

THE CIGARETTE CONTROVERSY
Eight questions and answers

THE TOBACCO INSTITUTE

1968

TIMN 394909

THE CIGARETTE CONTROVERSY

Eight questions and answers

1. Does scientific evidence really establish
a case against cigarettes?..... 1
2. What are some of the major fallacies
in the statistical case against cigarettes?..... 4
3. Are there other puzzling confusions
in the statistical case?..... 7
4. What happens to the research
that does not condemn cigarettes?.....10
5. The most misleading statistic on cigarettes:
How was it arrived at?.....13
6. Have you been misled by
"scientific surveys" about cigarettes?.....16
7. Are smokers a "different kind
of people"?.....20
8. What are the tobacco people
doing about smoking and health?.....23

PREFACE

For many adults, cigarette smoking is one of life's pleasures.

Does it cause illness -- even death? No one knows.

The great preponderance of the evidence is purely statistical.

Many respected scientists find that cigarette smoking has not been established as a cause of human disease.

Many others believe that it has been. The controversy concerns millions of persons -- smokers and nonsmokers. This document presents some relevant facts.

Until colonization of the Americas, tobacco was unknown to the rest of the world. A short time later, in the first half of the 17th Century, King James I of England called the use of tobacco "a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs."

At about the same time, one Dr. Roger Marbecke, in a work entitled "A Defence of Tobacco", recommended smoking in moderation as beneficial.

The controversy had begun.

It continued, little changed, until recent years. Amid rising longevity, rapidly spreading use of the internal combustion engine, growing urbanization, a quickening pace of life and a reported increase in lung cancer, there has been a steadily mounting barrage of charges against smoking.

In 1964, a panel of advisers to the United States Surgeon General agreed that cigarette smoking was a cause of lung cancer.

They further declared smoking to be a cause of cancer of the larynx and chronic bronchitis. They suspected it of causing heart disease.

SK4-II

In 1965 the U.S. Congress said "cigarette smoking may be hazardous to your health".

From these developments have come many warnings: "Don't smoke." "Stop smoking." A concerned public needs the truth about smoking and health. This requires that both sides of the controversy must be known. Statistics are not enough. Why, if smoking does cause disease, has it not been proved how this occurs?

Why, if smoking does cause disease, has no ingredient as found in smoke been identified as the causative factor?

The type of malignancy for which smoking *is most often blamed* is "epidermoid" lung cancer. Have researchers ever produced this in animals with cigarette smoke? No. Countless attempts have failed.

Why do so many more men than women get lung cancer? No one knows. If cigarette smoking is indeed the hazard it is said to be, the roughly six-to-one difference is most perplexing.

Why is it that lung cancer often does not occur in those parts of the lung which are exposed to the most smoke? No one knows.

Do smokers get lung cancer at an earlier age than nonsmokers? Apparently not. Lung cancer occurs most often around age 60 -- no matter how long or how much a person has smoked, or whether he has smoked at all.

Do statistics prove that cigarette smoking is a cause of lung cancer, heart disease, emphysema, bronchitis, and other diseases? It is a cardinal principle that statistics alone cannot prove the cause of any disease.

Has any new evidence that actually convicts cigarettes been reported in recent years? No. Interestingly, some of the most suggestive new

TIMN 394912

SK4-III

evidence has implicated factors other than cigarettes. The role of emotional stress in disease, for instance.

Does smoking cause disease? That question is still an open one.

TIMN 394913

I. Does Scientific Evidence Really Establish
A Case Against Cigarettes?

You may have read about various "mouse" experiments. They have been widely publicized and acclaimed as laboratory proof of the charges against cigarettes.

They are no longer so widely publicized.

The mouse experiments, it turned out, do *not* help to prove the case against smoking.

Smoking Mice

Mice have been made to inhale cigarette smoke for days, weeks, and months.

How many cases of "epidermoid" lung cancer resulted -- the type attributed by some to cigarettes?

None.

This type of lung cancer has *never* been produced in mice with cigarette smoke,¹ a fact not widely publicized.

Painted and Injected Mice

On the other hand, much has been made of the fact that painting smoke condensate ("tar") on the backs of mice has caused some cases of skin cancer in the laboratory.²

Still, these laboratory experiments hardly advance the case against smoking. For one thing, the doses used in some of these experiments have been estimated to equal a man's smoking 100,000 cigarettes a day.³

Moreover, cancer has been produced in mice or rats by injecting sugar,⁴ mineral oil,⁵ tomato juice,⁶ and other substances usually considered quite harmless.

It has been appropriately said of the mouse painting experiments that they involve the use of "the wrong material, in the wrong form, in the wrong concentration, to the wrong tissue of the wrong animal."⁷

Apart From Mice, What?

Other laboratory and clinical observations have similarly failed to prove that smoking causes diseases.

No research demonstrates that any ingredient as found in cigarette smoke causes cancer or cardiovascular, respiratory or other illnesses in humans. No research has demonstrated any physiological process through which cigarette smoke results in illness.

As far as lung cancer is concerned, researchers have reasoned that if it is caused by cigarette smoking, then as smoking increased, it should have increased proportionately in all areas of the body exposed to smoke.

