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STANDING in line at the supermarket waiting for my order to be checked out, I was listening to the chatter of two women ahead of me.

"What are you getting with your green stamps?" one asked.

"Baby-sitters!" replied the other woman. "I pay 50 cents an hour and give the rest in stamps—they love it!"

—DOROTHY COLO *(Roselle, N.J.)*

AN ATTRACTIVE young clerk was waiting on us in the shoe store where my friend and her daughter were shopping for sandals for that all-important first dance. One high-heeled pair was particularly becoming, and as the girl teetered up to the mirror in them she sighed, "These are beautiful—but do you think I could dance in them?"

For an answer, the clerk extended his hand and said, "Shall we try?"

—GAIL F. ULRICH *(Bridgeport, Neb.)*

IN THE MIDST of a wedding rehearsal at the church, there was a stir as two girls and two sailors came in and looked around bewilderedly. The minister went to see what they wanted and then announced that he would have to be excused to perform the wedding ceremony for one of the couples. "They have come from Newport," he explained, "and the boys have to be back tonight because they are shipping out in the morning."

"Just a minute," the father of our bride called out. "We have a wedding party here—let's put it to use right away for this couple."

Everyone jubilantly fell in with the idea. The maids and ushers took their places, and our bride's father offered his arm to the sailor's lady. As the organist played the "Wedding March" the procession moved down the aisle. The soloist sang "Oh, Promise Me."

Lacking rice and confetti, we did our best with a shower of congratulations and good wishes. As they climbed into their car, I heard the starry-eyed bride say to her new husband, "What a wonderful story this will be to tell our children!"

—MARJORIE A. DIX *(Attleboro, Mass.)*

Readers' contributions are solicited for this department. See page 154 for information concerning liberal rates of payment.

Address Unknown

DEAR EDITOR: Recently I sent a brief item to Life in These United States and after it was mailed, remembered I had not included my address. I wrote at once to correct the error. Now I realize I had written nothing in the second letter that would connect it with the first. Consequently, I'm asking you to forget the whole thing. The story wasn't very good anyway.

(We think the foregoing letter is a classic, however, and would like to pay the contributor, but we can't read the signature—and there was no address on this letter, either! —The Editors)

A Reader's Digest Report to Consumers

WANTED

—*And Available*—

Filter-Tips That Really Filter

The Second of Two Articles

By

Lois Mattox Miller and James Monahan

Based on Laboratory Tests of Filter-Tip Cigarettes

SECRECY is the rule in the cigarette industry. Research is guarded jealously. Developments immediately become highly classified "trade secrets." What goes into, or comes out of a cigarette is considered nobody's business but the manufacturer's. Questioned about such matters, the average tobacco man either freezes up or explodes.

When the Digest began investigating reports that it was possible to manufacture filter-tips more effective than those on the market, inquiries met with polite rebuffs. The cigarette companies professed to be engaged actively in filtration research; but they also declared that, thus far, research had produced nothing better than their present filters.

However, reliable reports came from scientists in the tobacco industry that better filter-tips were prac-

See "The Facts Behind Filter-Tip Cigarettes," The Reader's Digest, July, '57.

stated confidentially that they had actually smoked and tested standard brand cigarettes equipped with experimental filter-tips, and that these filters gave much higher tar-filtration as well as satisfactory tobacco flavor and an easy draw.

Then why weren't these improved filters in commercial use?

The most plausible answer was that smokers thought all filters were alike, and chose brands solely on a basis of taste. "The brands that sell best are those with the least effective filters and the strongest tobacco," said one tobacco man. "That seems to be what the public wants, so that is what the public is getting. Improved filtration might even be unprofitable."

While this explanation may be valid, it still leaves the question whether smokers will persist in considering all filter-tips alike *when they know the facts*—facts which have not been available until now.

There is really no mystery about the filtration of cigarette smoke. An average puff of smoke from an unfiltered cigarette contains more than *12 billion* tiny, spherical, semi-solid particles, mainly tar and nicotine. These particles give tobacco smoke its characteristic aroma and flavor. They also represent the stimulants, irritants and the suspected cancer-causing agents responsible for the fundamental tobacco-health problem.

