

# HEALTH FRAUDS AND QUACKERY

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HEARINGS  
BEFORE THE  
SUBCOMMITTEE ON FRAUDS AND MISREPRE-  
SENTATIONS AFFECTING THE ELDERLY  
OF THE  
SPECIAL COMMITTEE ON AGING  
UNITED STATES SENATE  
EIGHTY-EIGHTH CONGRESS  
SECOND SESSION

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Part 4A.—Washington, D.C.  
(Eye Care)

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APRIL 6, 1964

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NOTE.—Four hearings on health frauds and quackery were held and they are identified as follows:

Part 1—San Francisco, Calif., January 13, 1964.

Part 2—Washington, D.C., March 9, 1964.

Part 3—Washington, D.C., March 10, 1964.

Part 4a } Washington, D.C., April 6, 1964 (eye care).

Part 4b }

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## HEALTH FRAUDS AND QUACKERY

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MONDAY, APRIL 6, 1964

U.S. SENATE,  
SUBCOMMITTEE ON FRAUDS  
AND MISREPRESENTATIONS  
AFFECTING THE ELDERLY OF THE  
SPECIAL COMMITTEE ON AGING,  
*Washington, D.C.*

The subcommittee met at 10:20 a.m., in room 6202, New Senate Office Building, Senator Harrison A. Williams, Jr. (chairman of the subcommittee) presiding.

Present: Senators Williams, Neuberger, Yarborough and Keating.

Also present: William E. Oriol, professional staff member, Gerald P. Nye, minority professional staff member, Patricia Slinkard, chief clerk, and Marion Keevers, minority chief clerk.

Senator WILLIAMS. I think our committee session should come to order.

### OPENING STATEMENT BY SENATOR HARRISON A. WILLIAMS, CHAIRMAN

Today this subcommittee meets to continue its inquiries into health frauds and misrepresentations affecting the elderly. We are devoting this entire hearing today to the problem of worthless treatments or products offered for improvement of vision or for cure of eye ailments.

The subcommittee has received disturbing information that some promoters are willing to take chances with other people's vision. A few have offered products that are actually dangerous, but most of them rely on inadequate law or inadequate consumer knowledge in order to sell products that delay proper treatment while causing no immediate harm. False claims give their victims a false feeling of security.

The National Society for the Prevention of Blindness, for example, has warned that patients should not be misled by claims that "magic" salves or drops will dissolve cataracts—this cannot be done.

Other groups interested in the protection of vision have warned against some claims made for mail order glasses. Other are concerned about the high-pressure techniques of enterprising corporations that sometimes make impossible claims for low costs and high effectiveness of lenses of one kind or another.

At least one witness today will describe some of these problems and will, I am sure, make some suggestions for private or public action against them.

Our subcommittee will also ask today for additional facts on a matter discussed at our hearing on March 9, 1964. A witness said at that time that the Food and Drug Administration had received a

report indicating that some cases of blindness apparently had resulted from impurities in plastic used for contact lenses. This statement has caused considerable concern and some discussion. We will look for an up-to-date report today.

One final point should be made about our subject.

In the course of our inquiries the subcommittee has discovered that many promoters have spent much time devising ingenious ways to cheat the elderly. In future hearings we will discuss some of the methods they have used to sell their fellow citizens worthless land, phony moneymaking plans, mail order health insurance plans of limited value, and many other products or services.

Important as these areas of inquiry are, I hope that consumers will pay special heed to the testimony we will hear today. Every one of us talks about vision as one of the most precious gifts we have, and yet we sometimes neglect that gift or endanger it by falling for the schemes of those who see the growing eye care needs of this Nation as merely another opportunity to victimize customers. Public action is required, and so is individual alertness. I hope that these hearings will encourage both.

Of course, we may be interrupted from time to time because of quorum calls, because of the civil rights debate. We are honored to have some very distinguished witnesses. Statements are expected from the American Association of Workers for the Blind, the National Better Business Bureau, the Society for the Prevention of Blindness. In addition, the following groups have been invited to submit statements: American Ophthalmological Society, the American Academy of Ophthalmology and Otolaryngology, the Optical Manufacturers Association, and the Better Vision Institute.

It is my understanding that Dr. Joseph Goldberg, president of the Contact Lens Manufacturers Association, is in the hearing room today. He is invited to give any testimony he may wish to give. The same is true of Mr. William Callahan of the Postal Inspection Service.

I think we can begin without further ado, but with our apologies because we were delayed in order to report to the Senate floor. Mr. Paul Rand Dixon, Chairman of the Federal Trade Commission, will be our first helpful witness, accompanied by Charles Sweeney, Chief of the Commission's Food and Drug Advertising, in the Bureau of Deceptive Practices.

Chairman Dixon, we very much appreciate your presence here this morning and look forward to your helpful statement.

**STATEMENT OF PAUL RAND DIXON, CHAIRMAN, FEDERAL TRADE COMMISSION; ACCOMPANIED BY CHARLES SWEENEY, CHIEF OF FTC FOOD AND DRUG ADVERTISING, BUREAU OF DECEPTIVE PRACTICES**

Mr. DIXON. Mr. Chairman, we are very happy to be here, sir.

The Federal Trade Commission appreciates your invitation to appear and report on its activities related to the promotion of products promising better vision or correction of eye troubles. This discussion will be concerned primarily with false and misleading advertising because of the mandate in the Federal Trade Commission Act that the consuming public be protected from unfair and deceptive practices.

The Commission has had long and extensive experience with those who would prey on the many sufferers from failing eyesight. A depressing factor is that much of this advertising exploits persons whose limited finances make them eagerly gullible as they seek a cheaper solution to their problems than that provided by competent medical treatment. The number and variety of such matters which have required corrective action by the Commission can best be explained by discussing typical features of a few cases.

For example, one case involved the sale of certain devices together with a course of instruction represented as a treatment for defects of human eyesight without resort to glasses, drugs, or surgery. The advertising claimed that the system was new and revolutionary, and that it would improve the eyesight, eliminate headaches and nervousness, overcome tired feeling and cause the eyes to become clear and strong, thus enabling the user to discard glasses. It was also claimed that the devices would enable the user to test his eyes and "adjust" them, making each eye better able to see alone as well as in harmony with the other. These and many other such representations were prohibited by the Commission after a full hearing of all of the evidence.

During the past several years the Commission has proceeded in many instances to curb deceptively exaggerated advertising for simple magnifying eyeglasses. In one such case the respondents were supplying eye testing devices for use by individuals desiring to purchase eyeglasses for themselves and by other persons desiring to sell glasses by acting as agents of respondents. Individuals attempted to use such devices to determine the eyeglasses needed to correct defects in their own vision and that of others, and wrote prescriptions for such glasses on forms provided by respondents. As the result of the advertising and the sales plan, the Commission found, respondents were representing that the eyeglasses so sold would correct the defects in vision of all persons.

In truth and in fact, the Commission concluded upon reviewing the record, such glasses were capable of correcting defects in vision of only those persons approximately 40 years of age and older who do not have astigmatism or diseases of the eye and who require only simple magnifying or reducing lenses, and ordered that advertising be so limited.

One advertiser stipulated that he would cease and desist from representing that his mail order spectacles would be effective in the treatment of impaired or diseased eyes, or would permit 20/20 vision when corrective lenses are required.

In addition to the direct misrepresentation of therapeutic properties, these cases also involve other factors and forms of economic deception. One, for example, concerned an advertiser who sold eyeglasses through the mail and through branch offices in various States. The advertising claimed that lenses were ground in accordance with prescriptions. In fact, the Commission found, a substantial proportion of the lenses were not so ground. Out of 15 pairs of glasses introduced as exhibits, competent experts testified that they would reject 10 pairs, for the reason that the lenses were not ground in accordance with the specifications set forth in the prescriptions.

In this case, eyeglasses were offered in the advertising at greatly reduced prices. The Commission found that the glasses so advertised were wholly unsuited for the great majority of persons with defective vision, and consequently very few, if any, of the glasses were being

sold at the advertised price. The advertisements were for the purpose of inducing prospective purchasers to visit stores where they were examined and advised that their eyes were in such serious condition that glasses other than those advertised were needed. This enabled respondents salesmen to sell glasses for much higher prices than those advertised. Very frequently the glasses so sold were the same or approximately the same as those offered by the terms of the advertisements, the only substantial difference being that the glasses were sold at many times the advertised prices. The net effect of the advertising was to divert customers from responsible optometrists who did not resort to such advertising, without achieving the promised savings.

Advertising for sunglasses has required considerable attention. There the misrepresentations have included the exaggeration of any actual reduction in glare, and such claims as that the lenses were ground and polished, that they were thermally curved and that they had a diopter curve which was not supported by the facts.

The development and increasing use of contact lenses has been accompanied by its share of regulatory attention. The Commission has been called upon to order the discontinuance of statements which have materially misrepresented their ease and comfort. More specifically it has been falsely claimed that all persons in need of visual correction can successfully wear contact lenses, that they can be fitted and worn without discomfort or irritation, and they cannot be dislodged by even strenuous activity.

False and misleading advertising has been by no means limited to the promotion of eyeglasses and contact lenses.

In one instance the Commission found that an advertiser was falsely claiming that a mineral food supplement would restore sight to the blind, would be an effective treatment for and would cure ulcer of the cornea, conjunctivitis, and glaucoma.

The Commission ordered one advertiser of a drug preparation to cease and desist from representing that it would be of any therapeutic value in the treatment of granulated eyelids.

In another case the Commission found that a drug preparation was being falsely advertised as a competent and efficient cure for cataracts, cloudiness of vision, or film carnosity, ulcers, and inflammation of the eyes.

Advertising for various eye lotions has received attention. In one of these cases, it was found that, contrary to the representations, the lotion would not strengthen the nerves of the eye, nor relieve eye strain due to any functional defect of the eye, but is merely an eye lotion which can in no way influence the delicate nerves of the eye or relieve functional eye strain.

The Commission is proud of its role in the effort to protect the elderly. It is recognized that this age group is most susceptible to human ailments. In many instances inadequate or improper treatment, especially as it is accompanied by delay in receiving competent medical care, may be highly unfortunate. The limited income of our older citizens is an added reason for assuring them full value for their medical care dollar. And, unfortunately, too many of them are so unsuspecting that they are easier victims of deception than their more alert and wary young counterparts.

The committee is assured that this deserving group will continue to receive earnest sympathy and protection from the Federal Trade Commission.

Thank you again for this opportunity to appear and discuss this vital subject.

Mr. Chairman, I also know from past experience that as this committee goes along it is going to uncover many things that perhaps need attention by either the Federal Trade Commission or the Food and Drug Administration, or even perhaps the Post Office Department. I wish to assure you that our staff will stay in close contact with what is developing here and if such examples are developed and come within the ambit of our responsibility we will do the best we can to proceed promptly, sir.

Senator WILLIAMS. Will you describe, Chairman Dixon, the administrative machinery that is available to you when you investigate and find deception in the advertising that leads to the sale of these devices? What tools do you have?

Mr. DIXON. Very often it comes in the mailbag as a complaint, either by the consuming public or a competitor who does not resort to falsehoods or deception, or it may come by reference from a committee of the Congress or may come by reason of our own activity of examining newspapers and periodicals as well as radio and television advertising.

Now, when we have reason to believe—

Senator WILLIAMS. Do you have a monitoring service? Do you have a staff that is equipped for that?

Mr. DIXON. We have one, sir, but like everything else, it could be a lot larger, but I think we are doing a pretty fair and competent job with what we have.

Senator WILLIAMS. Then when you suspect something is deceptive, what happens?

Mr. DIXON. When we have reason to believe that our statute is being violated and in this area we have the mandate of the Congress, either in section 5 of the Federal Trade Commission Act or within the Wheeler-Lee amendments to the Federal Trade Commission Act, sections 12, 13, 14, and 15, if we have reason to believe that the law is being violated, then immediately we will investigate it, investigating it meaning that we will obtain the advertising and measure it by its importance and public interest and be prepared, if necessary, to prove the representations are false, if we challenge them.

Now, of course, the ultimate thing that we can do is issue a complaint. After hearing and due trial and final decision by the Commission and perhaps review in the courts, our order to cease and desist becomes final. We are able along the way in many matters, though, Senator, to obtain a cessation of the practice either by affidavit of discontinuance or by a cease-and-desist order entered into by consent which shortens this period considerably, but what we are after is the result. We are under the mandate of the Congress to eliminate deception and misleading or false and fraudulent advertising, especially in the food, drugs, devices, or cosmetic fields, where it is so important to the health and well-being of the citizenry, that we move as quickly as we can with all of these tools.



Senator WILLIAMS. You have a broad area of responsibility here. I imagine you need professionals of many disciplines to decide whether something is what it is described as being.

Now, as I understand, wrinkle removers are getting a great deal of attention in advertising. We had a representative of one of the agencies here that told us that there is absolutely nothing that will remove wrinkles and yet I know there is a lot of advertising.

Do you have someone who is equipped to analyze the substance and determine whether it can remove wrinkles?

Mr. DIXON. We are not unaware of this, sir. To carry this burden it may be necessary for you to appropriate some more money to the Federal Trade Commission to go and obtain the competent expert opinion and tests that are necessary. The fact that I, as one of five Commissioners, think that something is questionable and false doesn't make it false. What makes it false is hard-core proof, and under our system, you are still not guilty until you are proven guilty, theoretically, and we have to carry that burden.

Now, we have a division of Scientific Evidence. We have eight medical doctors and several highly qualified chemists that work in close harmony with Mr. Sweeney's division in the Bureau of Deceptive Practices.

Now, I must say to you in all candor and honesty that one of the things that seems to drive me a little bit nuttier as the years go by is how you line these matters up. What is more in the public interest? You can just do so much with the talent that we have. Now, when you speak of wrinkle removers, or whatever these things are, we recognize this as a troublesome area and as we go in we have to move something aside. And forever our responsibility is to move against what is more in the public interest.

Senator WILLIAMS. I would think in those areas where the device or the material, whatever it is, is positively harmful, this would have a priority over those that are just wholly worthless, but not damaging?

Mr. DIXON. Well, if it is harmful, then we come into a new area, and this is our relationship with Food and Drug. With Food and Drug, we have what I consider a very fine working relationship. I think their responsibility predominates ours in health and safety. Ours is in the economic area, when you go out to sell it, to fool the public and waste your money on it; but also we have the responsibility in the health area on many products. Under the Federal Trade Commission Act food, drugs, devices, and cosmetics, devices—glasses are a device.

Senator WILLIAMS. A hearing aid is also—

Mr. DIXON. Here we come again.

Senator WILLIAMS. We have had a lot of complaints about them.

Mr. DIXON. This is a device, sir, and we are beginning to look at hearing aids. It is quite obvious here that millions of people have defective hearing, and within the ambit of deception and misleading advertising we are looking. I know from many of the complaints that we get, though, Senator, the complaint comes, can't you do something about the high cost of these things? Well, now, I have to answer these letters and I have to tell these citizens that quite frankly, no, unless those costs are arrived at by conspiracy of a price fixing. Under the free enterprise system an individual is entitled in America to charge for his product whatever he can get for it, and if it is too high, it is just too bad. We are hopeful in America that competition moves in,

but if the price is too high, another competitor will come in and offer a competitive product at a lower price. Our laws are aimed so they will not get together and rig the price; individually you are free.

Senator WILLIAMS. Senator Neuberger?

Senator NEUBERGER. No questions.

Senator WILLIAMS. Senator Yarborough?

Senator YARBOROUGH. Mr. Chairman, some suggestions have been made here that nothing would remove wrinkles. Now, if nothing will remove wrinkles, and the business to remove wrinkles is obliterated, we would have a cessation of a great volume of advertising in the ladies magazines, certainly a decline in the mudpack industry. I am not asking you whether anything will remove wrinkles or not, but I am not certain we want to bury the illusion that something might remove wrinkles.

Mr. DIXON. You might masquerade them.

Senator YARBOROUGH. You see many biographies of ladies, prominent in the entertainment field, who state they have kept the wrinkles away. But you said you could do nothing about price.

Now, if an article is advertised as perfectly harmless, a beneficial article, as having the properties over in another field, would that not come within your jurisdiction?

Mr. DIXON. This is deception.

Senator YARBOROUGH. Not deception in the sense that this is something injurious, not deception that this article isn't beneficial, but deceptive in the sense that a callous on the foot will also cure a carbuncle, or cure some deep-seated pain, take away a mole or something. Does that not come within your jurisdiction?

Mr. DIXON. It certainly does and we have had thousands of such cases.

Senator YARBOROUGH. And if an excessive price is being charged, a simple beneficial article that is being used, even if you had an example where the other use would be harmless to the person—not the one I gave—even there the other use for which the higher price was being charged was a harmless use, you would have jurisdiction in saying this is deceptive in saying that this callus pad is going to remove a wart?

Mr. DIXON. That is correct, sir. We could prohibit such a representation and if it was engaged in after the prohibition came, it would cost the party \$5,000 a day for each violation. It becomes rather expensive.

Senator YARBOROUGH. That would be a law that has some teeth.

Mr. DIXON. Yes, sir.

Senator WILLIAMS. To get that order you have to go through rather involved legal procedure, do you not? How long does it take?

Mr. DIXON. Well, it used to take a long time. I have noticed since we have changed and revamped our own procedures that cases are coming to the Commission within about a year. When I first came there some of them used to take 3 years before they would come up to the level of the Commission. After that, of course, the parties have a right to petition for review in any circuit court of appeal, from there certiorari to the Supreme Court, so one is talking about judicial guarantees within the ambit of the Constitution. They are there, sir.

I might say, Senator, the great majority of our cases, when we—with the tools that Congress gave us, and you gave us the powers—if we use our powers correctly, we have a pretty strong hand and we reveal it early, as soon as we charge a violation of law. As a result of this we get a vast majority of our cases consented to. They do not have to consent to them, but the procedures are there for them, and this gets the result, and the result is the elimination of the deception.

Senator YARBOROUGH. If you have your consent decree that is violated the same penalty applies if that decree was entered after the trial?

Mr. DIXON. Since 1938, the Congress of the United States made orders of the Federal Trade Commission final if not petitioned for review within 60 days. If that 60-day period runs it is just as final as the final date the Supreme Court stamps it. From that point when it becomes final that way, if it is violated we certify to the Attorney General for civil penalties, go into the district court system. If the petition comes from a decision into the circuit courts and up, then if there is a violation we go back on contempt, and the limit there is whatever damages that the court wishes to assess, and they can be as much as the court decides.

Senator YARBOROUGH. Thank you, Mr. Chairman. I have no further questions.

Senator WILLIAMS. Just one final question.

Have you suggested to any committee of Congress any changes or improvements in your operations?

Mr. DIXON. Yes, sir. About 2 years ago, bills were introduced, I believe over in the House originally, it was called temporary cease and desist order power, and they were introduced by Congressman Steed and Congressman Patman, I believe. President Kennedy supported them and now President Johnson has supported this additional power to the Federal Trade Commission. This would, in effect, grant to the Federal Trade Commission itself the power upon a showing of irreparable harm and injury upon the record, subject to show cause and review in the circuit court, the right to issue a temporary cease and desist order, pending litigation. We have the right, sir, under section 13 of our basic act, with respect to foods, drugs, devices, and cosmetics, under certain conditions, to go into a district court and ask for a stay order, a temporary injunction. We do not have it across the board. With respect to across the board, it was our belief that in this particular trade field that we fit, within the ambit and the design of the Congress in creating a Federal Trade Commission, we have the peak expertise and the ability to use it and use it in the public interest subject to review. Many people have supported this power, Senator Williams, on the basis that if we would go to court, not that we would have the powers directly. I think the Bar has taken that position, I think the chamber of commerce and many others. I would say that is second best. I would myself think that the Congress has given the Federal Trade Commission the power to do the greatest of all things, to issue a permanent injunction. If we have that much expertise, I think we have enough to do it temporarily, subject to review, the same thing, the same test.

Senator WILLIAMS. Senator Keating?

Senator KEATING. No, I have no questions.

Senator WILLIAMS. For the committee, I certainly want to thank you, Chairman Dixon.

Mr. DIXON. Thank you, sir.

Senator WILLIAMS. Mr. Winton B. Rankin, Assistant Commissioner, Food and Drug Administration, is with us this morning.

Mr. Rankin, we welcome you here, and your associate, Mr. Maurice Kinslow.

Do you have a prepared statement? Would you like to read it or proceed in any other way?

**STATEMENT OF WINTON B. RANKIN, ASSISTANT COMMISSIONER,  
FOOD AND DRUG ADMINISTRATION; ACCOMPANIED BY MAURICE  
KINSLOW**

Mr. RANKIN. Mr. Chairman, we are pleased to appear today to discuss the Food and Drug Administration's activities with respect to preparations for use in eyes. Some of these are drugs, some are therapeutic devices and some are cosmetics. Whether an article is a drug, device, or cosmetic, the Federal Food, Drug, and Cosmetic Act requires that it be safe when shipped across State lines.

Ophthalmic drugs which are not generally recognized by qualified experts as safe and effective for their recommended use must be cleared through the new drug procedures, that is, the manufacturer must submit convincing scientific evidence to the Government of safety and efficacy.