It has been found that this is not the case. There has been no increase of cancer to correspond with the increase in smoking in all parts of the respiratory system, including the mouth,⁸ nose and larynx.⁹ In the lung, cancer often does not occur in those areas which are exposed to the most smoke.¹⁰

Much weight has been given, also, to so-called "changes" in the lungs of smokers. But such "changes" also occur in the trachea¹¹ where cancer is a relative rarity.¹² Further, studies have shown that the

same "changes" are found in both smokers *and* non-smokers.¹³ They are found even in children.¹⁴ And no one has ever demonstrated that these "changes" actually *do* lead to cancer.¹⁵

"No Valid Experimental Evidence"

One medical authority summed up, in a statement to the U.S. Senate:

*"There is no valid experimental evidence confirming the smoking-lung cancer theory."*¹⁶

As bluntly as that.

What Supports The Charges?

Thus, the anti-smoking charges rest almost entirely on statistical associations, providing the critics of cigarettes with a "guilt by association" basis for their claim that cigarettes do indeed cause disease.

II. What Are Some Of The Major Fallacies

In The Statistical Case Against Cigarettes?

The statistical association between smoking and disease continued to be a major and widely reported subject following the 1964 appearance of the U.S. Surgeon General's Advisory Committee Report, "Smoking and Health".

Less publicized are the continuing objections of qualified experts -- doctors, scientists, statisticians -- who find the statistical case less than convincing.

In fact, they find major fallacies in the statistical case against cigarettes. Consider the following:

1. Nonsmokers and Illness.

Nonsmokers suffer from the same heart and lung diseases as smokers.

As a matter of fact, these diseases existed long before cigarettes became popular.^{17, 18} Therefore, smoking obviously is not *the* cause, and may well not be even *a* cause of such diseases.

2. The disease-rate question.

Authorities differ over how much of the reported increases in diseases associated with smoking is *apparent*, and how much is *real*.

For example, some suggest that the reported increase in lung cancer incidence is due in great part to improved diagnosis.¹⁹ Many earlier cases were undoubtedly identified as "consumption", "pneumonia" or "lung abscess".²⁰ Now lung cancer is more accurately diagnosed--due to the use of X-rays, bronchoscopes and other new diagnostic techniques.²¹

As to heart ailments, an English expert has concluded that there may have been no increased incidence of coronary heart disease in recent

TIMN 394917

years, and that there is no good evidence of an increased incidence of coronary thrombosis. He suggests that changes in disease descriptions, the age mix of the population and postmortem techniques are among reasons why reported disease rates show increases.²²

3. The "dose-response" mystery.

The cigarette charges appear contrary to a recognized "dose-response" concept: If cigarettes do cause cancer, then the earlier a person starts to smoke and the more he smokes, the sooner he would be expected to get lung cancer.

Yet while people are smoking earlier and more heavily with each generation, the peak age for lung cancer remains about the same,²³ at around 60. If anything, this peak age may now be moving upward.²⁴

4. The sex puzzle.

Equally puzzling in the statistical findings is the gap between lung cancer rates in men and women.

Forty years ago, relatively few women smoked cigarettes. If smoking causes cancer, one would expect that as more women took up smoking, their lung-cancer rate would approach that of men. But the gap between male and female lung-cancer death rates has actually widened -- and the reason has yet to be adequately explained.

A 1968 report to Congress by the U.S. Public Health Service showed that in 1950 the lung cancer fatality rate among men exceeded the female rate by 4.7 to one; and that by 1965 the difference was 6.1 to one.²⁵

5. The geographic puzzle.

If smoking caused lung cancer, it would be reasonable to expect more of the disease in countries where more cigarettes are smoked per capita.

But consider these examples.

- A. Although people in Great Britain smoke fewer cigarettes per person than Americans, the incidence of lung cancer in Britain is *twice as high*.
- B. Per capita cigarette smoking in the Netherlands is also less than it is in the U.S., yet lung cancer death rates are about *one-third higher* than here.
- C. Australians smoke almost as many cigarettes as do the British, yet have *less than one-half* the incidence of lung cancer.^{26, 27}

6. The statistics are spread too thin.

Statistics have been used to link cigarette smoking with *nearly two dozen diseases*, including lung cancer, heart disease, bronchitis, emphysema, cirrhosis of the liver -- nearly every ailment that afflicts the human body.²⁸

As one noted medical statistician has observed, "The idea that cigarette smoking causes all these many deaths from all these many causes does indeed seem seriously questionable. There is not any scientifically known pharmacologic or physical explanation for so widespread and multifarious an effect."²⁹

These are six major fallacies. However, authorities have gone on to point out many other contradictions and perplexities in the anti-smoking statistics.

III. Are There Other Puzzling Confusions
In The Statistical Case?

In the history of medical science, statistics have often mistakenly been interpreted as having "proved" the "cause" of diseases.

Statistics may have appeared to "prove" pellagra was caused by eating corn. But science proved that the cause is a vitamin deficiency.

Statistics may have appeared to "prove" living at higher altitudes caused cholera. But science proved a bacillus is the cause.

Statistics may have appeared to "prove" malaria was caused by "night air". But science proved a microbe is the cause.

As the Surgeon General's Advisory Committee itself declared in 1964: "Statistical methods cannot establish proof of a causal relationship in an association."³⁰

Contradiction After Contradiction

The smoking and health figures are, in fact, a mine of contradictions and paradoxes. As survey after survey appears, the list of confusions mounts. Everywhere there are questions which need answers -- otherwise the statistical patterns dissolve. And the questions have no answers.

