the larger question of why Germany had such a powerful antitobacco movement, given that in the 1920s it was the United States--not Germany--that possessed the world's most powerful organized opposition to alcohol and tobacco. A clue is to be found in John C. Burnham's discussion of American attitudes toward tobacco at this time. Burnham's argument is that, in the United States, the moralistic certainties that had led to alcohol prohibition and tobacco temperance in the 1920s were under attack by the 1930s. Several of the "diseases" crusaded against at the height of prohibition (masturbation, for example) had turned out to be pseudo-diseases, and it was easy to believe **[End Page 472]**

that the same might be true for tobacco. Where, after all, was the evidence that smoking caused impotence or led to crime? For a public weary of such imaginative scare-mongering, the burden of proof shifted from the defenders of tobacco to its accusers. The net effect was to stymie the medical critique: critics of smoking were easily tarred as advocates of the same kind of puritanical moralism that had brought us Prohibition and cautions against dancing, coffee-drinking, playing cards, and many forms of sexual expression. It was rare to find an American physician criticizing tobacco in the 1930s or 1940s, and those who did object--at medical meetings, for example, where the smoke was often so thick that physicians were unable to see the slides--were often dismissed as prudes or cranks. [131](#)

Burnham does not discuss Germany, but what is interesting is how the situation there was inverted. In Germany, the tobacco and alcohol temperance movements of the 1920s were actually strengthened by the rise of National Socialism. Nazi rule was generally welcomed by antialcohol and antitobacco forces, and even in the United States, at least one antialcohol journal applauded the election of Hitler. [132](#) There was therefore nothing comparable to the sea change experienced in America when prohibition was repealed in 1933 (at least not until the 1950s--see below). German physicians rarely felt that by criticizing tobacco they were caving in to an outdated puritanical zeal; in Germany under Hitler, temperance (or abstinence) in matters of habit was more in fashion than ever--at least at the level of public propaganda.

Germans never experienced prohibition, and never suffered the backlash against tobacco moralism felt by American physicians. German physicians in the 1930s were therefore much more likely to endorse the claims of antitobacco activists than their counterparts in the United States. The health effects of smoking were more aggressively studied, more broadly condemned. It was easier to castigate tobacco, having never suffered the legal and moral excesses of prohibition. The burden of proof was not so much on those affirming a danger; there was little risk of appearing puritanical or "moralistic" by attacking tobacco. Indeed, many of the same moralistic tones we associate with America's prohibition movement can be found in Nazi-era rhetoric. Thus, in 1941 we hear Germany's leading public health journal arguing that tobacco produces not just diarrhea and diminished sexual performance but also criminal sexual deviance. The author of this essay suggested that "most of the men condemned for violating Paragraph 175 [barring homosexuality] were heavy cigarette smokers" and called for further research into links between **[End Page 473]** smoking and sexual deviance. [133](#) Other physicians linked smoking to gambling, prostitution, alcoholic overindulgence, and other depravities of the antisocial *Untermensch*. [134](#)

Of course, if we expand our field of view for a moment, we can in fact see a kind of backlash in Germany--it just occurs two decades later there than in America. After the war, Germany loses its position as home to the world's most aggressive antitobacco science and policy. Hitler of course was dead, and many of his antitobacco underlings had either lost their jobs or were otherwise silenced. Karl Astel, head of the Institute for Tobacco Hazards Research, committed suicide in his Jena office on the night of 3-4 April 1945. The death of this SS officer was a major blow to antitobacco activism. So was the death of Reich Health Führer Leonardo Conti, who committed suicide on 6 October 1945 in an Allied prison awaiting

prosecution for his role in the "euthanasia" operation and other crimes. Hans Reiter, the Reich Health Office president who once characterized nicotine as "the greatest enemy of the people's health" and "the number one drag on the German economy," ¹³⁵ was interned in an American prison camp for two years, after which he worked as a physician in a Kassel clinic, never again returning to public service. Gauleiter Fritz Sauckel, the guiding light behind Thuringia's antismoking campaign and the man who actually drafted the grant application for Astel's antitobacco institute in Jena, was executed on 1 October 1946: the Nuremberg Tribunal had found him guilty of war crimes and crimes against humanity, primarily for his actions as chief of Germany's system of forced labor. It is hardly surprising that much of the wind was taken out of the sails of Germany's antitobacco movement.

Tobacco Collapse



I do not want to exaggerate Nazi success in combating tobacco. Tobacco consumption grew dramatically during the first six or seven years of Nazi rule, a consequence of the post-1933 economic boom but also evidence that whatever propaganda may have been launched against the habit seems to have had little or no effect on consumption--at least in these early years ¹³⁶ (Fig. 6). The argument has been put forward that smoking **[End Page 474] [Begin Page 476]** itself may have served as a kind of passive "resistance": people smoked or listened to jazz or went to clandestine "swing" dance parties as a kind of cultural opposition to Nazi macho puritanism. ¹³⁷ It is difficult to say how citizens responded to the antismoking rhetoric and policies of the time, though we do have evidence that Nazi officials worried about appearing overly "ascetic" or "puritanical." ¹³⁸ Robert Ley, chief of the German Labor Front, tried at one point to distinguish between "indulgence" (*Genuss*) and "joy" (*Freude*)--the former bad, the latter good--but it is not really clear whether anyone grasped the gravity of the distinction. Nazi tobacco activists were aware of the American backlash against prohibition, and clearly had this in mind when cautioning against a total ban on cigarettes. As one activist put the predicament: "forbidden fruit is tempting" (*verbotene Frucht reizt*). ¹³⁹

There is also evidence that some Nazi officials worried about public opposition to the antitobacco campaign, especially during the war. Propaganda Minister Joseph Goebbels was basically in favor, but he also recognized a difficulty in that several Nazi luminaries--notably Reichsmarschall Göring--continued to smoke in public. (Goebbels himself was a heavy smoker, although he had tried to confine his habit to his home.) Goebbels also believed that the campaign might not be practical in wartime, and that if it were to fail this would reflect badly on the agencies involved. ¹⁴⁰ On 18 June 1941 he ordered all tobacco propaganda **[End Page 476]** to be cleared through his office. ¹⁴¹ Others worried about the effect of tobacco shortages on civilian morale. Reich Economics Minister Walther Funk complained that armaments workers and miners were not getting enough tobacco; he also worried that tobacco workers were being tarred as persons "outside the Volksgemeinschaft" and "on a par with Jews" ¹⁴² --dangerous charges in 1941. Funk wrote to the party leadership for a ruling on the propaganda question in May of that year, ¹⁴³ and Hitler

responded that the antitobacco campaign should not be curtailed. The health consequences of smoking should outweigh economic concerns, he argued, and tobacco workers should probably be employed in more "war-important" pursuits. [144](#)

As the war dragged on, however, the campaign did lose much of its steam. Wartime urgencies led a military physician in 1944 to write that "only a fanatic" would withhold a drink or a smoke from a soldier trying to calm his nerves after the horrors of battle. [145](#) The surgeon Ferdinand Sauerbruch, an occasional contributor to antitobacco literature, argued that it was "wrong to regulate, slavishly, the life of every individual" by tobacco bans and the like. [146](#) Complaints about the inadequacy of tobacco rations began to grow, and in 1943 the Sicherheitsdienst produced a long secret report detailing the nature and extent of public grumblings. [147](#) When agricultural authorities raised the question of increasing tobacco yields in the spring of 1944--mainly to increase military supplies--Hitler acquiesced and said that cultivation could rise again to 1941 levels. [148](#) By **[End Page 477]** this time, of course, it was too late for effective long-term planning--for tobacco or anything else.

Economic factors were important in the early failure to curb German smoking. The rapid economic recovery in the first six years of Nazi rule boosted the average German's purchasing power, and tobacco companies took advantage of the boom to promote their products. [149](#) German antitobacco activists were aware of this, and frequently complained that their own efforts were no match for the powerful "American-style" advertising campaigns waged by the tobacco industry--campaigns redolent of (in Hans Reiter's words) "the tasteless methods of the era of Jewish domination." [150](#) The fact that German cigarette manufacturers portrayed themselves as early and eager supporters of the regime [151](#) may have played a role in the failure to curb consumption, but one also has to **[End Page 478]** reckon with the fact that tobacco provided an important source of revenue for the national treasury. In 1937/38, German national income from tobacco taxes and tariffs was in excess of a billion reichsmarks--a not inconsiderable sum for a government striving to modernize and to militarize its economy. [152](#) By 1941, as a result of new taxes and the annexation of Austria, Germans were paying nearly twice this amount. According to Germany's national accounting office, tobacco taxes by this time constituted about a twelfth of the government's entire income. [153](#) Two hundred thousand Germans were said to owe their livelihood, directly or indirectly, to tobacco--an argument that was easily reversed by those who pointed to Germany's need for an additional three million men in its labor force, men who presumably could be supplied in part from the tobacco trade. [154](#)

Official ambivalence can also be seen in the peculiar fact that Jews and political prisoners in concentration camps, like upstanding German women, received half-rations of tobacco throughout the war. [155](#) There is **[End Page 479]** an interesting logical oddity here: "healthy" German women received half-rations because tobacco was known to be bad for you; Jews and concentration camp prisoners received half-rations because tobacco was also viewed as precious and in short supply. Extra tobacco rations were given to the SS and to

armaments workers, [156](#) despite widespread reports that fighting performance and productivity were hurt by tobacco use.

German tobacco consumption did not begin to decline until sometime after the outbreak of war in 1939. As already noted, wartime priorities brought tobacco rationing and emergency restrictions, including limited access to tobacco for women under twenty-five or over fifty-five. Bombing raids began to cut into finished supplies (e.g., in Cologne), and Hitler's 1941 cap on the acreage devoted to tobacco stymied efforts to make up for these losses. By February 1944, German tobacco farmers were growing 3,000 hectares less than in 1941--roughly a 20 percent drop--which agricultural officials attributed to an inopportune pricing structure and the loss of manpower to the war effort. [157](#) The quality of the tobacco suffered, giving rise to at least one smoker's likening of the available pipe tobacco to "a poor grade of mattress filling." After General Rommel's occupation of Cyrenaica, in northern Libya, a rumor circulated that the main ingredient of the brand "Johnnies" was now camel dung, brought home as booty from the African campaign. [158](#)

Availability was one reason for the fall in tobacco use, but direct efforts were also undertaken to reduce the amount smoked by soldiers. On 20 June 1940, Hitler ordered tobacco rations to be distributed to the military "in a manner that would dissuade" soldiers from smoking. [159](#) Cigarette rations were limited to six per man per day, with alternate special rations available for nonsmokers (chocolates or extra food, for example). Extra cigarettes were sometimes available for purchase (up to fifty per man per month), but this option was often unavailable--during times of rapid advance or retreat, for example. Tobacco rations were entirely denied to women accompanying the Wehrmacht. New wartime taxes made the habit more expensive: a 3 November 1941 ordinance increased the cigarette tax to 80-95 percent of the base retail value--nearly twice what Germans would pay in the first two decades following the war. [160](#) **[End Page 480]**

The net effect of these and other measures (medical lectures organized to discourage soldiers from smoking, for instance) was to lower military tobacco consumption during the war years. A 1944 survey of 1,000 servicemen found that while the proportion of soldiers who smoked had increased since the start of the war (only 12.7% were now nonsmokers), the total consumption of tobacco had actually decreased--by just over 14%. More men were smoking (101 of those surveyed had taken up the habit, while only 7 had given it up), but the average soldier was smoking about a quarter less tobacco than in the immediate prewar period (23.42% less, according to the overly precise survey). The number of very heavy smokers (30+ cigarettes per day) was down dramatically--from 4.4% to only .3%--and similar declines were recorded for moderately heavy smokers. This same survey maintained that smoking among Russian prisoners of war had increased by 24%--a rather bizarre statistic, given that most Russian POWs were being brutally murdered. [161](#)

Postwar poverty further cut consumption. According to official statistics, German tobacco use did not reach prewar levels again until the mid-1950s. The collapse is dramatic: German consumption dropped by half from 1940 to 1950, while American consumption during this

same period nearly doubled (see [Table 1](#)). It is important to recognize, of course, the possible sources of bias in such figures. In both the German and the American case, the numbers indicated are domestic sales figures recorded for taxation purposes; they therefore exclude production for export (for German production figures, see [Table 2](#)).

