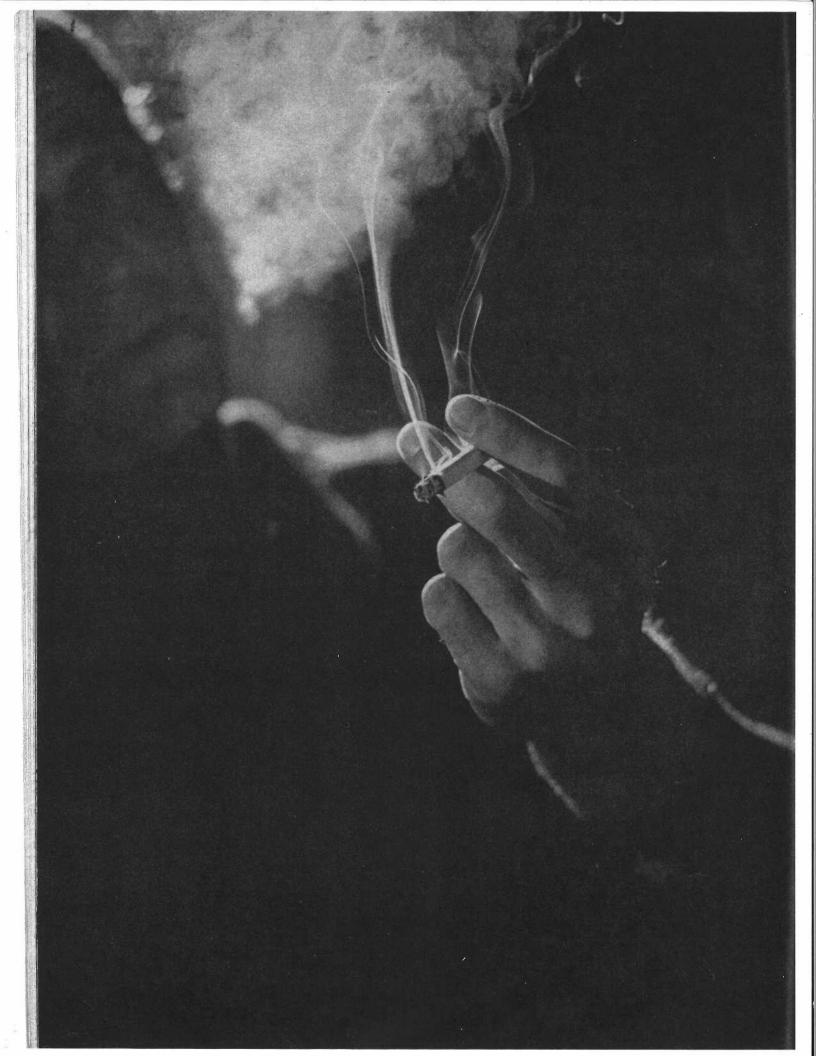
RICKENBACKER: A Famous Hero's Autobiography CANCER: Does Cigarette Smoking Really Cause It?

NAZI REVENGE: A City That Was Sentenced to Death AUTO RACING: Secret Life of the Winningest Driver DEADLIEST SALESMEN: They Make Millions in Hot Arms





to smoke or not to smoke— that is still the question

Are cigarettes really "hazardous to your health" like the package says? Nobody knows. In any case, Americans are smoking more than ever and, curiously, worrying less If there is one fact about tobacco that has been more clearly established than any other over the past few years, it is this: Americans like to smoke cigarettes. When the Surgeon General of the United States issued his report in January, 1964, indicting cigarettes as the chief cause of lung cancer, it figured that smoking would decline, tobacco prices would drop and cigarette company stocks would do poorly on the exchanges.

Surprisingly, none of that occurred. As a matter of fact, what actually happened was the opposite of what one might have expected. Sales jumped from 497.4 billion cigarettes in 1964 to 522.5 billion in 1966. The price of flue-cured tobacco in the wholesale market rose from 58.5 cents a pound to 66.9 cents over the same period. And the per share price of American Tobacco Co., for eample, a giant cigarette producer, around \$28 in January, 1964, was up to \$33 three years later.

Maybe cigarettes cause cancer and maybe they don't. In any case, it's clear that Americans were not convinced or, if they were, they were willing to take their chances. As a result, the tobacco business prospered.