Here is a sampling of the contradictions in the reports used to indict smoking:

1. A 1967 U.S. government health survey reported that people who smoked ten cigarettes or less a day had a *better* overall record than nonsmokers.³¹

2. The same U.S. government survey also reported that the incidence of heart conditions and hypertension in women smokers was only about *half* that in women who never smoked.³²
3. Heart disease, in another report, was less frequent among *ex-smokers* than among *non-smokers*.³³

The Surveys -- Are They Representative?

Even the Surgeon General's Advisory Committee conceded that the seven major studies it had considered in writing its 1964 report were not designed to represent the U.S. population.

Said the report: "Any answer to the question 'to what general populations of men can the results be applied?', must involve an element of unverifiable judgment."³⁴ But this candor disappeared in subsequent official reports on smoking and health, even though some of the same studies were used to expand allegations about smoking and higher death rates.

The Inhalation Puzzle

In a British study that greatly stimulated the cigarette controversy, smokers who *inhaled* were found to have a *lower* incidence of lung cancer than those who did not inhale.

This led Sir Ronald Fisher, geneticist and world-famous statistician, to comment:

"Should not these workers have let the world know, not only that they had discovered the cause of lung cancer (cigarettes), but also that they had discovered the means of its prevention (inhaling cigarette smoke)?"³⁵

The Pipe-Smoking Puzzle

Take another aspect of this remarkable "inhalation puzzle".

One compound often singled out as particularly suspect is benzpyrene.³⁶ The Surgeon General's Advisory Committee reported the isolation of *nearly ten times as much benzpyrene from pipe smoke* as from cigarette smoke.³⁷ Yet the same report showed that pipe smokers who inhale have death rates apparently no different from *nonsmokers*.³⁸

To add to the confusion, the same statistics showed a higher mortality rate for *former* pipe smokers than for present pipe smokers.³⁹

Still More Contradictions

Contradictions multiply, and absurdities abound.

A California study, for instance, showed that smoking mothers had more low-weight babies than mothers who did not smoke. Yet, the nursery death rates for low-weight babies of smoking mothers were 40% to 60% lower than for such babies born to the mothers who did not smoke.⁴⁰

It is obviously ridiculous to draw positive conclusions *exonerating* cigarettes from such data. Yet many of the conclusions drawn *against* cigarettes are equally unjustified.

IV. What Happens To The Research
That Does Not Condemn Cigarettes?

It is minimized. Overlooked. Or -- flatly *ignored* by the anti-smoking interests.

The truth remains: A great deal of research does *not* support the ritually repeated charges against smoking. In fact, much research suggests some vastly different conclusions. Some examples:

1. From an analysis of hundreds of autopsies conducted at the New York Veterans Administration Hospital:
*No significant relationship was found between cigarette smoking and heart disease.*⁴¹
2. From lung cancer research published in West Germany in 1964, covering 26,000 autopsy records dating back to the early 1900's, plus 1,229 current cases:
*No significant relationship was found between cigarette smoking and lung cancer.*⁴²
3. From a 1964 study examining 1,000 cases of lung cancer at Mercy Hospital in Pittsburgh, Pennsylvania:
*Approximately half (474) of these lung cancer patients did not smoke.*⁴³

These and other research studies further explain why many of the nation's most highly qualified doctors have taken strong positions *against* the unsupported condemnation of smoking and have urged additional study. These doctors, it should be noted, are not *for* cigarettes -- they simply do not believe that the case has been proved *against* cigarettes.

The disagreement of these doctors is a matter of Congressional record.

The Conclusions of Some Distinguished Experts

The following statements are drawn from hearings before the U.S. Senate:

*"(T)he conclusions are unwarranted...there is no valid experimental evidence confirming the smoking-lung cancer theory."*⁴⁴

*"(T)he evidence linking heart attacks with cigarette smoking is far from conclusive and...such a relationship should not be presented to the public as an established fact."*⁴⁵

*"(T)he presumed link between cigarette smoking and chronic bronchitis and emphysema is only a theory proposed on the basis of data which are, to say the least, meager and inconclusive."*⁴⁶

*"(T)here is a large volume of good scientific evidence which tends to refute the premise that cigarette smoking is causally related to cancer of the lung."*⁴⁷

*"(A)n apparent statistical association has spotlighted a convenient though probably innocent suspect."*⁴⁸

These statements, of course, are not to be understood as a commitment for cigarettes; they are intended to represent the little-publicized current of medical judgment that finds the case *against* cigarettes far from proved.

Four Facts

It will be valuable to note four facts before we go on.

First, as we have seen, the anti-smoking side of the controversy has not been completely successful in its effort to win scientific acceptance

of its charges.

Second, there *is* awareness that not all research condemns smoking.

Third, much of the statistical research now used to condemn smoking is flawed, contradictory, and vulnerable to challenge.

Fourth, experimental research has not substantiated the charges against smoking.

. Those facts, together, may help explain why some critics of smoking have reacted by adopting particularly aggressive positions -- reaching for the most dramatic and "sweeping" of statistical claims. Reaching, it often appears, well beyond statistical fact.

Let us turn, next, to what is perhaps the most striking illustration of this.

V. The Most Misleading Statistic On Cigarettes:

How Was It Arrived At?

The misleading claim that "300,000 excess deaths a year" are caused by cigarettes has echoed from thousands of editorials, news stories and speeches.