When our experts agree that the tests demonstrate what the manufacturer thinks they do, we approve the application and the product may legally be marketed for general use. Such evidence of safety and effectiveness necessary ordinarily includes the results of clinical trials with the product.

There are at present no such requirements for preclearance of ophthalmic devices or cosmetics used in the area of the eye. However, other provisions of the law prohibit the use of poisonous or deleterious substances in cosmetics and classify as misbranded any device which is dangerous to health when used as recommended in its labeling.

Of course in the absence of a premarket testing requirement, dangerous devices may be placed on the market until the Government detects them and conducts the tests necessary to establish their hazard, or they may remain on the market until their hazard is revealed by injuries to consumers.

On January 16, 1953, the Food and Drug Administration issued a formal policy statement in the Federal Register advising manufacturers and repackers of ophthalmic solutions that liquid preparations offered or intended for ophthalmic use which are not sterile may be regarded as adulterated and misbranded under the Food, Drug, and Cosmetic Act.

This notice resulted from investigations by pharmaceutical manufacturers, physicians, and the Food and Drug Administration which revealed that liquid preparations for ophthalmic use contaminated with bacteria had been responsible for serious eye injuries and, in some cases, complete loss of vision. The Food and Drug Administration conducted a survey of medical opinion and found that it was the consensus of informed persons that such preparations should be sterile.

Since 1953 the Food and Drug Administration has regularly sampled liquid ophthalmic preparations for sterility. During that period a number of eye preparations have been seized and removed from the market because of that defect, because of nonsterility.

On August 24, 1960, the Federal district court in Chicago issued an order to restrain further shipments of unsterile eye preparations manufactured by Micon Laboratories, Wauconda, Ill. The products involved were Mi-Con wetting solution, I-Septic, Sterl-Ize, Sterilen, and UCL wetting solution which were to be used to clean and wet contact lenses before inserting them or as a solution in which to store lenses when they were not in use.

These preparations were represented as sterile and therefore suitable for use in the eyes and for wetting, cleaning, and storing contact lenses when in fact they were contaminated with large numbers of living micro-organisms and other foreign materials.

Shipments of some of these products had been seized earlier, but the firm continued to ship unsterile eye preparations, so the Government sought and was granted a permanent injunction.

When we testified before this committee on March 9, of this year, Mr. Chairman, we submitted for the record a copy of our booklet entitled "Your Money and Your Life." On page 10 of that booklet there is the following statement which we believe is pertinent to the subject today:

#### EYEGASSES BY MAIL ORDER

There are legitimate firms that fill prescriptions for eyeglasses by mail, but eyeglasses cannot be adequately or safely fitted by mail nor can a mail order course in eye treatment be truthfully offered to correct defects of vision.

The human eye is complex and delicate and should not be tampered with by the unskilled. An examination by a professionally trained person is necessary to fit eyeglasses correctly.

As a result of reports that some wearers of contact lenses have suffered blindness we are engaged in an extensive investigation. It appears that the principal difficulty arises from improper fitting, insaniary practices by the wearer, or wearing the lenses too long at a time.

These are not matters that we can control. But the possibility that an impurity in the plastic from which many contact lenses are manufactured may be responsible, is clearly a matter calling for investigation under the Federal pure food and drug law.

We are obtaining information from the manufacturers of the basic chemical from which the plastic is made and information about the finished plastic, not only as it is made by the original chemical manufacturer, but as it may be processed and manipulated by intermediate handlers before it becomes the blank for a contact lens. We are evaluating information about any testing which has been conducted and our chemists and pharmacologists also are arranging to make laboratory investigations.

So far, we do not have evidence which establishes that the plastic is the cause of eye injuries. It is not possible to draw final conclusions until the investigations and studies are completed.

Senator WILLIAMS. How long have you been on that study? Since the hearing that we had on March 9?

Mr. RANKIN. Yes, sir.

Senator WILLIAMS. Senator Neuberger?

Senator NEUBERGER. No questions.

Senator WILLIAMS. Senator Keating?

Senator KEATING. Yes, I have one question.

Toward the end of last summer, a constituent wrote to me about a neighbor of his who had suffered a rather unusual accident. At least I hope it was unusual. He had been at a cookout and strangely enough the frames of his eyeglasses caught fire. They were apparently made of a highly flammable plastic and he was very severely burned.

First, let me ask: Is that a rather common occurrence?

Mr. RANKIN. No, Senator, that is not a common occurrence. Some years ago many eyeglass frames were made of a very flammable material, nitrocellulose, and there were a few injuries or accidents similar to the one you describe.

Senator KEATING. They are not now made of that?

Mr. RANKIN. At the present time our investigations show that the frames manufactured in this country are made from a relatively non-flammable material which would not flare up as was the case with your constituent.

Senator KEATING. Do you remember that case—

Mr. RANKIN. I recall your letter.

Senator KEATING. I wrote to the Department about it. They were able to do very little about that under existing legislation. I wonder whether it is a serious enough occurrence or a common enough occurrence to make you feel that you needed additional legislation to cope with the situation.

Mr. RANKIN. Senator Keating, when we received your inquiry, on this point, we made inquiries in addition to a study 2 or 3 years ago and were advised that the frames of glasses are made from a very slow-burning plastic or one that will not burn at this time. In view of that information we do not propose legislation at this time.

Senator KEATING. In other words, all manufacturers of frames now use either a nonflammable or nearly nonflammable frame?

Mr. RANKIN. Our studies have not been extensive enough to say that 100 percent of the manufacturers do that. The indications are that they do, but we would have to have more investigation to answer that question.

Senator KEATING. Have you looked into the case of imports, into the great amount of frames that are brought into this country from foreign countries?

Mr. RANKIN. We do investigate imports, but there again, I am not in a position to say that 100 percent of the frames are nonflammable.

Senator KEATING. Well, that is a serious thing. I don't know. I don't have a match here.

Senator WILLIAMS. Mrs. Neuberger has a match.

Senator KEATING. Is there any way for a purchaser of eyeglasses to know whether he has a frame that is going to go into flames when he leans over a cookout?

Mr. RANKIN. Without striking a match to it?

Senator KEATING. Yes. Normally you don't strike a match to a frame when you go in to buy a pair of glasses.

Mr. RANKIN. I do not know of a method whereby the purchaser could tell by looking at the frames.

Senator WILLIAMS. On this question, I think, Senator Keating, we have many distinguished representatives of the American Optometric Association; and I believe that they are prepared to discuss that.

Senator KEATING. I will talk with them, and save my demonstration until later.

Thank you, Mr. Rankin.

Senator WILLIAMS. Just one question or observation, Mr. Rankin. When we had the last hearing, it was suggested, as I recall, that FDA is considering, perhaps is hoping for, premarket testing of devices. Is that the position of the administration?

Mr. RANKIN. That is the position of the administration. Such an amendment to the law has been recommended by President Johnson and our Department has forwarded to the Senate proposed legislation that would accomplish that and it is before the Senate now as S. 2580.

Senator WILLIAMS. Has the Food and Drug Administration considered sort of a halfway position short of premarket testing of every new device? This could be a disclosure, a requirement of disclosure of what a new device is, rather than premarket testing—something similar to disclosure in SEC, for example, of a new issue of stock?

Mr. RANKIN. That type of approach, Mr. Chairman, has been discussed in connection with the development of the legislative proposal. The problem with that is that when you have a complicated device consisting of electrical machinery or electronic gadgets the disclosure could be simply a statement, this device contains condensers, resistors, radio tubes, wires, and so forth.

It would not assure the purchaser or the practitioner, if it is a device for use by licensed practitioners, that the electrical output or the wave energy coming from the finished device would do what the promoter claims it will. Frankly, we question that that type of disclosure would meet the needs that confront us today.

Senator WILLIAMS. I would certainly agree with you, when you have a very complex piece of machinery that is billed as a therapeutic device. The problem, however, arises with the thousands of noncomplicated therapeutic devices. As a matter of fact, the manufacturer of thousands of devices expressed concern. Every change in the Band-Aid, for example. Does this have to be tested before marketing? You see, the simple device presents a problem, does it not?

Mr. RANKIN. Yes, it does. Some of the manufacturers have spoken with us through their associations about this particular question. Now, the way that we propose in the bill to deal with that problem is to classify as a device requiring testing only those products that are not generally recognized as safe and effective by the experts, so that a surgeon's scalpel made of ordinary steel that will cut would not have to be tested. It would be recognized as safe. And eyeglass frames made of nonflammable plastic would not have to be tested. They are recognized as safe.

But when you have a different situation in dealing with a device to be implanted inside the body in repairing broken bones. I believe Commissioner Larrick showed some of the products that have been removed from the body when he was here last time. These materials should be tested to determine that they are not reactive with body fluids and that they will not set up an injurious process after being inserted in the body which will require surgery to remove them at a later time.

We believe that this general recognition of safety approach is one that offers the most promise of success in ruling out from testing the products that do not need it, and requiring testing of the products that do. This is the guideline that has operated since 1938 in the new drug section of the law.

It was picked up in the food additives section in 1958 and in the drug amendments in 1962. Many people have tried to develop a better method of separating the hazardous from the nonhazardous, but as yet we do not have that better procedure.

Senator WILLIAMS. Anything further, Senator Yarborough?

Senator YARBOROUGH. I have no further questions.

Senator WILLIAMS [observing Senator Keating with match and eye-glass frame]. Senator Keating is going to do his own testing here. This is called after-market testing.

Senator KEATING. It doesn't do anything.

Senator WILLIAMS. Thank you very much.

Dr. W. Judd Chapman is with us from Tallahassee, Fla., and you are the president of the association, are you not?

Dr. CHAPMAN. Yes, Senator, I am the president of the American Optometric Association.

Senator WILLIAMS. I know both of your Senators wanted to be here and greet you and introduce you, but they are both busy elsewhere.

Would you bring your associates from the American Optometric Association to the table and introduce them to us?

I know I am very honored that my friend Dr. Nurock is here from New Jersey.

Dr. CHAPMAN. Senator, I have an introduction in my presentation of these gentlemen, if I may proceed with my paper, at the time appropriate they can be introduced. If that is all right?

Senator WILLIAMS. Why don't they gather around?

Senator KEATING. It is an imposing array. It looks like a Government department appearing.

Dr. CHAPMAN. Thank you, Senator. Needless to say we feel somewhat like that at the moment.

#### STATEMENT OF W. JUDD CHAPMAN, O.D., PRESIDENT, AMERICAN OPTOMETRIC ASSOCIATION

Dr. CHAPMAN. I do have several changes in the typed presentation, but I have a corrected copy which can be submitted after this presentation is made.

Senator Williams and members of the committee, we are happy to be here today to assist this committee in the important investigations it has undertaken for the elderly of our Nation.

My name is W. Judd Chapman. I practice my profession at 205 South Monroe Street, Tallahassee, Fla. I graduated from Northern Illinois College of Optometry in 1948, having previously attended the University of Florida. Subsequently, I took postgraduate work in the contact lens field at the School of Optometry, University of Houston.

Senator YARBOROUGH. Mr. Chairman, may I interrupt with a question here?

Senator WILLIAMS. Yes.



Senator YARBOROUGH. That school of optometry at the University of Houston, I believe, is recognized as one of the outstanding schools of optometry in the country?

Dr. CHAPMAN. Senator Yarborough, it is. I just had the privilege of visiting all 10 of the schools of optometry in the country and counted my experience at the University of Houston a most pleasant one.

I am a member of the American Academy of Optometry, the American Optometric Foundation, a former president of the Florida State Board of Optometry, and hold a Reserve commission in the U.S. Air Force Medical Service.

My presence here is as president of the American Optometric Association which is a membership organization incorporated under the laws of the State of Ohio. We have a membership of more than 12,500. There are approximately 21,000 optometrists listed as being licensed in the States of our Union. Eliminating the duplication of optometrists licensed in more than one State, those who have retired, and those who have discontinued practice for other fields, such as science and research, the number of actual full-time practicing optometrists in the United States is an estimated 16,000. This is far short of the actual number needed. Coupled with a shortage of eye specialists in the medical field this shortage creates a vacuum and environment whereby the untrained, unlicensed, and unscrupulous find it profitable to enter the field of vision service when they find there are no legal or other restrictions to prevent them. A study of 14 States is appended to this statement to show you the relative distribution of optometrists, ophthalmologists, and oculists by trade areas.

At the outset, it may be desirable to define terms, which are often confused.

An optometrist is a doctor of optometry who is specifically educated, trained, and licensed to examine the eyes, and related structures to determine the presence of vision problems, eye diseases, and/or other abnormalities. He may prescribe lenses, visual training, specialized services, or other optical aids to preserve, restore, and enhance the comfort and efficiency of vision.

An ophthalmologist is a medical doctor who specializes in diagnosis and treatment of defects and diseases of the eye, performing surgery when necessary or prescribing other types of treatment, including glasses.

An oculist is likewise a medical doctor who specializes sometimes, among other specialties, in the eye. Many times he combines all or some specialties, or eye, ear, nose, and throat. The nature and time spent upon studies in the specialty are determined by the physician himself.

An optician is a craftsman who serves an apprenticeship of several years in grinding lenses to prescription specifications and assembling lenses in frames. Some opticians, calling themselves dispensing opticians, fill the prescription and complete the work of the ophthalmologist.

Our association, like similar professional organizations, such as the American Medical Association and the American Dental Association, is composed of members who join their county, district, or local society. One joinder brings membership in the local society, the State association, and the American Optometric Association. These mem-

bers abide by the code of ethics and professional standards of our association, and I have a copy of this document which I will leave for the permanent record.

The code and supplements therein contain prohibitions against unprofessional methods of practice.

Senator KEATING. Could I interrupt, Mr. Chairman, at that point to clear up the difference between these various titles which perplex me sometimes, I must confess.

How much study is required for the O.D. degree?

Dr. CHAPMAN. Senator Keating, I am going to ask Dr. Baldwin, the dean of our school at Pacific College of Optometry in Oregon to answer that question for you. He is more qualified.

Senator KEATING. If that is all right, Mr. Chairman.

Dr. BALDWIN. The minimum degree requirement is 5 years at the present time; and the general trend of schools is to move toward a 6-year program.

Senator KEATING. Does that include what would normally be called a college training?

Dr. BALDWIN. The general 6-year program, and Ohio State was the fourth school to move to this program, includes 2 years of preoptometry and 4 years of optometry.

Senator KEATING. And the preoptometry deals with general subjects that you would get in the college?

Dr. BALDWIN. With heavy emphasis on science.

Senator KEATING. Then, for 4 years under that program you study simply subjects relating to the eye?

Dr. BALDWIN. Either directly or indirectly. In the upper division courses there are such things as statistics which are related in the way that we use them to the eye, but these are general courses offered by other departments of the university.

Senator KEATING. How many such colleges are there in the country?

Dr. BALDWIN. There are five affiliated with universities and five which are nonaffiliated but accredited institutions.

Senator KEATING. What universities have affiliation?

Dr. BALDWIN. Indiana University, Ohio State, Houston, California, and Pacific.

Senator KEATING. Now, if you want to become an ophthalmologist you must take a regular course for an M.D.?

Dr. CHAPMAN. Yes, sir. That is correct.

Senator KEATING. Are some people who call themselves optometrists, in fact ophthalmologists?

Dr. CHAPMAN. Not to my knowledge; no, sir.

Senator KEATING. Are opticians ever also optometrists?

Dr. CHAPMAN. No, sir; other than those opticians who took full optometric training and were licensed as optometrists.

Senator KEATING. Opticians do hold themselves out, do they not, as being able to prescribe and fit you for eyeglasses?

Dr. CHAPMAN. No, sir. This is an important point and I am glad you raised it. Let us see if we can make it clear.

The optician fills the prescription which would be supplied either by an ophthalmologist or an optometrist. He is very much in the same position as a pharmacist who fills a drug prescription for a physician. He does not examine eyes.

Senator KEATING. So he would be violating State laws in most of our States if he tried to prescribe what kind of glasses you should have?

Dr. CHAPMAN. Yes, sir. In all of the States of the Union.

Senator KEATING. What about these 5-and-10-cent-store glasses?

Dr. CHAPMAN. Well, the glazed goods question is one which besets us no end because these are generally being given the right to be utilized by the public by direct purchase the same as we have available to the public through mail-order houses, the selling of spectacles in that fashion.

Senator KEATING. I know a lady who says that when her eyes get tired and her regular eyeglasses bother her, she reaches in her pocket and she puts on a pair she paid a dollar for, or 50 cents in the store. She says they rest her eyes.

Dr. CHAPMAN. Senator, I would be happy if you would like to pursue this, but we have a very thorough analysis of the subject that you are asking me about in our later presentation.

Senator KEATING. All right. I will defer then.

Dr. CHAPMAN. Thank you.

Senator KEATING. Just one other question. Why would a person be a ophthalmologist instead of an oculist or vice versa? What's the difference?

Dr. CHAPMAN. I think Senator, the primary difference, without going into, indeed, differences in training, is that the ophthalmologist pursues additional training beyond his regular medical training and, in fact, is generally certificated in most instances by a specific board in ophthalmology, which the oculist, if I understand it correctly, does not have to do.

In fact, the term oculist is really not being heard too much any more. I do not try to profess to know the reason why, but you rarely see the oculist sign that used to be so evident throughout the country.

The ophthalmologist term is now being utilized far more, the training goes perhaps beyond that of the regular medical training, by and large.

There are some additional facts which would indicate that in certain instances medical practitioners are calling themselves ophthalmologists who in fact are not certified at all. However, I am literally treading in territory in which I have not made thorough study.

Senator KEATING. Thank you very much.

Dr. CHAPMAN. I regret that I can't be more specific on that.

Senator KEATING. Thank you.

Senator YARBOROUGH. Mr. Chairman, may I ask a question here?

Senator WILLIAMS. Yes.

Senator YARBOROUGH. Dr. Chapman, when you are not certain about some of these divisions, how is the general public, a person of average income, with a trade or occupation—when he begins to have difficulty with his vision and needs some relief by way of glasses, he gets enough medical advice, the medical doctor examines him and tells him his problem is vision. How does he know the difference between an optometrist, an ophthalmologist, optician, or oculist?

Dr. CHAPMAN. Senator, I am not at all confused about the difference. The difference between who in the medical field call themselves an ophthalmologist or oculist, that I wouldn't profess to accu-

rately know, but the other areas you mentioned are, indeed, a concern of our association which consumes a great deal of our time in simply portraying accurately to the public the fact that the ophthalmologist is generally trained in the field of eye surgery and treatment, specifically. Whereas the optometrist of his day spends the great bulk of his time in determining first the health of the eye and then upon determining that fact to be affirmative, he proceeds to give the most thorough and careful vision analysis that he can do. That is the basic difference between the two groups.

Senator YARBOROUGH. An optometrist does not attempt to treat any disease or abnormalities, anything that requires medical treatment?

Dr. CHAPMAN. That is correct. We have extreme responsibility because perhaps 70 percent of the eye care patients that come into the offices of the practitioners across the country, come to optometrists, and, therefore, there is great emphasis placed in our school on the recognition of the pathological condition of the human eye, and if it is so found then this patient is returned to the physician for proper treatment and care and further investigation.

Senator YARBOROUGH. But both the optometrist and ophthalmologist and oculist all fit glasses, all three?

Dr. CHAPMAN. Yes, sir. That is correct.

Senator YARBOROUGH. And the optician is not supposed to fit glasses?

Dr. CHAPMAN. No, sir. He is not permitted to fit; his training is in the crafts, his training is not in the eye itself. It is the optician who fabricates the materials which are utilized to correct the eye.

Senator YARBOROUGH. Are the laws of all States adequate to prohibit the optician from fitting glasses?

Dr. CHAPMAN. Yes, sir. I believe they are.

Senator YARBOROUGH. In the past, did some of the opticians sell glasses directly across the counter?

Dr. CHAPMAN. Yes, back many, many years ago.

Senator YARBOROUGH. That has been pretty recent, has it not?

Dr. CHAPMAN. No, I do not believe so, Senator. The optician himself, the man who claims nothing beyond his training as an optician, does not fit glasses.

Senator YARBOROUGH. Thank you.

Senator KEATING. Sometimes you see the sign, do you not, optometrist and optician? The same man who is, I assume, a legitimate optometrist also becomes an optician?

Dr. CHAPMAN. No, not in that sense, Senator. It is conceivable that he could have been an optician and could at the same time have continued with his training to become an optometrist. He might well, if he so chose to do so, and if it was legal in his State, indicate on the window, optometrist-optician.

Senator KEATING. It seems to me that I have seen that rather frequently. Is that a frequent designation?

Dr. CHAPMAN. Yes, in some States of the Union that can be done. In many States the law does not so permit.

Of course, the optometrist in his training includes all that the optician does. I am speaking now in terms of optics and design of lenses and grinding of lenses and fabricating of the prescriptions, all of which is included in optometric training. But far beyond that, he

goes into the area of careful, thorough analysis of the vision capabilities after determining the general health of the eye. That is one of the significant differences between optometrists and opticians.

Senator WILLIAMS. Is not all of the work of the optician included within the work of the optometrist, though he could be gilding the lily to say optometrist and optician, he is not gilding the lily, he is also indicating he has a lesser skill?