Then, last summer, the industry received another shot in the arm. An obscure New Jersey chemist named Robert L. Strickman announced that he had developed a new filter material that would remove two-thirds of the tar and nicotine in cigarette smoke that current filters do not catch. His filter, he said, would not destroy the tobacco taste. And Strickman had some impressive sponsors for his claim. His partner in the filter enterprise is no less an institution than Columbia University.

Strickman's filter is not yet on the market so it's too early to make a final judgment on it. But a number of critics were clearly unimpressed by the original fanfare. Among these were spokesmen for the American Cancer Society and the Sloan-Kettering Institute for Cancer Research. They complained that Columbia's sponsorship of the new filter would undermine their efforts to keep people from smoking.

But it looks like Americans will go on smoking more and more cigarettes each year whatever the merits of the new filter may be. Which, of course, does not mean that smokers are not worried about possible dangers to health. What are these dangers? How real are they? The answer to that is that they may not be so real as we have been led to believe. There is, in fact, a good deal of scientific doubt about the Surgeon General's conclusion that smoking causes cancer.

"Acceptance of this theory is not only unscientific but dangerous, since it will lead to complacency concerning the etiology [cause] of this disease and might well prevent fruitful investigation along other lines," declared Dr. Thomas J. Moran, a pathologist for 26 years and a supervisor of training diagnosticians for the National Cancer Institute and the American Cancer Society.

It was not only the conclusions but also the effects of the report that were criticized. "I am convinced that in our country a harmful psychological atmosphere

to smoke or not to smoke-

has already been created by otherwise well-meaning warnings and advertisements," said Dr. Joseph Wolfe, a founder of the U.S. Committee of the World Medical Association. "As a result, a great many people, particularly those who are impressionable, have been traumatized with fear of disease which has resulted in a prevalence of unwarranted anxieties and neuroses. The effect is harmful and, in my opinion, does more damage than good."

Nevertheless, after Surgeon General Luther Terry's reoprt asserted that "cigarette smoking is a health hazard of sufficient importance in the United States to warrant appropriate remedial action," the Senate and House Committees on Commerce held hearings for 16 days in 1965 to consider proposed legislation. Surprisingly, 39 of the 49 medical authorities and statisticians who testified disagreed vigorously with the report and charged its findings were distorted. Only two of the dissenting experts were connected with the tobacco industry.

The purpose of the hearings was to determine whether the Federal Trade Commission should be given authority to regulate cigarette advertising. England restricted TV ads in 1962 and officers of the U.S. cancer, heart and tuberculosis associations urged Congress to impose a ban here and to tighten restrictions on newspaper and magazine ads.

Congress wouldn't go along. All it would agree to do was to require cigarette packages to be labeled with an ambiguous warning that "smoking may be hazardous." After the Surgeon General's strong indictment, this struck many as a very mild phrase.

Some people charged that political wheeling and dealing was responsible for Congress's seemingly inadequate action. Tobacco growing states do, indeed, wield a good deal of power in Congress. More than 90 percent of the tobacco grown in this country is produced by six states, North Carolina, Kentucky, Virginia, South Carolina, Tennessee and Georgia. But the fact is that only two of the Senate Committee's 18 members were from those states and only seven of the 33 members of the House Committee.

So, while political logrolling could have had something to do with the mild stand that Congress took, it seems more reasonable to assume that the Congressmen were simply unimpressed by the anticigarette testimony. This could be due to the fact that the overwhelming weight of expert testimony during the hearings underscored four salient points:

1. The cause of cancer is unknown. It is an established principle that a factor thought to be responsible for a disease must be found in all cases of it—and cancer strikes a dozen sites in the body not remotely associated with smoking (the stomach, prostate, urinary tract, etc.). It is suspected there may be 150 different causes of cancer.

2. Ten percent of all lung-cancer victims never

have smoked, proof that tobacco is not the sole cause of the disease. Conversely, 95 percent of heavy cigaret smokers do not contract it.

3. Long exposure to concentrated cigarette smoke never has produced lung cancer in an experimental animal—and researchers have been trying for 35 years. Doctor Terry conceded that "the chronic toxicity of nicotine is very low and probably does not represent an important health hazard." The tars, or chemical compounds, in burning tobacco have caused skin cancers only on strains of mice so susceptible to the disease that the same effect has been obtained with

sugar, beef and vegetable oil.