A factual figure? No. It is actually quite speculative. Where it comes from is worth retracing.

The Story Behind The Statistic

The Surgeon General's Advisory Committee Report did not offer any such figure. It said that any such figure "cannot be accurately estimated."⁴⁹

The assistant Surgeon General, who was also the Committee's Vice-Chairman, told the press at the time:

"The Committee considered the possibility of trying to make such calculations, but it involves making so many assumptions that the Committee felt that it should not attempt this, that it might be as misleading as it was informing."⁵⁰

The Figure Is Born

Yet, on the first anniversary of the report, on January 11, 1965, an ex-advertising man attacked cigarettes for causing 125,000 to 300,000 deaths a year.⁵¹ He was at the time chairman of an organization called the National Interagency Council on Smoking and Health.

Soon, a government official was saying in a speech that smoking was responsible for *at least* 125,000 premature deaths a year.

His source, he said, was the advertising man.⁵²

Back To The Ad Man

In a hearing before the U.S. Congress, the advertising man was asked where *he* got his figures. His reply: From the government!⁵³

So, the ball was shot back to the government man, who then counted up 138,000 deaths -- 33,500 from lung cancer, 80,000 from coronary disease, 16,500 from bronchitis and emphysema, and 8,000 from cancer of the oral cavity, esophagus, larynx and bladder.⁵⁴

To achieve this figure, the government official had *arbitrarily* included several diseases which were *not claimed even by the Surgeon General's Advisory Committee Report to be causally related to smoking.*

Later, the then U.S. Surgeon General undertook to explain the 300,000 figure. He did this by:

1. Taking as his basis the unsupported explanation of 138,000 deaths.
2. Adding to it another unsupported 102,000 deaths -- "from diseases where the relationship to cigarette smoking, while not so obvious, is nevertheless clearly indicated."
3. Adding to *this* another unsupported but "reasonable estimate" of 60,000 excess deaths for women, who had not been included in the earlier estimates.⁵⁵

Guesswork Becomes "Fact"

In the public press, this game of statistical volleyball -- which was utterly without factual support -- was never exposed. But 300,000 is simple, rounded, and a very large statistic. It is easy to remember, easy to quote -- and meaningless.

TIMN 394927

Publicity-oriented statistics like the notorious 300,000 figure can be worse than meaningless. They can confirm prejudice and close the mind -- and even deter further needed research, as medical observers have warned.

Neither side of the controversy can afford them.

VI. Have You Been Misled By
"Scientific Surveys" About Cigarettes?

A statistical survey is only as good as its sources of information. Statisticians are rarely deceived about this -- and the famous caution of Sir Josiah Stamp is right to the point.

Public agencies, noted this economist, "are very keen on amassing statistics -- they collect them, add them, raise them to the nth power, take the cube root and prepare wonderful diagrams. But what you must never forget is that every one of those figures comes in the first instance from the village watchman, who just puts down what he damn pleases."⁵⁶

An exaggeration?

Judge For Yourself

Take one of the most widely heralded pieces of statistical research ever done for the government -- a report called "Cigarette Smoking and Health Characteristics".

Three years in the making, this report reflected detailed interviews in about 42,000 American households, probing the smoking habits and medical histories of some 134,000 Americans.⁵⁷

Released to the press in May, 1967, the report was an immediate sensation. Here, it appeared, was massive new evidence against cigarettes. Authoritative. Objective. Scientifically gathered and weighed.

The public read about it in such terms as these:

"Smoking Is Linked To Loss Of Time From Work And Recreation",
New York Times. "U.S. Study Ties Heart Disease to 2-Packs-a-Day Smokers",

Philadelphia Inquirer. "New Data Indicts Smoking", *Washington Star*. "Study Links Smoking to Increased Illness", *Cleveland Plain Dealer*. "Study Shows Smokers Lose A Third More Job Time", *Baltimore Sun*.⁵⁸

Along with the survey, newsmen were given the startling claim that "there are 77 million 'excess' lost work days associated with cigarette smoking each year."⁵⁹ This well-remembered charge was reported as fact. But it was neither stated nor justified by the survey.

Second-Hand Information

You would suppose that the information in this study came *first-hand* from smokers themselves. It should have. Much of it, indeed, should have come from the smokers' doctors.

*Data on the smoking habits and health record of three out of five men in the survey who had ever smoked did not even come from the men themselves.*⁶⁰

And *none* of it came from their doctors.

The information came from someone who happened to answer the door when the interviewer called.

Memory -- Or Guesswork?

Picture, if you will, a ring of the doorbell. A 19-year-old greets the interviewer.⁶¹ Her parents are away, she is interested -- and one of America's most ambitious "medical studies" is under way.

*Does your father have any ailments, conditions, or problems with his health? Does he smoke? During the period when he was smoking the most, how many cigarettes a day did he usually smoke?*⁶² (Could she know? Could even her father remember precisely?)

Our teenager is now in the midst of a detailed five-page questionnaire. Against the chance she might overlook an ailment, the interviewer is armed with a list of 28 "conditions" relevant to his task. These are read out, in turn, and the willing teenager remembers -- or makes her diagnosis.

Asthma? Skin Trouble? *Hemorrhoids?*

The list starts with asthma and tuberculosis. It ends with chronic skin trouble, rupture, and prostate trouble. And it includes varicose veins, rheumatism, goiter, "any allergy", mental illness, chronic nervous trouble, kidney stones, and hemorrhoids.⁶³

The smoker himself might have had a hard time making such complicated diagnoses. Even his doctor might not have the facts.