In the German case, there are several reasons official records may have underestimated actual tobacco use in the immediate postwar period. For one thing, official statistics could not take into account the flourishing black-market trade in foreign cigarettes. Highly prized American brands ("Amis") were commonly used as currency, and elderly Germans today recall a single American cigarette's selling for as much as five or even seven marks (vs. several pfennigs for German brands, purchasable using ration cards). Tobacco smuggling was rampant: in 1949, an estimated 400 million American cigarettes found their way into Germany every month. As late as 1954 an estimated two billion Swiss cigarettes--a quarter of that country's production--were smuggled into Germany and Italy. ¹⁶² **[End Page 481]**

Smuggling was fostered by the fact that German cigarette manufacturing had sunk to only about 10 percent of prewar levels, mainly due to the inability to secure raw tobacco from outside Germany. ¹⁶³ Shortages remained so severe that American authorities decided to ship tobacco, free of charge, into Germany as part of the Marshall Plan. Twenty-four thousand tons were shipped in 1948, followed by another 69,000 tons in 1949. The net cost to the United States government was on the order of 70 million dollars; the benefit, at least for American tobacco firms, was a gradual shift in German tobacco tastes from the traditionally favored black tobacco to the milder, blond-Virginian blend (the latter was also purportedly more popular among women). American tobacco companies were understandably pleased with the arrangement. ¹⁶⁴

Two other factors may be mentioned, both of which indicate that tobacco consumption must have been higher than is indicated in official figures. The first is that, by contrast with later years, cigarettes in the immediate postwar period were often smoked down to the very end. **[End Page 482]** Discarded cigarette butts were gathered and smoked, and one has to conclude that the amount of tar, nicotine, and ash inhaled per cigarette produced or smuggled was significantly higher than in less desperate years (cigarette butts contain disproportionately high concentrations of harmful substances). Such factors can be important in calculating the cancer consequences of the tobacco habit. In the 1950s, for example, Richard Doll and others figured that American smokers had a significantly lower cancer risk per cigarette smoked, since they were less likely to smoke down to the very end. Americans smoked 1,285 cigarettes per person in 1930, producing some 19.3 lung cancers per 100,000 males in 1950; in Holland, by contrast, 470 cigarettes per person yielded a whopping 24.3 lung cancers per 100,000 males. ¹⁶⁵ Assuming a twenty-year time lag between exposure and cancer, that cigarettes were the only cause of lung cancer, that only males smoked, and that the statistics capture real phenomena (all of which are very rough approximations), this would mean that a cigarette smoked in America was less than half as likely to give you cancer as a cigarette smoked in Holland. The figures for Germany are about the same as those for Holland. **[End Page 483]**

A second factor that should be mentioned is that many Germans grew their own tobacco for home use or trade. The Tobacco Research Institute in Forchheim--Germany's foremost pro-tobacco industry research organization before and after the war--promoted backyard tobacco cultivation in the 1940s: a 1944 book published by the institute provided detailed instructions for how to grow and cure your own. ¹⁶⁶ Home cultivation continued after the war, and popular memory records many a soldier returning home from the East to transform vegetable gardens into tobacco plots.

It is difficult to say how much home cultivation, the black-market trade, and the gathering and smoking of discarded butts added to overall cigarette consumption. It is unlikely, however, that even all of these factors combined made up for the shortages imposed by the collapse of the German tobacco trade. Recall again that German domestic tobacco production in the immediate postwar period was only a tiny fraction of prewar production. Recall also that much of the home-grown variety was eventually sold to tobacco companies (and therefore counted in official statistics), that postwar rations were only about a fifth of the early wartime rations, and that women even after the war (!) continued to receive half-rations. ¹⁶⁷ Recall also that, at 100 marks or more per pack and in a time of extreme poverty, American brands were more often traded than smoked. Taking such things into account, we have to conclude that the decline in tobacco consumption was real. We also have to conclude that the decline may have had cancer consequences.

Did Nazi Policy Prevent Some Cancers?

Over the period 1952-90 age-adjusted cancer mortality rates for German women declined by about 17 percent. Age-adjusted male cancer mortality, by contrast, rose about 20 percent. ¹⁶⁸ How do we explain the fact that **[End Page 484]** the cancer rate for men has grown in the postwar period, while that for women has declined? Could Nazi tobacco policies have played a role in the postwar decline of female cancer mortality?

Resolving such questions is not an easy matter, but some hypotheses can perhaps be shown to be more likely than others. A first clue comes from looking at which cancers rose in the postwar period, and which declined. Female breast cancer mortality, for example, did not decline in the postwar period. From 1952 to 1990, the West German age-adjusted breast cancer mortality rate showed a growth of more than 40 percent, from 16 per 100,000 to 23 per 100,000. Reproductive behavior is sometimes said to play a major role in breast carcinogenesis, but Nazi reproductive policies--which greatly increased the numbers of women having babies and nursing them ¹⁶⁹ --do not seem to have exercised much of an influence on postwar German cancer rates. Nor do the low-fat diet of the war and the postwar poverty seem to have played a role--at least insofar as breast cancer is concerned.

A second clue lies in the fact that, apart from sex-specific cancers (breast and cervical cancer, for example, or testicular and prostate cancer), the most important cancer from which males and females suffer dramatically different rates is--and has been for most of the century--lung cancer. The difference is substantial. In 1952, the annual rate of death from

lung cancer among German women was only 4 per 100,000; that same year, the mortality for German men was 22 per 100,000. By 1990 the rate for women had climbed to 8 per 100,000, while the rate for men had increased to 49 per 100,000 (see [Table 3](#)). In Germany today, more men die from lung cancer than from any other kind of cancer. Among women, by contrast, lung cancer is still in third place, behind breast and colon cancer. The difference in lung cancer mortality between the sexes is so great, that if this particular difference were somehow to vanish, most of the difference in overall cancer mortality between men and women would also disappear.

How can we explain the difference in the lung cancer mortality between German men and women? One could argue that German men were more likely to be exposed to dangerous chemicals in the workplace, but this would not help us explain why American women's lung cancer rates have grown so much more rapidly than German women's rates. ¹⁷⁰ I suggest, instead, that the most important factors behind the relatively slow rise of German female lung cancer rates (by comparison both with **[End Page 485]** male rates in Germany and with female rates in the United States) were (1) Nazi militarism, which forced large numbers of males into a situation where smoking was tolerated and de facto encouraged (recall that the proportion of men smoking increased, while the average consumption decreased); ¹⁷¹ and (2) Nazi paternalism, which discouraged, often with police force, women from smoking. The Nazis failed to stop the growth of overall tobacco consumption, which peaked in 1942, but they did manage to channel most of that growth away from women. What actually did cut overall tobacco use--and dramatically--was the poverty and rationing of the war years and the immediate postwar period.

It is unfortunate that we do not have better information on the breakdown of smoking by gender in Germany in the 1930s and 1940s. ¹⁷² **[End Page 486]** One thing we do know is that during the war, more than two-thirds of all tobacco was delivered to the Wehrmacht. If the sexes were equally distributed at home, this would mean that women smoked at most a sixth of all the tobacco smoked in Germany. The sexes were not of course equally represented at home, but one should recall that even in the civilian sector women received only half the rations received by civilian males. Women were apparently so rarely smokers that in 1943, when Schairer and Schöniger studied lung cancer and smoking behavior, they essentially neglected women by pointing out that "women, with few exceptions, were nonsmokers," even among the subgroup of women with cancer. Among the 16 women in their sample with lung cancer, for instance, not a single one was (reportedly) a smoker! Among the 108 women surveyed, all of whom had cancer, only 3 identified themselves as smokers, and even these were all "moderate smokers." ¹⁷³ It is unfortunate that the smoking habits of the spouses of the 16 women with lung cancer were not explored; one would like to know what else, other than smoking, might have caused their tumors.

It is possible to approximate how many women's lives may have been saved by the campaign against tobacco and the postwar collapse of the tobacco industry. We are obviously moving here in the realm of speculation, but it is still worth noting that many more women would have died of lung cancer had German rates continued to grow as rapidly as they did in the United States. As we can see in [Table 3](#), American women's lung cancer

rates increased by more than a factor of six between 1952 and 1990. German women's rates, by contrast, only doubled. Had the German rate increased as rapidly as the American rate, about 20,000 more German women would have died than actually did die. One could plausibly argue--assuming that cigarette smoking eventually becomes the major cause of lung cancer, even among women--that whatever prevented German women from taking up the habit as rapidly as American women, prevented the lung cancer deaths of some 20,000 German women. [End Page 487]

The Monstrous and the Prosaic

By focusing on the Nazi antitobacco campaign, my goal has not been to fabricate banalities (that "good can come from evil," for example) or to rescue the honor of this era. My intention has not been to argue that today's antitobacco efforts have fascist roots, or that public health measures are totalitarian in principle. ¹⁷⁴ My point is rather to show that the Nazification of German science, medicine, and public health was more complex than is commonly imagined. The history of science under Nazism is a history of both forcible sterilization and herbal medicine, of both genocidal "selection" in the camps and bans on public smoking. We do not want to forget Mengele's crimes, but we should also not forget that Dachau prisoners were forced to produce organic honey and that the SS cornered the European market in mineral water.

I do not believe, per Max Horkheimer and Theodor Adorno, that there is an inherently totalitarian tendency in modern science or an "indefatigable self-destructiveness" of enlightenment, ¹⁷⁵ but I do think it important to recognize that just as the routine practice of science is not incompatible with the routine exercise of cruelty, so the dictatorial and eliminative aspirations of fascism were not necessarily at odds with the promotion of what many of us would regard as public health--at least for certain segments of the population. The by-now-familiar focus on the more inhumane examples of Nazi scientific practice makes it easy for us to relegate the events of this era to the monstrous or other-worldly, but there is more to the story than "medicine gone mad." The Nazi campaign against tobacco and the "whole-grain bread operation" are as fascist as the yellow stars and the death camps. A more differentiated picture may open our eyes to new kinds of continuities binding the past to the present; it may also allow us to better see how fascism triumphed in the first place.