Dr. CHAPMAN. Each of you are pursuing this and seem keenly interested in it. I am going to ask, if I may, for Dr. Nurock who has been active in our International Association of Boards of Examiners, and this group by the way is the one which maintains, coordinates, directs, the affairs of the State boards of licensing examiners to perhaps clear your thinking a bit and perhaps even mine.

Dr. NUROCK. I am happy to say that in the State of New Jersey, from which the chairman comes and I also do, an optometrist is not permitted to designate himself as an optician; he must be either an optometrist or an optician. Now, this is true in many States, but unfortunately there are other States that do not have his requirement and optometrists very often in some of these other States do use the terminology optometrist and optician because they go beyond the process of examining eyes; they also want to get some of the business of filling prescriptions.

Now, I want to point out that this also is prohibited in the code of ethics of the American Optometric Association and International Association of State Boards of Optometrists which covers all the State boards and they have encouraged the various States to adopt legislation similar to what we have in New Jersey to prohibit this.

The work of the optometrist mainly is in the examination of the eye, as Dr. Chapman pointed out, first to detect the presence of any disease or abnormality and then any other vision defects.

He is not concerned with the making of the glasses.

Now, very often an optometrist will employ an optician to do this work, but he may not, as I pointed out before, in the State of New Jersey, and in many of the States who have advanced, designate to the public that he is an optometrist and an optician.

Senator KEATING. An optometrist, if he has an office can, and be within your code of ethics, hire as a technician, and perhaps in his office, a man or men or women who can actually make the glasses, so that he prescribes for you and then he produces the glasses, is that right?

Dr. NUROCK. That is exactly right and that is done in many instances.

Senator KEATING. I suppose that is what I had in mind.

Dr. NUROCK. Yes, sir.

Senator KEATING. When I needed some glasses just recently—I noticed that two of this eminent panel of seven do not wear glasses; I suppose you have to at times in order to stay in the association. [Laughter.]

But, as I said, I was going to get my eyes examined, and a friend of mine said, "Why don't you just go down here to one of these opticians and they will fix you up." I said, "I don't want to." My friend said, "That is the most inexpensive way to get your glasses, just go in and buy them. They will test your eyes and you buy them."

Now, I went to two offices—I suppose one was an ophthalmologist, and that he prescribed, and then I went to an optician to get my glasses.

Maybe I went to an optometrist, he could prescribe.

Dr. CHAPMAN. The chances are, Senator, that you did go to an optician rather than an optometrist.

Senator KEATING. Not for the prescription, that was the first—then I went to the optician to get my glasses.

Now, this friend of mine says, "You are just going through two channels, why don't you just go right down to the optician, they will test your eyes and give you your glasses."

Now, my friend is a pretty wise fellow. Is this uncommon or is this illegal in most States?

Dr. NUROCK. In the 50 States and the District of Columbia, an optician may not legally examine eyes and prescribe glasses.

Dr. CHAPMAN. I think your friend just used the wrong word when he said go down to the optician and be fitted with glasses.

Senator KEATING. He was probably slurring the word "optometrist."

Dr. CHAPMAN. Yes; perhaps.

Senator KEATING. But, probably the one that Ed had in mind was an optometrist who had a connection with an optician who did his technical grinding for him and produced the glasses.

Dr. NUROCK. This is correct, and in many instances the optometrist does not have this work done on his own premises, but sends the prescription to an outside laboratory, the glasses are then fabricated in the laboratory and sent back to the optometrist and he then dispenses them to his own patient.

Senator KEATING. In what number of cases would an optometrist and an optician be working together? What is that, 10 percent of the cases?

Dr. NUROCK. I would say that is just about right; probably 10 percent of the cases.

Senator KEATING. No more than that?

Dr. NUROCK. I would say that in 90 percent of the cases the optometrist makes the eye examination, orders the glasses from a laboratory, then inspects the glasses when they come back—he has to verify that they have been made exactly according to his prescription, and then he will dispense them to his patient.

Now, this is true also of many ophthalmologists who do their own dispensing; they will write a prescription, send it to a laboratory, or they might have an optician working for them as the optometrists do, I might say this would apply to 10 percent there, too, because it is becoming more prevalent. The American Medical Association has now made it an accepted procedure for ophthalmologists to dispense their own glasses.

Senator KEATING. They can do that?

Dr. NUROCK. That is correct.

Senator NEUBERGER. Dr. Chapman, could we not make the analogy here to just clear this up, that the optician is to the optometrist as the dental technician is to the dentist? We have a medical laboratory at the university where the opticians work. They sit out in a plate glass window and all they do all day is sit there and grind lenses and they show you how they are filling the prescriptions. That is the

optician. The optometrist sends the prescription over to him, just like the dentist does to the lab.

Dr. NUROCK. You are absolutely correct, Senator.

Senator WILLIAMS. Can't the dentist do his own manufacturing?

Dr. CHAPMAN. Yes—

Senator WILLIAMS. So the analogy is not precise.

Senator NEUBERGER. Just as the doctor says, the optometrist may have learned to be an optician first.

Senator WILLIAMS. But he cannot, in our State, grind his own lenses?

Dr. NUROCK. He can do his own work but he cannot publicize it. He may not hold himself out to the public.

Senator WILLIAMS. But he can grind his lenses?

Senator KEATING. He is an underground grinder. [Laughter.]

Dr. NUROCK. This is legal because the optometrist in all the optometric colleges is taught to do this work; he knows how to do it; he must know every phase of the making of a pair of glasses, so when it comes back when he orders them from some optician or laboratory, he has the knowledge to verify that they have been made correctly. This is important, very important, because you can order a pair of glasses according to prescription and when they come back if you don't verify them you might very well be delivering to your patient a pair of glasses that were not made according to your prescription. This is one of the big advantages of a patient going to an optometrist because he gives this complete service. This is one of the things that optometry has to offer the public, a complete service, the examination of the eye, the detection of pathology, and the supplying of the prosthetic device; the eyeglasses or whatever he does need.

Senator YARBOROUGH. Mr. Chairman, I rather question this analogy between the dentist and the dental laboratory and the optometrist and the optician. In my experience in life I have never heard of a dental laboratory fitting teeth or crowns, actually doing that work; but I believe that there are more opticians that examine eyes and prescribe glasses. I remember as a boy before you had this regulation, there was a traveling salesman that would come around with a case, put glasses on, keep trying them, people would sit there and read a while until they got a pair of glasses with which they could read comfortably. Then we had an increasing level of technical competence and regulation; there are still a lot of people around the land that remember the old method and know how to adjust glasses with the old method.

Dr. NUROCK. But he probably didn't grind the lens and that is what the optician does.

Senator YARBOROUGH. They may have a lot in stock.

Dr. CHAPMAN. Actually, this gentlemen that you mentioned who sold them in that fashion, actually was not an optician, but rather would be called a spec peddler.

Senator YARBOROUGH. He may be a spec peddler, but I have a belief that a lot of people in this country are buying glasses which were not fitted by either an optometrist or an ophthalmologist or an oculist.

Dr. CHAPMAN. Yes, sir; that is true—

Senator YARBOROUGH. Mr. Dixon mentioned in his testimony those are sold by mail.

Dr. CHAPMAN. Yes, sir.

Senator YARBOROUGH. After all, when you sell by mail, that is like the spec peddler.

Dr. CHAPMAN. Yes, sir; that is what we would call him.

Senator NEUBERGER. I think your association can do a service by changing the terminology of optician to laboratory technician and then you will clear this up.

Senator YARBOROUGH. Does the optician have any licensing procedure?

Dr. CHAPMAN. In certain States he is licensed, Senator YARBOROUGH, in many other States he is not. He serves an apprenticeship period in the laboratory which permits him to understand the optics and the grinding sufficiently to be called on optician. In some States there is a licensing board. In my own State, for example, there is such a board which gives examinations to the optician and licenses them.

Senator YARBOROUGH. In the interest of time, Mr. Chairman, I will withhold further questions.

Senator WILLIAMS. Are there a lot more opticians than optometrists?

Dr. NUROCK. No; there are a lot fewer. The ratio, I would say, is about four optometrists to each optician.

Senator KEATING. And there are enough to serve the public, the optometrists?

Dr. CHAPMAN. No, sir; there are not. This is one of the very significant problems of my profession at this moment and we will touch on that, too, later in our presentation.

Senator KEATING. Are there enough opticians to serve the public?

Dr. CHAPMAN. Well, Senator, I am not equipped to answer that. I suspect that there are enough and interestingly, the trend, as Dr. Nurock pointed out, particularly in medicine, is for the ophthalmologist doing this work, or having it done in his own office. The optician has existed for the major part of the past many years on the service he rendered out of the ophthalmologist's office by filling prescriptions. You got your eyes examined, a prescription was written, you walked down the street to an optician where the frame selection was made. He made them up, you went back there and had the glasses dispensed. The trend is away from that now. Rather than leave the office of the physician he would stay there and all acts would be performed by an employee or the ophthalmologist himself.

Senator Keating. Do they render separate bills—the optometrist and the optician?

Dr. CHAPMAN. The optometrist and the optician?

Senator KEATING. Yes.

Dr. CHAPMAN. Well, yes; the optometrist renders a separate bill—

Senator KEATING. I mean, is it unethical to take a cut on what the optician—

Dr. CHAPMAN. Oh, yes; it is not only unethical, it is illegal as well.

Now, please understand the terminology here because this is an important point. The optometrist historically and certainly to make it more current, say the last 15 or 20 years, has rendered this full service—the examination, the determination of frame and lens choice, the writing of a prescription, and the rendering of the full service including the handing of the device to the patient when he returns. Historically that has been the method of performance of optometry.



The ophthalmologist and the oculist have been just the opposite—you went to their office for the examination, for which you paid an examination fee; you then were given that prescription to take to an optician and he filled the prescription.

I hope that cleared it a little bit.

Senator YARBOROUGH. Normally in the case of the ophthalmologist and the optician, it is up to the optician to fit the glasses after they are ground and normally the ophthalmologist would not look at the lenses to see whether the optician had carried out his prescription; would he?

Dr. CHAPMAN. Senator, I do not think that he would personally do that. He may in some offices, but he would certainly have someone there who would perhaps make that determination. I would be——

Senator YARBOROUGH. Of course, he would make it if he had the optician right in his own office?

Dr. CHAPMAN. No; I doubt that he would personally make it. I suspect some of them do, but very few.

Senator WILLIAMS. I think it is now crystal clear?

Senator YARBOROUGH. I think so. I have asked some of these questions, Mr. Chairman, because I have been buying glasses for more than 40 years and I have purchased glasses from optometrists, from ophthalmologists, from oculists, and I am not going to admit any further. [Laughter.]

Dr. CHAPMAN. I suspect, Senator Williams, that the most cogent statement I would like to make following these questions is that we in optometry of this day are preaching and teaching and educating the people of this country to recognize that you do not buy a pair of glasses—you buy good vision. The glasses are only the device by which good, thorough, comfortable, efficient vision is rendered, and we are in the process now of making an effort as explosive as we can to insure that the patient of the optometrist is in that office for the purpose of being given not only devices by which he can see but all of the other training, direction, and care that will produce that type of vision. Unfortunately, the commodity elements, the commercial element of a pair of glasses has been in excess of what is truly right because this is only valuable when that which is in it is carefully compounded, accurately determined, and thus they become an effective device for the patient. The glasses themselves, as a commodity, are almost valueless in the sense that they are purely a matter of glass and frame.

I do not know whether that is helpful, but after some of the things which were said I would want you to understand this fact very definitely.

Senator YARBOROUGH. I think it would be valuable for the general public to understand that.

Dr. CHAPMAN. That is what we are trying so hard to do, Senator.

Senator WILLIAMS. Gentlemen, we again have to recess briefly for a call to the Senate. I wonder if while we are gone you could counsel and organize the rest of the testimony so we could finish before lunch?

Senator KEATING. It was our own fault that you did not.

Dr. CHAPMAN. You covered interesting points that we are deeply concerned about, and if it is helpful to clear it for you it will be for others as well.

(Recess.)

(Transcript continued on p. 371.)

## STATEMENT OF W. JUDD CHAPMAN, O.D.

Senator Williams and members of the committee, we are happy to be here today to assist this committee in the important investigations it has undertaken for the elderly of our Nation.

My name is W. Judd Chapman. I practice my profession at 205 South Monroe Street, Tallahassee, Fla. I graduated from Northern Illinois College of Optometry in 1948, having previously attended the University of Florida. Subsequently, I took postgraduate work in the contact lens field at the School of Optometry, University of Houston. I am a member of the American Academy of Optometry, the American Optometric Foundation, a former president of the Florida State Board of Optometry, and a reserve commission in the U.S. Air Force Medical Service Corps (optometry).

My presence here is as president of the American Optometric Association which is a membership organization incorporated under the laws of the State of Ohio. We have a membership of more than 12,500. There are approximately 21,000 optometrists listed as being licensed in the States of our Union. Eliminating the duplication of optometrists licensed in one or more States, those who have retired and those who have discontinued practice for other fields, such as science and research, the number of actual full-time practicing optometrists in the United States is an estimated 16,000. This is far short of the actual number needed. Coupled with a shortage of eye specialists in the medical field this shortage creates a vacuum and environment whereby the untrained, unlicensed, and unscrupulous find it profitable to enter the field of vision service when they find there are no legal or other restrictions to prevent them. A study of 14 States is appended to this statement to show you the relative distribution of optometrists, ophthalmologists, and oculists by trade areas.

At the outset, it may be desirable to define terms, which are often confused.

An optometrist is a doctor of optometry (O.D.) who is specifically educated, trained, and licensed to examine the eyes, and related structures to determine the presence of vision problems, eye diseases, or other abnormalities. He may prescribe lenses, visual training, specialized services, or other optical aids to preserve, restore, and enhance the comfort and efficiency of vision.

An ophthalmologist is a medical doctor (M.D.) who specializes in diagnosis and treatment of defects and diseases of the eye, performing surgery when necessary or prescribing other types of treatment, including glasses.

An oculist is likewise a medical doctor (M.D.) who specializes sometimes, among other specialties, in the eye. Many times he combines all or some specialties; or eye, ear, nose, and throat. The nature and time spent upon studies in the specialty are determined by the physician himself.

An optician is a craftsman who serves an apprenticeship of several years in grinding lenses to prescription specifications and assembling lenses in frames. Some opticians, calling themselves dispensing opticians, fill the prescription and complete the work of the ophthalmologist.

Our association, like similar professional organizations, such as the American Medical Association and the American Dental Association, is composed of members who join their county, district, or local society. One joiner brings membership in the local society, the State association, and the American Optometric Association. These members abide by the code of ethics and professional standards of our association. Each new licensee in optometry is provided the "Manual of Professional Practice for the American Optometrist," a copy of which I am giving to this committee for its files. The code and supplements therein contain prohibitions against unprofessional methods of practice.

Before I go further I want to thank a number of the members of this committee for their sponsorship of Senate Joint Resolution 113 authorizing the President to designate Save Your Vision Week annually as a national observance. Just as it is the purpose of Save Your Vision Week to educate our citizens to the importance of protecting, conserving, and enhancing their vision, so it is our purpose today, before this committee, to advise and through you, the Nation, of the help that can be given in setting standards and regulations so that the innocent and unsuspecting among our elderly will not be lured into purchases of materials or services which would be foolish from the view of both their total well-being or pocketbook.

The Food and Drug Administration publishes a booklet titled "Your Money and Your Life," which describes various frauds and misrepresentations. We believe it so important that we are working with FDA on a special reprint of such large type that the partially sighted can read it easily. A sample of the type size to be used can be seen in this booklet entitled "Easy on Your Eyes" prepared by

the immediate past chairman of our AOA Committee on Vision Problems of the Aging, Dr. Donald C. Exford, and distributed by our member optometrists to libraries throughout our Nation.

I would like the committee to also have this book entitled "Vision and the Aging Patient," compiled by the past chairman of our committee on vision care of the aging, Dr. Ralph E. Wick, who preceded Dr. Exford in that position. To my knowledge, this is the only book of its kind that has ever been published.

Like other professional organizations, we have numerous departments and committees dedicated to serving the public welfare. Pertinent to this committee are our AOA committees on research, standards, contact lenses, and aging. Our department of public health optometry acts as a coordinating body for the activities of these committees.

The members of this Senate committee last year received a statement prepared by the director of our department of national affairs, Dr. William Greenspon. It is reprinted on pages 502 and 503, part 3, of the transcript of the January 17, 1963, hearings. In it he said, and I quote:

"Chairman Dixon (Federal Trade Commission) seemed to feel that they were protecting our older citizens from the disastrous results of the so-called do-it-yourself eye tests because the advertisements had to state the glasses offered were suitable only for persons approximately 40 years of age or older who do not have astigmatism or diseases of the eye and who require only simple magnifying or reducing lenses.

"It is a mystery to me how anyone could think that the average individual whether he was 40 or 65 years old or any other age, who had not had any training either in optometry or medicine, would know whether he had astigmatism or disease of the eye. To determine those questions, optometrists spend from 5 to 6 years in college, and to demonstrate what they have learned they are required to pass a rigid State board examination. It is utterly ridiculous to put any such wording in an advertisement.

"To protect the public, the sale of any corrective eyewear by mail should be absolutely prohibited. In some States the sale of this type of eyewear over the counter is prohibited, and in New York State it is allowed only if a licensed optometrist or physician is in attendance at the place of sale to render such assistance as the purchaser may need.

"Adequate vision is a necessity at all ages, and it is particularly important to the welfare of the aged.

"It enables them to be self-supporting in many instances, and in other cases it adds much to the enjoyment of their 'golden years.'

"The Federal Trade Commission has done a somewhat better job in their cease-and-desist orders with reference to the advertising for contact lenses, but even in this field I would recommend that they prohibit price advertising of contact lenses. There are three reasons for this:

"First, there is a wide range in the laboratory cost of contact lenses, and the professional man who is concerned only with what is best for his patient is not going to base his prescription on laboratory costs alone; which he might be tempted to do if there had been a competitive price advertised.

"Second, one cannot tell in advance how much of his professional time and skill is going to be required in order that the patient may become properly fitted and trained in the use of contact lenses.

"Third, the amount of his time which will be required to make certain that no ill effects result from their utilization.

"Over half of the States have outlawed price advertising for all ophthalmic materials and services. With this I am heartily in accord, but certainly when it comes to advertisements relating to contact lenses, any reference to price should be eliminated."

Our vice president, Dr. V. Eugene McCrary, who will be our first witness this morning, will further explain this statement and describe some other problems faced by our national organization in our attempts to protect and conserve the priceless vision of our American neighbors and citizens.

The Food and Drug Administration at your hearings March 9, made statements about contact lenses which became sensational news, not only in this country, but around the world. As the news traveled, it became exaggerated and distorted. We hope these hearings will put this program back into proper perspective. For this purpose we have brought to you the chairman of our committee on contact lenses, Dr. Maurice Poster, who will discuss the question of acidity from contact lenses and the standards and regulations needed; Dr. John Neill, a pioneer in the development of contact lenses and instruction in contact

lens fitting procedures; Dr. William Baldwin, author of a book on contact lenses, and dean of one of our schools of optometry; Dr. E. C. Nurock, chairman of the Law Advisory Committee of the International Association of Board of Examiners in Optometry; and William P. MacCracken, our revered Washington counsel. Each in turn will speak on the need for further standards, regulations, and legislation which our association has sought and is seeking for the protection of our fellow citizens. Too often, however, there has been public apathy or opposition from special interest groups to delay or block achievement of these objectives.

It is our hope and desire that these hearings will serve as a spotlight on the untrained, unlicensed, and unscrupulous who prey upon the uninformed who require vision care. If this method of education is successful, and the charlatans who deceive both the young and old are sufficiently exposed, the association which I serve will be deeply gratified.

In concluding, may I say just this: Contact lenses are now a part of life in most American homes. They are wonderful devices when properly fitted and administered by qualified vision specialists. It is deeply rewarding to work in such a challenging field as this one. To be able to give pleasure and happiness to your patients, to make pretty girls prettier, to literally change personalities by the adoption of contact lenses, to give the elderly normal vision after cataract surgery, to restore vision to corneas clouded by injury and disease, to fit the over-45's with bifocals and watch how they look and feel younger. This is a very satisfying way to earn a living. It would be a shame, if not criminal, to frighten these people unnecessarily, as we believe has been done during the last few weeks. Contact lenses should not be blamed, but rather those persons who take advantage of these wonderful devices to exploit the public for purely selfish motives.

The chairman of this Senate subcommittee—and we thank him for it—has introduced a bill (S. 2180) to afford more students an opportunity to study optometry. We believe its passage will do much to assist us in meeting the need for more qualified practitioners so that the unqualified will not find a vacuum of service to fill because of the shortage.

I want to leave you with the assurance that this committee has our sincerest good wishes and the active support for the American Optometric Association in your most commendable activities. Thank you.

Our first witness is Dr. McCrary.

(Transcript continued from p. 368.)

Senator WILLIAMS. We regret these delays, gentlemen, but that is the life of the Senate.