Regardless, the on-the-spot diagnostic data was recorded. Then assembled, tabulated, and *given the weight of laboratory findings -- to two decimal places.*

The Misunderstanding

Publicity releases were drafted, distributed to the press, and the nation received its latest reports of "research" on smoking and health.

Along with a misunderstanding: that this poll was indeed *scientific research* -- and that it offered *authoritative* medical fact.

It would have been hard to miss the headlines and news stories. The publicists' work was well done.

The 2,000 Studies

In another instance, in 1966 a government official said, in a widely publicized speech, that many "studies" published since the 1964

Surgeon General's Advisory Committee Report "further confirm the Committee's conclusions" on smoking and health.⁶⁴ To back his contention, the government furnished a bibliography of some 2,000 items.

But what were those "studies"?

Most of them, it turned out, were *not* studies supporting the government official's statement. Included were:

1. Letters to magazine or newspaper editors.
2. Articles of opinion -- including items in *Good Housekeeping*^{65, 66} *The Saturday Evening Post*,⁶⁷⁻⁷¹ and *Playboy*,⁷² all written by laymen, one of whom was poet-humorist Ogden Nash explaining why he was continuing to smoke.⁷³
3. Papers already included in the 1964 report.
4. Studies published long *before* the 1964 report. Two of the listed publications, in fact, dated back to the 1800's.
5. References to anti-cigarette campaigns.

As for the other papers, most repeated earlier findings and many actually *conflicted* with the anti-smoking premise -- showing no association between smoking and lung cancer or between smoking and heart disease.

Sir Josiah's warning goes unheeded.

VII. Are Smokers A "Different Kind
Of People"?

Eminent doctors and scientists increasingly suggest this may be so.

Authorities point out that there are patterns of behavior and background which differ between smokers and nonsmokers, when considered as groups. (It may be that some smokers are also different from other smokers -- different enough to affect reported disease patterns for the whole group of smokers.) Here are some reported findings:

Smokers generally are more communicative. They are more creative than nonsmokers -- more energetic,⁷⁴ more volatile.⁷⁵

They drink more black coffee and liquor.⁷⁶ They marry more often.⁷⁷ They prefer spicy or salty foods in preference to blander diets.⁷⁸ They participate in more sports.⁷⁹ They change jobs more often,⁸⁰ evidencing, perhaps, what one researcher has described as the smokers' search "for aims and purposes".⁸¹

As children, they were more independent.⁸² As adults, they are more outgoing -- living, so to speak, more in "overdrive".⁸³

They differ in family background as well. *They are more likely to have parents with heart disease and hypertension.*⁸⁴

A "different kind of people", it appears -- with smoking being one more difference in a comprehensive pattern of differences. Many authorities are convinced that here is a consideration with a real and possibly *critical* bearing

on the smoking-health controversy.

And, as such, it is one of a growing number of considerations which are unsettling attempts to find in smoking a cause of ill health.

Why The Differences Are Important

People who smoke apparently tend to differ quite importantly from people who do not -- *in their heredity, in constitutional makeup, in patterns of life, in the more demanding pressures under which they have chosen to live.*

Are they the kind of people who, *expectably*, would have higher illness rates than nonsmokers -- *because of the kind of people they happen to be?*

The Role of Heredity

Evidence of the role *heredity* may play comes from Sweden. In that country, researchers studied sets of twins -- one twin a smoker, the other a nonsmoker.

Comparisons between smoking and nonsmoking twins showed no difference in the relative health of their heart and circulatory systems.

Heredity appeared to be the decisive factor in the health of the heart.⁸⁵

The Role of Emotional Stress

Cancer researchers have noted the mounting evidence that *emotional and psychological factors* may be of crucial importance in an individual's susceptibility to disease.

"Data gathered here and abroad," *The New York Times* summed up recently, "support the view that the way a person handles certain emotional stresses may be a determining factor in whether he develops cancer."⁸⁶

As research data accumulates, more and more factors come under

suspicion as contributors to the illnesses for which smoking is commonly blamed.

The Factors Multiply

The possible role of air pollution is being more closely studied.⁸⁷ Virus research is being broadened.⁸⁸ Certain occupational hazards⁸⁹ and stresses⁹⁰ are suspected. Enzymes may play a role.⁹¹

Obviously, much more work must be done.

Too little is yet known about the psychological, physical and genetic differences between people who smoke and people who do not.

More data are needed about the incredible number of variables that can modify or even control a person's predisposition to disease.

More research is needed on the ways in which *all* factors develop, combine and interact -- differently in each individual, leading to illness in some cases, but not in others.

As one leading medical specialist cautioned, in his testimony before the U.S. Senate:

*"The continuing need for honest research in seeking the answer to this unsolved problem cannot be sidestepped merely because an apparent statistical association has spotlighted a convenient though probably innocent suspect."*⁹²

The problem is not a simple one. Too many factors are involved. And until their roles and their relationships are understood, no one can be sure about the role of smoking.

Only further research can provide the answers.

VIII. What Are The Tobacco People
Doing About Smoking and Health?

A great deal. Far more, in fact, than most people realize.

The tobacco industry has not publicized the research it has been supporting with respect to the smoking-health controversy. Outside the medical and scientific communities, the work is little known.