4. Statistics alone link cigarette with lung cancer, a correlation that is not accepted as scientific proof of cause and effect. This was admitted in the opening of the report by the Surgeon General's Committee: "The Committee was aware that the mere establishment of a statistical association between the use of tobacco and a disease is not enough. The casual significance of the use of tobacco in relation to the disease is the crucial question." Yet they disregarded their own ground rules and condemned cigarettes on the basis of seven statistical studies made by groups whose objectivity and sampling techniques were open to doubt.

The Committee's findings have been sharply criticized by Dr. Joseph Berkson of the Mayo Clinic. *The Cancer Bulletin*, an official publication of the American Cancer Society, has referred to him as "the acknowledged dean of American medical statisticians."

"All relevant available facts considered, I think it very doubtful that smoking causes lung cancer," Doctor Berkson says. "Since 1954, when the statistical investigations on smoking and lung cancer were proclaimed, the U.S. Public Health Service has allocated almost a billion dollars for cancer research. How much has been expended for the experimental investigation of this particular problem of smoking and lung cancer? So far as I know, little or none.

"Albert Einstein remarked that if you want to know what a scientist really believes, don't listen to what he says but observe what he is working on. I suspect the reason the scientists of the Public Health Institutes are not working on this problem is that they don't see any reasearch gold in 'them thar hills.' Anyone who isolated from tobacco smoke a substance that could be shown, to the satisfaction of scientists generally, to be the cause of lung cancer, let alone all the other cancers that smoking is supposed to induce, would earn not one but a brace of Nobel prizes."

If there is one man in the field with a loftier reputation than Doctor Berkson he is England's Sir Ronald Fisher, a pioneer in developing statistical methods for biological research. [Continued on page 69]

TO SMOKE OR NOT TO SMOKE-THAT IS STILL THE QUESTION

[Continued from page 36]

"The increase in lung cancer over recent decades gives not the least evidence of being due to increasing consumption of tobacco," he declares. Sir Ronald suggestes that air pollution and genetic patterns-inherited physical characteristics-may be the prime causes of cancer. As we shall see presently, the statistical association between these factors and the disease is stronger than the connection with cigarettes, but the Surgeon General's report glossed over those important clues.

Since the argument against cigarettes rests largely on statistics, it is illuminating to examine some of the inconsistencies and contradictions in the figures. For

example:

• Lung cancer is rare in women. The male vs. female ratio today is 6:1; in 1930 it was 1.5:1. There has been a tremendous increase in women smokers during the last generation, but their death rate from lung cancer has remained almost steady. This clearly suggests a sexual factor that makes men more susceptible to the disease.

 Cancer of the trachea—windpipe—is very rare. Yet this is the area that gets the greatest exposure to tobacco smoke.

 When lung cancer appears, in the overwhelming majority of cases it is in the lower part of the lung which never is reached by smoke. A study made recently by the Los Angeles County Hospital, dating back to 1927, showed that cancer of the lung tubes, which get the heaviest dosage of smoke, has been stabilized in recent years.

 If smoking causes lung cancer, heavy consumers of cigarettes should contract it earlier than nonsmokers. They don't. The peak for the onset of the disease is between 57 and 62-for chain smokers and people who never have used tobacco. Further, there is no proof that the chances of getting cancer are reduced by

giving up smoking.

Inhaling should induce lung cancer if cigarettes are hazardous. Not a scrap of evidence has been found to corroborate the theory. A British survey actually showed there were fewer cancer victims among steady inhalers than nonsmokers.

 British men smoke only half as many cigarettes per capita as Americans, but they have double the incidence of lung cancer-a differential of four to one. Why? More air pollution in England? A genetic

factor?

 The most potent cancer-inducing agent in tobacco smoke is believed to be benzopyrene. Although the amount of it is infinitesimal, there is four times as much in cigar smoke and 10 times as much in pipe smoke than in cigarettes. Yet cigars and pipes are said to be safer than cigarettes. According to the statistics, pipe smokers have lower mortality rates than men who gave up the habit. What does this prove-the danger of quitting?