I know you are anxious to continue with your illuminating testimony, but before you continue, Mrs. Neuberger has a few observations to make.

Senator NEUBERGER. The chairman mentioned the excellent Food and Drug Administration booklet, "Your Money and Your Life," which outlines the facts and swindles in the health field. The booklet estimates that the public spends \$1 billion a year on unnecessary or falsely represented products and treatments.

Older people especially are likely to be victimized by quackery. These people not only have low incomes but because of their advanced age are oftentimes faced with special medical problems.

I am pleased that our subcommittee is looking into the serious problems in connection with frauds in eye care. In this connection I have received a thoughtful letter from Dr. T. W. Sahlstrom, O.D., president of the Oregon State Board of Examiners in Optometry. I ask that his letter be printed in full in the hearing record.

(Transcript continues on p. 374.)

STATE OF OREGON,  
OREGON STATE BOARD OF EXAMINERS IN OPTOMETRY,  
April 1, 1964.

HON. MAURINE B. NEUBERGER,  
U.S. Senate, Washington, D.C.

DEAR SENATOR NEUBERGER: Knowing your vital concern with the health of the American people, we respectfully urge your serious consideration of the testimony which will be presented at the hearings on contact lenses before your Subcom-

mittee on Fraudulent Practices, under the Senate Special Committee on Aging, starting next Monday, April 6.

The future visual welfare (and peace of mind) of thousands of Oregonians and millions of Americans has been badly endangered by the statements concerning the "dangers" of contact lenses manufactured of methyl methacrylate plastic, made by Dr. William Stone, Jr., of Boston, which occasioned the scheduling of these hearings. These statements, for which we have yet to see any documentation, have been printed in newspapers not only throughout the United States, but in Europe and the Orient, and, more extensively, in the attached article in *Newsweek*. The result, as in all such "health scares," has been to confuse and frighten the public. Future results, unless immediate and concrete steps are taken to inform the public of the true facts concerning contact lenses, could be deprivation of sight for thousands of people who can receive no help for their visual problems except through the medium of contact lenses.

Vision specialists first began to recognize the values of contact lenses in the early 1900's. As more and more optometrists and ophthalmologists took an interest in the lenses, research intensified to find out what types of visual problems they could help more than regular glasses. Originally, the lenses were manufactured of glass. However, this was a highly expensive and difficult process, and the glass lenses presented a definite danger to the wearer's eyes. Plastic was first used in contact lenses in 1936 by Dr. William Feinbloom, a New York optometrist.

Since the contact lens is a foreign body introduced onto a sensitive surface of the body, doctors and lens manufacturers have taken the utmost care in its development and use. Manufacturers of base plastics, such as Electro-Seal Watch Crystal Co. of New York; of wetting agents and soaking solutions, such as Burton-Parsons of Washington, D.C., and Barnes-Hind of Sunnyvale, Calif.; and of finished lenses, such as Wesley-Jessen Contact Lens Co. of Chicago, have spent millions of dollars perfecting materials and processes. I can assure you that no major manufacturer of materials involved with contact lenses would dare not to provide the best quality materials to his customers, for to do so would be to risk either lawsuit, loss of business, or both.

Additional millions of dollars have been spent by the optometric and medical professions in contact lens research, development, and the training of practitioners.

Oregon's own Pacific University College of Optometry at Forest Grove (one of 10 in the Nation) has been the center of considerable research in the contact lens field. One of the college's current research projects is the development of useful fitting procedures for segment-type bifocal contact lenses. Another project involves photographing the eyes of contact lens wearers under ultraviolet light, with fluorescein instilled under the contact lens, to study the movement of tears during contact lens wear, for the purpose of determining what fitting procedures will aid proper tear action. Yet another project is the development of a contact lens with an opaque periphery to decrease the amount of light scatter in the eyes of albino subjects.

Dr. William R. Baldwin, dean of the Pacific College of Optometry, who will be testifying at the hearings, is presently conducting an independent research project on the long-term effects of contact lens wearing on the corneal surface and on the radius curvature of the cornea. Hundreds of other research programs for the development of new and better uses for contact lenses are in progress in vision centers across the country.

Among the visual problems for which contact lenses are the only, or, at least the better, aid are:

Keratoconos (a disease in which the cornea assumes a conical shape hampering vision): the lens serves to push the cornea back into its normal structure.

Burn or scar damage to corneal tissue, eliminating free passage of light through the tissue: by holding a uniform tear layer over the opaque tissue, the lens restores light passage; the effect is similar to putting water over frosted glass, allowing visibility through the glass.

Anisometropia (both eyes are nearsighted or farsighted, but one to a much greater extent than the other), antimetropia (one eye is nearsighted, one farsighted); contact lenses have proven much more successful than regular glasses in improving vision for these patients in many cases.

Monocular or bilateral aphakia (the condition of the eye after removal of a cataract): with contact lenses, the patient resumes the same peripheral (side) vision he had before the crystalline lens was removed from the eye, and is also able to enjoy vision without distortion or expansion of image sizes.

High myopia (extreme nearsightedness): the patient is aided substantially because the contact lens can bring increased image size and increased visual field much closer than can regular glasses.

Contact lenses are of particular benefit in cases of numerous other visual problems. In addition, they are of help to athletes and others for whom the wearing of regular glasses would be a hazard, and are recommended for wearing in work in which regular glasses would become fogged, such as the work of surgeons. Plastic contact lenses have, in hundreds of cases, protected the eyes of the wearer from injury by flying objects.

I cannot stress this next point too strongly: there are literally thousands of people in America today whose sight has been restored from what was—for all practical purposes—total blindness, through wearing contact lenses. That others with the same problems should lose this chance to see again because of an improperly based fear would indeed be tragic.

The person wearing contact lenses has no more to fear than he has from taking pills his doctor has prescribed—if he has selected a qualified practitioner in the contact lens field, and if he follows the instructions his optometrist or ophthalmologist gives him.

Although Dr. Stone's statements have come to us in varying forms, his original implication that the cases of "contact lens blindness" to which he refers were due to the material from which the lenses were made appears to be replaced in the attached article by the implication that, either the lenses were improperly fitted, or the infections were caused by the patients' own bad habits.

The bare possibility exists that corneal damage could result from leaching from improperly seasoned plastic, as Dr. Stone mentions. However, as I pointed out earlier, no manufacturer of base plastics could remain in business long if he sent low-quality or improperly seasoned plastic to a lens manufacturer.

Improper fitting could, of course, cause irritation leading to infection. However, with today's modern instruments for measurement of the eye and for grinding of lenses to prescription, the incidence of an improper fit is rare. Even in the case of a bad fit, any irritation caused will be noted by the optometrist or ophthalmologist when the patient returns for his checkups during the adaptation period. It is assumed that the patient will naturally report any irritation which might occur at a later time to his doctor. Incidentally, it has been found that the major causes of eye irritation for the contact lens wearer are dust and smoke getting into the eyes; many practitioners recommend that their patients give up smoking during the adaptation period, with the happy after effect that some of them give it up for good.

From the adaptation period on, in between subsequent checkups, it is the patient's responsibility to follow his doctor's instructions concerning cleaning, moistening, and inserting lenses, and I must say I cannot visualize any practitioner I know in Oregon instructing his patient to moisten his lenses in his mouth, as Dr. Stone says has occurred. The visual practitioner is no more responsible for his patient failing to follow his instructions than the physician is if his patient takes six pills a day instead of the prescribed two.

Before closing, I would like to comment upon one more statement in the attached article: "The only person in most States who's legally entitled to place a foreign body in the eye is a physician."

This statement is patently incorrect. To our knowledge, there is no State in the country in which both optometrists and ophthalmologists are not licensed by the State to refract for, measure for, prescribe, and fit contact lenses. In Oregon law (ORS 683.010, sec. 21) this authority is stated as follows: "Practice of optometry" means the employment of any means other than the use of drugs for the measurement or assistance of the powers or range of human vision or the determination of the accommodative and refractive states of the human eye or the scope of its functions in general or the adaptation of lenses or frames for the aid thereof.

The State board of examiners in optometry has had occasion to take action in several cases in which unlicensed persons were fitting contact lenses. In each case, the court's decision (including the Oregon Supreme Court) has embodied the statement that only optometrists and ophthalmologists (the word physicians is sometimes used instead) are authorized to fit contact lenses. Thus, the courts have upheld the right of the optometrist to engage in this work.

I would like to point out further the substantial training which optometrists receive before they can be licensed in Oregon.

Students at the Pacific University College of Optometry take a 5-year course—a total of 174 semester hours. Of this, 150 semester hours are devoted to training for their profession. They receive thorough instruction in the biological sciences, and take specific courses in the anatomy and physiology of the eye, as well as courses in general and ocular pathology to give them knowledge of departure from normal function. They also receive instruction in applied aspects of pathology detection, contact lens fitting, and contact lens fabrication to give them a thorough knowledge of the properties of contact lenses.

During the final year of the optometric professional program, Pacific University students do extensive clinical work in all phases of optometric practice. As a part of this training, each student handles a number of contact lens patients—taking them through the entire process, from refraction to the end of the adaptation period. Each student also has an opportunity to observe and work with contact lens patients who have been wearing their lenses for periods from 1 to 15 years.

The college also offers a regular series of postgraduate seminars in contact lens techniques in cooperation with the Oregon Optometric Association, to offer Oregon practitioners the opportunity to keep abreast of new developments in the contact lens field.

The National Board of Examiners in Optometry, as well as all State boards in the country, requires all candidates for optometric licensure to display competence in the contact lens field. In Oregon's 3-day licensing examinations, about one-sixth of the written and clinical problems cover contact lenses.

I can assure you that in Oregon, and we are sure in the major part of the rest of the country, optometrists are thoroughly exposed to the most authoritative knowledge in all areas of visual care, and are rigidly tested before being given a license to practice. Every effort is made to assure a continuous high standard of practice in the profession.

While this board exists for the purpose of licensing, controlling, and representing Oregon's 409 licensed optometrists, we are in this case equally concerned with the problems Dr. Stone's statements will cause for ophthalmologists. The progress both disciplines are able to make in the field of visual care and improvement will be seriously hampered unless the public is provided with full information regarding contact lenses, with all of their properties placed in proper proportion.

I thank you for taking the time to read this somewhat lengthy letter; its length is dictated only by the importance of the problems with which it deals. It is, conceivably, of sufficient importance to offset the Newsweek article, to warrant its inclusion in the Congressional Record. Much more detailed testimony will be presented at the hearings, but the board felt that a certain amount of documentation from your own State would be of help to you in considering it.

I hope you will call on us if we can provide you with any other information, or if there are any questions you may have. Further information is also immediately available from Mr. David Sharman in the Washington office of the American Optometric Association (1025 Connecticut Avenue NW.).

Sincerely,

T. W. SAHLSTROM, O.D.,

*President, Oregon State Board of Examiners in Optometry.*

(Transcript continued from p. 371.)

Senator NEUBERGER. In my service as a member of the Oregon State Legislature we dealt with the establishment of boards and licensing authorities in the medical field. Dr. Sahlstrom has been an outstanding president of the State licensing authority for optometrists.

I note that Dr. William Baldwin, dean of the College of Optometry at Pacific University, located at Forest Grove in my State, is scheduled to be one of the witnesses representing the American Optometric Association. The College of Optometry at Pacific University is one of the outstanding schools in this field, and is fully accredited by the Council on Education and Professional Guidance of the American Optometric Association, and was admitted to membership in the Association of Schools & Colleges of Optometry. The university awards a degree of doctor of optometry.

Mr. Chairman, it is my pleasure to welcome a fellow Oregonian to our hearings.

There is one thing that concerns me in connection with the testimony, and that is when you refer to eye diseases. I would like to ask Dr. Baldwin: What do you do when your training has taught you to recognize an eye disease which a patient may have? When you see it, what do you do?

Dr. BALDWIN. We ask the patient—it would depend on what kind of disease it was, but in general we would ask the patient if they have a family physician, and if they do, we would either call him or send him a letter describing what we had found, and recommending—

Senator NEUBERGER. And you would recommend that they see—

Dr. BALDWIN. We would recommend that the patient make an appointment. Now, if the condition were specific to the eye and seemed to be an eye disease solely, in general we would refer him to an ophthalmologist. The relationship between ophthalmologists and optometrists is somewhat better than the relationship between ophthalmology and optometry. Most practitioners of optometry have good professional relations with medical men to whom they refer patients.

Senator NEUBERGER. I am glad to hear you say that, because it also verifies an opinion I have had. I asked an ophthalmologist about it. He said there is a very good relationship. This optometrist often refers cases to us, and it has been a delightful relationship. It made for good feelings, I know, in this particular instance.

We had similar testimony, if you remember, Mr. Chairman, when the head of the Department of Dentistry at Northwestern University was before this committee. He referred to dental technicians, and how sometimes they would discover the beginning of a cancerous lesion even in the mouth, and refer the matter to the doctor. Whenever the two can work together, it gives us great confidence, of course.

Dr. BALDWIN. And the public is better served.

Senator NEUBERGER. Yes.

Dr. CHAPMAN. If I may, Senator Williams, just one point that is extremely important.

The fact that the optometrist, as I indicated, Senator Neuberger, sees such a major percentage of these eye care cases, our responsibility to that patient to understand his eye health as well as his vision is extremely great. It also points up the very severe need for better co-operation between medicine and optometry, politically and otherwise.

That is one of the reasons that at this moment so much of the emphasis of our association is in the seeking of improvement in these relations, because the optometrist of today will refer immediately to the proper medical practitioner all patients who require their services.

We do not claim to treat sick eyes and do not want to treat them. We believe this act is in the medical domain. I would like to now, Senator Williams, cut my statement short and introduce our vice president from the State of Maryland, Dr. V. Eugene McCrary, for portions of his statement we would like to have you hear.

Senator WILLIAMS. Very well.

Dr. CHAPMAN. This presentation will be seen as well as heard.

Senator WILLIAMS. We have been looking forward to this, too. We will read your full statement during the lunch period. Now we will get into Dr. McCrary's testimony.



STATEMENT OF V. EUGENE McCrARY, O.D., VICE PRESIDENT OF  
AMERICAN OPTOMETRIC ASSOCIATION

Dr. McCrary. Mr. Chairman and members of the subcommittee, I realize you are pressed for time, and for that reason, I will condense parts of my statement. I would like it to appear as submitted, corrected.

(The statement referred to follows:)

(Transcript continues on p. 381.)

PREPARED STATEMENT OF V. EUGENE MCCRARY, O.D., VICE PRESIDENT, AMERICAN  
OPTOMETRIC ASSOCIATION

Mr. Chairman and members of the subcommittee, my name is V. Eugene McCrary. I am an optometrist engaged in the private practice of my profession in College Park, Md. I am a past president of the Maryland Optometric Association, and am serving in my second appointment by Gov. J. Millard Tawes as a member of the Maryland Board of Examiners in Optometry. I have a reserve commission as lieutenant, Medical Service Corps, in the U.S. Naval Reserve, and am visual consultant in the industrial vision program of the U.S. Naval Research Laboratory, Washington, D.C. I am at present vice president of the American Optometric Association.

The letter of invitation dated March 30, 1964, which I received from you, Mr. Chairman, stated that the main purpose of these hearings is to receive testimony on the variety of ways in which elderly Americans are being victimized by promoters of worthless products or treatments that promise better vision or correction of other eye problems.

Our senior citizens should be cautiously aware of several areas in the vision care field where questionable procedures and appliances are promoted to the public. I will touch briefly today upon some of these problem areas; such as over-the-counter plano sunglasses and night-driving tinted glasses, safety glasses for eye-hazardous work, unethical practices arising out of corporate practice in the vision care field and the attendant ills of bait-price advertising, contact lenses and the necessity for undivided responsibility, the use of highly questionable procedures, and "ready-made" over-the-counter glasses and mail-order glasses.

First-quality sunglasses have lenses which are ground and smoothly polished to precise optical curves which allow distortion-free vision throughout the entire lens area. By virtue of the chemicals used in the manufacture of the glass, the lenses selectively screen out ultraviolet and infrared rays, as well as absorb portions of the visible spectrum. The true measure of the value of an absorptive lens is not its color, but its absorption curve. This absorption curve is determined by the chemicals used in manufacturing the glass.

The Federal Trade Commission on June 30, 1962, promulgated Trade Practice Rules for the Optical Products Industry, and stated: "Sunglasses, goggles, and safety spectacles which are designed solely for the protection of eyes or eyesight, as distinguished from correction or improvement of eyesight, are not included."

Poor quality sunglasses may contain bubbles, striations, and imperfections within the glass or substance and uneven curvatures and, indeed, even warped curvatures. I would like to demonstrate some of the effects of poor quality absorptive lenses. [Demonstration.]

If the lenses have this effect upon projected letters, imagine their effect on human vision. Eye strain, mistakes in judgment when driving, headaches and nervousness may be brought on by the induced effects of wearing poor sunglasses. There is need for some regulation and control of the quality of over-the-counter sunglasses in order to more adequately protect the public. As aging increases, the transmission qualities of the media of the human eye decreases, and the adaptive powers of the eye and the visual system decrease. Our elderly citizens especially should avoid over-the-counter sunglasses.

Periodically there appear advertisements recommending the purchase of yellow-tinted adsorptive glasses for night driving. At dusk and during the evening the human eye operates on a very tiny fraction of the illumination it utilizes in the daytime. It is not uncommon to operate in the evening with one one-thousandth or less of the amount of illumination encountered during the daylight hours. For this reason, the wearing of any type of sunshade in the dark,

particularly while operating a motor vehicle, is considered hazardous. Though comfort may be improved, vision is not. The wearing of absorptive lenses, while driving at night, will increase the danger of having an accident. A general rule, and for our senior citizens especially, is "as the sun goes down over the horizon, sunglasses should come off."

Home accidents accounted for 40.5 percent of the visual impairment mishaps last year, exceeding even industrial accidents, according to the National Center for Health Statistics. Greatest hazards of the home were workshops, garages, and laboratories. Damage to the eyes in mishaps in the house were almost double those occurring at work, and more than three times the rate recorded in traffic accidents.

If more people wore glasses when they needed them, particularly safety glasses, this figure for visual impairments would be considerably lower. The American Optometric Association recommends the wearing of safety glasses in every home task which might remotely constitute a hazard.

It may come as a shock for many to learn that the home is the place where most eye accidents occur. This is a virgin field for blindness prevention efforts.

Since the elderly have much more time to spend at home, and have slower reflexes and reaction times, their home-accident exposure is considerably greater than for other segments of the population. Proper eye protection from the increasing frequency of home accidents is of utmost importance to our senior citizens. Home vocational and avocational pursuits such as metalworking, carpentry, woodworking, grinding, chipping, sawing, and so forth are all fraught with eye hazards.

The Bureau of Standards, in the American Standards Safety Code Handbook (H-24) specifies the necessary characteristics of safety lenses and frames. It says in part: " \* \* \* minimum thickness of prescription lenses shall be 3 millimeters and they shall withstand the impact of a seven-eighth inch steel ball freely dropped from a height of 50 inches onto the horizontal outer surface of the lens. The frame shall be of metal or slow-burning plastic material (cellulose nitrate or materials having flammability characteristics approximately those of cellulose nitrate shall not be used). That portion of the frame which supports the lenses shall be of sufficient strength to withstand, without breaking and without dislodging the lenses, the fracture resistance test mentioned above (steel ball drop)." [Demonstration.]

There are two conclusions pertinent to the elderly to be drawn from this discussion and demonstration of safety eyewear. First, they should adequately protect themselves from eye injury; and, secondly, in acquiring safety glasses, deal only with reputable sources and insist on having the manufacturer's safety glass symbol etched on each lens and symbol visible on each frame. This is the guarantee of a real safety lens and frame.

*Unethical practices in the eyecare field.*—Because of the highly personal nature of services rendered and the unique individual needs of each patient, adequate vision care is a highly complex service which does not lend itself to production-line methods. The advice of efficiency experts and the shortcuts resulting from time-motion studies do not lend themselves to an environment where professional services are rendered according to individual needs and where each patient must have as much time as required in order to adequately care for his particular vision problems.

Section 4 of the Oklahoma Optometry Act reads as follows: "No person, firm, or corporation engaged in the business of retailing merchandise to the general public shall rent space, sublease departments, or otherwise permit any person purporting to do eye examinations or visual care to occupy space in such retail store."

In upholding this section of the Oklahoma Optometry Act, the U.S. Supreme Court in *Williamson v. Lee Optical* said in part, and I quote: "It seems to us that this regulation is on the same constitutional footing as the denial to corporations of the right to practice dentistry. It is an attempt to free the profession, to as great an extent as possible, from all taints of commercialism. It certainly might be easy for an optometrist with space in a retail store to be merely a front for the retail establishment. In any case, the opportunity for that nexus may be too great for safety, if the eye doctor is allowed inside the retail store."

The members of the American Optometric Association subscribe and abide by the rules of practice as adopted by its house of delegates on June 28, 1950, among which are rules:

"(B) No member shall practice in or on premises where any materials other than those necessary to render his professional services are dispensed to the public.