No One Is Doing More

The tobacco industry is funding *more* scientific research into the problems than any other source, governmental or private.⁹³

From the beginning, the industry's policy has been to work -- as dispassionately as possible -- toward a conclusive, scientific understanding of the actual facts, *whatever these facts turn out to be.*

Multi-Million-Dollar Research

The American Medical Association, both a close observer of and participant in the cigarette controversy, has emphasized that although epidemiological and correlational studies have associated smoking with a number of diseases -- including cancer, coronary disease and emphysema -- their actual causes remain obscure. Only further research, AMA believes, will serve to clarify the picture.⁹⁴

In 1964, the AMA House of Delegates adopted as official policy the statement that there is "a significant relationship between cigarette smoking and the incidence of lung cancer and certain other diseases, and cigarette smoking is a serious health hazard."⁹⁵

AMA then authorized its Education and Research Foundation to begin a long-range scientific study of tobacco and health. Since then, tobacco

companies in the U.S. have pledged \$18 million in support of the project -- no strings attached -- over a ten-year period. The money is spent as the Foundation sees fit.⁹⁶

In the summer of 1968, the Foundation gave its first formal report covering the work to date of 104 investigators or teams in 50 institutions in the U.S. and five other countries. Referring to the supported research, the report stated:

"(T)he problems related to establishing any kind of cause and effect relationship between tobacco use and health are far more complex than had been supposed...

"It is evident that we have a long hard road to travel and that this will be done slowly. *Many years may be required to gather sufficient experimental facts and data to clear what is at best a muddied picture.*"
(Emphasis added.)⁹⁷

Providing tobacco company funds for AMA research is only part of the story.

Together, as an industry, cigarette makers have committed unrestricted funds to the multiplying projects of The Council for Tobacco Research-USA.

The Council alone has awarded millions in grants to some 300 scientists at more than 150 hospitals, universities and research organizations. A Scientific Advisory Board determines these grants. It is composed of distinguished, independent scientists affiliated with leading academic, research and governmental institutions. CTR support includes full freedom to perform research and publish results, *with no strings attached.* And, to date, nearly 600 scientific papers reporting the research have been published by grant recipients.⁹⁸

The Work Goes On

Yet, as all of these investigators recognize -- and as many other scientists and doctors are aware -- the work is nowhere near an end.

The research commitments of industry, government and voluntary agencies grow steadily larger. Necessarily, if the smoking-health controversy is ever to be resolved.

And it must be.

In the only way possible: by the facts.

Suspicion and unconfirmed accusation are so much easier than *knowledge*.

But they are unworthy substitutes.

The facts and statements in this document have been presented by The Tobacco Institute in the belief that the many controversial questions concerning smoking and health must ultimately be resolved by scientific research and knowledge -- and that full, free, and informed public discussion is essential in the public interest.

TIMN 394938

Bibliography

The Cigarette Controversy

- (57) 1. Hearings, Consumer Subcommittee, Committee on Commerce, U.S. Senate, Aug. 23-25, 1967. Serial 90-52, pp. 69-80.
- (1) 2. Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service, U.S. Department of Health, Education and Welfare, 1964, p. 143.
- (37) 3. Hearings, Legal and Monetary Affairs Subcommittee, Committee on Government Operations, U.S. House of Representatives, July 18-26, 1957, p. 236.
- (58) 4. Hueper, W.C., and Conway, W.D. Chemical Carcinogenesis and Cancers. Charles C. Thomas, Springfield, Ill., 1964, p. 15.
- (58) 5. Ibid, p. 82.
- (59) 6. American Journal of Cancer 16 (2): 1525, Nov. 1932.
- (80) 7. Hockett, R.C. Where Do We Go From Here in Tobacco and Health Research? Address to Burley and Dark Leaf Tobacco Export Association, Lexington, Ky., Oct. 2, 1967.
- (2) 8. Health Consequences of Smoking. A Public Health Service Review: 1967. U.S. Department of Health, Education and Welfare, Public Health Service Publication 1696, 1967, p. 145.
- (38) 9. Vital Statistics of the United States, National Center for Health Statistics, Public Health Service, U.S. Department of Health, Education and Welfare, Vol. III, 1950, p. 63; Vol. II, p. 1-59, 1964.
- (39) 10. Garland, L.H., et al. The Apparent Sites of Origin of Carcinomas of the Lung. Radiology 78 (1): 1, 11, Jan. 1962.
- (42) 11. Auerbach, O., et al. Changes in Bronchial Epithelium in Relation to Cigarette Smoking and in Relation to Lung Cancer. New England Journal of Medicine 265 (6): 253-67, Aug. 10, 1961.
- (38) 12. Vital Statistics, 9 supra.
- (40) 13. Carnes, W.H. The Morphological Precursors of Cancer. L. Severi, editor. University of Perugia, Italy, 1962, pp. 658-60.
- (41) 14. Auerbach, O., et al. Microscopic Examination of Bronchial Epithelium in Children. American Review of Respiratory Diseases 82 (5): 640-48, Nov. 1960.
- (1) 15. Smoking and Health, 2 supra, p. 172.

