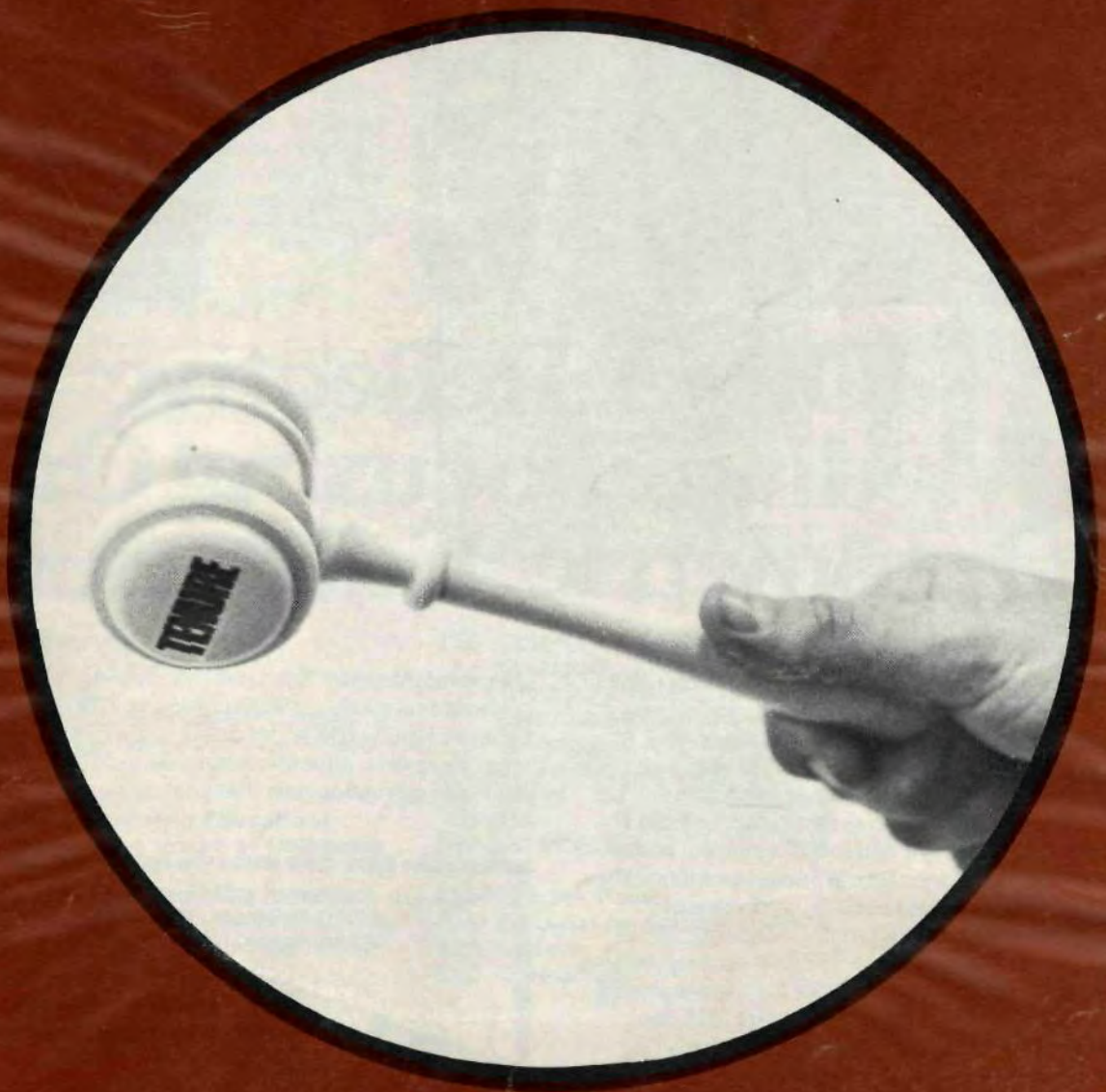