"(J) No member shall use other than his professional card on or in any publication or in any public display; said card shall not exceed two (2) columns by two (2) inches, and it shall not contain any more than his name, profession, address, telephone number, office hours, eye examinations by appointment, practice limited to \* \* \* (any one optometric specialty). Educational material may be published only when it has been specifically approved by the executive committee of the respective State association.

"(K) No member shall use bold face type or in any other manner attempt to attract special attention to himself in any telephone or other public directory.

"(L) No member shall display any merchandise, ophthalmic material or advertising of any kind in windows or in any room of his office for the purpose of inducing patronage."

There are in the eye-care field unethical practices which grow out of the evils of profit motivated corporate practice. In this mercantile atmosphere of corporate practice, the level of vision care is lowered to the level of the average marketplace where the philosophy of caveat emptor (let the buyer beware) prevails. This attitude may be all right when buying furniture or other merchandise but it certainly is not all right when applied to those seeking professional services. The hallmark of this type of commercial operation is big-splash advertising claiming "low prices," "easy credit," "fast and accurate service," etc. [Demonstration.]

An article, "Racket in Eyeglasses," appeared in *Red Book*, November 1952, and said in part:

"Featuring, for the most part, low prices and speedy service, these unethical practitioners attract the very patients who can least afford to tamper with their eyesight—young people just starting their careers, young marrieds just beginning to shoulder enormous responsibilities, and—this, perhaps, is the most serious of all—an alarming number of young children. In all I visited more than 50 eye-care shops—those with the biggest signs, the biggest advertisements, those that seemed to be getting the bulk of the trade.

"The routine with small variations was the same—a quickie examination leading inevitably to a pair of glasses. \* \* \* A complete eye examination on an initial visit requires an hour or more. Yet the longest examination received lasted 14 minutes and the rest averaged about 8 minutes \* \* \*. If (the optometrist) is a mere employee in a mass-production eye-care shop and has a profit-minded boss urging him to rush the patients through, he cannot possibly do a competent job, even if he wants to."

*Time* magazine, February 8, 1960, said, and I quote in part: "Get-rich-quick operators swarmed into the (contact lenses) field, advertising directly to eyeglass wearers through the lay press and classified telephone directories \* \* \*. In an uphill fight to crack down on these fringe operators, the Federal Trade Commission found most of [their] claims untrue."

*Good Housekeeping*, April 1959, said, and I quote in part: "As a rule, cut-rate eyeglass dispensers have examiners on the premises. The examinations they give rarely take more than 15 minutes. Most ophthalmologists and optometrists say a complete eye examination requires at least 45 minutes.

An article in *Science Digest*, September 1960, said in part: "One firm, for example, claims that it can fit (contact) lenses for \$29.95 in one sitting with 'satisfaction guaranteed.' \* \* \* A third concern states about its contacts: 'We wear them up to 6 months without removal.'"

In the past decade dozens of articles have appeared, such as those highlighted here, which sound a warning to the public of the dangers of unscrupulous operators in the field of vision care.

The problems involved with unethical practices in this area are: (1) misleading advertising, (2) the lack of adequate time for thorough examinations, (3) the lack of quality materials, which are oftentimes improperly fabricated, and (4) consideration of profit motive above consideration of the patient's best interests. The motivation of these corporations is for profit—not to render the best service or eye-care to the patient.

Unfortunately, many thousands of America's elder citizens shop for glasses at these mercantile and unethical establishments, rather than seek proper vision care from those ethical practitioners who could help them preserve, restore, and enhance their precious visual abilities.

*Contact lenses and the senior citizen.*—In order to properly design a pair of contact lenses so that they will be visually correct, physiologically sound, psychologically acceptable, and physically useful, it is necessary for the professional person responsible to spend a great deal of time with every individual patient. Each patient, and, indeed, each eye of each patient, is unique unto itself, presenting problem-solving characteristics which require the total time, training, skill, and energy of a professionally trained, licensed, and experienced optometrist or qualified physician.

The responsibility for such a delicate and complex procedure cannot be delegated to nonprofessionals who have, at best, only a superficial knowledge of the physiological, psychological, and anatomical principles involved. No one but an optometrist or ophthalmologist should ever fit a contact lens under any circumstances. [Demonstration.]

The modern contact lens, properly applied and utilized, is a boon to the visual welfare of mankind and represents one of the significant contributions of this decade by the profession of optometry to the betterment of mankind.

There are numerous small groups within the eye-care field which practice or adhere to highly questionable procedures and/or instrumentation. These small groups exist within both optometry and medicine. While there is usually some possible scientific base for their theory or school of thought, the methods they advocate are considerably outside the mainstream of sound practice.

One such school of medical thought holds that sunlight, by its very nature, is harmful to the eyes and that the sure-fire method to prevent the formation of cataracts is the automatic prescribing of tinted lenses for everyone early in life. These lenses are particularly selective in absorbing the infrared end of the spectrum.

Another such dubious area is the indiscriminate use of diathermy. In my area of Maryland there is an ophthalmologist who arbitrarily prescribes in-office diathermy treatment for practically every patient. This, despite the fact that the patients' problems may range from cataract and uveitis to glaucoma or keratoconjunctivitis. The doctor, incidentally, gets \$15 for each visit.

One area of particular concern to my profession is the school of thought called Syntonics. The basis of this theory lies in the treatment of various visual and eye problems with chromatic light of various colors (wavelengths) and intensities. I recently received an unsolicited mailing from the College of Syntonic Optometry, and I quote in part the covering letter:

"The application of the syntonics principle is not new. Reference has been made as to results obtained as early as 1,500 B.C. but it took several years of experimentation and coordinated thought for a genius, Dr. H. Riley Spitler, to assemble the known laws of physics, cytology, biology, physiology, neurology, and optometry into one applicable technique and present it to the profession interested in the improvement and the preservation of human vision.

"It is the purpose of the College of Syntonic Optometry to carry on the work of Dr. Spitler as it applies to optometry. The fundamental lectures will be given to assembled classes of five or more by one of the instructors designated by the college. The lectures require several days, and upon their completion the applicant will be competent to apply syntonics to his patients with either too high or too low expected findings in his 'analytical examination,' and to get surprising results."

Attached to this covering letter was a 10-page "Syntonogram," holiday edition, 1963, which contained a few testimonials and case histories, and exhorted the recipients of this letter to continue the propagation of "syntonics." [Demonstration (slides of syntonizer.)]

There are doubtless many other methodologies out in the lunatic fringe area which are, to put it mildly, of questionable value. The elder citizen seeking vision care should be made aware of the highly questionable nature of such procedures and should be on guard. A check by telephone with his local optometric society will help set him straight.

*Glazed goods and mail-order glasses.*—There is presently pending before the New Jersey Legislature a bill which would prohibit over-the-counter sales of readymade eyeglasses. Over-the-counter sale of readymade (so-called Grandma) eyeglasses is a particularly pernicious practice that should be prohibited everywhere because:

They are used mostly by the ill-informed elderly.

The elderly are most prone to eye and general disease.

The use of readymade eyeglasses may, by giving some improvement in vision, mask the underlying causes of changes in vision.

Changes in vision in the elderly may be symptomatic of eye conditions or bodily diseases most of which would be disclosed by an eye examination and many of which could be corrected if discovered and treated early.

Self-treatment through the use of readymade eyeglasses interposes delay that can make successful correction more difficult or impossible.

Readymade eyeglasses never contain, and never could be made to contain, any correction for astigmatism, a condition prevalent in over 90 percent of all eyes and which professional judgment indicates needs correction in 65 percent of cases.

Whereas most eyes are different optically from their mates, readymade eyeglasses do and must ignore this very abundant fact, since the two lenses must be of equal power.

The time of life when people begin to require "reading glasses" happens also to be the time when the incidence of blindness in the United States begins to become statistically significant.

In one State alone (New Jersey) it is estimated that some 200,000 persons, age 40 or older, who use readymade eyeglasses leave themselves exposed to undetected glaucoma, cataract, diabetic retinopathy, and blinding, disabling, or fatal diseases.

Disability resulting from conditions or diseases which might have been disclosed by an eye examination and treated successfully add needlessly to tax-supported welfare costs.

Free assistance, from lay and professional organizations, is usually available to financially disadvantaged persons in need of vision care. Local affiliates of the AOA have indigent vision care programs. Lions Clubs, State agencies, and other groups augment these facilities.

Over-the-counter sale of readymade eyeglasses is an evil which, all professional and lay organizations in the eye care field agree, should be completely eliminated. This view is supported by many unions, service clubs and others interested in the public health, welfare, and safety.

Because of the obvious abuses in the area of readymade glasses the Federal Trade Commission last year adopted regulations to govern the optical products industry, and these regulations say this about glazed goods: "Rule 2—False advertising of nonprescription magnifying spectacles: It is an unfair trade practice for any industry member to publish, or cause to be published, any advertisement or sales presentation relating to nonprescription magnifying spectacles (sometimes referred to as readymade spectacles) which represent, directly or by implication, that the spectacles so offered will correct, or are capable of correcting, defects in vision of persons, unless it is clearly and conspicuously disclosed in the advertisement or sales presentation that the correction of defects in vision by such spectacles is limited to persons approximately 40 years of age and older who do not have astigmatism or diseases of the eye and who require only simple magnifying or reducing lenses; or to publish or cause to be published any advertisement or sales presentation which has the capacity and tendency or effect of deceiving purchasers or prospective purchasers in any other material respect."

The danger involved herein springs from the tendency on the part of many people to self-diagnose their problem and think to themselves: "All I need is a pair of readymade magnifying glasses." We feel that if a person insists on playing Russian roulette with his vision, he should at least realize the risks he is taking. The mere printing of a sign or ad, "Not for those folks under 40 or those with astigmatism or eye diseases," may salve a few troubled consciences, but does very little to remedy the problem.

Statistics tell us that over 90 percent of the total population has some amount of measurable astigmatism, with about 65 percent requiring correction, and which these glazed goods lenses cannot correct. Statistics also tell us that from 2 to 4 percent of the population has some form of eye disease, and that there is a much higher incidence percentage-wise for those over 40 and this incidence increases in frequency with the aging process. How can a person tell all by himself whether he has an eye disease which may eventually visually cripple or blind him if he must depend entirely upon his own observations? Commonsense tells us that few dime-store or department-store salesmen will require proof of age before selling a cheap pair of glazed goods lenses to a person.

Needless to say, the quality of the lenses and the frames in glazed goods are substandard. Mail-order glasses are essentially readymade glasses which are promoted by advertising in newspapers and magazines and generally are or-

dered by: (1) age (by guess and by gosh), or (2) by self-testing. [Demonstration.]

The problems inherent here are the same as those in dime-store glasses, except for the implication that everybody is competent to self-test their own vision.

This concludes my presentation, Mr. Chairman. It has been a pleasure to meet with you and your committee and I shall be happy to answer any questions that you or any members of the committee may wish to ask.

Thank you.

(Transcript continued from p. 376.)

Dr. McCrARY. Our senior citizens should be cautiously aware of several areas in the vision care field where questionable procedures and appliances are promoted to the public. I will touch briefly today upon some of these problem areas, such as over-the-counter plano sunglasses and night-driving tinted glasses, safety glasses for eye-hazardous work, unethical practices arising out of corporate practice in the vision care field and the attendant ills of bait-price advertising, contact lenses and the necessity for undivided responsibility, the use of highly questionable procedures, and over-the-counter readymade glasses and mail-order glasses.

First-quality sunglasses have lenses which are ground and smoothly polished to precise optical curves which allow distortion-free vision throughout the entire lens area. By virtue of the chemicals used in the manufacture of the glass, the lenses selectively screen out ultraviolet and infrared rays, as well as absorb portions of the visible spectrum.

I would like, if I may, Mr. Chairman, to demonstrate to the committee the transmission effects of a first-quality sunglass as opposed to one of questionable quality. I call your attention to the chart which is projected here on this screen. You will notice that there are four rows of various sizes of letters.

Now will you put the lens before the projector. This is the effect that a regular first-quality tinted lens has. Unfortunately, we are getting a washout on the screen from the floodlights. I think that is adequate.

You will notice here only the color of the tint. There is no distortion of the letters. Now this second example happens to be a different colored tint and here again there is the color of the tint itself. But the letters come through clear and undistorted.

Now here is a demonstration of an over-the-counter type of sunglass lens. These were furnished to me by a local druggist in my neighborhood just this past Friday. Now show that same one again. This has one lens which is relatively good. This is the left one, and notice the distortion here.

Let us try the next one. Here we are getting a definite ghosting or fringe effect around the letters. The left lens is fair. A little bit of distortion.

This one is pretty sad here. And this one is even worse.

Senator WILLIAMS. What was the price of those, do you recall?

Dr. McCrARY. The last one was \$2.98.

Now these are both American made and foreign made. One of these, I think, is made in Italy, one in France, and the other is an American made. Now the important point to make here is that if a lens of this type will have this effect on projected letters, think of what it will do as far as human eyesight and vision is concerned.

It can cause eyestrain, mistakes in judgment, which can be very critical when operating a motor vehicle on one of our modern turn-pikes at 60 miles an hour. It can cause headaches, nervousness, and induce other effects.

Now, these Plano sunglasses, nonprescription sunglasses, over the counter, were excluded in the trade practice rules which were adopted by the Federal Trade Commission. We feel that there should be some way of regulating this area of ophthalmic goods in order to assure the public that they are at least getting what they are paying for, which is an adequate absorptive lens without any attendant hazards involved that may affect them.

A survey recently disclosed that 40.5 percent of the visual impairment mishaps last year occurred in the home, and this exceeded industrial accidents, according to the National Center for Health Statistics. Greatest hazards of the home were workshops, garages, and laboratories. Damage to the eyes in mishaps in the house were almost double those occurring at work and more than three times the amount recorded in traffic accidents.

It may come as a shock for many of us to learn that the home is the place where most eye accidents occur. Therefore, this is a virgin field for blindness prevention efforts.

Since the elderly have much more time to spend at home, and have slower reflexes and reaction times, their home-accident exposure is considerably greater than for other segments of the population. Proper eye protection is extremely important to our senior citizens. Home vocational or avocational pursuits such as metalworking, carpentry, woodworking, grinding, chipping, sawing, and so forth, are all fraught with eye hazards.

I would like to project a couple of slides here.

This slide depicts the varying visual needs of our elderly citizens. There are two of these instances that have some eye hazardous implications. The top one, the man working in his home workshop, and the lower one using a rifle.

Senator YARBOROUGH. Will you put that one back on for a minute. I notice that man shooting is shooting left handed. Was this made to illustrate the danger of ejecting shells past the right eye when a man normally ejects them to the right side?

Dr. McCrary. It probably is, Senator. I was unaware of that fact, but it probably is.

Now, this slide illustrates one of our senior citizens at home sharpening a hatchet and he is properly attired here with safety eye wear to protect his eyes from impact.

This slide illustrates the fact that human eyes do not wear out. We often hear people talk about wearing out their eyes, or ask "Am I going to overuse my eyes?" It is a pretty well established scientific fact that human eyes do not wear out from use, but the point I want to stress here is that they can be put out by an accident, and this illustrates an injury to an eye of a worker.

Senator YARBOROUGH. Is the eye injured if the glasses are a misfit and are used for some time and then a person gets a correct fit? Is the eye injured from having used the misfit for a period of time?

Dr. McCrary. The body of scientific knowledge indicates that there is no permanent injury to the eye itself. Now, that lens improperly fitted may very well have caused errors in judgment which could cause

injury in many types of situations, but the eye itself being physically injured, I would say no.

Senator YARBOROUGH. But glasses that do not fit will cause headaches, and continued use of ones that do not fit does cause physical pain?

Dr. McCrARY. Yes, sir; it takes its toll of the nervous system and our thinking and acting capacity.

Now, I wanted to demonstrate here for the committee the burning characteristics of frames. Senator Keating had mentioned earlier that one of his constituents had had this problem with a frame flashing and burning, I believe he said at a home barbecue, and Senator Keating sort of beat us to the punch on trying to burn a frame.

Now, we have here a type of frame which is highly inflammable and which used to be the average type manufactured in America.

Senator YARBOROUGH. Is he going to experiment without safety glasses on?

Dr. McCrARY. Luckily, Senator, he is blessed with long arms, so his eyes are a safe distance away.



Demonstration by Mr. Tony Mahlman of inflammability of eyeglass frame at hearing.

As an opposite example, this is a safety frame which is especially designed to be burn resistant. [Held up for inspection.]

You will notice here that this is the highly flammable type of frame. Notice the way that burns.

Now, this is a standard, present day safety frame. This particular one happens to be manufactured by Bausch & Lomb. You notice that it doesn't burn at all. It will eventually, but it will be what is called a very slow burning frame.



Senator WILLIAMS. How about the flammable frame? Would any of the professional men use a frame like that?

Dr. McCrARY. I do not think they would knowingly. In previous testimony it was asked whether manufacturers these days used this type of frame, and to my knowledge there is very little control over this particular factor, except in the safety field.

Now, safety eye wear, such as we demonstrated here, meets very rigid specifications spelled out by the Bureau of Standards about what shall constitute safety wear, and one of those regulations pertains specifically to the burning characteristics. This is for the safety factor.

As far as the industry at large, I do not know or believe there is any standard, and some may use them and some may not. I am not enough of a chemist to know what the particular chemical constitution is, but I doubt if there is the control that we would like to see. I am reasonably sure that there is not.

Senator YARBOROUGH. Pardon me. What about these across-the-counter sunglasses for automobile driving? Have any tests been made? Have you gentlemen made any tests to see whether they are made of flammable or inflammable materials?

Dr. McCrARY. It is my understanding that they are virtually all made of highly flammable material. In line with that, there is an article here by Consumers Reports, July 1962, about sunglasses. And with the permission of the Chair, I would like to request that this be filed and made a part of the record.

Senator WILLIAMS. Without objection it may be so done.

(The article referred to follows:)

(Transcript continues on p. 387.)

[From Consumer Reports, July 1962]

#### CU RATED THE LENSES (MOST OF THEM "NOT ACCEPTABLE") ; YOU CAN JUDGE THE FRAMES FOR YOURSELF

##### SUNGLASSES

The human eye functions remarkably well in a wide range of illumination, but it may react uncomfortably to long sessions in direct summer sunlight. And after hours of exposure to intense light, the eyes may have trouble accommodating to darkness, thus contributing to the hazards of heavy summer traffic. To protect their eyes from these two functional difficulties, and for the contribution that tinted lenses and exotic frames may make to the appearance, Americans are spending close to \$100 million a year on sunglasses.

Those who buy dark glasses for the cosmetic effect alone presumably get what they are after, at least they have vast opportunity to do so. Sunglasses come in a fantastic array of shapes, sizes, colors, and trim, at prices from 29 cents to \$25 and more. Lenses—glass or plastic, flat or curved—come in many hues (green, gray, tan, yellow, rose, blue) and in uniform or graduated darkness. Your eyes may show through some of the lighter lenses, may be obscured in murky darkness, or may be hidden mysteriously behind one-way mirrors.

Styles, which change with the regularity of women's fashions, range from conservative, dark lens versions of the simplest prescription glasses through assorted theories of "functional" design to weirdly sculptured plastic creations, some of which may do more to channel your vision like blinders on a horse than to protect your eyes from glare. There are celebrity-inspired styles from the latest fad "Jackie" wraparounds (so named because Mrs. Kennedy has worn them) to children's models bedecked with Mickey Mouse characters. You can splurge, if your budget allows, on a whole wardrobe of "color coordinated" glasses to be changed with your costume. If price is no consideration, one retailer is prepared to supply sunglasses with diamond-studded frames for \$2,750.

Amid this array, however, judging from CU's tests, a great many of the heliophiles who buy dark glasses to protect their eyes are getting less than they have a right to expect. More than half of the sunglasses tested were judged "not acceptable."

#### *What was tested*

In the face of the staggering variety of sunglasses models and styles, CU limited its test samples to adult glasses with gray, green, or tan (smoke) lenses. Other lens colors were left out not only because they are less common, but because of the greater likelihood that they will interfere with color perception. And no gradient lens (not uniformly dark) or mirror lens models were chosen.

Even within these limits, CU could not hope to provide detailed individual ratings for a significant fraction of the models and styles available. Testing, therefore, was concentrated on lens characteristics, which a shopper cannot judge very well for himself. Since sunglasses manufacturers often use the same lens material (glass or plastic with identical color, curvature, optical quality, etc.), and the same processing methods, for many models and styles, this concentration has made it possible to provide useful information on many more models than were tested.

Test samples were chosen at random, usually in different styles, from each of the most important lens "families"—the groups of models and styles claimed by the manufacturers to be optically identical. These samples ranged in price from 39 cents to \$20. The models tested are listed at the top of each rating and all others in the lens "family" at the end.

#### *The confusion of prices*

Without the information supplied by CU's ratings, it is virtually impossible to buy sunglasses intelligently. Price, which seems as much related to the fashion appeal of the frames as to overall quality of the glasses, is certainly no guide. Although no inexpensive (under \$3.98) glasses came out "acceptable" in CU's tests, more than a dozen models priced above \$10 (one Suntimer at \$16) joined them in being "not acceptable." Even within a lens "family" prices ranged remarkably—as much as 500 percent in one instance, the fair-rated Bausch & Lomb Ray-Bans.