Since 1914, cigarette consumption in the United States has increased 200-fold, but the incidence of lung cancer has not increased nearly that much in spite of

better diagnostic methods and a greater awareness of the disease. The current mortality rate of 26.6 per 100,000 population would be vastly greater if cigarettes

were guilty as charged.

Commenting on the discrepancies in the report, Prof. K. Alexander Brownlee of the University of Chicago told both Congressional committees it was splendid example of the technique of flatly denying the existence of an inconvenient fact if you cannot explain it away." Among other figures calculated to frighten the public, the report claimed the death rate for lung cancer is nearly 1,000 times higher for cigarette smokers than for nonsmokers. That assertion was refuted by Dr. Ferdinand C. Helwig, clinical professor of pathology at the University of Kansas who has studied 30,000 cancer cases. "I do not believe that cancer is caused by smoking cigarettes," he said. Dr. Thomas H. Burford, chief of chest surgery at the Washington University School of Medicine, was more emphatic: "I do not believe that lung cancer is caused by cigarette smoking and I do not believe that smoking is responsible for any shortening of life."

The Surgeon General's advisory committee had many reservations about the conclusions reached by Doctor Terry in the report. Shortly after it was published one member, Dr. John B. Hickam, told the North Carolina Heart Association: "The more we looked at the statistics, the more difficult it was to understand. The picture is not at all as clear as the

numbers appear at first.'

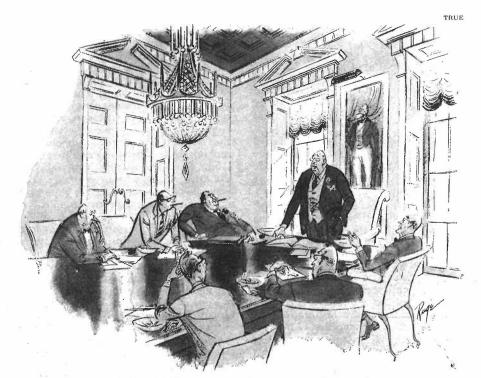
Doctor Terry was in a tough spot. Like a district attorney confronted with a shrill clamor to solve a scandalous murder, the heat was on him to bring in a suspect in the fight against cancer, the leading killer after heart disease in this country. People wanted some concrete results for the millions spent annually on research, and prominent laymen with a lot of political clout were on the executive boards of national health organizations which had pointed the finger at cigarettes.

Besides, Doctor Terry and his associates had a mass of material which did seem to indicate that cigarettes were a menace. The figures showed that the mortality rate for male cigarette smokers from all causes was 70 percent higher than for nonsmokers. It was 70 percent higher for heart diseases, 500 percent higher for chronic bronchitis and emphysema (deterioration of the air cells in the lungs) and that ominous 1,000 percent higher

for lung cancer.

However, it is difficult to understand Doctor Terry's abrupt dismissal of other possible causes of lung cancer. Scores of surveys have shown that the mortality from the disease in rural areas is less than half the rate in urban communities, for smokers as well as nonsmokers. Many experts attribute this variation to air pollution in industrial centers, and it hardly is a new theory. In 1775 a London surgeon, Percival Potts, reported a high incidence of cancer among chimney sweeps. In recent years campaigns to reduce air pollution have been spurred by the strong suspicion that components in coal and gas fumes are cancer-inducing agents. Experiments with animals also suggest that the overcrowding typical of living conditions in cities produces stresses that contribute to cancer.

These important leads were mentioned only in one sentence buried in the report: "The least that can be said is that the intensity of urbanization or industrialization may have a residual influence on lung cancer mortality." But why was so much attention focused on cigarettes. to the exclusion of other pertinent areas of investigation? Doctor Terry was like the surly waiter who snapped at a cus-



"We've had a very good year. Now, how will we keep the stockholders from finding out?"