- (26) 16. Hearings, Committee on Commerce, U.S.Senate, Part I, Mar. 22-Apr. 2, 1965, Serial 89-5, p. 1013.
- (7) 17. Rosenblatt, M. Lung Cancer in the 19th Century. Bulletin of the History of Medicine 38 (5): 395-425, Sept.-Oct. 1964.
- (61) 18. Campbell, Maurice. Death Rate from Diseases of the Heart: 1876-1959. British Medical Journal, Aug. 31, 1963, pp. 528-35.
- (6) 19. Gilliam, A.G. Trends of Mortality Attributed to Carcinoma of Lung: Possible Effects of Faulty Certification of Deaths to Other Respiratory Diseases. Cancer 8 (6): 1130-35, 1955.
- (26) 20. Hearings, Committee on Commerce, 16 supra, pp. 1000-1001.
- (7) 21. Rosenblatt, 17 supra.
- (104) 22. Robb-Smith, A.H.T. The Enigma of Coronary Heart Disease. Year Book Medical Publishers, Inc., Chicago, 1967, pp. ix, 118-9.
- (9) 23. Passey, R. Some Problems of Lung Cancer. Lancet, July 21, 1962, pp. 107-12.
- (8) 24. Monthly Vital Statistics Reports. National Center for Health Statistics, Public Health Service, U.S. Department of Health, Education and Welfare, Vol. 16, No. 12, Supplement, Mar. 12, 1968; Vol. 11, No. 13, Aug. 9, 1963.
- (62) 25. Health Consequences of Smoking: 1968 Supplement to the 1967 Public Health Service Review, 8 supra, July 1, 1968, pp. 136-7.
- (10) 26. Segi, M. Cancer Mortality for Selected Sites in 24 Countries. No. 4, 1962-3. Department of Public Health, Tohoku University School of Medicine, Sendai, Japan, Sept. 1966.
- (11) 27. Tobacco Consumption in Various Countries, No. 6. G.F.Todd, Tobacco Research Council, London, 1963.
- (1) 28. Smoking and Health, 2 supra, pp. 109-10.
- (75) 29. Berkson, J. Smoking and Lung Cancer. American Statistician 17 (4): 15-22, Oct. 1963.
- (1) 30. Smoking and Health, 2 supra, p. 20.
- (12) 31. Cigarette Smoking and Health Characteristics: United States--July 1964-June 1965, Series 10, No. 34, National Center for Health Statistics, Public Health Service, U.S. Department of Health, Education and Welfare, May 1967, p. 11.
- (12) 32. Ibid, p. 32.
- (13) 33. Doyle, J., et al. Cigarette Smoking and Coronary Heart Disease. Combined Experience of the Albany and Framingham Studies. New England Journal of Medicine 266: 796-801, Apr. 19, 1962.

- (1) 34. Smoking and Health, 2 supra, p. 94.
- (15) 35. Fisher, Sir Ronald A. Smoking--The Cancer Controversy. Oliver and Boyd, Edinburgh, 1959, p. 47.
- (1) 36. Smoking and Health, 2 supra, pp. 55, 57.
- (1) 37. Ibid, p. 58.
- (1) 38. Ibid, p. 92.
- (1) 39. Ibid, p. 112.
- (16) 40. Yerushalmy, J. Mother's Cigarette Smoking and Survival of Infant. American Journal of Obstetrics and Gynecology 88(4): 505-18, Feb. 15, 1964.
- (17) 41. Wilens, S.L., and Plair, C.M. Cigarette Smoking and Arteriosclerosis. Science 138: 975-7, Nov. 1962.
- (18) 42. Poche, R., et al. Statistical Studies of Bronchial Carcinoma in the North Rhine Westphalia State. Zeitschr. f. Krebsforsch (Journal for Cancer Research) 66: 87-108, Mar. 1964.
- (19) 43. Perrone, J.A. One Thousand Cases of Lung Cancer. Pennsylvania Medical Journal 67 (4): 31-4, Apr. 1964.
- (25) 44. Hearings, Committee on Commerce, 16 supra, pp. 1012-3.
- (26) 45. Ibid, p. 971.
- (26) 46. Ibid, p. 996.
- (26) 47. Ibid, p. 269.
- (26) 48. Ibid, p. 795.
- (1) 49. Smoking and Health, 2 supra, p. 31.
- (23) 50. Transcript, News Conference on Release of Smoking and Health, 2 supra, Jan. 11, 1964.
- (24) 51. News Release, National Interagency Council on Smoking and Health, Jan. 11, 1965.
- (25) 52. Horn, D. Cigarette Smoking in the High Schools. Address to American Association of School Administrators, Atlantic City, N.J., Feb. 17, 1965.