A recent Federal Trade Commission order makes it clear how little price may have to do with the value of sunglasses. Among other things, the FTC ordered the Rayex Corp. to stop putting different price tags on identical glasses for different retailers. The company had decided that the normal price for one model would be \$10 in the Waldorf-Astoria Hotel and \$2.95 in a drugstore on Times Square.

#### *Frame quality and fit*

Price differences are not all capricious, of course. They reflect, in part, wide differences in the quality of the frames. With CU's ratings to guide you to high quality lenses, you can judge the frames pretty well in the store.

Look at the hinges. Metal hinges are usually preferable to plastic ones. Five or seven barrels are generally preferable to three, and a screw fastener is likely to make for easier repair than a simple pin.

Lenses should fit snugly in the frames, with no gaps visible between frame and lens when held up to the light. They should not be able to move in the frame.

The size and contour of the frame should be such that it does not block the peripheral vision so necessary to drivers and pedestrians alike. The shape of the lens opening should provide a good field of view. Radical shapes, although highly desired by some wearers for the cosmetic effect, may not give adequate coverage and may obstruct vision enough so that they should not be used for driving. The lenses and temple pieces should be symmetrical when open. And no sharp edges should touch the skin.

Many metal frames will tarnish sooner or later and may make marks on the skin. Frames marked "1/10 12K GF" indicate a tarnish-resistant, gold-filled frame. Plastic frames, unless they are opaque, may focus light passing through them, causing annoying bright spots within the field of view. Check a translucent frame for this effect by moving the head at various angles in direct sunlight.

When you have found sunglasses that please you esthetically and have acceptable quality, be sure that they fit you properly. Two aspects are important: adequate coverage of the field of view, and comfort. The glasses should set as close to the eyes as possible without allowing the eyelashes to brush the lenses. If

with the glasses in this position you are troubled by peripheral glare, choose a larger lens.

The temple pieces should fit snugly enough to hold the glasses firmly on the nose, without discomfort at either nose or ears. And the glasses should be level on the face.

If you find a pair of sunglasses that come close to this ideal, your optometrist or optician may be willing to adjust them for you.

#### *What sunglasses protect you from*

In rating the sunglasses, CU's consultants based their evaluations on the assumption that sunglasses should protect the eyes from discomfoting exposure to the sun's rays. That statement is not as simple as it sounds, because the sun emits more than visible light. Two kinds of invisible radiation may affect the eyes to some degree: infrared, which accounts for roughly half of the sun's intensity; and ultraviolet, the very small portion of the sun's emissions containing the tanning rays. If glasses cut down the visible light without filtering out enough infrared and ultraviolet, they may actually increase eye discomfort as the pupils dilate in the reduced light and consequently admit more of the invisible rays.

Of the two kinds of invisible radiation, infrared is of greater concern here. More than half (24) of CU's 39 "not acceptable" ratings were assigned because the test samples transmitted a larger proportion of the infrared rays than of visible light. (All of the plastic lens sunglasses tested by CU were among the 24.)

Excessive exposure to the sun's other invisible rays, the ultraviolet, can in extreme circumstances cause conjunctivitis, and it may blur the vision as well. No otherwise acceptable sunglasses tested transmitted more than about 5 percent of ultraviolet—judged adequately low.

The "acceptable" sunglasses were found to transmit a fairly wide range of visible light—16 to 32 percent. It has been said that glasses with more than 30 percent visible transmission are "a cosmetic, a decoration, a palliative for neurotics." (CU's judgment is not quite that strict. CU's consultants consider visible transmission of 10 to 20 percent most suitable for general use, and necessary for extreme conditions such as are met by sailors and skiers. They consider 21 to 30 percent not quite so good but all right for most occasions. Somewhat higher transmission, although rather light, can still be acceptable for conditions that are not extreme (while sightseeing in a city, for example, though not for sunbathing or all-day summer driving).)

Visible light transmission is, of course, a function of the darkness of the sunglasses. Not only is the degree of darkness important but the two lenses should be equally dark. A marked difference in darkness can, in some circumstances, cause the wearer unconsciously to suppress the vision of one eye. Darkness mismatch is not a common defect of sunglasses, but it is worth checking for. Make the judgment in bright sunshine, and don't worry unless the mismatch is readily noticeable.

In addition to lens darkness, CU considers it important that the lens color be neutral—that the wearer see the world in its natural colors. This need is particularly important to people with certain types of color blindness. Among the "acceptable" sunglasses, gray lenses were most neutral, green and tan lenses altering colors somewhat more.

The sunglasses top rated in all other respects were divided into two groups on the basis of their color neutrality, and six check ratings were assigned to those which gave exceptionally "high fidelity" color vision.

Aside from excessive infrared transmission, the only deficiency that brought a not acceptable rating was distortion. CU examined the test samples for power, which changes the size of the image; for astigmatism, which prevents simultaneous focusing in different planes—on the two lines of an L, for example, for prism difference, which misaligns the lines of sight of the two eyes to different degrees, requiring the eyes to strain for an adjustment; and for local imperfections that distort the image. Only the last was found to a significant degree in any of the glasses fully tested, but it led to 15 not acceptable ratings.

Distortion of the magnitude found would not damage the eyes if the glasses were worn for limited periods. It would, however, cause definite eyestrain in many wearers if the glasses were used regularly or for long stretches.

*Polarized lenses*

Much is made in some promotion of sunglasses of the virtues of polarized (Polaroid) lenses in reducing glare. The Polaroid feature of the lenses blocks reflected glare in some circumstances. It works in only one plane, however. Hence, if the Polaroid glasses reduce the glare reflected from horizontal surfaces such as a wet road, the hood of the car, or a lake, the wearer would have to cock his head 90° to the side to make them cut glare from a vertical plate-glass store window.

Polarizing ability in otherwise suitable sunglasses may be particularly advantageous for water sports, driving, or skiing, where horizontal reflected glare is sometimes troublesome. However, none of the polarized models in CU's tests were acceptable. The Cool-Ray Polaroids transmitted excessive infrared and the American Optical Polaroids had excessive distortion.

## WHAT IF YOU WEAR CORRECTIVE EYEGLASSES?

CU's consultants do not recommend clip-on sunglasses for those who must wear corrective eyeglasses. Clip-ons, because of their distance from the eyes, do not adequately cover the field of view, and hence admit annoying peripheral light and reflections. Moreover, the combination of glasses plus clip-ons may be uncomfortably heavy, and the clip-ons may scratch the prescription glasses (or be scratched by them) while being put on or removed.

Instead, the consultants recommend that eyeglasses wearers invest in sunglasses ground to their prescription. A number of types of prescription sunglasses are available. Your choice among them will depend not only on your budget, but on the magnitude of your correction and the activities you will engage in while wearing them.

The simplest prescription sunglasses use ordinary sunglass lens blanks of glass or plastic into which the prescription is ground. Glass ones should cost roughly \$5 more than ordinary untinted prescription glasses, plastic ones roughly \$10 more than the untinted ones. Although plastic lenses are lighter weight, they are more likely to be scratched. And the bad record of regular plastic sunglasses tested by CU in excessive infrared transmission raises parallel doubts about plastic prescription sunglasses.

For roughly \$10 more than the untinted glass prescription glasses, you can have a pair made from case-hardened safety glass, which has greater resistance to shattering—a definite advantage for active pursuits or for children. And for roughly \$18 extra, you can get laminated dark lenses with a Polaroid film between layers of dark glasses.

All those prescription sunglasses have a disadvantage in common, resulting from the distribution of the dark coloring throughout the lenses. Variation in thickness of the lenses introduced by the prescription grinding results in differences in darkness between the centers and edges of the lenses. These differences may be annoying, if the correction is more than slight.

The problem of darkness variation can be avoided with uniform-density types of prescription sunglasses. One type is made from untinted glass lenses (into which the prescription is to be ground) fused to uncorrected dark lenses. This construction costs roughly \$10 more than untinted prescription glasses. In another type, which also costs roughly \$10 extra, ordinary untinted prescription lenses are coated with a thin, uniform layer of dark glass. This is done by the Metal-Lux process (the one such process CU knows of), in which a film of colored glass is deposited on the lenses in a vacuum. Your optician or optometrist can obtain such coatings from American Metal-Lux, Inc., 12 Haynes Street, Hartford, Conn. In the experience of CU's consultants, these coatings have been found to have scratch resistance comparable to that of ordinary untinted prescription lenses. CU tested some sunglasses treated with two of the darker Metal-Lux colors available—the tan Rosalux D and the gray Winsol 85 (D+). The Winsol 85 (D+) was found comparable in all respects to the nonprescription lenses rated excellent. The Rosalux D transmitted excessive infrared, and was therefore judged not acceptable.

(Transcript continued from p. 384.)

Senator YARBOROUGH. Is this flammable material cheaper in the manufacture than nonflammable materials?

Dr. MCCRARY. I suspect that it is.

Senator YARBOROUGH. You say most of these cheaper sunglasses sold over the counter are highly flammable materials.

Senator WILLIAMS. Do you want to try those? You would burn up your investment, but you would not use those anyway.

Is that a domestic or import?

Dr. McCrary. The first one I believe was a domestic frame. This is an import. This is going to ignite here.

Senator WILLIAMS. Well, you would get the message in time to get it off.

Dr. McCrary. Yes, sir, I think so.

Senator WILLIAMS. Not that first one—not the sunglasses.

Dr. McCrary. During the recess, Dr. Richard L. Hopping, who is chairman of our AOA Committee on Vision Aids to the Partially Blind mentioned to me some of the injuries he had heard of on that particular point. Would it be possible for him to tell us about that in a short statement?

Senator WILLIAMS. Yes.

#### STATEMENT OF RICHARD HOPPING, O.D., CHAIRMAN, COMMITTEE ON VISION AIDS TO THE PARTIALLY BLIND, AOA

Dr. HOPPING. Mr. Chairman, it has been my pleasure to serve as an optometrist on the staff of the EENT Clinic, Brown Hospital, Veterans' Administration, in Dayton, Ohio, which was the second largest Veterans' Administration installation in the country.

Between the years 1953 and 1957, having been there on a part-time basis, I saw some 5,000 patients for all types of problems. I saw three cases that were hospitalized because of severe burns, and I know that one of the three, just by recollection, having a third-degree burn, was hospitalized as a result of having a frame ignite such as was done here today.

So, I have personally seen three cases at the Veterans' Administration Center that have been injured because of an ignitable frame just like we have seen.

Dr. McCrary. Now, in addition to the characteristics of flammability that are necessary in safety frames themselves, equally important or perhaps even more important are the safety lenses.

In these Bureau of Standards specifications which I mentioned a little earlier, they spell out what shall constitute a safety lens and frame. A safety lens shall be 3 millimeters and they shall withstand the impact of a  $\frac{7}{8}$ -inch steel ball freely dropped from a height of 50 inches onto the horizontal outer surface of the lens.

We have here a demonstrator which is made by Bausch & Lomb Optical Co. which gives an impact force greater than that specified in the Bureau of Standards requirement. I would like to demonstrate first of all the effect of this impact on a regular spectacle lens. Sometimes it takes more than one blow to break them.

Senator WILLIAMS. That went through.

Dr. McCrary. And there is the result of the effect of that impact. We will try the other one here while we are at it. So, this is what would happen from a blow of that type in a regular situation.



Dr. McCrary demonstrates effect of impact on regular lens.

Now, next, I will demonstrate a single safety lens, and then a pair of safety lenses. Now, this is a treated safety lens. We will insert this in the demonstrator and we will hit this about four times—and it comes out quite well. In fact, even the surface is not pitted.

And we will now try a safety lens actually mounted in a safety frame. And here again, the lens held up quite well.

These broken ones, of course, don't do so well, and you can imagine what would have happened to the eyes behind them if a person had been wearing them and they had been, indeed, hit by that amount of force.

Now, on the tinted lenses, if I could go back to that just one second, there also has been a problem of the recommendation by some business concerns of the wearing of tinted lenses for night driving. I know all of us are bothered by glare at night from oncoming headlights of cars.

But the use of tinted lenses at nighttime is definitely a dangerous procedure. We have here a short article doing a very thorough scientific analysis of the factors involved in the use of tinted lenses for night driving, and with your permission, Mr. Chairman, I would like to file this article.

Senator WILLIAMS. That is fine. Where was that published?

Dr. McCrary. This is published in the Optometric Weekly, February 27, 1964, sir. This is right up to date.

Senator WILLIAMS. Without objection, it will be included as part of the record.

(Transcript continues on p. 394.)

(The article referred to follows:)

[From the Optometric Weekly, Feb. 27, 1964]

# DO YELLOW GLASSES IMPAIR NIGHT DRIVING VISION?

(By Oscar W. Richards, Ph. D., American Optical Co., Southbridge, Mass.)

Colors affect people differently. For some, yellow glasses brighten the world, give a sense of euphoria and a belief that more can be seen. Other people do not like or cannot tolerate yellow glasses, and may develop nausea when wearing them in a moving vehicle.

The appearance, for some people, of a brighter environment when viewed through yellow glasses, despite the fact that the glasses absorb some light which should dim the view, is attributed by Wright to a tendency to associate the yellow color with sunlight and, therefore, a high level of illumination, while the bluer light of the overcast sky is linked with dull days and a lower illumination level. This enhanced brightness is being measured by Septon, and it may be greater at higher than lower luminances.

A source of confusion in experiments with yellow filters is the failure to note whether the filter is a true yellow, transmitting only within 560-590 mu wavelengths of light, or whether it is a minus-blue filter transmitting some green, orange and red light as well as yellow. Some studies have used monochromatic sodium yellow (589 mu) light. Seeing is different with these different colored lightings, and the results should be analyzed separately.

Limiting vision to yellow light is reported to reduce the adverse effects of fog, haze and scattered light, chromatic aberration of the eyes and to compensate for night myopia. Verriest, et al., show that withdrawal of the blue and shorter wavelengths impairs vision.

Longer wavelength light is scattered less by fog and haze than shorter wavelength radiation. Because photography is improved with a pale yellow filter that absorbs the ultraviolet and some of the blue light, it is sometimes stated that yellow glasses should improve vision in fog. The lesser sensitivity of the retina to blue light and longer wavelength ultraviolet than the photographic emulsions is partly the reason that seeing is not improved. The greater chromatic aberration of the eye than many camera lenses is another reason that haze filters are less helpful in vision than in photography.

Most amber or yellow glasses offered for night driving transmit all the light except blue and possibly some blue green and do not improve visual acuity as effectively as monochromatic light filters. Night myopia is only slightly lessened when yellow glasses are worn because the transmission is too broad to remove the chromatic aberration of the eye.

When luminance is decreased below 1 fL there is a change in apparent color as the maximal sensitivity of the eye shifts from 555 to 510 mu; reds appearing darker and blues lighter. Thus, at lower levels of lighting one could expect yellow glasses to decrease vision proportionally more than the absorption of light.

An early publication on yellow light by Monnier & Mouton reports slight gains in acuity from yellow light, by 10 observers, which averaged 0.03 to 0.06 (1.00=6/6=20/20) as measured with a Sulzer chart. The difference at 20, 10, and 5 m distances are less at the lower level of 0.03 lux than at 100 lux lighting. Such gains are about equal to reading one more letter on a Snellen chart. It is amazing that they always found the very small gains in acuity with the yellow (minus blue) light. Other investigators reveal much greater individual differences. Inquiry abroad has failed to discover the nature of the Sulzer Chart.

Berte reported the same visual gains with yellow light using Table 22 from Monnier & Mouton as his Table 1. Acuties of 1.0 were obtained only at the highest light level (9 fc) and the two nearer distances. Such small differences in the second decimal place, always favoring yellow light, scarcely justify the conclusions; yet Berte recommends yellow headlights such as used in France, for night automobile driving.

Haus & Cole report for 32 subjects wearing Wilson's yellow glasses, reduced glare for 94 percent, increased visual comfort 81 percent, increased confidence 72 percent and decreased fatigue for 60 percent of the wearers. A later survey by Cole on 100 people showed 92 percent reporting decreased glare and an increase in visual comfort. Two individuals reported headaches and a tendency toward diplopia after wearing the yellow glasses for two hours. Broom & Cole found that the glare from oncoming cars was reduced 20.95 percent as measured

with foot-candle meters with and without the yellow filter, yet the correlation coefficient of the 610 measurements is only  $0.676 \pm 0.015$ . The yellow glass was stated to transmit 1 percent more than clear ophthalmic crown glass as shown by the curves from the National Bureau of Standards. This impossibility was due to a misinterpretation of the curves. Some of the argument in the papers is based on Zoethout's obsolete values for the standard observer. The figures in the first mentioned paper show a brighter pavement and sign and a higher cutoff at the top when yellow filter is used, despite the fact that the filter must have reduced the light. My attempt to learn how these pictures were made and for a clarification of the statistical procedures from Dr. Cole was too late, as unfortunately Dr. Haus was dead and the material was no longer available. Fry criticized this work and called attention to the danger of reduced vision from tinted glasses.

Most objective measurements have failed to find any increase in vision when yellow, or tinted glasses, are used. Luckiesh and Holladay found no advantage for yellow light in foggy or misty weather. Color filters including yellow did not improve vision over a course of 3.4 sea miles (Verplank). Yellow is less conspicuous than organic for air-sea rescue, and yellow chalk is less visible on a blackboard as tested with 9th and 10th grade children.

Bouma has reported that the brightness of roads decreases more rapidly with yellow sodium than with whiter tungsten illumination.

Lauer found that colored filters decreased visual acuity and that the loss as measured with a Claison Projector was about equal to the amount of light absorbed by the colored filter. Green decreased seeing a little more than the other colors. The average loss in acuity increased from 10 percent without glare to 27 percent when 4-5 fc of opposing glare light was present. Further experimentation by Stone & Lauer to find a tinted filter that would increase visual acuity at night driving levels was unsuccessful, because any absorption of light reduced vision.

Most of the experiments have been made by comparing vision through a yellow glass to vision without a colored glass. The first attempt to find out whether yellowness itself at equal energy to the eye had any effect was made by Richards. Acuity and contrast were measured for 73 persons (ages 16-72) at 11, 1.0 and 0.1 fL (3025K) with and without yellow spectacles and also at an intensity equal to the overall transmission of the yellow glasses. He reported, "Yellowness had little effect at the higher luminances and some loss of seeing found at the lower levels is associated with the Purkinje shift. A small but statistically significant loss of vision occurs from yellow glasses. The loss appears to increase with age. No observers showed any consistent gain in seeing with yellow glasses for both acuity and contrast for all luminances tested, although small random gains were common. Since there is barely sufficient luminance for average night driving, the loss from yellow glasses is potentially dangerous, and the data recommend that yellow glasses not be worn during night driving on public roads." There is little additional loss from the yellow with respect to increasing age after 45 years, probably due to the gradual yellowing of the lens in the eye.

McFarland and Fisher report that dark adaptation is slower for ages 20 to 29 and 50 to 59 than for ages between these, or at greater ages. They note that "Serious questions of safety may be raised if the amount of available light is further reduced for older persons through the use of tinted windshields or colored glasses." Guth also has shown the need for increased illumination for equal seeing by older people. Measurements indicate that for each 13 years of age the light needed could be doubled. Since road lighting is fixed and rarely adequate, the older drivers are correspondingly handicapped.

The general problem of the visibility of road markers is discussed by Warner. Some of the signs seen on his trip along the Atlantic Seaboard were inadequate and his stress on color contrast with the different colors of soil and surround is important. One county in California has a law limiting colors for signs that may compete with traffic signals, and Finch (1958) has devised a color meter for the measurement of these colors. Wearing colored glasses can cause further confusion, especially when the wearer has deficient color vision.

The Council of Industrial Health, American Medical Association, again opposed tinted glasses and windshields for night driving. "The use of any 'night-driving' lens or windshields, whether tinted, reflecting, or polarizing, reduces the light transmitted to the eye, and renders the task of seeing at night more difficult. The source of glare in night driving is the contrast between the headlights of oncoming cars and the darker surroundings. The use of tinted lenses or wind-



shields does not reduce the contrast but reduces the intensity of illumination from both the headlights and the surroundings, thereby impairing vision. There is no scientific evidence to support any claim that the use of tinted lenses or windshields improves night vision." Yellow glasses reduce recovery time after glare by about 12 percent and the seeing time in the presence of glare about 29 percent according to Davey.

Baglien mentions, among other factors of vision, that yellow is first identified and seen most clearly. On the contrary, with poor light yellow turns gray and is less visible than other colors. Another paper states: "\* \* \* yellow tinted lenses are a particular handicap to color-deficient drivers." A more thorough test of tinted windshields by Wolf et al. confirms the fact that seeing is reduced proportionately to the loss of light from absorption by tinted windshields and McFarland et al. show that this loss is of greater consequence for the older driver. Brightness can be scaled with both white and colored stimuli. Color discriminations for yellow and red were reported to be reduced considerably in workers on diesel engine trains after 12 hours of work.

Vision at 0.1 fc, according to Miles, of 20/32 was reduced to 20/34 by yellow, to 20/40 with pink and 20/46 with green glasses. Blackwell, examined two yellow night driving glasses and found that they reduced detection distances by 33 percent as compared with wearing no glasses. Haber reports a loss in visibility distance when tinted glasses are worn and that the loss increased with decreasing distance.