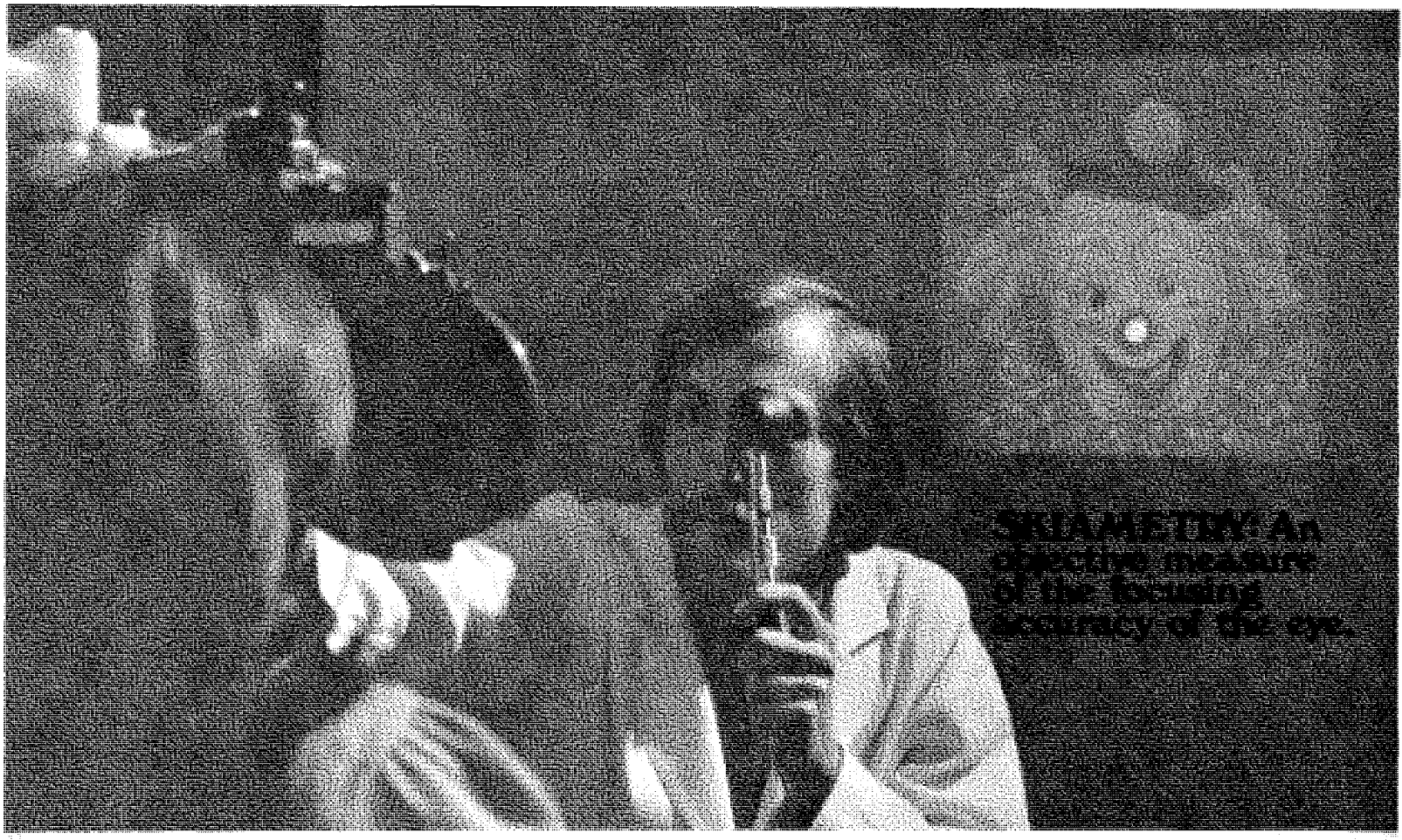
Special Foldout!
ASCO EDUCATOR