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Notes

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1. Daniel J. Kevles, "Blowing Smoke," *New York Times Book Review*, 12 May 1996, p. 13; the book under review was 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). Joan Austoker, *A History of the Imperial Cancer Research Fund, 1902-1986* (Oxford: Oxford University Press, 1988), p. 187, similarly does not contradict Charles Webster's assertion that "between 1850 and 1950 it is very difficult to detect forward movement on the question of smoking and health" (Charles Webster, "Tobacco Smoking Addiction: A Challenge to the National Health Service," *Brit. J. Addiction*, 1984, 79: 7-16, quotation on p. 9).
2. Ernest L. Wynder and Evarts A. Graham, "Tobacco Smoking as a Possible Etiologic Factor in Bronchiogenic Carcinoma," *JAMA*, 1950, 143: 329-36; Richard Doll and A. Bradford Hill, "Smoking and Carcinoma of the Lung. Preliminary Report," *Brit. Med. J.*, 1950, 2: 739-48; Robert Schrek et al., "Tobacco Smoking as an Etiologic Factor in Disease. I. Cancer," *Cancer Res.*, 1950, 10: 49-58; Morton L. Levin, Hyman Goldstein, and Paul R. Gerhardt, "Cancer and Tobacco Smoking: A Preliminary Report," *JAMA*, 1950, 143: 336-38.
3. Ernest L. Wynder et al., "Experimental Production of Carcinoma with Cigarette Tar," *Cancer Res.*, 1953, 13: 855-64.
4. E. Cuyler Hammond and Daniel Horn, "Smoking and Death Rates--Report on Forty-four Months of Follow-up of 187,783 Men," *JAMA*, 1958, 166: 1159-72; Richard Doll and A. Bradford Hill, "Lung Cancer and Other Causes of Death in Relation to Smoking: A Second Report on the Mortality of British Doctors," *Brit. Med. J.*, 1956, 2: 1071-81; and for a review, Richard Doll, "Etiology of Lung Cancer," *Adv. Cancer Res.*, 1955, 3: 1-50. For background, see Colin White, "Research on Smoking and Lung Cancer: A Landmark in the History of Chronic Disease Epidemiology," *Yale J. Biol. Med.*, 1990, 63: 29-46; Allan M. Brandt, *The Rise and Fall of the Cigarette* (New York: Basic Books, forthcoming).
5. An early bibliography of tobacco-related cancer research in Germany is Myrosław Nawrockyj, *Tabak und Krebs: Eine Literaturzusammenstellung* (Med. Diss., Heidelberg, 1953). For cancer research more generally, see Ernst Rückert and Heinz Kleeberg, *25 Jahre Krebsforschung im deutschsprachigen Schrifttum: Eine Auswahl von Buch- und Zeitschriftenliteratur aus den Jahren 1931-1955* (Berlin: Verlag Volk und Gesundheit, 1961).

6. For a thoughtful review, see Mario Biagioli, "Science, Modernity, and the 'Final Solution,'" in *Probing the Limits of Representation: Nazism and the "Final Solution,"* ed. Saul Friedlander (Cambridge: Harvard University Press, 1992), pp. 185-205. See also Ute Deichmann, *Biologen unter Hitler: Vertreibung, Karrieren, Forschung* (Frankfurt: Campus Verlag, 1992); and Monika Renneberg and Mark Walker, eds., *Science, Technology and National Socialism* (Cambridge: Cambridge University Press, 1994). The literature on health and medicine under the Nazis is voluminous; see, for example, Gerhard Baader and Ulrich Schultz, eds., *Medizin und Nationalsozialismus: Tabuisierte Vergangenheit-Ungebrochene Tradition?* 2d ed. (West Berlin: Verlagsgesellschaft Gesundheit, 1983); Johanna Bleker and Norbert Jachertz, eds., *Medizin im Dritten Reich* (Cologne: Deutscher Ärzte-Verlag, 1989); Gisela Bock, *Zwangssterilisation im Nationalsozialismus: Studien zur Rassenpolitik und Frauenpolitik* (Opladen: Westdeutscher Verlag, 1986); Fridolf Kudlien, ed., *Ärzte im Nationalsozialismus* (Cologne: Kiepenheuer & Witsch, 1985); Achim Thom and Genadij I. Caregorodcev, eds., *Medizin unterm Hakenkreuz* (Berlin: Verlag Volk und Gesundheit, 1989); Paul Weindling, *Health, Race and German Politics between National Unification and Nazism, 1870-1945* (Cambridge: Cambridge University Press, 1989); and Robert N. Proctor, *Racial Hygiene: Medicine under the Nazis* (Cambridge: Harvard University Press, 1988).

7. Edgar Bejach, *Die tabakgegnerische Bewegung in Deutschland mit Berücksichtigung der ausserdeutschen Tabakgegnerbewegungen* (Med. Diss., Berlin, 1927), pp. 3-4. Tobacco had been peddled as a therapeutic agent in Braunschweiger pharmacies as early as 1598, and Bejach records an advertisement for the herb as a *Wunderkraut* at a Frankfurt trade fair of 1582 (p. 3). The plant was cultivated for medicinal purposes near Suhl in Thuringia as early as 1559: see Mark W. Rien and Gustaf Nils Dorén, *Das Neue Tabago Buch* (Hamburg: Reemtsma, 1985), pp. 30-31.

8. Henner Hess, *Rauchen: Geschichte, Geschäfte, Gefahren* (Frankfurt: Campus Verlag, 1987), p. 20; Rien and Dorén, *Neue Tabago Buch* (n. 7), pp. 38-49. Hess states (p. 23) that the world's first known tobacco ban, enacted in 1575, prohibited smoking in Mexican churches.

9. Bejach, *Die tabakgegnerische Bewegung* (n. 7), pp. 1-7.

10. The Bund Deutscher Tabakgegner, publisher of *Der Tabakgegner*, was established in Dresden-Bühlau in 1912; that same year an Alkohol- und Tabakgegnerverein was established in Hanover, headed by Hermann Stanger. The Graz organization was headed by a Dr. Meister. In May 1914 an "Internationale Anti-Tabak-Liga" was founded with German, Austrian, Danish, and Swedish representation; the League organized antitobacco congresses after the war. See Bejach, *Die tabakgegnerische Bewegung* (n. 7), pp. 3-4; Egon Caesar Corti, *Die trockene Trunkenheit: Ursprung, Kampf und Triumph des Rauchens* (Leipzig: Insel-Verlag, 1930); and esp. Richard Bretschneider, ed., *Der Weltbund der Tabakgegner (Internationale Anti-Tabak Liga): Vorgeschichte, Gründung und Entwicklung* (Dresden: Emil Pahl, 1939). The Bund Deutscher Tabakgegner was moved to Berlin in 1936 and renamed the Deutscher Bund zur Bekämpfung der Tabakgefahren, where it was

attached to the Reichsarbeitsgemeinschaft für Rauschgiftbekämpfung.

[11.](#) The factory girls of Dresden were able to produce only about 120 cigarettes per hour; see Georg A. Brongers, *Nicotiana Tabacum: The History of Tobacco and Tobacco Smoking in the Netherlands* (Amsterdam: H. J. W. Becht's, 1964), pp. 228-29.

[12.](#) John C. Burnham, *Bad Habits: Drinking, Smoking, Taking Drugs, Gambling, Sexual Misbehavior, and Swearing in American History* (New York: New York University Press, 1993).

[13.](#) The journal *Genussgifte*, for example, was published from 1904 to 1938 under the title *Die Alkoholfrage*; after 1940, the journal was titled *Die Volksgifte*.

[14.](#) Robert E. Gaupp, Emil Kraepelin, Emil Abderhalden, and Adolf von Strümpell, "An die Deutsche Ärzteschaft," *Münchener medizinische Wochenschrift*, 1921, 68: 832.

[15.](#) Bejach, *Die tabakgeegnerische Bewegung* (n. 7), p. 6.

[16.](#) Louis Lewin, *Phantastica: Die betäubenden und erregenden Genussmittel für Ärzte und Nichtärzte* (Berlin: G. Stilke, 1924), pp. 320-21.

[17.](#) Robert Hofstätter, *Die rauchende Frau: Eine klinische, psychologische und soziale Studie* (Vienna: Hölder-Pichler-Tempsky, 1924).

[18.](#) Georg Boehncke, "Tabak und Volksgesundheit," *Öffentlicher Gesundheitsdienst*, 1935, 1: 629.

[19.](#) Corti, *Die trockene Trunkenheit* (n. 10); Walter Hermannsen, "Erzieher und Erzieherin! Ein Wort an Euch!" *Genussgifte*, 1939, 35: 74-75; Fritz Lickint, "Nikotinmissbrauch und Nikotinismus," *Zahnärztliche Mitteilungen*, 1939, 30: 306-9. The expression "dry drunkenness" dates from Jakob Balde's satire, *Die Truckene Trunkenheit: Straffrede wider den Missbrauch des Tabaks* (Nuremberg: Michael Endter, 1658). Otto Neustätter characterized smoking as "lung masturbation" in "Zur Frage des Lungenrauchens," *Münchener medizinische Wochenschrift*, 1931, 78: 794.

[20.](#) John Hill, *Cautions against the Immoderate Use of Snuff* (London, 1761), pp. 27-38; Samuel T. Soemmerring, *De morbis vasorum absorbentium corporis humani* (Frankfurt, 1795), p. 109. See also Juraj Körbler, "Der Tabak in der Krebslehre zu Anfang des 19. Jahrhunderts," *Proceedings of the 21st International Congress of the History of Medicine*, vol. 2 (London, 1969), pp. 1179-83. Thomas Harriot, the English naturalist who brought pipe smoking to England from America, is one of the first Europeans now thought to have died from tobacco-related cancer (in 1621, from cancer of the lip). Tobacco was not suspected at the time of his death; see Juraj Körbler, "Thomas Harriot (1560-1621) fumeur de pipe,

victime du cancer?" *Gesnerus*, 1952, 9: 52-54. Joannes Jacobus Holland appears to have been the first to propose a link between smoking and cancer, in his *Dissertatio inauguralis medico-chirurgica sistens carcinoma labii inferioris absque sectione persanatum* (Rinteln, 1739).

[21.](#) Etienne Frédéric Bouisson, *Tribut à la chirurgie* (Paris: Baillière, 1858-1861), vol. 1, pp. 259-303. The best statistical review of the role of tobacco in cancers of the mouth, lips, and esophagus as of the mid-1930s is Hugo H. Ahlbom, "Prädisponierende Faktoren für Plattenepithelkarzinom in Mund, Hals und Speiseröhre: Eine statistische Untersuchung am Material des Radiumhemmets, Stockholm," *Acta Radiologica*, 1937, 18: 163-85. Ahlbom rejected the view of the Americans G. T. Pack and R. G. Le Fevre, who in 1930 maintained that lip cancer was more common among males due to their tendency to be somewhat more "prognathous," exposing their lower lips more to the ultraviolet radiation from the sun. Sigmund Freud, who contracted cancer of the mouth in 1923 and eventually died of the disease, in 1924 and again in 1939 attributed his malady to his fondness for cigars; see Sander L. Gilman, *Freud, Race, and Gender* (Princeton: Princeton University Press, 1993), pp. 175, 177.

[22.](#) Rudolf L. Virchow, *Die krankhaften Geschwülste* (Berlin: A. Hirschwald, 1863-67).

[23.](#) Michael Kaminsky, *Ein primäres Lungencarcinom mit verhornten Plattenepithelien* (Inaug. Diss., Greifswald, 1898). No one prior to 1900 seems to have considered smoking as a possible cause of lung cancer; I have found no such mention, either in medical articles dealing with the anatomy and pathology of lung cancer, or in articles on the carcinogenic effects of tobacco (the focus of the latter was generally restricted to lip and tongue cancer). Hermann Tillmanns, for example, does not mention lung cancer in "Ueber Theer-, Russ- und Tabakkrebs," *Deutsche Zeitschrift für Chirurgie*, 1880, 13: 519-35; nor does Hans Pässler in "Ueber das primäre Carcinom der Lunge," *Archiv für pathologische Anatomie und Physiologie*, 1896, 145: 191-278. Hermann Rottmann in an 1898 medical thesis found it noteworthy that one unnamed Altona cigar worker, suffering from lung cancer, had inhaled a great deal of tobacco dust and "had smoked a lot"; Rottmann traced this and other lung cancers in the tobacco industry to the inhalation of tobacco *dust*, however, rather than to the inhalation of tobacco *smoke*. See his *Über primäre Lungencarcinome* (Inaug. Diss., Würzburg, 1898), pp. 29, 52. Joseph Cortyl does not mention lung cancer in his otherwise impressive *Du cancer des fumeurs* (Med. Diss., Paris, 1897).