- (26) 53. Hearings, Committee on Commerce, 16 supra, p. 124.
- (26) 54. Ibid, p. 133.
- (27) 55. Terry, Luther L. Emerging Anti-Smoking Activities of the Federal Government. Address to National Tuberculosis Association Annual Meeting, Chicago, May 31, 1965.
- (63) 56. Stamp, Sir Josiah. Some Economic Factors in Modern Life. P.S. King & Son, Ltd., England, 1929, pp. 258-9.
- (12) 57. Cigarette Smoking and Health Characteristics, 31 supra, p. 56.
- (81) 58. New York Times, Philadelphia Inquirer, Washington Star, Cleveland Plain Dealer, Baltimore Sun, editions of May 2, 1967.
- (22) 59. News Release, National Center for Health Statistics, Public Health Service, U.S. Department of Health, Education and Welfare, May 1, 1967.
- (12) 60. Cigarette Smoking and Health Characteristics, 31 supra, p. 5.
- (12) 61. Ibid, p. 57.
- (76) 62. Current Estimates from the Health Interview Survey: United States--July 1964-June 1965, Series 10, No. 25, National Center for Health Statistics, Public Health Service, U.S. Department of Health, Education and Welfare, Nov. 1965, pp. 39-44.
- (76) 63. Ibid.
- (28) 64. Stewart, William. Smoking and Health: A Progress Report. Address to Eighth Annual American Cancer Society Science Writers' Seminar, Phoenix, Ariz., Mar. 29, 1966.
- (29) 65. New Research on a Stop Smoking Drug. Good Housekeeping, Mar. 1964.
- (30) 66. The Better Way. Is There a Best Way to Stop Smoking? Good Housekeeping, May 1966.
- (31) 67. Davidson, B. Crash Effort for a Safer Cigarette. The Saturday Evening Post, Apr. 18, 1964.
- (32) 68. McGrady, P., and Morgan, M. Cancer is Yielding up Its Secrets. The Saturday Evening Post, May 9, 1964.
- (33) 69. McGrady, P., and Morgan, M. Will Chemicals Cure Cancer? The Saturday Evening Post, May 16, 1964.
- (34) 70. Nash, O. The Kinsey Report Didn't Upset Me Either. The Saturday Evening Post, Mar. 14, 1964.

- (35) 71. Zinsser, W.K. Pipe This. The Saturday Evening Post, May 30, 1964.
- (36) 72. Where There's Smoke There's Ire. Playboy, Aug. 1965.
- (34) 73. Nash, O., 70 supra.
- (44) 74. Heath, C.W. Differences Between Smokers and Nonsmokers. AMA Archives of Internal Medicine 101: 386-7, Feb. 1958.
- (77) 75. Thomas, C.B. Characteristics of Smokers Compared with Nonsmokers in a Population of Healthy Young Adults, Including Observations on Family History, Blood Pressure, Heart Rate, Body Weight, Cholesterol and Certain Psychologic Traits. Annals of Internal Medicine 53 (4): 697-718, Oct. 1960.
- (65) 76. Matarazzo, J.D., and Saslow, G. Psychological and Related Characteristics of Smokers and Nonsmokers. Psychological Bulletin 57 (6): 493-513, Nov. 1960.
- (43) 77. Lillienfeld, A.M. Emotional and Other Selected Characteristics of Cigarette Smokers and Nonsmokers as Related to Epidemiological Studies of Lung Cancer and Other Diseases. Journal of National Cancer Institute 22 (2): 259-81, Feb. 1959.
- (78) 78. Perrin, M.J., et al. Smoking and Food Preferences. British Medical Journal 1: 387-8, Feb. 11, 1961.
- (65) 79. Matarazzo, J.D., and Saslow, G., 76 supra.
- (43) 80. Lillienfeld, A.M., 77 supra.
- (44) 81. Heath, C.W., 74 supra.
- (47) 82. Stewart, L., and Livson, N. Smoking and Rebelliousness: A Longitudinal Study from Childhood to Maturity. Journal of Consulting Psychology 30 (3): 225-9, June 1966.
- (79) 83. McArthur, C., et al. The Psychology of Smoking. Journal of Abnormal Social Psychology 56 (2): 267-75, Mar. 1958.
- (48) 84. Thomas, C.B. Familial and Epidemiologic Aspects of Coronary Disease and Hypertension. Journal of Chronic Diseases 7: 198-208, Mar. 1958.
- (21) 85. Lundman, T. Smoking in Relation to Coronary Heart Disease and Lung Function in Twins. Acta Medica Scandinavica 180 (Supplement 455): 1-75, Stockholm, 1956.
- (67) 86. Brody, Jane E. Data Link Cancer to the Emotions. The New York Times, May 24, 1968.
- (72) 87. Dubos, R., et al. Dubos and Two Colleagues Challenge Ochsner's Views, Cite Serious Peril. Medical Tribune, Jan. 25, 1968.

- (71) 88. Stewart, S.E. Present Status of Studies on Polyoma Virus. Cancer Management: A Special Graduate Course on Cancer Sponsored by American Cancer Society, Inc. J.B.Lippincott Company, Philadelphia, 1968, pp. 81-8.
- (1) 89. Smoking and Health, 2 supra, p. 134.
- (55) 90. Russek, H.I. Stress, Tobacco, and Coronary Disease in North American Professional Groups. Journal of the American Medical Association 192 (3): 89-94, Apr. 19, 1965.
- (69) 91. Catching Cancer in a Cytoplasmic Web. Medical World News, May 17, 1968, pp. 21-2.
- (26) 92. Hearings, Committee on Commerce, 16 supra, p. 795.
- (101) 93. Smoking and Health Research--Who's Footing the Bill? Tobacco Reporter, Feb. 1968.
94. TO COME
- (70) 95. The Project for Research on Tobacco and Health, 1964-1968. American Medical Association Education and Research Foundation Report to the Profession and Abstracts of the Grants, June 1968, pp. 4-5.
- (102) 96. News Release, American Medical Association, May 10, 1968.
- (70) 97. The Project for Research on Tobacco and Health, 1964-1968, 95 supra.
- (103) 98. News Release, The Tobacco Institute, Sept. 11, 1967.

###

1-1E-2-03

TIMN 394945