Lung cancer is complicated by so many intangibles that it is almost impossible to attribute it solely to cigarettes or any other single cause. The Surgeon General's report was criticized on that score by Dr. Israel Rappaport, a man with impressive credentials as a physician and a former professor at Columbia University's School of Medicine. Among other achievements, in 1928 he initiated at Bellevue Hospital in New York a research project in pulmonary diseases which brought Nobel prizes in 1956 to two younger associates who carried on

his work.
"The often-used argument that preventive action may be justified before the cause of a disease is established hardly applies in this case," Doctor Rappaport declared. "The assumed possible link between cigarette smoking and chronic lung disease cannot be compared with the link which exists, say, between an infection, the agent of which still is unknown, and a definite disease. Where we are dealing with a definite disease clearly linked to an infection we need not wait for determination of the particular infectious agent. In chronic lung disease we have an ill-defined disease indefinitely linked to a number of undetermined agents. Action against any particular one of the possible agents is illogical, unjustified, unreasonable and purposeless.'

The first statistical studies purporting to associate cigarettes with lung cancer appeared in the 1930's, prompting Congress to consider legislation to curb smoking. It was dropped in 1937 after medical authorities challenged the validity of the findings. In 1954 the tobacco industry set up a research council to investigate the relationship between smoking and health. As of 1964, the council had given 731 grants totaling \$7,450,000 to independent scientists in medical schools and hospitals. Since then the industry has awarded another million for research, but no one working on these, or any other, projects throughout the world has isolated a substance in cigarettes or tobacco smoke that is a proven lung cancer-inducing agent.

The data that was the source of the conclusions in the Surgeon General's report was criticized by many competent witnesses. It was drawn from questionnaires sent to seven groups of men who, the advisory committee admitted, did not represent a true cross section of the population. Volunteers for the American Cancer Society polled two groups, who comprised more than half the 1,123,000 subjects in the study. Three surveys were made of American and Canadian war veterans who once passed physical exams a high percentage of the general population failed; they were, therefore, in better than average health. The remaining groups were British doctors and California workers in nine occupations suspected of high cancer risk.

The main difficulties in the studies was the large number of men (30 percent) who did not answer the questionnaires. Prof. Alexander Brownlee, a top statistician, asserted that the nonresponses were "seriously high" and added, "It is notorious that these defects can, and usually do, produce serious bias." Brown-



"Really, Herbie, you can obey the Boy Scout oath and still have fun!"

lee probably alluded to the American Cancer Society's volunteers who handpicked 10 subjects each and, in their crusading fervor, might have weighted the survey with known lung cancer victims.

The gravest distortion in the report was the assertion that deaths from lung cancer have been rising at an "extraor-dinary" rate since 1930. "Statistics showing a tremendous increase in lung cancer during the past 30 years are misleading, Dr. Milton R. Rosenblatt, chief of medical clinics in New York's Metropolitan Hospital, told the House Committee. "The increase is only apparent and is the result of greater skill in the detection of the disease. All the techniques currently used to diagnose lung cancer were either discovered or perfected during the past three decades.

"It must be emphasized that during the years when national mortality statistics showed a very low incidence of lung cancer there were physicians who challenged their accuracy. More than 50 years ago, the first American textbook on lung cancer ridiculed the low census figures. In 1930, when the official number of lung cancer deaths was reported at less than 3,000 for the entire United States, one doctor in Philadelphia specializing in bronchoscopic diagnosis" (the famous Chevalier Jackson) "had records of almost 500 cases.'

After tracing the steady drop in the percentage of certified deaths during the last generation, Doctor Rosenblatt added: "The progressive decline in the increase of lung cancer in the United States occurred during the same period that cigarette consumption multiplied 200 times. If cigarette smoking produced lung cancer, directly or indirectly, the tremendous rise in cigarette consumption would have resulted in a sustained or greater rate of increase. The fact that the opposite has occurred indicates that there

has been a relatively fixed prevalence of lung cancer in the population. The studies of an eminent statistician of the National Cancer Institute showed that the trend of the increase was not in the direction of an epidemic but toward stabilization similar to other cancers in which diagnostic procedures have been standardized for long periods of time."

An interesting hypothesis that a man who is a lung cancer victim at 60 might have lived on borrowed time for half a century is advanced by Dr. Joseph Berkson. Tuberculosis once was a terrible scourge in this country. In 1900, the mortality rate per 100,000 was 201.9; now it is 3.9. "A significant proportion of those who would have died from tuberculosis in childhood or youth now die of cancer of the lung," Berkson speculates. "There has been, so to speak, a survival of unfit respiratory systems.'