[24.](#) Isaac Adler, *Primary Malignant Growths of the Lungs and Bronchi* (New York: Longmans, Green, 1912), p. 3. We do have some statistical evidence of the rarity of lung cancer prior to the twentieth century. Among 8,716 bodies autopsied at Dresden's Stadt Krankenhaus during the period 1852-76, for example, 545 cancers were found, including 74 cancers affecting the lungs but only 5 arising first in the lungs: see Walther Reinhard, "Der primäre Lungenkrebs," *Archiv der Heilkunde*, 1878, 19: 385. For early pathologic concepts, see Milton B. Rosenblatt, "Lung Cancer in the Nineteenth Century," *Bull. Hist. Med.*, 1964, 38: 395-425.

[25.](#) "Rauchen: Wie Gut," *Der Spiegel*, 22 January 1964, p. 63.

[26.](#) "The introduction of the new tobacco, facilitating the inhalation of cigarette smoke, can be considered a revolutionary development in the history of drug consumption, roughly comparable in significance to the invention of the hypodermic needle for opiate addiction" (Hess, *Rauchen* [n. 8], p. 49).

[27.](#) Anton Bock, "Das Lungenrauchen," *Vertrauensarzt*, 1938, 6: 155-56.

[28.](#) See, for example, Kurt Wolf, "Der primäre Lungenkrebs," *Fortschritte der Medicin*, 1895, 13: 725-38; Eugen Karrenstein, "Ein Fall von Kankroid eines Bronchus und Kasuistisches zur Frage des primären Bronchial- und Lungenkrebs," *Charité-Annalen*, 1908, 32: 315-27; Max Otten, "Die Röntgendiagnose der Lungengeschwülste," *Fortschritte auf dem Gebiete der Röntgenstrahlen*, 1910, 15: 1-31; P. Hampeln, "Häufigkeit und Ursache des primären Lungenkarzinoms," *Mitteilungen aus den Grenzgebiete der Medizin und Chirurgie*, 1923, 36: 145-50. The Medical Association of Hamburg in 1931 reported autopsy data showing that the fraction of cancers originating in the lung had grown from about a third of one percent in the period 1911-23 to more than one percent for the period 1924-30; see Marx Lipschitz, "Bemerkungen über die Zunahme der Lungenkrebse," *Zeitschrift für Krebsforschung*, 1931, 34: 376-381, esp. p. 379. On Leipzig's increase, see Carly Seyfarth, "Lungenkarzinome in Leipzig," *Deutsche medizinische Wochenschrift*, 1924, 50: 1497-99. Early evidence of an increase is reviewed in Rosenblatt, "Lung Cancer" (n. 24), pp. 412-13.

[29.](#) A good review can be found in Wilhelm C. Hueper, *Occupational Tumors and Allied Diseases* (Springfield, Ill.: Charles C. Thomas, 1942), pp. 369-468. On the gas warfare theory, see Fritz Reiche, "Zur Genese der Bronchialkrebse und ihre Beziehungen zu Kampfgassschädigungen," *Die medizinische Welt*, 1932, 6: 1013-14; David von Hansemann, "Beeinflusst der Krieg die Entstehung oder das Wachstum von Geschwülsten?" *Zeitschrift für Krebsforschung*, 1916, 15: 492-516. On the street dust and road tar inhalation theory, see Hampeln, "Häufigkeit" (n. 28), pp. 148-50. For the racial mixing thesis, see Jen Paulsen's correspondence as cited in Wilhelm Hildebrandt, *Rassenmischung und Krankheit: Ein Versuch* (Stuttgart: Hippokrates-Verlag, 1935), p. 102. Walter Kikuth claimed that X rays might be responsible for the increase, in "Über Lungencarcinom," *Archiv für pathologische Anatomie und Physiologie*, 1925, 255: 107-28. Ernst Schönherr believed that increasing automobile traffic was responsible for the growing lung cancer rates in Chemnitz: see his "Beitrag zur Statistik und Klinik der Lungentumoren," *Zeitschrift für Krebsforschung*, 1928, 27: 450; and see pp. 443-44 for his discussion of the malnutrition hypothesis. Walther Berblinger in Jena in 1925 discussed mine gases, chemotoxic inflammation, and smoking, but decided that irritating influenza germs were the most likely cause of the increase; he therefore predicted that lung cancer rates would eventually decline: "Die Zunahme des primären Lungenkrebses in den Jahren 1920-1924," *Klinische Wochenschrift*, 1925, 4: 913-16. Edgar Bejach did not mention lung cancer in his 1927 survey of German antitobacco movements, *Die tabakgegnerische Bewegung* (n. 7).

[30.](#) Franz Herz, "Hat das Lungenkarzinom an Häufigkeit zugenommen?" *Medizinische*

Klinik, 1930, 26: 1666-69. E. Pfeil, "Lungentumoren als Berufserkrankung in Chromatbetrieben," *Deutsche medizinische Wochenschrift*, 1935, 61: 1198-99 endorsed Herz's view.

[31](#). The turning point was arguably the 1923 congress of the Deutsche Gesellschaft für Pathologie, held in Göttingen, at which a number of authors (Berblinger, Teutschländer, Askanazy, Fahr, Kraus, Mathias, Mönckeberg, and Versé) discussed the apparent rise of German lung cancer mortality. See the *Verhandlungen der Deutschen Pathologischen Gesellschaft*, 1923, 19: 190-92.

[32](#). Fritz Lickint, "Tabak und Tabakrauch als ätiologischer Factor des Carcinoms," *Zeitschrift für Krebsforschung*, 1929, 30: 349-65. See also the fascinating review and response by Victor E. Mertens, "Zigarettenrauch eine Ursache des Lungenkrebses? (Eine Anregung)," *Zeitschrift für Krebsforschung*, 1930, 32: 82-91. Mertens, named editor of the newly founded *Monatsschrift für Krebsbekämpfung* in 1933, was apparently the first to conduct experiments to see whether mice exposed to cigarette smoke developed lung cancers (in 1930): see his "Zigarettenrauch" (n. 32); and Victor E. Mertens, "Noch einmal Zigarettenrauch und Lungenkrebs," *Zeitschrift für Krebsforschung*, 1941, 51: 183-92.

[33](#). Adler, *Primary Malignant Growths* (n. 24), p. 22. A link is also posited in T. Fahr's discussion of the paper by Otto Teutschländer, published in *Verhandlungen der Deutschen Pathologischen Gesellschaft*, 1923, 19: 192; and in Schönherr, "Beitrag" (n. 29), p. 443. Carly Seyfarth in 1924 pointed to the high proportion of tobacco workers, innkeepers, and bartenders among Leipzig's lung cancer victims, suggesting that exposure to "tobacco particles" and smoke might account for that city's rising lung cancer rates: see Seyfarth, "Lungenkarzinome" (n. 28), p. 1499.

[34](#). Fritz Lickint, *Tabakgenuss und Gesundheit* (Hanover: Bruno Wilkens Verlag, 1936), pp. 83-84. Frederick L. Hoffman was one of the first Americans to take Lickint seriously; see his "Cancer and Smoking Habits," *Annals of Surgery*, 1931, 93: 50-67; also idem, *Cancer and Diet* (Baltimore: Williams and Wilkins, 1937), p. 489. Jesse M. Gehman was another: see his *Smoke Over America* (East Aurora, N.Y.: The Roycrofters, 1943), pp. 180-84.

[35](#). Fritz Lickint, *Tabak und Organismus: Handbuch der gesamten Tabakkunde* (Stuttgart: Hippokrates-Verlag, 1939).

[36](#). Ibid., pp. 260-65. Other German terms used at this time to designate nicotine addiction include *Nicotismus* (Bamberger), *Nicotianismus* (Krafft-Ebing), *Nicotinsucht* (Lickint), *Fumigatismus* (W. Kautsch), and *Kapnomanie* (J. Stein); see Lickint, "Nikotinmissbrauch" (n. 19), pp. 306-9. Lickint first uses the term "Passivrauchen" in his 1936 *Tabakgenuss* (n. 34), p. 26. In his *Tabak und Organismus* (n. 35) he links this to J. Fink's concept of "Nicotinismus innocentium" (p. 260).

[37](#). Lickint, *Tabakgenuss* (n. 34), p. 85. Angel H. Roffo used Lickint's notion of cancers

growing along the *Rauchstrasse* in his "Krebserzeugende Tabakwirkung," *Monatsschrift für Krebsbekämpfung*, 1940, 7: 97.

[38.](#) "Volks Gesundheit und Genussgifte," *Deutsches Ärzteblatt*, 1939, 69: 196. Lickint never joined the Nazi party. In 1940, he narrowly escaped political difficulties when Karl Astel, rector of the University of Jena and director of Jena's Institute for Tobacco Hazards Research, checked into his political background and found that he had been a member of the SPD, the Verein sozialistischer Ärzte (VSÄ), and the Liga für Menschenrecht. Lickint had actually lost his medical license in 1934 for failing to indicate on his civil service form--required of all government employees to prove Aryan ancestry and political loyalty--that he had once been a member of the VSÄ. The court ruled that Lickint's membership in the VSÄ constituted membership in a communist association, though a later investigation reversed this judgment and decided that the Chemnitz branch to which he had belonged had leaned more toward the SPD than the KPD. Reich Health Führer Leonardo Conti came to his defense during the investigation, arguing that the minor infraction of 1934 paled by contrast with his important antitobacco work. Correspondence concerning the Lickint case is preserved in the Akten des "Wissenschaftlichen Instituts zur Erforschung der Tabakgefahren" in Jena's Universitätsarchiv, Bestand L 510. Conti may have been influenced in this matter by the fact that his mother, Nanna Conti, was not just head of Germany's Reichsfachschaft der Deutschen Hebammen but also a member of the governing board of the Deutscher Bund zur Bekämpfung der Tabakgefahren, Germany's leading antitobacco association and the publisher of the periodical *Reine Luft*. The two organizations supporting Lickint's book were the Reichsarbeitsgemeinschaft für Rauschgiftbekämpfung and the Deutscher Bund der Tabakgegner.

[39.](#) Georg Boehncke, *Die gesetzlichen Grundlagen der Bekämpfung des Tabakmissbrauches in Deutschland* (Berlin: Wacht-Verlag, 1937), p. 12.

[40.](#) Heinrich Lottig, "Über den Einfluss von Alkohol, Nikotin und Schlafmangel auf die Höhenfestigkeit," *Luftfahrtmedizinische Abhandlungen*, 1938, 13: 218-33; O. Schmidt, "Der Kohlenoxydgehalt des Blutes bei Rauchern," *Reichsgesundheitsblatt*, 1940, 4: 53-58.

[41.](#) "Berlin: Control of the Use of Alcohol and Tobacco," *JAMA*, 1939, 113: 2163-64.

[42.](#) Rudolf Friedrich, "Das Nicotin in der Ätiologie und in der postoperativen Nachbehandlung der Ulcuskrankheit," *Archiv für Klinische Chirurgie*, 1934, 179: 9-28.