Miles' and Richards' work has received favorable editorial considerations. Loss of light is more serious at night driving levels, when there is scarcely enough for seeing. When braking distance and visibility distance are the same, a slight decrease in seeing may result in a rear-end collision. While only slight losses in vision have been reported in tests of colored windshields, it does amount to driving day and night with colored glasses, and many vision specialists consider any loss dangerous at night.

A neutral-colored object could be seen at about the same distance with white or yellow light, but Jehu reports that the drivers in the test preferred that their own beams be white. Willis, summarizing a British meeting, stated that Grime gave results with white and yellow headlamps, having the same distribution of light, showing that the distance at which an object could be distinguished with yellow was 5 percent greater than with white light. The 20 observers significantly preferred white light without glare. Yellow light was thought to be less glaring at close approach, although a small majority favored white light. (It should be, since the yellow decreases the luminance.) The consensus was that changing to yellow light would not solve the headlight problem. The major fallacies of yellow light have been resummarized by Luckeish.

The interest in yellow driving glasses led to action by two committees. The Joint Committee of Industrial Ophthalmology stated that, "This subcommittee does not believe that acuity can be appreciably improved by the wearing of any tinted glasses, and it is not aware of any accepted study which supports such a thesis." Also, "This subcommittee condemns the use of any type of 'night driving lens.' Any such lens, whether colored, reflecting or polarizing, reduces the total light transmitted to the eye and renders the task of seeing at night more difficult.

The Committee on Night Visibility of the Highway Research Board issued the following statement in January 1952: "The Committee on Night Visibility of the Highway Research Board, Washington, D.C., has been studying the much discussed subject of night-driving glasses. As a result of this study, the committee issued the following statement in January 1952: 'It is axiomatic that anything which interferes with clear vision will increase the hazards of driving, particularly at night, when illumination at best is inadequate. There have actually been marketed types of tinted glass for which it has been claimed that they will improve seeing at night. This claim is contrary to all the evidence concerning effective vision. \* \* \* In light of present knowledge it is concluded that any media, except clear, corrective spectacles, introduced at night between the eye and a stimulus object or situation on the roadway, are not to be recommended for night driving. This statement does not cover glare-reducing systems, such as polarized headlamps and windshields (or viewers), where reduction in visual efficiency caused by the windshield or viewer are taken into account in the design of the polarized headlamp to be used in the complete system'."

An editorial in the British Medical Journal (June 5, 1954) mentions another aspect of the situation, "Yellow tinted lenses are particularly disadvantageous to color defectives; Miles has stressed that such people (who are likely to seize

upon any device which may help them) have a reduced sensitivity to light, so that even the palest filter will have a marked effect on their night vision. The subjective improvement experienced with yellow lenses may be the result of their sharp cutoff in the blue region of the spectrum. Blue light is scattered more than red, and the eye is myopic for blue light—an effect heightened by 'twilight myopia.' The beam from a motorcar headlight, however, contains very little blue light."

While shooting is rarely done at night, the following work is of interest on another aspect of yellow glasses. Bierman tested 136 men with vision of 20/20 or better, on shooting at various distances and positions with and without Wilson's yellow glasses. One marksman did better with the yellow glasses. Of 19 favoring the yellow glasses the average score was 3.71 with and 3.59 without the glasses; of 26 men opposed to yellow the average score was 3.24 with and 3.91 without the glasses. The majority were not better marksmen with yellow glasses, many were worse and a few were unaffected by the yellow glasses. Ross tested six types of shooting glasses with 21 expert riflemen using M-1 rifles at "A" targets and reported "the evidence suggests the conclusion that the wearing of any goggles tends to reduce firing accuracy" and "the use of plastic filters did not enhance range firing accuracy." The amber, which had twice the transmission of the other colors, gave a slightly higher average score than the other colors.

R. G. Frey, 1961, states that yellow glasses are scarcely useful for motorists because of the small amount of blue and blue-gray contrast on roads. Verriest, et al., discuss the visual loss from withdrawal of the short wavelength light by use of colored glasses. This may explain why wearing yellow glasses during the day does not help night driving vision.

Dauids tells how color-deficient men see a green traffic light as white; asks why the amber is so like the red light; why not change the red to a scary blue seen by all men; why there is a program to replace easy-to-see black-on-yellow signs with less visible white-on-red; and why some car makers now use rear lights which look as big as front lights. Fortunately, only a few men are so handicapped, yet these pleas should be considered when color coding roads and signs. Wearing yellow glasses can be a handicap to individuals with certain color vision deficiencies.

Any absorbing glass, yellow or other, will reduce glare in proportion to the amount of light absorbed. At the same time the same proportionate amount of seeing is removed and the seeing loss is more important than the glare reduction. Contrast is not increased by a yellow tinted lens at night because there is too little blue color to be affected selectively. The glare problem can be lessened safely only by a screening means that does not reduce the seeing of the driver. Recovery after yellow glare is said to be different for people with blue from those with brown irides. Variation in individuals is shown by Ercoles and also according to whether adaptation is less than a minute. Davey found recovery time for 5 people after glare was longer and seeing time was 29 percent worse with yellow than without the yellow glasses.

Yellow glasses will reduce seeing to a greater extent when used with a bluish-green windshield, and this extra loss in seeing can be dangerous.

Tinted glasses, including yellow, have been found to reduce vision at night driving levels by about the same amount as the overall light absorption. For many yellow glasses this loss amounts to 15-30 percent.

In evaluating the comments and experimental observations, it is worthwhile to remember that at night the stopping distance is often the same as the seeing distance, so that a very small reduction in the seeing distance may become unusually dangerous, should one drive into a truck or other obstacle instead of avoiding it. Likewise, while a small loss from tinted glasses may not bother a person with exceptionally good vision, the same loss for another person with marginal vision may reduce vision to a level of unsafe seeing.

Richards stated, "Should a need for yellow glasses occur it should be determined by objective measurement, and glasses of correct absorption should be prescribed by a competent visual specialist." In other words, purely subjective impressions should not exclusively guide the "prescribing" of these, or indeed any form of vision aids. Lauer also emphasizes that the wearing of tinted glasses at night should be by prescription as determined to be safe by a professional vision specialist. This is true also for contact lenses other than the lightest tints. Otherwise, competent expert opinion, based on measurement of vision, advises that yellow glasses should not be worn when driving an automobile at night.

(Transcript continued from p. 389.)

Dr. McCrary. Getting back to the safety aspect, Mr. Chairman, the point that I want to make is that for our elderly citizens who have this additional time to do all of these various things and in those activities where they will be exposed to injury, they should be, first of all, sure to protect themselves from injury, and secondly, be sure that the quality of the materials that they obtain are truly what they represent themselves to be.

The safety frame manufacturers etch their initials on the outside of the lenses and they also have the initials of the manufacturer on the frames themselves, so this is the protection that our senior citizens should demand in safety wear.

The next topic was the problems of unethical practices in the eye-care field. Because of the highly personal nature of services rendered and the unique individual needs of each patient, adequate vision care is a highly complex service which does not lend itself to production line methods.

The advice of efficiency experts and the shortcuts resulting from time-motion studies do not lend themselves to an environment where professional services are rendered according to individual needs and where each patient must have as much time as required in order to adequately care for his particular vision problems.

The members of the American Optometric Association, as our president previously stated, subscribe to and abide by the rules of practice as adopted by its house of delegates on June 28, 1950, among which are rules:

(B) No member shall practice in or on premises where any materials other than those necessary to render his professional services are dispensed to the public.

(K) No member shall use bold face type or in any other manner attempt to attract special attention to himself in any telephone or other public directory.

(L) No member shall display any merchandise, ophthalmic material, or advertising of any kind in windows or in any room of his office for the purpose of inducing patronage.

There are in the eyecare field unethical practices which grow out of the evils of profit motivated corporate practice. In this mercantile atmosphere of corporate practice, the level of vision care is lowered to the level of the average marketplace where the philosophy of caveat emptor—let the buyer beware—prevails.

This attitude may be all right when buying furniture or other merchandise but it certainly is not all right when applied to those seeking professional services. The hallmark of this type of commercial operation is big-splash advertising claiming such things as "low prices," "easy credit," "fast and accurate service," and so forth.

I would like to demonstrate some examples of this type of promotion.

Here is an ad that talks about glasses for \$14.50, one low price, before you buy glasses anywhere—of course, the emphasis is on the commodity here, not the service. Easy credit, \$1 down, \$1 a week. Contact lenses, one price, \$59.50. This is one example.

Here is another example. Pictures—I suppose that must be a policeman with a whistle, and at the top it says, “Blow the whistle on the high price of glasses.” These glasses are advertised at \$11.98. They are purported to be quality lenses, high styling, and fast and accurate service. One hundred styles, shapes, and colors to choose from. Contact lenses, \$69.50.

And then here is another horrible example. Complete glasses, \$10.50. Glasses, more than 60 styles to choose from, and so forth.

This is the type of “gimmick” advertising, Mr. Chairman. These are just representative of thousands of examples that we have of the type of advertising which is to say the least, highly questionable.

Ralph Waldo Emerson said: “I am impressed with the fact that the greatest thing a human soul ever does in this world is to see something, and tell what it

(Text continues on p. 398.)

[From the Austin American-Statesman]

Before you buy Glasses Anywhere... prove to yourself  
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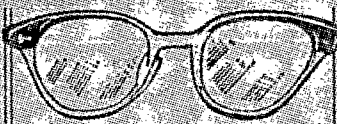
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[From the Sun, Baltimore]



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[From the Denver Post, Sunday, Mar. 29, 1964]

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Broken lenses duplicated.  
Frames repaired. Frames  
replaced while you wait.  
Lowest prices!

**OCULISTS:**  
Also filled at the same  
prices. Your prescription  
promptly filled.  
All Glasses Union Made.

Don't look for less than  
**NATIONAL BRANDS**

Branches in many principal  
cities of U.S. and Canada  
—Founded 1904.

saw in a plain way. Hundreds of people can talk for one who can see. To see clearly is poetry, philosophy, and religion all in one."

Yes, but there is only one way to care for one's eyesight—by having a complete professional eye examination at regular intervals by an eye physician (ophthalmologist). And, afterward consult an ethical dispensing optician.

There is no flat rule as to how often eyes should be examined. but in general, authorities agree on the average of 2 to 4 years.

A search for a "bargain" in anything so crucially important as care of one's eyes is mistaken economy, and makes no more sense than "bargain" dentistry or "bargain" surgery. You simply can't get high-caliber professional service and high-quality opthalmic materials at "bargain" prices. Remember—you cannot buy cheap "eye care"—the price may be too costly.

We are ever ready to serve you and you can depend on Monaghan Optical Co. for "sincere, quality, professional eye care," 3d floor, 320 Republic Building or Cherry Creek Office, Alameda and Madison.

There have been many articles written in the past decade about this type of problem. And I will just quote very briefly from one which was an article that appeared in *Red Book* magazine in November of 1952, and said in part:

Featuring for the most part, low prices and speedy service, these unethical practitioners attract the very patients who can least afford to tamper with their eyesight—young people just starting their careers, young marrieds just beginning to shoulder enormous responsibilities, and—this, perhaps, is the most serious of all—an alarming number of young children. In all I visited more than 50 eye-care shops—those with the biggest signs, the biggest advertisements, those that seemed to be getting the bulk of the trade.

The routine with small variations was the same—a quickie examination leading inevitably to a pair of glasses. A complete eye examination on an initial visit requires an hour or more. Yet the longest examination received lasted 14 minutes and the rest averaged about 8 minutes. If the individual is a mere employee in a mass-production eye-care shop and has a profitminded boss urging him to rush the patients through, he cannot possibly do a competent job, even if he wants to.

To summarize, the problems involved with unethical practices in this area are (1) misleading advertising; (2) the lack of adequate time for thorough examinations; (3) the lack of quality materials, which are oftentimes improperly fabricated; and (4) consideration of profit motive above consideration of the patient's best interests. The motivation of these corporations is for profit—

Senator WILLIAMS. Would you pause there and look at these two exhibits, and I wonder if you could evaluate those on the spot according to the criteria that you just enumerated?

(Handing documents to the witness.)

(Text continues on p. 401.)

[From the Washington Post, TV Channels, Apr. 5, 1964]

*Look how easy it is to switch to Sterling Optical***CONTACT LENSES**

First, visit Sterling's Information Center. Find out all the facts on comfort, safety, and price in a person-to-person interview with a contact lens specialist. There's no charge, or obligation.



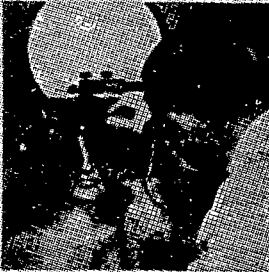
"Pre-test" contacts before you spend a penny. Sterling's modern contacts are optically ground plastic,  $\frac{1}{8}$ " in diameter, and require no fluid. They're even preferred for safety by athletes.



Fitting is pleasant. New equipment measures the curvature of your eye without making physical contact. Even if you bring your own doctor's prescription, you will get a complete contact lens examination.



Your prescription will be filled by one of the Nation's largest laboratories. Your lenses will be of the same high quality as lenses costing over a hundred dollars more. If your prescription should change, there is no charge for new lenses.



Adjustment to contact lenses is something to learn about before you buy them. Sterling's specialists will show you how you can overcome the slight "lid" sensation they will bring you to the point where you can wear contacts every waking hour.



Your contacts from Sterling Optical measure up to the finest available anywhere. Sterling's vast experience, and thorough step-by-step procedure assure you of complete satisfaction. Thousands of men, women and children now wear contacts from Sterling.

**NOW**Sterling Optical  
offers**BIFOCAL  
CONTACT  
LENSES**

After years of research, bifocal lenses are now available. Naturally, these are more expensive than single-vision lenses.

Because of our vast experience and modern facilities, Sterling Optical is able to lower the cost of contact lenses, while maintaining the highest ethical standards. The same cost, including examination, fitting, adjustment supervision, and grinding the lenses to prescription is just

**\$95****Loss-Protection Plan Available to All Contact Lens Wearers****STERLING OPTICAL****520 Tenth Street, Northwest****STERLING 3-8310**

Open daily 9 a.m. to 6 p.m. and Thursday Nights 'til 8 p.m. We suggest you phone for an appointment to be spared any unnecessary waiting.

Member: Central Charge Service

Advertising discussed by Senator Williams and Dr. McCrary.



[From the Washington Post, Potomac magazine, Apr. 5, 1964]

# THE TRUTH ABOUT CONTACT LENSES

New booklet reveals fallacies, details facts:

- *How useful are contact lenses?*
- *Is there a difference in contact lenses?*
- *What are the things to watch for in contact lenses?*
- *How can you tell if you can wear contact lenses?*

All these and other questions are answered in this new booklet...a must for you to read if glasses are a nuisance to you. Call EX 3-7471 and ask for your free copy of "FACTS YOU SHOULD KNOW ABOUT SEEING WITHOUT GLASSES."

**Vent-Air**

AVAILABLE ONLY AT

**CONTACT LENS SPECIALISTS**

HOURS: 9 A.M. to 6 P.M. daily incl. Sat.; Mon. & Thurs. to 8 P.M.

**LOW MONTHLY  
PAYMENTS**

**Suite 604, Colorado Bldg.  
1341 G St. N.W., Washington 5, D.C.  
EX 3-7471**

**VENT-AIR  
INVISIBLE  
LENSES**

as low as

**FOR TWO PAIR**

**\$99**

Please send me your new illustrated booklet

Mr. \_\_\_\_\_  
Mrs. \_\_\_\_\_  
Miss \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**OFFICES THROUGHOUT U.S.A. AND CANADA**

(Text continued from p. 398.)

Dr. McCrARY. Well, I would say that as in all of these ads there are some half-truths involved, there has to be some degree of credibility; this particular one talks about facts you should know about seeing without glasses. Well, this is the appeal to the psychological concept of being more glamorous without glasses.

New booklet reveals fallacies, details, and facts: Not having the booklet I don't know what it reveals or what facts or fallacies that it may reveal, but on this one you clip a coupon and send it in, it says, "Invisible lenses, as low as \$99 for two pair." I don't know what "as low as" means either.

Senator WILLIAMS. Probably very few come "as low as."

Dr. McCrARY. That is right. I am sure that is probably the exception rather than the rule.

Now, here is another one which, of course, uses visual aids to show the wearing of contact lenses and here again there is a great deal of psychology involved. One thing that strikes me immediately is that the young lady up here with her regular glasses on is sort of frowning and now she is very happy with her contacts. Notice in this one, she is smiling. And this is an obvious effort to indicate that there is a certain respectable aura about this type of operation, but the problem is that what they are pushing is price of a commodity—

Senator WILLIAMS. Commercializing health, really.

Dr. McCrARY. Yes, sir. I would say this is one of the—

Senator WILLIAMS. These were taken out of yesterday's newspaper here in Washington.

Dr. McCrARY. Yes, sir; I know that. I live in the Metropolitan Washington area and I see these quite often in the local papers.

So, I would say certainly that this type of advertising is questionable.

Senator WILLIAMS. Now, in that ad that shows the frowning young lady and then the smiling aftermath, after she had had her \$99 lenses fitted, coming back to our old inquiry, who in that case would be the man in white who is doing the examining with that very professional-looking machine? Which of the various disciplines would he be?

Dr. McCrARY. He may be one of the two disciplines that do eye examinations; he may be either a physician or he may be an optometrist. Or—but doing the examination itself of the eye, he would almost have to be one of those two, or he should be.

Senator WILLIAMS. What they have probably done is they have probably taken a salesman and put him in a white jacket. One of your men would not get in any of those ads, would they?

Dr. McCrARY. When you say none of our men, none of our men who belong to our national association (American Optometric Association); no. Now, it is possible that a nonmember might be able to skirt the law and work for this type of operation.

Senator WILLIAMS. Are the opticians highly disciplined, too?

Dr. McCrARY. No, sir. I don't think so.

Dr. NUROCK. If I may add, Senator Williams, this couldn't happen in your State.

Senator WILLIAMS. Your members would not be permitted to work in that kind of shop that advertised that way?

Dr. NUROCK. First of all, no one in New Jersey could advertise in that manner; and secondly, our optometrists would not be permitted to be in that type of establishment. This is why I wish that every State would have a law like New Jersey.

Dr. McCRARY. Many States have that type of law, and one of the things that our association is pressing for in its protection of the public is the elimination of that type of operation.

Now, unfortunately we have that type of operation in the District of Columbia. The District of Columbia optometry law is antiquated, it allows this type of thing to go on. It needs to be tightened up.

The same thing in my home State of Maryland, you will find the same thing in the city of Baltimore. Sometimes young optometrists fresh out of school do not have adequate finances or backing and they will take a job in this type of gristmill operation for a while, and it is a blight on the public. It is unethical in every State but, unfortunately, not illegal.

Senator WILLIAMS. It seems to me there must be a legitimate role here for the Federal Trade Commission or the Food and Drug Administration concerning those specific ads that you are holding there. I would think that this could be a concern of theirs.

It seems to me, you know, it is hard to define the lines of commerce and where commerce and health combine, but this contact lens area is clearly an area where health is involved.

Dr. NUROCK. Definitely.

Dr. McCRARY. Yes, sir; it is, and some of the witnesses who will follow me, Senator, will go more thoroughly into the problem of the management of contact lenses and the problems involved with some opticians attempting to fit contact lenses and this sort of thing, so there will be further expansion on that, but this certainly could stand an investigation.

Senator WILLIAMS. Thank you.

Dr. McCRARY. Now, to summarize then, unfortunately, many thousands of America's elder citizens shop for glasses at these mercantile and unethical establishments, rather than seek proper vision care from those who could help them preserve, restore, and enhance their precious visual abilities.

I will next touch on contact lenses and the senior citizens. I will speak particularly about contact lenses for a person who had had cataract surgery and I would like to show you a couple of slides on that, also.

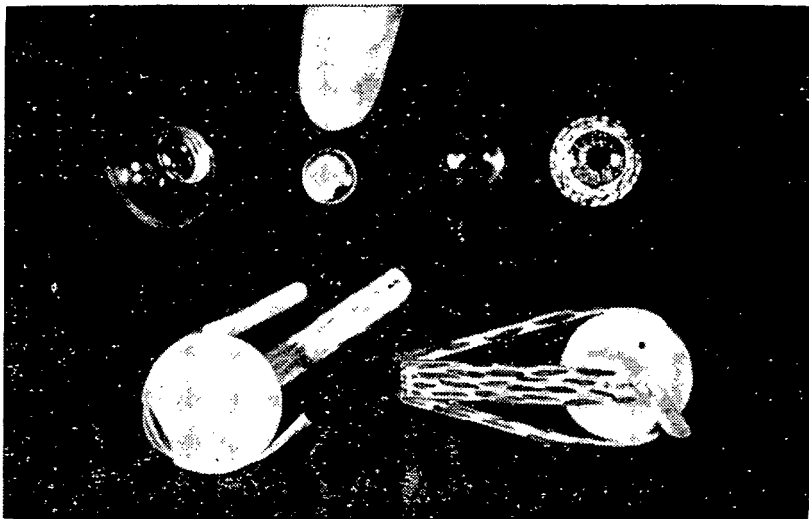
In order to properly design a pair of contact lenses so that they will be visually correct, physiologically sound, psychologically acceptable, and physically useful, it is necessary for the professional person responsible to spend a great deal of time with every individual patient. Each patient, and, indeed, each eye of each patient, is unique unto itself, presenting problem-solving characteristics which require the total time, training, skill, and energy of a professionally trained, licensed, and experienced optometrist or a qualified physician.