JOURNAL OF OPTOMETRIC EDUCATION

Volume 1, Number 3
Summer/Fall, 1975



Tenure: the Ivory Tower Goes to Court



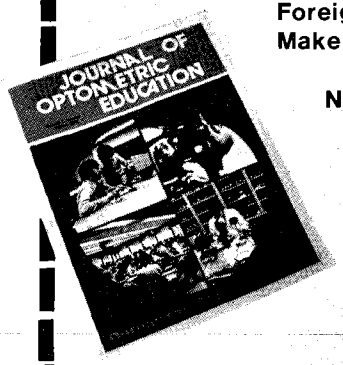
JOE: A Reflective Medium Focusing On Optometric Education.

The Journal of Optometric Education (JOE) is the new quarterly publication of the Association of Schools and Colleges of Optometry. Representing the optometric education segment of the profession, this attractive magazine focuses on a wide range of topics on significant aspects of your profession. Highly praised for its visual appeal and innovative design, **JOE** aims at keeping the optometric profession—students, faculty, academic administrators and practitioners—up-to-date on a myriad of important topics like the growing costs of educating an optometry student today, the development of the Optometry Colleges Admission Test (OCAT); the impact of affirmative action guidelines on optometry schools; the relationship between PSRO's and continuing education, and optometry's expanding role in the Veterans Administration. In addition to professional papers, **JOE** publishes special features, such as book reviews, ASCO news and profiles of optometric institutions around the country.

Sound interesting? Then join the growing ranks of professionals who are subscribing to **JOE**. A subscription to **JOE** is not only a show of support for professional education, but a way of furthering your own education now that you are out of school.

Send to: Journal of Optometric Education
1730 M Street, N.W. Suite 411
Washington, D.C. 20036

4 issues/year - $10.00
Foreign subscription - $15.00
Make checks payable to ASCO



Name _____

Address _____

_____

Zip

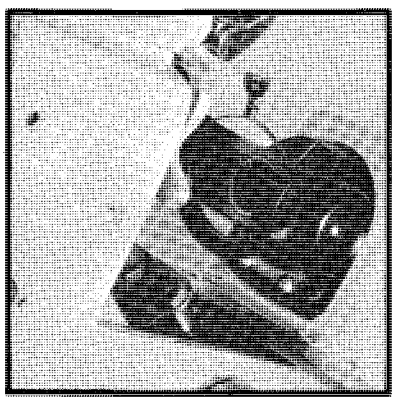
Private Practice ____
Institution ____
Other _____

JOURNAL OF OPTOMETRIC EDUCATION

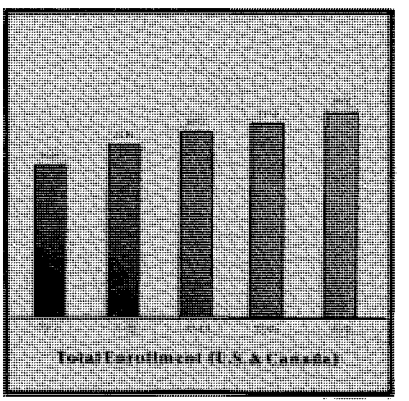
Volume 1, Number 3
Summer/Fall 1975

Official Publication of the Association of Schools & Colleges of Optometry

page 100



page 110



page 120

The **JOURNAL OF OPTOMETRIC EDUCATION** is published by the Association of Schools and Colleges of Optometry. (ASCO). **Managing Editor:** Louis A. Ebersold. **Art Director:** Roger Kranz. **Contributing Editor:** Sheila Doctors. **Editorial Assistant:** Cindy J. Simms. Business and editorial offices are located at 1730 M Street, N.W., Suite 411, Washington, D.C. 20036. **Subscriptions: JOE** is published quarterly and distributed at no charge to dues-paying members of ASCO. Individual subscriptions are available at $10.00 per year. $15.00 per year to foreign subscribers. Postage paid for a non-profit, tax-exempt organization at Washington, D.C.