[43.](#) Karl E. Westphal and Hans Weselmann, "Über Nikotinschädigungen des Magens," *Die Genussgifte*, 1940, 36: 1-12; idem, *Magenerkrankungen durch Tabakmissbrauch* (Berlin: Reichsgesundheitsverlag, 1940). Compare Franz Reichert's opinion that deaths from stomach perforation (ulcer) were three times more common in men than in women due to "the alarming increase of cigarette smoking" in recent years (*Über die Häufigkeit von Krankheiten: Tuberkulose, Ulcuskrankheit und Krebs* [Leipzig: Georg Thieme, 1941], p. 26).

- [44.](#) Walther Kittel, "Hygiene des Rauchens," in *Wehrhygiene*, ed. Siegfried Handloser and Wilhelm Hoffmann (Berlin: Springer-Verlag, 1944), p. 242.
- [45.](#) Alfred Goedel, "Kriegspathologische Beiträge," in *Kriegschirurgie*, ed. A. Zimmer (Vienna: Franz Deuticke, 1944), vol. 1, pp. 45, 51-52. The volume was part of the series *Wehrmedizin: Kriegserfahrungen 1939-1943*, edited by A. Zimmer.
- [46.](#) Boehncke, *Die gesetzlichen Grundlagen* (n. 39), p. 6.
- [47.](#) Werner Hüttig, "Der Einfluss der Genussgifte auf das Erbgut und seine Entwicklung (Alkohol, Nikotin)," *Öffentlicher Gesundheitsdienst*, 1935, 1: 171.
- [48.](#) Paul Bernhard, "Über die Ursachen der Sterilität der Frau: Untersuchungen an 902 sterilen Ehefrauen," *Zentralblatt für Gynäkologie*, 1943, 67: 793-805.
- [49.](#) Agnes Bluhm, *Die rassenhygienischen Aufgaben des weiblichen Arztes* (Berlin: A. Metzner, 1936).
- [50.](#) Wolfgang E. Kitzing, *Erziehung zur Gesundheit* (Berlin: Reichsgesundheitsverlag, 1941), pp. 225-26.
- [51.](#) Leonardo Conti asserted that alcohol and nicotine, like morphine and opium, "cause a chronic addiction" (*Zur Gründung der Reichsstelle gegen die Alkohol- und Tabakgefahren* [Berlin: n.p., 1939], p. 3). Georg Boehncke that same year asserted that "there is no doubt that a large proportion of both smokers and chewers of tobacco should be regarded as addicted" (*Die Bedeutung der Tabakfrage für das Deutsche Volk* [Berlin: Reichsausschuss für Volksgesundheitsdienst, 1939], p. 14).
- [52.](#) Irmgard Hanselmann, *Zigaretten, Ärzteschaft und Sucht im Spannungsfeld von Politik und Krieg (1900-1950)* (Med. Diss., Tübingen, 1991).
- [53.](#) Boehncke, *Die gesetzlichen Grundlagen* (n. 39), p. 4.
- [54.](#) "Kleine Mitteilungen," *Vertrauensarzt*, 1941, 9: 128.
- [55.](#) Kittel, "Hygiene des Rauchens" (n. 44), p. 243.
- [56.](#) Angel H. Roffo, "Der Tabak als krebserzeugendes Agens," *Deutsche medizinische Wochenschrift*, 1937, 63: 1267-71. A good review is idem, "Krebserzeugende Tabakwirkung" (n. 37), pp. 97-102. The first efforts to induce cancer using tobacco tars may have been those of the military physician Anton Brosch of Vienna, who painted guinea pigs with "the well-known carcinogens" tar, paraffin, soot, and tobacco juice with unclear results:

see his "Theoretische und experimentelle Untersuchungen zur Pathogenese und Histogenese der malignen Geschwülste," *Archiv für pathologische Anatomie und Physiologie*, 1900, 162: 32-84.

[57.](#) Lickint, *Tabakgenuss* (n. 34), pp. 84-85. Fr. Thys of the Fondation Médicale Reine Elisabeth in Brussels was another who claimed that too much attention was being given to nicotine and too little to tar in the genesis of lung cancer; see his "Note sur l'étiologie du carcinome bronchique," *Revue belge des sciences médicales*, 1935, 7: 640-44. Mertens by 1941 could claim that nicotine was "seldom blamed" for carcinogenesis ("Noch einmal Zigarettenrauch" [n. 32], p. 183).

[58.](#) Neumann Wender, "Eine neue Gefahr für den Raucher," *Münchener medizinische Wochenschrift*, 1933, 80: 737-38.

[59.](#) Enrico Ferrari, "Tabakrauch und Lungenkarzinom," *Münchener medizinische Wochenschrift*, 1933, 80: 942. Ferrari endorsed Wender's proposal to ban the use of woody stems in tobacco manufacturing (ibid.).

[60.](#) Rudolf Fleckseder, "Ueber den Bronchialkrebs und einige seiner Entstehungsbedingungen," *Münchener medizinische Wochenschrift*, 1936, 83: 1585-88. Arkin and Wagner in the United States found that 90 percent of their lung cancer patients were heavy smokers: Aaron Arkin and David H. Wagner, "Primary Carcinoma of the Lung: A Diagnostic Study of One Hundred and Thirty-five Cases in Four Years," *JAMA*, 1936, 106: 587-591. Roffo ("Krebserzeugende Tabakwirkung" [n. 37], p. 97) gave a figure of 95 percent. Franz Strnad at Nonnenbruch's clinic in Prague in 1938 found that the proportion was just under 50 percent but still concluded that smoking was important in the onset of the disease; see his "Der Lungenkrebs," *Monatsschrift für Krebsbekämpfung*, 1938, 6: 297-311.

[61.](#) Franz H. Müller, "Tabakmissbrauch und Lungencarcinom," *Zeitschrift für Krebsforschung*, 1939, 49: 57-85. A brief abstract of the paper was translated into English and published in the 30 September 1939 issue of *JAMA* (p. 1372). Müller was born on 8 April 1914 in Niederaula, near Cologne, as the seventh son of a railroad inspector. We know little more than this--which comes from the short résumé attached to his medical dissertation at the University of Cologne. According to local archivists, his personnel files at the City Hospital of Cologne were destroyed by Allied bombing. There is no record of him after the war, which leads me to suspect that he may have been killed in combat.

[62.](#) Müller, "Tabakmissbrauch" (n. 61), p. 59.

[63.](#) Ibid., p. 57; Lickint, "Tabak und Tabakrauch" (n. 32), pp. 349-51. Walther Reinhard in 1878 ("Der primäre Lungenkrebs" [n. 24], p. 385) was one of the first to note this sexual asymmetry (there were 16 male and 11 female lung cancers in his sample); Walter Walshe in the fourth edition of his *Practical Treatise on the Diseases of the Lungs* (London: Smith, Elder, 1871) had also noted the asymmetry. Hans Pässler's 1896 review included 50 men

and 18 women ("Ueber das primäre Carcinom der Lunge" [n. 23], p. 246); Adler's 1912 sample of 374 cases was 72 percent male (*Primary Malignant Growths* [n. 24], p. 22); Seyfarth's 1924 review of 307 cases autopsied at Leipzig's university pathology institute included 84 percent males ("Lungenkarzinome" [n. 28], p. 1498). For Seyfarth, the sexual asymmetry was "undoubtedly" due to higher male occupational exposures, an attribution curiously at odds with his recognition that tobacco might play a role in the increase of cancer. For Hueper, by contrast (and especially interesting given his distrust of the "cigarette theory" of cancer) the disproportion most likely occurred because men were heavier smokers: see his 1942 *Occupational Tumors* (n. 29), p. 426.

[64.](#) Müller, "Tabakmissbrauch" (n. 61), pp. 62-63.

[65.](#) Ibid., pp. 64-78. Müller does not say much about how the healthy controls were chosen; nor does he say why he ignored the female smokers. All 96 individual cases are presented in the published paper, however, including details on occupational exposures, age, type and quantity of tobacco smoked, kind and location of the malignancy, and previous medical history, especially any history of lung disease.

[66.](#) Ibid., p. 78 (emphasis in original).

[67.](#) Ibid., p. 80.

[68.](#) Ibid., pp. 79-82.

[69.](#) See the references cited in n. 2; compare also Willem F. Wassink, "Ontstaansvoorwaarden voor Longkanker," *Nederlandsch Tijdschrift voor Geneeskunde*, 1948, 4: 3732-47.

[70.](#) In Austria, the Nazi-minded citizens of Tirol, Vorarlberg, and Steiermark organized an antismoking campaign in 1933-34, prompting a curious countercampaign from anti-Nazi authorities. Steiermark's Sicherheitskommissar ordered all tobacco salesmen to supply his office with a list of customers who had stopped purchasing cigars and cigarettes, the goal apparently being to identify and punish supporters of the Nazi cause. Uncooperative tobacco shops were threatened with losing their license, and the abstaining customers were threatened with a fine of 1,000 schillings or imprisonment for up to three weeks. See "Behördlicher Kampf gegen Tabakabstinenz in Deutsch-Oesterreich," *Ärztliche Sachverständigen-Zeitung*, 1934, 41: 200.

[71.](#) Boehncke, *Bedeutung* (n. 51), pp. 11-12. The ministry's *Erlass* to this effect was dated 21 March 1938.

[72.](#) The Reichsstelle gegen die Alkohol- und Tabakgefahren grew out of the older Deutscher Verein gegen den Missbrauch geistiger Getränke (later renamed the Deutscher Verein gegen den Alkoholismus), established in 1883. For background, see Christian Stubbe,

"Deutscher Verein gegen den Alkoholismus 1883-1933," *Auf der Wacht*, 1933, 50: 1-3, 18-20. The new Reichsstelle included a women's committee that met regularly to propose remedies; see Edith von Löhöffel and Nanna Conti, *Die Stellungnahme des Frauenausschusses der Reichsstelle gegen die Alkohol- und Tabakgefahren 1940* (Berlin: n. p., 1940).

[73](#). "Berlin: Stimulants Endanger Public Health," *JAMA*, 1939, 112: 2339-40.

[74](#). The German term *Genusmittel* is notoriously difficult to translate. David Jacobson has rendered it "articles of pleasure," especially those that "are eaten, drunk, or inhaled to create pleasures of the senses, as opposed to those foods and beverages consumed as necessities." Included are all spices and condiments, but also stimulants, intoxicants, and narcotics such as tobacco, coffee, tea, alcohol, and opium: "The word *Genusmittel* therefore also implies that these substances are luxuries for sybaritic enjoyment, means for creating epicurean delights and, by extension, a state of sensual bliss" (translator's note in Wolfgang Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants* [New York: Pantheon Books, 1992], p. xiii).

[75](#). See, for example, Hermann Stanger, *Ethik, Weltanschauung und Tabak* (Vienna: Österreichische Tabakgegnerbund, 1937); Johannes Ude, *Rauchsklaverei und Kultur* (Vienna: Österreichische Tabakgegnerbund, 1937). *Reine Luft* was published from 1938 to 1941 by the Berlin-based Deutscher Bund zur Bekämpfung der Tabakgefahren. The journal was a continuation, among other things, of *Tabakfreie Kultur*, formerly the organ of the Bund Deutscher Tabakgegner in der Tschechoslowakei and the Österreichischer Tabakgegnerbund, based in Vienna; with the annexation of Austria, *Reine Luft* absorbed *Tabakfreie Kultur*. Other journals publishing antitobacco literature included *Die Volksgesundheit*, *Volksgesundheitswacht*, *Gesundes Volk*, and *Gesundes Leben*.