Effective filtration would remove from the smoke enough of these particles to reduce the hazard to a minimum, while passing along to the smoker enough of them to provide a flavorsome smoke. Where to draw the line is still uncertain. But Dr. Ernest L. Wynder of the Sloan-Kettering Institute states that, for practical purposes, a filter-tip capable of filtering out 40 percent of the tar would be a step in the right direction. (Assuming, of course, that the manufacturer does not defeat the purpose by loading the cigarette with stronger tobacco.)

"Such a filter-tip," Dr. Wynder says, "placed on a regular-size cigarette which normally yields 30 milligrams of tar in its smoke, would reduce the smoker's tar exposure to about 18 milligrams. A reduction to that level, as shown both by animal experiments and human statistical studies, would be a significant reduction in cancer risk."

The modern filter-tip is essentially a complex maze of microscopic traps or barriers designed to prevent the passage of a certain percentage of the smoke particles. To do this effectively, however, the filter must contain some elements at least as small as the tiny particles it seeks to stop. Otherwise, the particles will slip through the interstices and defeat the purpose.

One tobacco scientist offers this illustration: "Suppose you had a jumbled pile of telegraph poles. You could drop baseballs into that pile and a large percentage of them might find their way through the intervening spaces to the bottom.

but the spaces in a similar pile of fence posts would probably be small enough to stop baseballs, and yet large enough to let golf balls pass. Similarly, a pile of jackstraws or toothpicks would probably trap small heads. Reduce this principle to the microscopic level and you have the basic problem of smoke-particle filtration."

What material will provide such a maze of microscopic "jackstraws" capable of blocking smoke particles so small that they are measured in fractions of *microns?* After much research, the most suitable substance appears to be a synthetic fiber — *cellulose acetate.*

With the exception of Fareyton (which uses a special type of paper impregnated with activated charcoal), the filter-tips of the popular brands are made from this same basic material. Well over 95 percent of the cellulose acetate comes from the same producer, Tennessee Eastman (a subsidiary of Eastman Kodak), located in Kingsport, Tenn. Tennessee Eastman ships the material to the cigarette factories in a wide, soft ribbon called "tow."

But Tennessee Eastman manufactures the cellulose acetate according to each cigarette company's own specifications. The synthetic filaments can be made in any specified degree of fineness or coarseness. They can be packed tightly or loosely. They can be crimped, twisted, packed parallel or at random. And even the finest hairlike filament can also be shaped or grooved in different ways to increase the particle-trapping efficiency.

In the cigarette factory, the tow is treated with a moist "sizing," shaped to a specified diameter, cut into short plugs and fitted into the mouthpiece by the cigarette-making machinery. But, before this final processing, the cigarette maker can (if he chooses) improve filtration even more by incorporating in the tow certain "fillers" devised by his own laboratory.

The best filter-tips now on the market are ingenious variations or combinations of these unlimited possibilities. The least effective filters are merely haphazard bundles of synthetic fibers.

The laboratory tests reported in The Reader's Digest last month were nearly complete when word came from a reliable source in the tobacco industry that Lorillard had not only developed a new filter-tip for the Kent cigarette but was modifying machinery for immediate production. Lorillard at first denied the report, then admitted that the new Kent would be on the market by midsummer. After some objections, the company finally agreed to provide production-line cigarettes (not laboratory samples) of the new type for testing by an independent laboratory. Lorillard also agreed to tell how the new filter-tip was developed.

The Kent case is important because (1) it spans the modern filter-tip era from 1951 to date; (2) it illustrates the problems and pitfalls

of filter technology; and (3) it demonstrates what a cigarette maker can accomplish if he is sincerely seeking an improved product rather than another advertising gimmick.

In 1951, two years before headlines linked cigarette smoking with lung cancer, Lorillard's general sales manager, Lewis Gruber, sensed a growing public demand for a mild, filtered cigarette. At the time, there were two filter-tips on the market: the original Parliament (since renamed Benson & Hedges), with a cardboard mouthpiece containing a tuft of cotton; and Viceroy, which at that time had a filter-tip made of treated crepe paper.

Dr. Harris B. Parmele, Lorillard's research director, had barely begun the search for a more suitable filter material when he got what seemed like a lucky break. The Atomic Energy Commission declassified a technical report describing an aerosol filter containing crocidolite (a kind of bluish asbestos), which was used to remove radioactive particles from the air in AEC installations. Lorillard developed a filter-tip made of cotton fibers containing crocidolite, and the Kent cigarette made its debut early in 1952.