Some authorities argue that cancer is primarily a disease of aging. They say that anyone lucky enough to escape other maladies will eventually die of cancer if no cure is found for it. Thus, with the general life-span increasing, more and more people will succumb to it.

Others maintain that cancer is due to emotional stress, to genetic makeup, to air pollution or to personality factors. And certainly there is some evidence that lung cancer may be caused by cigarette smoking. But proof? It simply doesn't exist. Heavy and prolonged doses of tobacco smoke never have produced lung cancer in an experimental animal.

Maybe Doctor Strickman's new filter will solve the health problem, if it exists, for America's 70 million smokers. Maybe not. At the moment, all we can say for sure is that the cause of cancer is not known and that there is absolutely no proof that smoking causes human cancer. -Stanley Frank tomer asking where the men's room was, "This is not my station."

Since the time tobacco was introduced to Europe from the American colonies 450 years ago, smoking has become an addiction throughout the world. The habit seems to satisfy a need and have some therapeutic value. There is no other explanation for the enormous popularity of smoking despite efforts to curb it. There never was a kid who didn't feel nauseated after sneaking the first forbidden puff on a cigarette, yet that unpleasant experience does not deter most adults from smoking eventually.

There is growing support among cancer specialists and psychologists for the genotype theory advanced 30 years ago by Sir Ronald Fisher. He maintains that an individual's peculiar constitution creates a craving for tobacco and the same chemistry makes him more susceptible to lung cancer than a nonsmoker. The kicker, though, is that a heavy smoker is more likely to get cancer if he is deprived of cigarettes which serve the important function of relieving his tensions. This revolutionary concept from a man of Fisher's stature merited attention, but the Surgeon General's report gave it the once-over-lightly treatment:

"The significant beneficial effects of smoking occur primarily in the area of mental health, and the habit originates in a search for contentment. Since no means of measuring the quality of these benefits is apparent, the Committee finds no basis for a judgment which would weigh benefits against hazards of smoking as it may apply to the general population." In other words, since the benefits could not be measured, they were not considered.

A similar situation came up when heart specialists testified on the relationship between smoking and coronary attacks. Dr. Henry Russek, former director of cardiovascular research and now a consultant at the U.S. Public Health Hospital on Staten Island, New York, told both Congressional committees: "After years of study it is my present belief that coronary disease is not caused by the consumption of tobacco. . . . Emotional stress associated with occupational activity appears far more significant than heredity, dietary fat, tobacco, obesity or physical inactivity in the development of heart attacks.'

Such opinions have been published regularly in medical literature during the last decade. Again, the report overrode the experts: "Although the causative role of cigarette smoking in deaths from coronary disease is not proven, the Committee considers it more prudent from the public health viewpoint to assume that the established association has causative meaning than to suspend judgment until no uncertainty remains."

Psychiatrists who have studied the prevalence and persistence of the smoking habit are agreed it is a carry-over from the first pleasure of infancy, the oral satisfaction of sucking. After an infant is weaned he continues to test every new object by putting it in his mouth, then in childhood resorts to thumb-sucking when he is frustrated or tired. Pulling on tobacco serves much the

same purpose for an adult. Everyone smokes more when he is under tension, and there is reason to suspect that emotional stress is a contributory factor in cancer.

Some clues to this approach were reviewed by Dr. Bernice C. Sachs, then president of the American Medical Women's Association and an authority on psychosomatic medicine. "With every emotion-and man has some kind of emotion every minute-changes take place in muscles, blood vessels, in the viscera, in the endocrine glands.... There seems to be a correlation between cancer and certain types of psychological situations." Many doctors here and abroad have reported that patients developed symptoms of cancer soon after a severe emotional shock such as the death of a close relative, sudden financial insecurity or divorce.

Everyone does not suffer a violent reaction to such crises, of course, but the mounting tensions of daily life can be compared to the tiles in a mosaic. Separately, each irritation is insignificant; put together, they form a pattern of constant stress. Although it seems farfetched, there may be a connection between the high divorce rate and cancer. Marriage is the normal condition for an adult. It is a

COMING . . .