[76](#). Bretschneider's *Der Weltbund* (n. 10) has Georg Bonne's remarks on tobacco as a "Feind des Weltfriedens" (p. 16); the term *Tabakterror* was originally used by the Stockholm antitobacco activist J. L. Saxon (ibid., p. 11). The expression *Tabak-Kapital* was commonly used in *Reine Luft*, the "Kampfschrift" of the anti-tobacco movement (e.g., 1941, 23: 117).

[77](#). "Auszugsweise Abschrift," 5 May 1941, R43 II/1226b, Bundesarchiv Potsdam (hereafter, BAP); Wolfgang Klarner, *Vom Rauchen: Eine Sucht und ihre Bekämpfung* (Nuremberg: Rudolf Kern, 1940), p. 28.

[78](#). "Erkennung und Bekämpfung der Tabakgefahren," *Deutsches Ärzteblatt*, 1941, 71: 183.

[79](#). Boehncke, *Bedeutung* (n. 51), pp. 11-13; "Erkennung und Bekämpfung" (n. 78), pp. 183-85.

[80](#). Kitzing, *Erziehung* (n. 50), pp. 225-26; Terry Charman, *The German Home Front, 1939-1945* (London: Barrie & Jenkins, 1989), pp. 53-56. The Reich Health Publishing House

published simple scientific experiments that teenagers could perform to demonstrate the hazards of alcohol and tobacco; see Ferdinand Goebel, *30 Experimente zur Alkohol- und Tabakfrage* (Berlin: Reichsgesundheitsverlag, 1940).

[81.](#) Klarner, *Vom Rauchen* (n. 77), p. 45. Tobacco counseling was also supposed to take place in the "Fürsorgestellen für Suchtkranke und Alkoholgefährdete" of the Gau- und Kreisarbeitsgemeinschaften für Rauschgiftbekämpfung (Boehncke, *Bedeutung* [n. 51], p. 11). The 3 July 1934 "Gesetz über die Vereinheitlichung des Gesundheitswesens" assigned to physicians the task of combating "abuse of alcohol, tobacco, sleeping pills, and opiates and similar poisons"; the methods specified to combat such ills included health education, genetic and racial hygiene, marital counseling, and public health education (ibid., pp. 10-15; and see Boehncke, *Die gesetzlichen Grundlagen* [n. 39]).

[82.](#) Richard Kissling, *Der Tabak im Lichte der neusten naturwissenschaftlichen Forschungen* (Berlin: Verlag von Paul Parey, 1893), p. 65. The first known efforts to develop low-nicotine products were those by Karl A. Mündner (1835-1891) of Brandenburg, a tobacco manufacturer and colleague of Otto Unverdorben, the first to identify nicotine in pipe residues. Mündner developed a low-nicotine *Gesundheitszigarre* using selective breeding techniques and new chemical extraction methods; his son Richard went on to develop filter-tipped cigars--the filters being made from wool and cork. Paul Koenig, director of the Reichsanstalt für Tabakforschung in Forchheim, characterized Mündner as the "erster Bekämpfer des Nikotins durch Entdeckung der Entnikotinisierung des Tabaks," offering this as evidence of the moral responsibility of the German tobacco industry; see his *Die Entdeckung des reinen Nikotins* (Bremen: Arthur Geist Verlag, 1940), pp. 21-22, and plate 10.

High-nicotine tobacco plants were developed in the 1930s, primarily to obtain pure nicotine for use as a pesticide. Russian tobacco refuse had been a major source of the alkaloid before this time, and when supplies became difficult to obtain, the substance was extracted from nicotine-rich tobacco plants bred expressly for this purpose by the Reichsanstalt für Tabakforschung. See Moritz to Lammers, 7 October 1941, R43 II/1226b, BAP.

[83.](#) Franz K. Reckert, *Tabakwarekunde: Der Tabak, sein Anbau und seine Verarbeitung* (Berlin-Schöneberg: Max Schwabe Verlag, 1942), p. 31. The proliferation of tobacco products offered as "low-nicotine" or "nicotine-free" led to efforts to regulate advertisements and to standardize nicotine levels; a 12 May 1939 ordinance, for example, defined "low-nicotine" tobacco products as those containing less than 0.8% nicotine, and nicotine-free cigarettes as those containing no more than 0.1%: see ibid., and Wilhelm Preiss, *Verordnung über nikotinarmen und nikotinfreien Tabak* (Berlin: Von Decker, 1939). Antitobacco activists continued to point out that nicotine-free cigarettes were by no means harmless; see Klarner, *Vom Rauchen* (n. 77), pp. 43-44.

[84.](#) Klarner, *Vom Rauchen* (n. 77), pp. 39-41.

[85.](#) Ibid.

[86.](#) "Berlin: Control of the Use" (n. 41), pp. 2163-64.

[87.](#) Kurt Friebe, *Eisenbahn-Verkehrsordnung* (Leipzig: Verkehrswissenschaftliche Lehrmittelgesellschaft, 1938), p. 29.

[88.](#) "Rauchverbot für die Polizei auf Strassen und in Diensträumen," *Die Genussgifte*, 1940, 36: 59. Himmler enjoyed an occasional cigar after dinner; see Achim Besgen, *Der Stille Befehl: Medizinalrat Kersten, Himmler und das Dritte Reich* (Munich: Nymphenburger Verlagshandlung, 1960), p. 71.

[89.](#) "Berlin: Alcohol, Tobacco and Coffee," *JAMA*, 1939, 113: 1144-45.

[90.](#) "Kleine Mitteilungen," *Vertrauensarzt*, 1941, 9: 196.

[91.](#) "Mitteilungen," *Öffentlicher Gesundheitsdienst*, 1941, 7: 488.

[92.](#) Charman, *German Home Front* (n. 80), p. 56; "Raucherkarte II," *Deutsche Allgemeine Zeitung*, 13 June 1942.

[93.](#) Walther Fromme, "Öffentlicher Gesundheitsdienst," in *Hygiene: Part I, General Hygiene*, ed. Ernst Rodenwaldt (Wiesbaden: Dietrich'sche Verlagsbuchhandlung, 1948), p. 36.

[94.](#) *Informationsdienst des Hauptamtes für Volksgesundheit der NSDAP*, April/June 1944, pp. 60-61; Martin Bormann to Hans-Heinrich Lammers, 4 March 1944, R43 II/1226b, BAP.

[95.](#) *Reichsgesetzblatt*, 1940, 1: 814, 742.

[96.](#) "Rauchverbot," *Arbeitsschutz*, 15 May 1943, p. 136. Prior even to the war, a number of tobacco bans had little to do with health. Smoking was not allowed in hospital wards and on German U-boats, for example, though in the latter case ten-minute smoking breaks were sometimes allowed when a submarine surfaced. Smoking was also sometimes banned in factory bathrooms, because urinals kept clogging up from the discarded butts; see Klarner, *Vom Rauchen* (n. 77), pp. 29-31.

[97.](#) "Bestimmung des Werberates," *Wirtschaftswerbung*, December 1941, pp. 396-97; "Berlin: The Nicotine Content of Tobacco Products," *JAMA*, 113 (1939): 1145. Austria's state-run tobacco monopoly was in somewhat of a bind after Hitler's annexation of that country in March 1938; Austrian tobacco advertisements published from 1938 through 1944 are unique in their deployment of a rather prominent swastika to sell tobacco products.

[98.](#) Klarner, *Vom Rauchen* (n. 77), p. 7.

[99.](#) Walther Funk to Partei-Kanzlei, 20 May 1941, R43 II/1226b, BAP.

[100.](#) Bormann to Lammers, 16 April 1941, R43 II/1226b, BAP. Hitler's order was disseminated 23 April 1941.

[101.](#) Walther Funk to Partei-Kanzlei, 20 May 1941, R43 II/1226b, BAP; Philipp F. Reemtsma to Bernhard Köhler, 28 February 1939, R43 /745b, BAP. Köhler was head of the NSDAP's Kommission für Wirtschaftspolitik. Reemtsma's long and diplomatic letter was a response to Köhler's call for tobacco factory owners "over the course of time to convert their manufacturing centers, that is gradually to liquidate their factories." Reemtsma countered that cigarettes were the mildest form of tobacco with the lowest nicotine content, and that if German tobacco manufacturers were to cease production, then the important cigarette markets of the Orient--notably Bulgaria, Greece, and Turkey--would henceforth be dominated by London companies. He comes close to labeling Nazi propagandists "fanatics," and cautions that the prohibition of one form of *Genussmittel* would likely be supplanted by another. Appealing to the alternative medical practices institutionalized in the homeopathy-oriented Rudolf-Hess-Krankenhaus, he argues that a poison at one dose might well be beneficial at another. He also states that tobacco companies were working "full steam" to lower the nicotine content of cigarettes.

[102.](#) "Erkennung und Bekämpfung" (n. 78), pp. 183-85, reporting on the 5-6 April 1941 meeting in Weimar of the Wissenschaftliche Tagung zur Erforschung der Tabakgefahren. Frau Alfred Ploetz, wife of the deceased racial hygienist, contributed RM 500 to the institute; see Bestand L 510, Universitätsarchiv Jena.

[103.](#) "Erkennung und Bekämpfung" (n. 78), p. 185. Compare Klarner's characterization of the tobacco industry as "stark mit jüdischen Elementen durchsetzt" (*Vom Rauchen* [n. 77], p. 46); and Astel's characterization of "Tabakkapital" as having "eine überraschende Ähnlichkeit mit dem Judentum" ("Auszugsweise Abschrift," 5 May 1941, R43 II/1226b, BAP). Tobacco for Astel was "ein Volksschädling wie Jud Süß" (*ibid.*).

[104.](#) "Erkennung und Bekämpfung" (n. 78), pp. 183-85, quotation on p. 183. The German News Bureau's report on the meeting suggested there was "not the tiniest doubt" that smoking was harmful: see *Deutsches Nachrichtenbüro*, 5 April 1941, pp. 41-42.

[105.](#) "Why has the struggle against tobacco arisen in Thuringia? Because in Thuringia we have eliminated one enemy of the people [*Volksfeind*] after another (most recently, tuberculosis)"; the goal was to combat tobacco "cigar by cigar, cigarette by cigarette, and pack by pack" (the words are Astel's, spoken on 5-6 April 1941 in Weimar; see "Auszugsweise Abschrift," 5 May 1941, R43 II/1226b, BAP).

[106.](#) "Erkennung und Bekämpfung" (n. 78), p. 183. Astel had joined the anticommunist Freikorps shortly after the First World War; he was named president of the Landesamt für

Rassewesen on 1 September 1933, and director of Jena's Anstalt für Menschliche Züchtungslehre und Vererbungsforschung (later renamed the Institut für Erbforschung und Rassenpolitik) in June 1934. He was awarded the NSDAP's Goldenen Ehrenzeichen in January 1939. Jena was one of only four universities allowed to pursue scientific research when war broke out in 1939. The papers of the Wissenschaftliches Institut zur Erforschung der Tabakgefahren are preserved in Jena's Universitätsarchiv.

[107](#). Weindling, *Health, Race and German Politics* (n. 6), p. 529.

[108](#). Fritz Sauckel, "Abschrift," 20 March 1941, R43 II/745b, BAP. Sauckel's proposal was apparently conveyed to Hitler by Martin Bormann; Hans-Heinrich Lammers wrote to Sauckel later that month to inform him of Hitler's approval of RM 100,000 for the institute (Lammers to Sauckel, March 1941, R43 II/745b, BAP). Gauleiter Sauckel (sometimes remembered today as "Sauleiter Gauckel") launched an antitobacco campaign for Thuringia at about this time, involving measures such as the barring of women under the age of twenty-five from smoking in public; see NS 18/22 and 18/1826, Bundesarchiv Koblenz (hereafter BAK).