But Kent paid a penalty for being a pioneer in filter-tip technology. The original filter-tip proved too efficient to satisfy the taste of the average smoker, and had to be modified several times. Meanwhile, the battle of the filter-tips began in earnest. Viceroy switched to cellulose acetate; Liggett & Myers introduced L&M, and Reynolds followed with Winston. Soon the tobacco counters were crowded with filter-tip brands.

Ironically, of the four brands that made the best showing for tar filtration in the Digest tests published last month, only Viceroy has become a substantial seller (over 25 billion cigarettes last year). Tareyton, Kent and Kool all sell well below the four-billion level. By contrast, Winston sold 34 billion cigarettes in 1956.

Until last year, Kent was handicapped by its premium price. But Lorillard claims that (unlike some of its competitors) it steadfastly resisted the temptation to bid for popular appeal by "spiking" the Kent blend with stronger tobacco.

In August 1956, Lewis Gruber, original sponsor of the embattled Kent, became president of Lorillard. He promptly cut Kent's premium price to the popular level, and started production plans for the new Kent filter developed in Lorillard's research laboratory.

Kent's new "Micronite" filter * is made of fine cellulose acetate developed especially for Lorillard by Tennessee Eastman. While the Eastman laboratories in Tennessee are the center of much hush-hush filter-tip research, Lorillard claims that this development is essentially its own.

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* "Micronite" is a Lorillard trademark that has been applied to all Kent filter-tips, regardless of their construction. The cigarettes with the "NEW EXCLUSIVE MICRONITE FILTER" (so designated on the face of the package) went on the retail market early in July.

By devious means proofs of the first Reader's Digest article on [illegible]ps were obtained by representatives of the tobacco industry well in advance of publication of the July issue. Perhaps as a result, when final inquiries were made prior to the preparation of this second article, there was a sudden and surprising interest among cigarette manufacturers in the production of better filter-tips.

"For competitive reasons, I cannot disclose our plans in detail," wrote Paul M. Hahn, president of The American Tobacco Co. "I can, however, tell you that our company is developing a completely new filter which we are planning to place on one of our brands in the near future."

The president of another company (name omitted by request) stated: "Confidentially, we do hope to have an improved filter-tip on the market by the end of the year."

New filter-tips will be tested, and compared when they appear on the retail market, and a report to consumers will appear in the Digest.

The secret of the new tip's higher filtration, the company claims, lies in the tiny natural fibers (so small that, to the naked eye, the stuff looks like fine powder) added to the cellulose-acetate tow after it reaches the Lorillard plant in Greensboro, N. C.

The laboratory of Foster D. Snell, Inc., has made determinations of the tar and nicotine in the mainstream smoke of the new cigarettes and has reported to the Digest the following results: "Kent, king-size, with new filter-tip, 23.4 milligrams of tar, 1.5 milligrams of nicotine; Kent, regular size, with new filter-tip, 19.7 milligrams of tar, 1.1 milligrams of nicotine."

¶ This represents a 23 percent improvement in tar filtration over the Kent cigarettes tested and reported on in the July issue of the Digest.

¶ Compared with some of the filter-kings that ranked *lowest, average,* and *high* in tar (according to the Digest tests), the new Kent king yields 14 percent less tar than Tareyton; 23 percent less than Viceroy; 28 percent less than Winston; 32 percent less than Marlboro; 36 percent less than Hit Parade; 39 percent less than L&M; 40 percent less than Old Gold.

¶ Compared with regular-size unfiltered brands, the new Kent regular-size yields 36 percent less tar than Camel and Old Gold; 37 percent less than Lucky Strike; 40 percent less than Chesterfield; 44 percent less than Philip Morris.

The new Kent may not be the best filter-tip possible. (Lorillard says that research will continue, and that further improvement will be made if developments warrant.) But it is a big step in the right direction. Perhaps competition will compel other cigarette companies to seek filters even better than the new Kent. *(See box above.)*

In June 4, 1957, the final report on the American Cancer Society's 44-month study of the smoking habits of 188,000 men 50 to 70 years old presented evidence of what the American Medical Association called "a spectacular relationship" between cigarette smoking and lung cancer. But the report also showed that death rates from all causes combined rise with the number of cigarettes smoked daily. The death rate from coronary artery disease was 70 percent higher among cigarette smokers than among non-smokers. The suspect here is not tar but nicotine.