He's moving in on the hard-core hippies

UNCLE SAM'S ACE ACID SLEUTH

Meet the undercover agent who battles the bad-trip peddlers of LSD

NEXT MONTH IN TRUE

fact that the mortality rates from all causes are much lower for married men and women than for single and divorced people, in that order. No sweeping conclusions can be drawn from this one detail, but it may be that the health of unattached and divorced adults is affected by frustrated sex drives and unhappiness stemming from a feeling of rejection.

The chemistry of stress is a young science, but there are tentative explanations of why some people are hooked on smoking while others never cultivate the habit. Some fascinating material corroborating Fisher's genotype theory that heavy smokers need tobacco to cope with nervous tension has been assembled by Dr. H. J. Eysenck, professor of psychiatry at Maudsley Hospital in London. He has found that smokers and nonsmokers tend to conform to distinct personality traits. There are more extroverts and neurotics among smokers, but they are more vigorous and aggressive. It is no coincidence that smoking is a symbol of virility and power. New fathers pass out cigars; tycoons and political bosses usually are depicted puffing on big heaters. Smokers as a rule are bigger, heavier and more athletic than nonsmokers. They marry and have children earlier than the abstainers. They drink more coffee, whisky and beer than nonsmokers, who favor tea, wine and milk.

Practically every smoker tries at one time or another to break the habit. Some succeed; the majority suffer such acute discomfort that they go back to tobacco. Does this mean that those who stick it out have more will power? "Not at all," says Doctor Russek. "The man who cannot quit simply is unable to handle stress as well as the other fellow. They are two distinctly different types. It is not a scientific observation to say that a smoker is more liable to get lung cancer, a coronary or any other disease than a nonsmoker. There are too many variables involved in such a comparison."

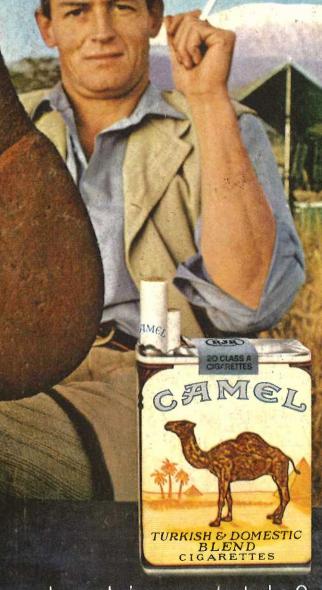
One factor that may be decisive in lung cancer is the genetic pattern an individual inherits. It is not facetious to say that the best protection is to have parents who live to a ripe old age—and whose antecedents go back to a country with a low incidence of the disease. The mortality rates, especially for men, differ so sharply around the world and the variations crop up so consistently among descendants of emigrants that attention is focusing on heredity as the key to the mystery.

Americans are the heaviest cigarette smokers in the world partly because we can afford them. Despite the federal, state and local taxes slapped on our brands—without them a pack would cost 12 cents—smokes in foreign countries are usually much higher in price. Our per capita consumption is substantially greater than that of England, Finland and Holland, but we have a much lower mortality rate from lung cancer. The rate is the same as ours in Canada, Australia and Denmark although we smoke much more than the men in those countries.

Cigarettes obviously do not have the same effect-if any-on health in every country. For example, New Zealanders are very heavy smokers, but the death rate there from lung cancer for nativeborn men is half the rate for immigrants from England. Cigarette sales in Russia and Poland are increasing as fast as here, but Dr. A. B. Savittski of the USSR's Academy of Medical Science reported recently that the number of lung cancer cases is "astonishingly small and hardly changes from year to year." Cancer of the upper throat was a widespread problem in China and Formosa long before cigarettes were introduced. Three generations later, American-born Chinese still have a very high incidence of it despite their adoption of our food and health customs.

All this suggests that each individual inherits a genetic pattern which largely determines whether or not he will maintain an intricate balance between various tissues and organs. When that balance breaks down, cancer cells grow with such speed and tenacity that they quickly stifle vital organs. A dramatic example of the potential "immortality" of a cancer cell are the masses of cancerous tissue in laboratories throughout the world. They were taken from one mouse in Austria in 1900. The mouse could not have lived more than 45 months, but after 1,000 transplants its cancer cells are as young and vigorous biologically as ever.

TO WALKAMILE FOR CAMEL"



This message is strictly for smokers who've never tasted a Camel cigarette.

Camel smokers, you know what we mean.

You other guys, start walking.