EDITORS' PAGE

This issue of the *Journal of Optometric Education* **(JOE)**, the third for ASCO's hustling division of publications, is a double-barreled effort to acquaint **JOE** readers with the associations companion-piece, the monthly **ASCO EDUCATOR.** And vice-versa.

The September **ASCO EDUCATOR** is our foldout in the anatomical midsection of **JOE.** But please don't analogize its placement to any other popular newstand magazine. We have patterned our publication to be only visually appealing and intellectually provocative. The **ASCO EDUCATOR** is printed monthly during the academic year. It is available on a subscription basis for those readers who are not eligible for free copies.

JOE, of course, is the official publication of the Association and appears quarterly. For your convenience, a subscription blank may be found inside the front cover for **JOE** and on the back page of the **ASCO EDUCATOR** for the newsletter.

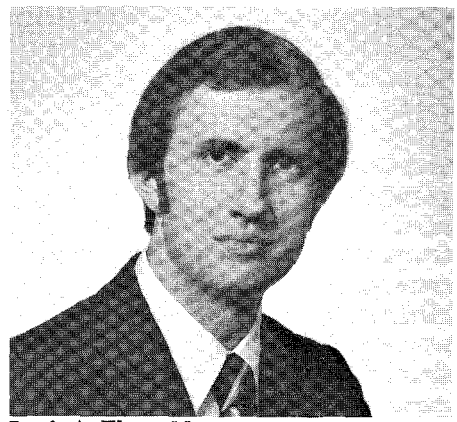
This issue also introduces a new feature which expands the scope of **JOE** beyond optometric education. With the cooperation of other health care organizations, **JOE** has sought out articles relevant to health education generally. Dr. H. Douglas Johnson's short and punchy piece on teaching without "lecturing" was chosen to initiate this effort. After all, training a student in pharmacy is not all that different from our own system. Why not, therefore, borrow ideas and techniques from other disciplines that appear to have relevance to the transmission of scientific concepts from teacher to student?

JOE will continue to select good articles from other disciplines to augment the good works of our own laborers. And that is not to use the word "laborer" in a perjorative sense. This issue also contains an in-depth article on tenure, the concept that forms the basis of all labor-management arrangements in the higher education system.

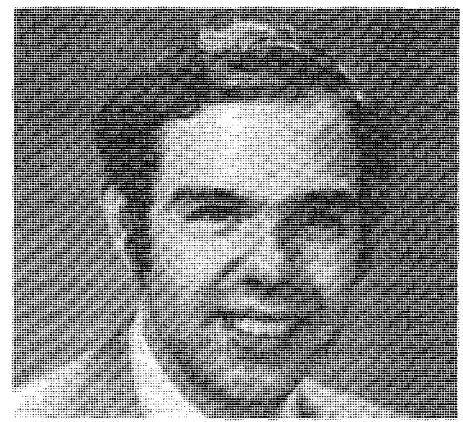
The continued effectiveness of **JOE** depends entirely on you, our readers. We want the **JOURNAL OF OPTOMETRIC EDUCATION** to be an open forum for your views and ideas on the education of optometrists now, and in the future. We encourage our readers to write to us and for us. Let us hear from you.

In this issue:

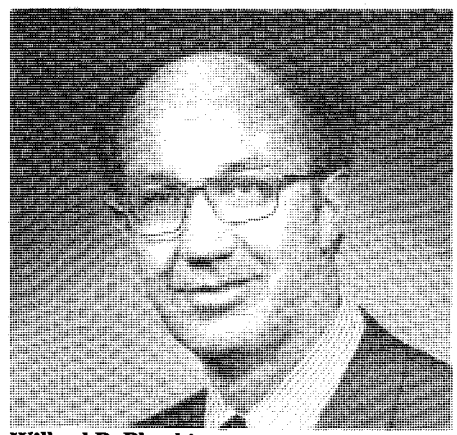
Jerome A. Hirsch



Louis A. Ebersold



Alan R. Gold



Willard B. Bleything

Kermit Kors

Correction

JOE editors wish to apologize to the Illinois College of Optometry for not crediting them with the photo on page 59 in our last issue. The photo was of the Ocular Pathology Clinic conducted by Drs. Day, Black and Shulman.