[109](#). Prof. Emil von Skramlik of Prague supervised the making of the film, entitled *Genussmittel Tabak* and produced with the cooperation of Bavaria Film. On 4 November 1942 von Skramlik persuaded Hellmuth Unger, author and advisor for the euthanasia film *Ich klage an*, to work on the project; see Bestand L 510, Universitätsarchiv Jena. After the war, on 1 December 1945, Skramlik filed a petition to be considered "a victim of fascism"; see Susanne Zimmermann, *Die medizinische Fakultät der Universität Jena während der Zeit des Nationalsozialismus* (Med. Diss., Jena, 1994), p. 96.

[110](#). *Ibid.*, p. 97.

[111](#). Horst Wüstner, *Eine Krebsstatistik mit besonderer Berücksichtigung des Bronchialcarcinoms* (Inaug. Diss., Jena, 1941).

[112](#). Eberhard Schairer and Erich Schöniger, "Lungenkrebs und Tabakverbrauch," *Zeitschrift für Krebsforschung*, 1943, 54: 261-69. Schairer (b. 21 February 1907) was director of Jena's Pathologisches Institut when the paper was published. He had joined the NSKK in 1933, and served as a *Sturmarzt* for the SA and NSKK until he joined the Jena medical faculty in 1938. He applied to join the Nazi party in 1937. Schöniger (b. 29 October 1917) began studying medicine at Jena in 1939; he fought against France in the summer of 1940, whereupon he returned to his studies. Schairer and Schöniger's paper follows closely Schöniger's *Lungenkrebs und Tabakrauch* (Inaug. Diss., Jena, 1944).

[113](#). Schairer and Schöniger, "Lungenkrebs" (n. 112), p. 263.

[114](#). George Davey Smith, Sabine A. Ströbele, and Matthias Egger, "Smoking and Death," *Brit. Med. J.*, 1995, 310: 396; *idem*, "Smoking and Health Promotion in Nazi Germany," *J. Epidemiol. Commun. Health*, 1994, 48: 220-23.

[115](#). Schairer and Schöniger, "Lungenkrebs" (n. 112), pp. 263-66.

[116](#). By "consensus" I mean the dominant or majority opinion, not that everyone agreed. A 1939 article in Germany's leading journal of continuing medical education conceded that German lung cancer rates had risen to 20-25 times the levels of only two decades previously, but the author denied that tobacco was the cause of the increase: Arthur Hintze, "Kultur und Krebs," *Jahreskurse für ärztliche Fortbildung*, 1939, 7: 61-76. A 1944 textbook on lung diseases listed tar, dust, automotive exhaust, "chronic catarrh," and congenital malformations as possible contributors to the increase, but ignored tobacco altogether. See Adolf Sylla, *Lungenkrankheiten* (Berlin: Urban and Schwarzenberg, 1944), p. 619.

[117](#). Paul Reckzeh, "Chronische Tabakvergiftung und Lebenserwartung," *Medizinische Klinik*, 1939, 35: 1169-71. Life insurers by this time had already begun to consider nicotine a cause of death in Germany: Reckzeh reported that 14 of 1,700 deaths covered by a leading life insurance company in 1938 were listed as due in whole or in part to nicotine abuse (p. 1170).

[118](#). Felix Grüneisen, "Krebsbekämpfung im nationalsozialistischen Staat," *Deutsche medizinische Wochenschrift*, 1933, 59: 1498-1499.

[119](#). Westphal and Weselmann, "Über Nikotinschädigungen" (n. 432), p. 14. Boehncke in 1939 recommended "productive and useful work"--e.g., road construction or farm work--as an appropriate therapy for tobacco addicts; in extreme cases, such persons were to be placed under the guardianship of the state (*Bedeutung* [n. 51], p. 14). Compare Boehncke's 1937 remark that such persons should be "forcibly separated" from the rest of society (*Die gesetzliche Grundlagen* [n. 39], p. 15).

[120](#). See, for example, Paul Bernhard, *Der Einfluss der Tabakgifte auf die Gesundheit und die Fruchtbarkeit der Frau* (Jena: G. Fischer, 1943).

[121](#). Gabriele Schulze and Käte Dischner, *Die Zigarettenraucherin* (Med. Diss., Jena, 1942).

[122](#). See Lölhöffel and Conti, *Stellungnahme* (n. 72); Erna Linhardt, *Deutsche Frau: Alkohol und Tabak* (Berlin: Reichsgesundheitsverlag, 1940).

[123](#). Jill Stephenson, *The Nazi Organisation of Women* (London: Croom Helm, 1981), p. 188.

[124](#). Hess, *Rauchen* (n. 8), p. 45. See also Rien und Dorén, *Neue Tabago Buch* (n. 7), p. 124. Tobacco imports cost Germany about 400 million reichsmarks in 1940; see Klarner, *Vom Rauchen* (n. 77), p. 48.

[125.](#) Henry Picker, *Hitlers Tischgespräche im Führerhauptquartier, 1941-42* (Bonn: Athenäum-Verlag, 1951), p. 327.

[126.](#) Hitler on 18 July 1942 characterized tobacco use as "die Rache des Roten Mannes (Indianers) dafür, dass der Weisse ihm den Schnaps gebracht und dadurch ihn zugrunde gerichtet habe" (ibid., p. 439).

[127.](#) Ibid., p. 327.

[128.](#) Ibid., pp. 327-28.

[129.](#) Klarner, *Vom Rauchen* (n. 77), p. 31.

[130.](#) On tobacco as a target of the campaign against *Volksgifte*, see Ferdinand Sauerbruch, Fritz Lickint, and Ernst Gabriel, *Arzt, Alkohol und Tabak* (Berlin: Reichsgesundheitsverlag, 1940). The papers in this collection, prepared in collaboration with the Nazi party's Hauptamt für Volksgesundheit, were read to the second Reichstage Volksgesundheit und Genussgifte, held in Frankfurt in 1939.

[131.](#) John C. Burnham, "American Physicians and Tobacco Use: Two Surgeons General, 1929 and 1964," *Bull. Hist. Med.*, 1989, 63: 1-31, esp. pp. 10-15.

[132.](#) "Hitler's Attitude Toward Alcohol," *Sci. Temperance J.*, Spring 1933, p. 18.

[133.](#) Medizinalrat Dr. Pfeuffer, "Gesundheitliche Gefahren des Tabakgebrauchs," *Öffentlicher Gesundheitsdienst*, 1941, 7: 515.

[134.](#) Klarner, *Vom Rauchen* (n. 77), p. 33.

[135.](#) Werberat der Deutschen Wirtschaft, *Volksgesundheit und Werbung* (Berlin: Carl Heymanns Verlag, 1939), p. 17.

[136.](#) Tobacco consumption actually grew more slowly in France than in Germany: both nations consumed roughly 570 cigarettes per capita in 1932; by 1939, Germans were smoking 900 cigarettes per year while the French were smoking only 670. See Peter N. Lee, ed., *Tobacco Consumption in Various Countries*, 4th ed. (London: Tobacco Research Council, 1975), p. 28; also the exchange of letters between myself and G. Davey Smith et al. in *J. Epidemiol. Commun. Health*, 1997, 51: 208-9; and my article "The Anti-tobacco Campaign of the Nazis: A Little Known Aspect of Public Health in Germany, 1933-1945," *Brit. Med. J.*, 1996, 313: 1450-53.

[137.](#) Davey Smith, Ströbele, and Egger, "Smoking and Health Promotion" (n. 114), p. 222.

See also Davey Smith, Ströbele, and Egger, "Smoking and Death" (n. 114), p. 396; and Michael H. Kater, *Different Drummers: Jazz in the Culture of Nazi Germany* (New York: Oxford University Press, 1992).

[138](#). See, for example, Hermannsen, "Erzieher und Erzieherin!" (n. 19), p. 78.

[139](#). Boehncke, *Bedeutung* (n. 51), p. 10.

[140](#). Zimmermann, *Die medizinische Fakultät* (n. 109), pp. 95-96; NS 18/226, BAK. Goebbels smoked thirty to fifty cigarettes a day from the 1920s through the 1940s. In June 1944 he gave up smoking, but the attempt on Hitler's life shortly thereafter drove him back to tobacco: see Helmut Heiber, *Goebbels* (New York: Hawthorn Books, 1972), p. 233. There is evidence that some of the tobacco bans enacted at this time were not effectively enforced. Klarner in 1940 complained that smokers sometimes indulged their habit in train cars reserved for nonsmokers, and that a conductor sometimes had to be called to get the violator to stop; smoking bans in hospitals were also reportedly violated, even by physicians--a breach said to compromise the antitobacco counsel given to patients: see Klarner, *Vom Rauchen* (n. 77), pp. 29-30.

[141](#). "Antinikotin-Propaganda," in *Verfügungen/Anordnungen/Bekanntgaben*, ed. Partei-Kanzlei, vol. 1 (Munich: Zentralverlag der NSDAP, 1943), p. 408.

[142](#). Walther Funk to Stellvertreter des Führers, 5 May 1941, R43 II/1226b, BAP.

[143](#). "Form der Propaganda gegen den Tabakmissbrauch," 22 May 1941, *ibid*. This report on Funk's complaint, prepared by the Führer's Hauptquartier and marked "Dem Führer vorgetragen," noted among other things that tobacco taxes and tariffs for the German Reich in 1940 were 2.5 billion reichsmarks; that 830,000 Germans were involved in the manufacture and sale of tobacco (including 71,000 farmers); that Bulgaria, Greece, and Turkey relied heavily on tobacco for their exports; and that a decrease in German tobacco consumption would be accompanied by an increase in the consumption of other *Genussmittel* (alcohol, coffee, and tea, for example).

[144](#). Hans-Heinrich Lammers to Walther Funk, 10 June 1941, R43 II/1226b, BAP.

[145](#). Walther Kittel, "Alkohol und Wehrmacht," in Handloser and Hoffmann, eds., *Wehrhygiene* (n. 44), p. 241.

[146](#). Kittel, "Hygiene des Rauchens" (n. 44), p. 244.

[147](#). "Zur Tabakwarenversorgung," *SD-Berichte zu Inlandsfragen*, 9 September 1943, R58/188, BAP. Dissatisfaction typically took the form: "Now they are taking away our last pleasure! Before, when we were hungry, at least we could have a cigarette. But what can

you do with only 3 cigarettes a day? Better just to ban it altogether" (ibid.).

[148.](#) "Versorgung mit Tabakwaren," 28 March 1944, R43 II/1226b, BAP.