While the new Kents, according to the tests, give the smoker from 20 to 50 percent less nicotine than the other filter-tip brands tested, this reduction may still fall short of the ideal. Some medical authorities say that the nicotine in the smoke from one cigarette may have to be reduced to about one-half a milligram before nicotine's measurable effects on the cardiovascular system are decreased significantly.

However, there is still much to be learned about the exact role nicotine plays in the tobacco-health problem. The Study Group on Smoking and Health, which declared "scientific evidence establishes beyond reasonable doubt" that cigarette smoking is a causative factor in lung cancer, also stated that "in the few reports available there is no convincing biological or clinical evidence to indicate that smoking *per se* has a causative role in cardiovascular disease."

The Study Group urged an extensive research program to clarify the relationship between smoking and heart and vascular diseases. Until this relationship is clarified, no one can decide to what point the nicotine in tobacco smoke should be reduced.

Meanwhile, we will be hearing a lot more about the filter-tips. In 1955 the Federal Trade Commission quietly informed the tobacco industry that it was opposed to all health claims and comparisons of filter-tip efficiency "when it has not been established by competent scientific proof . . . that the claim is true. . . ." The industry fell into line.

Lately there have been signs that the cigarette advertisers are growing restless. The Federal Trade Commission may soon be facing a rash of new "claims" that it is powerless to deal with—except by prolonged litigation. Because tobacco is not covered specifically by the Food and Drug Act, the Federal Trade Commission Act, or any similar statute, the FTC cannot seek a temporary injunction to suspend allegedly deceptive or fraudulent advertising while the case is still in litigation. Some of the Federal Trade Commission's legal actions against cigarette advertisers have dragged on for as long as five years; by the time a final verdict was handed down the advertising in question had become ancient history.

To deal realistically with this problem, Congress may have to pass legislation that will:

1. Require the cigarette manufacturer to state on the label of each brand: "Laboratory tests have determined that the average cigarette in this package will contain in its mainstream smoke — mg. of tar, and — mg. of nicotine." (The same law should require the industry to standardize laboratory methods of determining the contents of cigarette smoke, and to adhere to those standards.)

2. Require the manufacturer to correct the data on the label whenever any change is made in the brand's tobacco, blending process or filter-tip construction.

3. Require the manufacturer to confine his advertising claims for each brand of cigarettes to statements which he can support with competent scientific proof.

4. Enable the Federal Trade Commission (or other federal agency) to seek a temporary injunction from a federal court in order to stop promptly (and while the issue is in litigation) the dissemination of false or misleading information in connection with the advertising or selling of any brand of cigarettes.

Such practical regulations are now being applied—fairly and effectively—to foods, drugs, cosmetics, alcoholic beverages, flammable fabrics, etc. Tobacco products are directly linked to the public health. And the tobacco industry has a long record of deceptive or irresponsible advertising. Why this industry should remain beyond the reach of effective regulation is a question that probably no one but a tobacco man would undertake to answer.

So far as filtration is concerned, proper labeling—backed by realistic enforcement—would draw the line between filter-tips that filter and those that are merely mouthpieces. That, at least, would enable the cigarette smoker to know that he is getting the best protection that a filter-tip can offer at the present time.

Pert and Pertinent

Dan Bennett: Nothing discourages an amateur gardener like watching his family eat his entire garden at one meal . . . **The National Travel Association of Denmark:** The official rate of tipping is 12½ percent, but 15 percent insures better service, which is why most people give 15 percent . . . **French proverb:** God cures; the doctor sends the bill . . . **C. R. Young:** You never can get much of anything done unless you go ahead and do it before you are ready (Makesburg, Iowa, *Excelsior*) . . . **Sir Herbert Beerbohm Tree:** A committee should consist of three men, two of whom are absent . . . Taking the negative in a debate on the proposition "Clothes Make the Man," **Gypsy Rose Lee** declared that clothes were really only a tool, then added: "But I must admit the dress I have on, designed by Charles James, is more of a precision instrument" (*Newsweek*)