What Now?

Accepting the presidency of ASCO, especially following a time of unprecedented growth and maturity of the organization, makes one wonder if there is anything "new" to achieve during a term in this office.

The outstanding ability of our immediate past-president Bill Baldwin to motivate people and develop imaginative programs will be hard to follow. Consequently, this will not be attempted. In fact, there is a great deal to be said for an administration that allows the innovative and aggressive developments of a previous period to mature and prosper.

However, there is one very burning issue within optometric education that will have a major impact on the future of the profession world-wide. This is the need to publish a detailed analysis of the optometric curriculum.

The Council on Academic Affairs has been working for the past two years, under the capable leadership of Dr. Richard Hazlett, on the development of a curriculum model. The initial ASCO action on this occurred in Philadelphia, Pennsylvania in the Spring of 1973 at an informal meeting of Drs. Baldwin, Hazlett, Tony Adams and myself. A preliminary draft presented to the Association calling for a constructed cost of education study led to the major task of creating a curriculum model by the Council on Academic Affairs. After two curriculum conferences involving representatives from each member school and plenty of paperwork, we are now on the verge of producing and finalizing this important document regarding the education of future doctors of optometry.

Dr. Boyd Eskridge, Chairman of the Council on Academic Affairs during the period of my administration and I are both committed to publishing the optometric curriculum for the world to see! I am personally convinced that for too long, optometry has been reluctant about telling people what it is we teach and why. We seem to have a complex about the strength and quality of our educational programs and an even greater fear of what other people will think.

In this modern world the only true strength is inner strength and personal self-belief. Extrernal forces, if not in our own best interest, should be noted but should not affect the way we think and the way we act.

This analogy can be applied to optometric education and the fledgling profession that we guard so jealously. We should not worry what other professions think about our self-proclaimed role in society. The only group of people that we need to be concerned with are the people we serve, our patients. As long as our commitment to education is to provide high quality services to people that have specific needs, and for which we have provided our practitioners the necessary education, our commitment is fulfilled. Certainly, we must look at the political realities of life and our strategy will probably be influened by these forces. However, our major commitment to what we should do and what we should become is to ourselves and to our patients, not other professions and no other vested interest groups.

The pages of **JOE** in the future will no doubt become a forum for discussion of various points of view. This current issue has a report of the Council on Academic Affairs and will bring you up-to-date as to its development and programs. The future of this profession is in our hands. That includes you.

Norman E. Wallis
ASCO President

The Optometric Curriculum Model

Development of an optometric curriculum model has been a high ASCO priority for several years, with much significant activity occurring since the first Curriculum Workshop was convened by the Council on Academic Affairs in 1974. A second Curriculum Workshop held in May, 1975 produced this preliminary report.

Evolving a definition of the optometrist's role in visual health care and establishing criteria for professional practice modes have been extremely challenging and often painstaking processes for those members of the profession involved in the effort. Their attempts to formulate valid role definitions for the optometrist within the context of a changing health care delivery environment have shown that the task is more complex than anticipated, resulting in step by step evaluation of building block objectives.

The visual health care needs of society and the changing health care delivery apparatus, in the Committee's view, will result in different and greater demands being placed on the optometrist in the future; therefore, new roles and expansion of present functions will be necessary to meet the public's vision and health care needs.

The report which follows was presented as part of the Annual Report of the ASCO Council on Academic Affairs to the Board of Directors at the Hot Springs, Arkansas meeting in June, 1975. It represents a significant stage in the continuing process of developing a paradigm, or systematic model, of a professional optometric curriculum designed to meet tomorrow's visual health care needs.