[149.](#) From the late 1920s through the 1940s, the Reemtsma tobacco conglomerate controlled roughly 80 percent of all German tobacco manufacturing; see Kurt Pritzkolet, *Auf einer Woge von Gold: Der Triumph der Wirtschaft* (Vienna: Verlag Kurt Desch, 1961), pp. 215-18. The firm came under attack in the late 1920s for antitrust violations; these attacks continued in the early 1930s, spurred partly by the fact that one member of the company's governing board, David Schnur, was a Jew, but also by the fact that the SA (Sturm-Abteilung, or "brown-shirts") was supporting the production of its own so-called Sturm cigarette to finance its cause. When the SA accused the firm of producing "Jewish cigarettes" (*Juden-Zigarette*), Philipp F. Reemtsma responded by refusing to purchase advertising space in Nazi newspapers and magazines. The tobacco magnate also appealed directly to Hitler--the exact date is uncertain, but it was before 1933--who ordered his party press to stop its attacks. Party officials were apparently relieved to recover the advertising revenues, though attacks on the firm continued. Germany's first Gestapo chief, Rudolf Diels, recalled these events: "The Hamburg industrialist Reemtsma was among the 'monopoly-capitalist' hyenas Justice Minister [Franz Gürtner] wanted to neutralize. Reemtsma's empire was charged with corruption and perjury; the SA became involved by virtue of the fact that the cigarette manufacturer Trommler was supported by the SA. SA men were supposed to smoke only Trommler ['Sturm'] cigarettes. Retailers of Reemtsma brands were beaten, their display windows smashed. The Berlin SA could not stop Reemtsma by themselves, so they appealed to the police to assist them in this regard. In August [1933] a meeting was arranged between Reemtsma and Göring. After professing his honor as an officer, the wheeler-dealer Göring made it clear he had no desire to kill the hen that laid the golden eggs. He proposed a truce--actually a deal--and Reemtsma accepted. Göring needed sponsors for his art addiction, for the Berlin Opera, and for his project to breed bison and elk" (Rudolf Diels, *Lucifer ante Portas* [Stuttgart: Deutsche Verlags-Anstalt, 1950], p. 299). The story as it is most often told has Reemtsma providing the Reichsmarschall with 3 million marks and (later) an additional sum of 9 million marks. Göring after the war testified under oath at Nuremberg that the total amount turned over to the "Adolf-Hitler-Fonds" was RM 7.276 million (Pritzkolet, *Auf einer Woge* [n. 149], pp. 215-17).

[150.](#) See, for example, George Reid, "Weltanschauung, Haltung, Genussgifte," *Genussgifte*, 1939, 35: 64; Hans Reiter's words are from his speech in Werberat, *Volksgesundheit und Werbung* (n. 135), p. 17.

[151.](#) Cigarette companies (e.g., the Cigaretten-Bilderdienst of Hamburg) in the 1920s began imitating the American practice of publishing albums into which picture cards from cigarette packages could be pasted. There were many different series, from "The German Army" to "The 1936 Olympics" to the more upscale "Paintings of the Gothic and Early Renaissance." The albums sold for as little as 50 pfennigs, the incentive obviously being to complete one's collection by buying cigarettes. Such albums were distributed widely: the last-mentioned volume on art had sold 700,000 copies by 1938. See Hermann T. Wiemann, *Die Malerei der*

Gotik und Frührenaissance (Hamburg-Barhrendfeld: Cigaretten-bilderdienst, 1938). Cigarette albums were often very patriotic and sentimental, as when Waldorf-Astoria lamented the passing of the German navy's "grosse Vergangenheit," a time when German naval forces projected "power over countries and oceans"; see *Uniformen der Marine und Schutztruppen* (Munich: Waldorf-Astoria, 1932[?]), Vorwort. The Kosmos company's *Bild-Dokumente unserer Zeit* (Dresden: n.p., 1933) glorified the first eight months of Nazi rule and boasted on its title page that it had been a "purely German enterprise since 1886" (*rein Deutsches Unternehmen seit 1886*).

[152](#). Reckert, *Tabakwarenkunde* (n. 83), p. 236. There were 60,000 tobacco farmers in southern Germany in the mid-1930s. According to the *Statistisches Jahrbuch für das Deutsche Reich* there were 638,339 Germans involved in the tobacco trade in 1936/37. Most of these were employees of hotels, coffee shops, or food stores carrying tobacco products; only about 53,000 were exclusively involved in tobacco production or sales (*ibid.*, p. 234).

[153](#). "Erkennung und Bekämpfung" (n. 78), p. 184.

[154](#). Klarner, *Vom Rauchen* (n. 77), p. 46. The best history of German tobacco industry finances is still Pritzkolet, *Auf einer Woge* (n. 149), pp. 181-244.

[155](#). Dr. Kreitmair of Vienna to Reichsstelle für Kaffee und Tabak, 19 August 1944, R8 XII/53, BAK. A uniform system of Reich-wide rationing by means of tobacco control cards was introduced in February 1942: German smokers were offered a choice of 6 cigarettes for 2 days, or 12 cheap cigars for 10 days, or 6 expensive cigars for 10 days, etc.; see Charman, *German Home Front* (n. 80), p. 56. Female forced laborers from the East and Polish women received no tobacco at all; Soviet prisoners of war received 100 grams of Machorka tobacco and up to 30 Machorka cigarettes per month; and non-Soviet POWs received 120 cigarettes or 150 grams of pipe tobacco per month. See the Partei-Kanzlei's *Verfügungen/Anordnungen, Bekanntgaben, 2. Teil aus 1943*, vol. 5 (Munich: Zentralverlag der NSDAP, 1943), pp. 174-77.

[156](#). "Tabakversorgungsregelung," 6 December 1941, R43 II/1226b, BAP. Cigarette rations for Waffen-SS men were increased to 10 cigarettes per day in the middle of the war; see Ernst G. Schenck, *Zur Frage der Sonder- und Konzentrat-Verpflegung der Waffen-SS* (n.p.: SS-Wirtschafts-Verwaltungshauptamt, [1944?]), p. 17.

[157](#). Reichswirtschaftsminister to Lammers, 24 February 1944; Kriecke (?) to Lammers, 24 March 1944, both in R43 II/1226b, BAP.

[158](#). Charman, *German Home Front* (n. 80), pp. 53, 56.

[159](#). Kittel, "Hygiene des Rauchens" (n. 44), p. 245.

[160](#). Pritzkoleit, *Auf einer Woge* (n. 149), pp. 221-22. Allied authorities after the war lowered Germany's cigarette tax to 60 percent, and German legislators subsequently lowered it into the 42-56 percent range. Cigarettes manufactured in Berlin were not taxed at all, which is why production in that city grew from 168 million in 1953 to 18,800 million in 1960 (*ibid.*).

[161](#). Kittel, "Hygiene des Rauchens" (n. 44), p. 245. The Russian POW figures were gathered by Prof. Arnold Loeser of Freiburg, a consulting pharmacologist for the army.

[162](#). Paul Seufert, *Der Feldzug gegen die Zigarette* (Munich: Ernst Reinhardt Verlag, 1964), p. 31.

[163](#). In the summer of 1946, Germany's six largest cigarette companies in the British zone of occupation were producing only 10 million cigarettes per day, compared to ten times this amount for the years prior to 1939. In 1947, 14.8 million cigarettes were being manufactured daily in the British, French, and American zones of occupation; one year later, production had only risen to 24.3 million per day in the Western Zone. Contrast this with the year 1979, when West German manufacturers produced 370 million cigarettes per day. See Friedheim Merz, *Die Stunde Null--Eine Sonderdokumentation* (Bonn: Neuer Vorwärts-Verlag, 1981), pp. 62-64. Merz estimates a ratio of illegal to legal production of cigarettes in the immediate postwar years of about two to one; this would mean a German postwar production of roughly 30 percent of prewar levels, assuming no illegal production in the prewar years.

[164](#). *Ibid.*, p. 66.

[165](#). Richard Doll et al., "Lung Cancer Mortality and the Length of Cigarette Ends: An International Comparison," *Brit. Med. J.*, 1959, 1: 322-25; Wolfgang Cyran, *Genuss mit oder ohne Reue? Eine medizinische Analyse über die Gefahren des Rauchens* (Reinbek: Rowohlt, 1968), pp. 20-21, 34-35.

[166](#). Paul Koenig, *Tabakkleinanbau* [1944], 2d ed. (Hanover: M. & H. Schaper, 1946), p. 7. There were only 6,000 to 10,000 home growers in Germany prior to 1939, mostly concentrated in the northeast. Home growers were allowed to cultivate up to 50 square meters, or a maximum of 200 plants, from which 10-12 kg of dried tobacco could be produced. Up to 25 plants could be grown tax-free. The same regulations were preserved by Allied authorities after the war, though the tax-exempt amount was reduced to 15 plants (*ibid.*).

[167](#). Tobacco rations in the early war years for males included 5 cigarettes (or 1-2 cigars) for males, and half this amount for women. Rations in the later years of the war were smaller. In the early postwar years, men were allotted between .9 and 1.3 cigarettes per day, while women were allotted only half this amount; see *ibid.*, p. 63.

[168](#). Nikolaus Becker, Elaine M. Smith, and Jürgen Wahrendorf, "Time Trends in Cancer Mortality in the Federal Republic of Germany: Progress Against Cancer?" *Internat. J.*

Cancer, 1989, 43: 245-249, esp. p. 247; Nikolaus Becker, personal communication.

[169](#). Proctor, *Racial Hygiene* (n. 6), pp. 124-26.

[170](#). German women were often employed in weapons work during the war, though most often in supervisory positions. See Angelika Ebbinghaus, *Opfer und Täterinnen: Frauenbiographien des Nationalsozialismus* (Nordlingen: F. Greno, 1987).

[171](#). There is indirect evidence that military men were more likely to smoke than civilians. A 1944 survey showed that lung cancer was the most common cause of cancer death among soldiers in the early years of the Second World War: among 1,500 men autopsied, 146 had died of cancer, including 31 lung cancers, 26 stomach cancers, 22 brain tumors, 17 lymphosarcomas, 15 cancers of the colon and rectum, and a number of less common cancers. In the German male population as a whole, by contrast, stomach cancers still outnumbered lung cancers by more than two to one. This peculiarity in the military was not due to its younger population, as shown by the fact that lung cancer was the most common cause of cancer death even after age-adjustment of the data (11 soldiers over forty-five died of lung cancer; 10 soldiers over forty-five died of stomach cancer). See Albert Dietrich, "Krebs als Kriegsfolge," *Zeitschrift für Krebsforschung*, 1944, 54: 198-99. Given the long latency period of the disease, many of these lung cancers would have begun to grow prior even to 1933, reflecting smoking patterns prior to the Nazi seizure of power.

[172](#). In a recent study of smoking prevalence by birth cohort, German males born between 1911 and 1920 and between 1921 and 1930 were found to have "considerably lower" rates of smoking than men born in subsequent decades, suggesting that men who came of age in the Nazi era smoked much less than did the men in subsequent generations. The difference was even larger for women in the 1911-30 group versus women born in subsequent decades: according to this survey, no more than 10 percent of the women born in the period 1911-20 ever smoked; by contrast, about half of all women born in the 1950s were smoking by the late 1970s. See Hermann Brenner, "A Birth Cohort Analysis of the Smoking Epidemic in West Germany," *J. Epidemiol. Commun. Health*, 1993, 47: 54-58, quotation on p. 55.

[173](#). Schairer and Schöniger, "Lungenkrebs" (n. 112), p. 264. It is also possible, of course, that some of these women were reluctant to admit they had smoked cigarettes.

[174](#). Such arguments are becoming fashionable: see, for example, William A. Rusher, "The Health Fascists Are Blowing Smoke," *Kerrville Daily Times*, 4 January 1996; Rosie DiManno, "The New Rednecks: NicoNazis Pushing Bigotry's Borders," *Toronto Star*, 10 March 1997, p. A7. Philip Morris in 1995 launched an ill-advised campaign to equate smokers with Jews and anti-smokers with the Nazis; see the company's ad, "Where Will They Draw the Line?" *Newsweek* (European edition), 25 June 1995, n.p.

[175](#). Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment* [1944] (New York: Herder and Herder, 1972), p. xi.

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