The responsibility for such a delicate and complex procedure cannot be delegated to nonprofessionals who have, at best, only a superficial knowledge of the physiological, psychological, and anatomical principles involved. No one but an optometrist or ophthalmologist should ever fit a contact lens under any circumstances. I would like to show a couple of slides next—

Senator WILLIAMS. I think we will dispatch someone down there later to that advertised place to see who is doing the work.

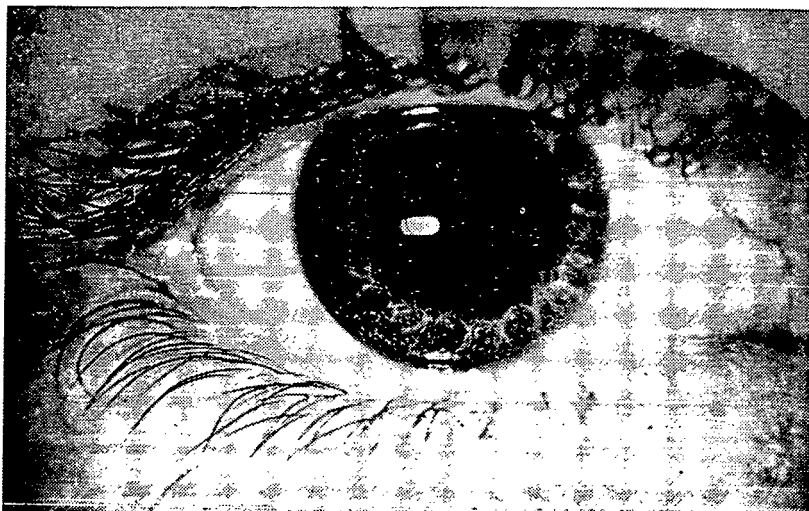
Now, these are——

Dr. McCrARY. These are plastic models of the eye and the muscles attached thereto, and these plastic models disassemble to show the inner parts of an eye.



Now, this particular eye shows two lenses, one just to the right of the finger is the normal clear lens in an eye, and the one which the finger is pointing to illustrates a lens in an eye which has a cataract.

Now, this slide illustrates the appearance, externally, of a cataract, when you look at a person with a cataract in the eye, it is slightly behind the plane of the pupil and acts as a physical obstruction to passage of light into the eye.



Here is an individual who had had a cataract removed from one eye, if you will notice the thick lens on the left eye, the disfiguring cosmetic effect of this thick lens. Not only cosmetically, but from a visual functioning standpoint, his eyes cannot work together because of the difference in image sizes. He does not have the ability to use both eyes together.

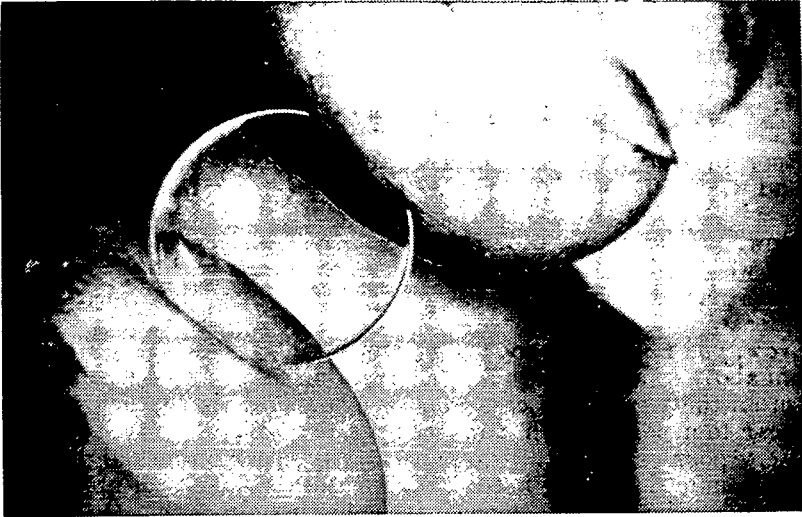


Here is the same individual, and he is also smiling with his contacts. [Laughter.]

He has a great deal to smile about. He has equal image size in both eyes and with his contact lenses he can see with both eyes together, not only can he see with them both together but he has a much larger visual field.



This is the contact lens that is put on the eye to show you the relative size of it; and here is a contact lens on an eye which has had cataract surgery, notice the misshaped pupil from where the lens had been removed, the contact lens sits right on the cornea and covers that misshaped pupil.



The greatest help of the contact lens is that they provide a greater field of vision.

We have a couple of slides to illustrate that fact because this is an extremely important thing.

Senator WILLIAMS. Frequently you see, particularly when elderly people wear the frame, that one side is frosted out.

Dr. McCrARY. Yes, sir.

Senator WILLIAMS. Some of those cases could be helped with contacts?

Dr. McCrARY. Yes. The idea in frosting the lens is that normally in the development of a cataract, one eye develops faster than the other so that this eye may be almost out and this one is going, but I have reasonably good vision here [pointing].

Now, there always comes a time when the decision has to be made whether or not the cataract should be removed, and this is the surgeon's decision to determine whether or not that cataract should be removed.

After it is removed, the individual may have beautifully clear vision out of the eye, but the other eye, though it is dimmer, he sees another image there, and this is the double vision, this is the thing I mentioned just a little earlier, so he may see even beautifully clear with two eyes, but with double vision he is worse off than he was before. So, usually what happens is that they will use a frosted lens to suppress the poor image, so he can use the eye which has been operated on, whichever the case may be. But it is an aid to help that individual suppress the image.

Senator WILLIAMS. Are you saying with contacts in some of those cases where there will be double vision with regular glass frame and with regular glasses, they might be helped with contacts?

Dr. McCrARY. Yes, sir. That is what I am saying. And not only is this true if one eye is operated on, but I have a couple of slides I would like to show you to demonstrate the difference in the field of vision of both eyes, for individuals who have had cataracts removed from both eyes.

This lower chart at the bottom illustrates the total visual field. This is with the individual looking straight ahead. This portion of the field is sensitive to motion, that is, he can see things move out of the corner of his eye. This is a blind area, this is the portion straight ahead where the individual sees. This is the area of motion and blind area with corrective glass lenses.

Now, the next two pictures show a comparison between what a scene would look like by one of these individuals with regular corrective spectacles on as I am wearing here, as opposed to wearing contact lenses.

Now, you might first look at the top scene. This is a scene viewed from above of an individual standing at an intersection getting ready to cross the street, two cars going down. This is the way it would appear to a person with cataract spectacles on.

Very poor peripheral vision and cloudy, clear only straight ahead. With contact lenses the bottom picture shows the way it appears. It is an indescribable phenomena. It is one that almost has to be experienced to be understood, but the patient who has had the cataract spectacles and then contact lenses experiences this tremendous improvement—an opening up of the visual field.

Here is an area where contact lenses give back sight, actually, this is an area of great usefulness.

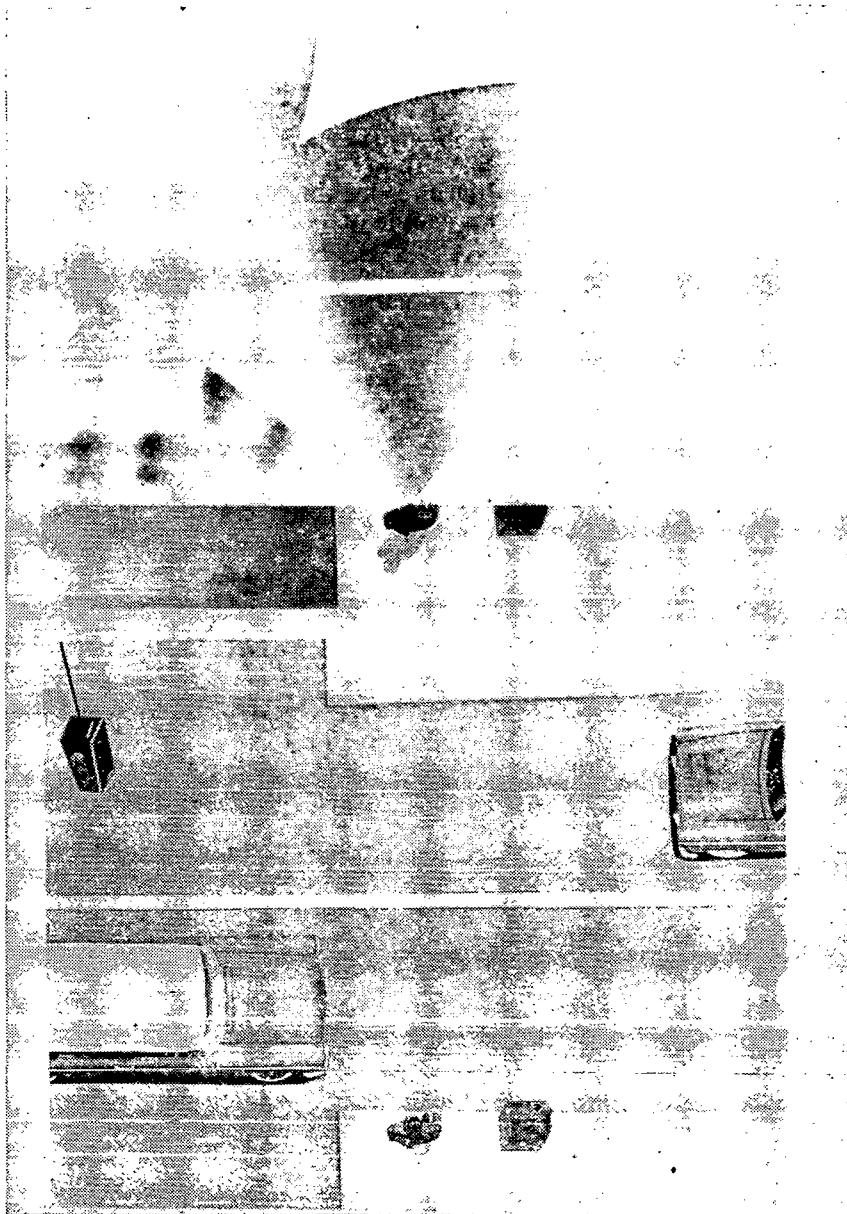
We have one other slide. This next slide also illustrates an individual who has had cataracts removed from both eyes. With cataract spectacles he gets a constricted central view of the young lady sitting across the dinner table. With contact lenses on he gets this panoramic view.

So this illustrates the tremendous improvement through the use of contact lenses for this type of individual.

The modern contact lens, properly applied and utilized, is a boon to the visual welfare of mankind and represents one of the significant contributions of this decade by the profession of optometry to the betterment of mankind.

There are numerous small groups within the eye care field which practice or adhere to highly questionable procedures and/or instrumentation. These small groups exist within both optometry and medicine. While there is usually some possible scientific base for their theory or school of thought, the methods they advocate are considerably outside the main stream of sound practice.

One such school of medical thought holds that sunlight, by its very nature, is harmful to the eyes and that the sure-fire method to prevent the formation of cataracts is the automatic prescribing of tinted lenses for everyone early in life. These lenses are particularly selective in absorbing the infrared and ultraviolet end of the spectrum. Needless to say, this theory finds very little acceptance by the profession at large. An opposite school of medical thought pro-



Street A. As seen by aphakic patient wearing spectacle lenses.

Street B. As seen by patient wearing corneal contact lenses.

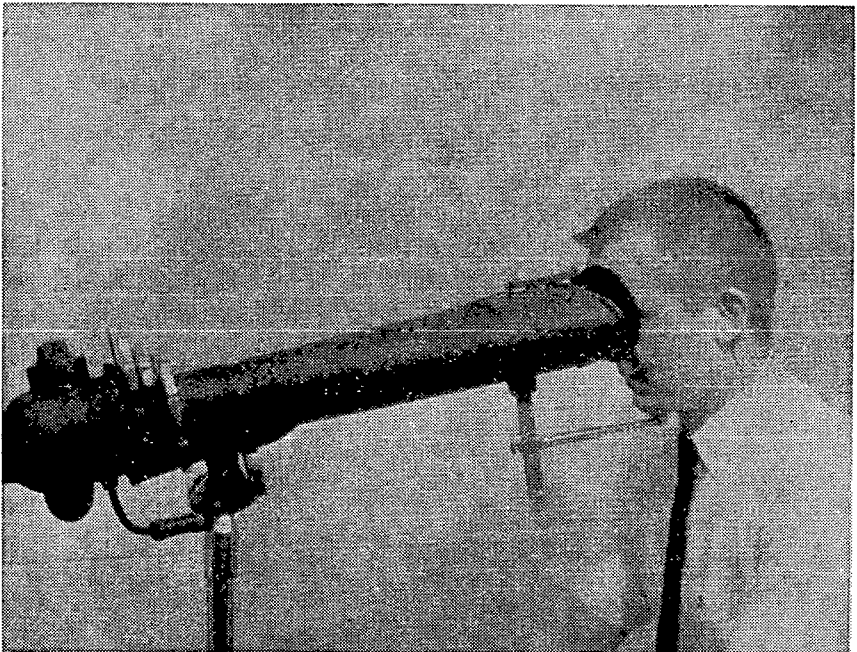


moted by Bates and his followers, holds that natural sunlight is most beneficial to human eyes and that lenses should not come between the eyes of man and the natural sunlight.

Another problem area is diathermy, another is the area which we call syntonics.

The school of thought of syntonics is based on the theory of treating various visual and eye problems with chromatic lights of various colors, wavelengths, and intensity. I will just go over this quickly by saying this is a very highly questionable procedure and one which I believe Food and Drug is looking into or has looked into.

I would like to just project a couple of pictures of this instrument which is called a syntonizer. There are various color filters on the left, and the patient sits and views the instrument, puts his chin in the chin rest there and has these various types of treatments with the syntonizer.



"Treatment" with a syntonizer.

Here is one with an individual actually having the syntonizer turned on, and then there is one other slide on this.

This is a view of the instrument itself.

There are doubtless many other methodologies out in the lunatic fringe area which are, to put it mildly, of questionable value. The elder citizen seeking vision care should be made aware of the highly questionable nature of such procedures and should be on guard. A check by telephone with his local optometric society, if he runs into anything like this, will help set him straight.

I would like to touch briefly on the problem of glazed goods and mail order glasses. We had touched on this earlier, and there are a great number of problems involved with the over-the-counter sale of readymade, so-called grandma eyeglasses. This is a particularly pernicious practice in some areas and should have been prohibited many years ago.

To summarize some of these reasons, the danger involved springs from the tendency of many people to self-treatment and introduces delay which can make successful correction more difficult.

Because of the obvious abuses in the area of readymade glasses, the Federal Trade Commission last year adopted regulations to govern the optical products industry, and these regulations say this about glazed goods. I will simply except from this statement this particular part:

It must be clearly and conspicuously disclosed in the advertisement or sales presentation that the correction of defects in vision by such spectacles is limited to persons approximately 40 years of age and older who do not have astigmatism or disease of the eye and who require only simply magnifying or reducing lenses; or to publish or cause to be published any advertisement or sales presentation which has the capacity and tendency or effect of deceiving purchasers or prospective purchasers in any other material respect.

The mere printing of a sign like that may salve a few troubled consciences, but it does very little to solve the problem of over-the-counter and mail-order glasses.

We feel that if an elderly person is going to play Russian roulette with his vision that he should at least realize the risk that he is taking in self-diagnosis.

I would like to demonstrate here, Mr. Chairman, a mail-order kit because this matter of mail-order glasses is just an extension of over-the-counter readymade glasses.

This kit is made by an outfit in Chicago, and it has all kinds of handy little gadgets in it. This particular one here is for the person who measures his own frame size, and the littler pieces slide out and you put this over your ears and then you cover one eye and get this one centered and you swing this over and cover the other eye and get this one centered and when you remove it you read the number of the pupillary distance in the little hole in the center and you also can read the length of earpiece that you need off the side bar here.

Now, that takes care of the frame measurements that you need. The next problem is the size of the frame to fit your nose and they have a handy little gadget with four or five notches and you simply rotate it around until you find one that feels good and that is your nose size.

Senator WILLIAMS. Don't they have one for the low ear?

Dr. McCrary. No; I think what you have to do is tilt your head sideways on that one.

This letter chart here is to be held off at 10 feet and with someone holding that chart off at 10 feet, you then take what is called the self-test optometer. Now, this gadget here has 10 or 12 lenses in it and to test your distance vision you simply hold it up to your eye and find the lens that you can see that chart well with. Then you record that number in the little form. They have the forms right with it to record the numbers on, and you check that eye and then you check the other eye and you record that number, and that takes care of

the distance part of your glasses and for the reading glasses you flip up this part of it that says—

buy glasses by mail and save money. You are guaranteed perfect satisfaction or your money back—

it says—

will be cheerfully refunded. Our glasses are guaranteed to be manufactured accurately.

Now, when you flip this up you also turn the wheel until you get that clear with each eye and then you have all the numbers that you need.

In addition to finding out the lenses that you see clearly with, then you can also, from the catalog, pick out whatever frame you might like according to the style, and also pick out the type of bifocal you want to prescribe for yourself and specify also if light hurts your eyes then you can have a tint in your lenses and that is an additional \$3.

So, this kit is pretty complete.

Senator WILLIAMS. What's the price? Do you know?

Dr. McCrARY. No; I do not. I believe that this kit is sent out with the hope of it being returned. I am not sure that they charge for the kit.

This is not my personal property and I do not know. But it is called a self-test optometer, and then here is the order blank for filling in, and the customer's receipt, you apparently write your own receipt.

If the picking out of glasses over the dime store counter has its problems, then this is fraught with far more problems, because this has the individual himself making all sorts of decisions, judgments that are many times difficult even with a tremendous amount of professional training and background.

Dr. CHAPMAN. Just to interrupt, because this has been pointed out, how broad this type of thing could possibly progress, Senator, is in certain of these kits there is indicated there that if you are happy with your kit, why don't you go next door and see if there is somebody there who would like to have the kit before you return it, so you might get this thing throughout a whole neighborhood, for example, which is an extremely dangerous practice.

Dr. McCrARY. What has happened as an outgrowth of that is that some individuals unknowingly begin to violate the Optometry Act by saying this is pretty easy for me, I will try it on my friend, then they begin to attempt the practice of optometry with this little gadget.

This concludes my presentation. I shall be happy to answer any questions that you may like.

Senator WILLIAMS. How much more presentation do you gentlemen have?

Dr. CHAPMAN. Senator, there is considerable information still to come in the area of contact lenses, particularly, and certain other legal features that we would like for you to know about.

Senator WILLIAMS. I think we had better break for lunch and return.

Dr. CHAPMAN. Yes, sir.

Senator WILLIAMS. Are there statistics on the percentage of people over 60 who really need lenses for maximum comfort and vision?

Dr. McCrARY. Well, the Better Vision Institute has some charts and I will be glad to furnish one of those for the record, showing the increasing frequency of visual problems with the aging process.

There are certain biological changes that take place in human vision as a normal consequence of the aging process, and one of those which is inescapable like death and taxes, is the hardening of the crystalline lens in the eye.

Up to a certain point, the lens loses its elasticity and you either begin to blur at a distance or up close, or use one eye for distance and one eye for close, depending on the nature of the problem, but it is an absolute certainty that beyond the age of 60, not one out of a million could not benefit from good vision care.

Senator WILLIAMS. I wanted to establish that. The problems of the elderly in the area of deception and fraud—that is our reason for being. While a lot of these deceptions are perpetrated on younger people, the older you get the more problems you have with your vision. Obviously, we have a larger problem where there is deception of the older folks.

Dr. CHAPMAN. The percentage would be extremely high, Senator, because these people, as you well know, are seeking a device, a method, a means by which reading can be done again and to sew and thread a needle. These mail-order schemes hold themselves out to produce a type of vision which cannot be achieved.

Senator WILLIAMS. Of course, we know, as Mrs. Neuberger noted, it is a fact of life that older people are living on smaller incomes.

Dr. CHAPMAN. Yes.

Senator WILLIAMS. So, they reach for the aid at the best price and the price is a significant part of the determination and when you are buying them by mail, then the cycle of harm is accomplished.

Well, Mr. Callahan, do you have anything at this point, or would you rather wait until it is all over and make any observations?

Mr. CALLAHAN. Senator, I wonder how long this will be?

Senator WILLIAMS. We are going to recess right now for lunch until about 2:15.

All right, 2:15. Is that all right with you, Mr. Callahan?

Mr. CALLAHAN. That is fine.

(Whereupon, at 1:05 p. m., the subcommittee recessed, to reconvene at 2:15 p.m.)