This report does ***not****, in its present form, represent ASCO policy; it is to be considered a working document, still in evolution. No action was taken by the ASCO governing body upon receipt of the report—it is under consideration as part of the effort to fulfill ASCO's goal of developing an optometric curriculum model.*

Differing views are anticipated in any debate of such great importance. Expression of differing views is generally beneficial in arriving at group consensus and is an essential part of the developmental process. The ***Journal*** *encourages the expression of views on this issue and related concerns of curriculum development.*

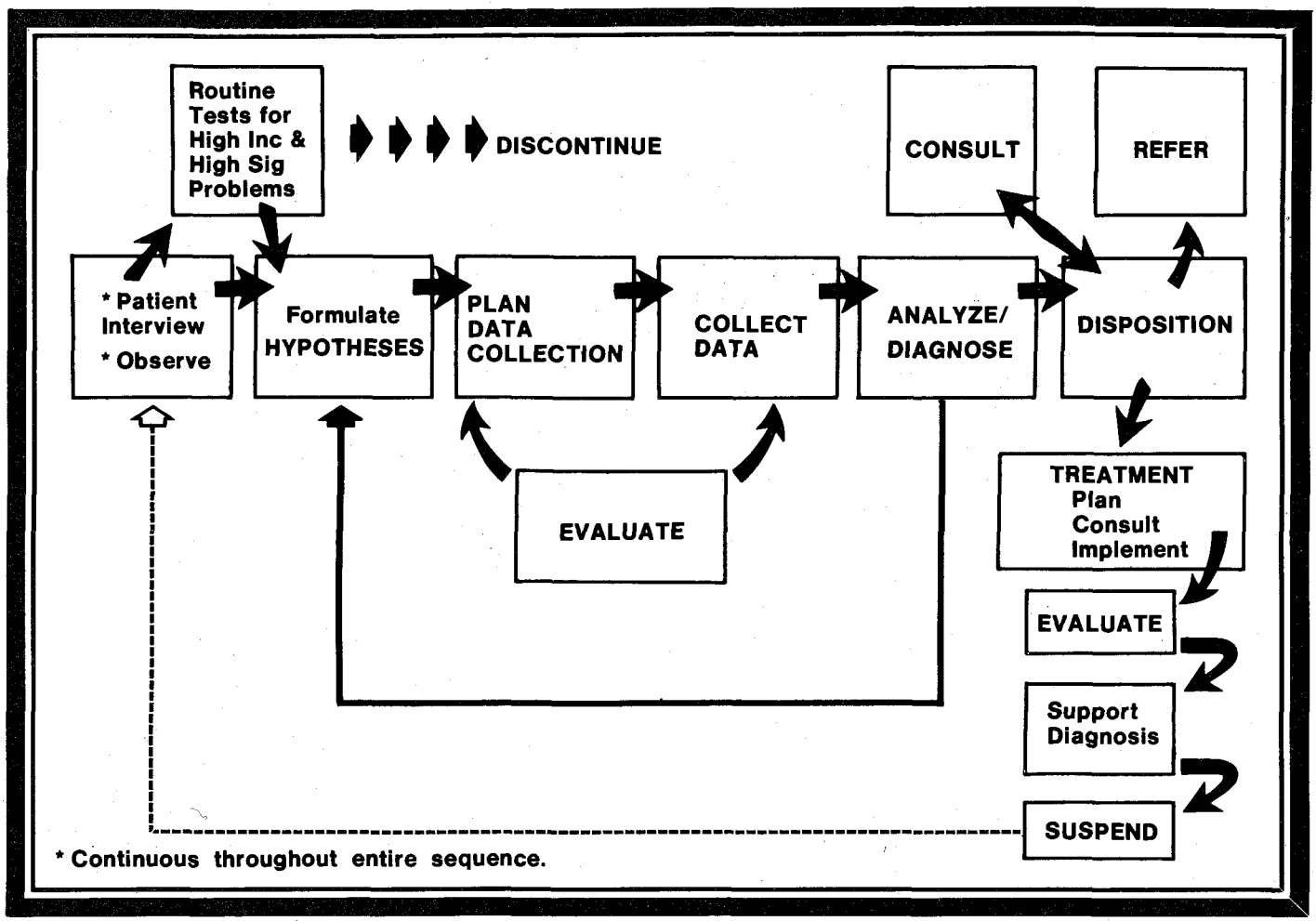
INTRODUCTION

A committee comprised of members from the Council of Academic Affairs of the Association of Schools and Colleges of Optometry met at the Southern College of Optometry on May 15-17, 1975. The members of the committee were: Dr. John Carter, Massachusetts College of Optometry; Dr. Frank Brazelton, Southern Calif. College of Optometry; Dr. Richard Hazlett, Southern College of Optometry; Dr. James Peterson, Illinois College of Optometry; Dr. Rogers Reading, Indiana University; Dr. Robert Rosenberg, State University of New York. Chairman of the committee was: Dr. Lester Janoff, Pennsylvania College of Optometry.

The purpose of the meeting was to continue the development of an optometric curriculum model based upon the optometrist's role and criteria that were established during the 1974 curriculum workshop.

The product of this committee's deliberations represents an outgrowth of the defined scope of optometric practice based upon the vision and health care needs of our society. From this definition evolved the broad role statements which represent the major activity areas in which the optometric practitioner is, or will be engaged.

Under the rubric of patient care, the committee developed a diagnostic pattern that depicts the operational sequence that practitioners employ when rendering patient care. This paradigm was then considered by the committee as a fundamental curriculum model for preparing candidates for entry into the profession. The emphasis of this model is on the application of the scientific method in delivery of patient care, which allows the examiner to function at the highest logical and professional level. The goals that follow, further amplify the paradigm and specify in a



cumulative fashion the knowledge base required to fulfill each ensuing goal.

The approach taken by the committee avoided specifying subject matter for two principal reasons:

1. The subject matter can be interpreted by each institution, thus preserving the individuality of institutions, while assuring uniformity in the optometric approach to patient care.
2. Stating subject matter might tend to perpetuate the traditional organization of knowledge and educational structures thus stifling creativity.

It is hoped the reader will bear these facts in mind when considering the outline that follows and respond mainly to the theme of the document.

Definition of the Optometrist

The doctor of optometry is the health care practitioner whose responsibility it is to prevent, detect, diagnose, treat and/or manage all disorders, anomalies, and dysfunctions of the visual system, and to enhance visual function.

The role of the optometrist is:

A. To detect, diagnose, and treat problems of the visual system.
B. To analyze, evaluate, and advise on problems of the visual environment.
C. To evaluate the involvement of vision in behavior.
D. To provide general health screening for problems of high incidence and high significance, and general health education and counseling.
E. To provide vision health education to the public and other health care providers.
F. To serve as the administrator for the delivery of vision health care, and to provide administrative support or guidance for comprehensive health care programs.

The definition and role of the optometrist were the product of the March, 1974 meeting and, with some minor clarifying changes, were taken as the starting point for the present conference. They posit two primary activities of the optometrist: (1) As a vision care practitioner (A,B,C,D), and (2) As a health care practitioner and manager (D,E,F). The committee considered these sequentially in its deliberations and, beginning with the vision care role, developed an operational model.

Paradigm for Optometric Patient Care

This model envisions the patient care process as a problem-solving sequence based on the scientific method. The model is simply an attempt to make explicit the process by which a diagnosis is reached *and verified,* and to emphasize the feedback function at every level of operation. It allows us to specify behaviors and information bases appropriate to each stage. The novelty and power of the conception arise from the fact that we will now use the *output* or *product* of the educational program as a criterion by which to judge the relative sequence and priority of the inputs. These inputs are (1) the information base (2) the clinical skills, and (3) the affective qualities the clinician will require to perform at each operational level. (See diagram)

Behavioral Goals

Broad behavioral goals are stated for each of the seven major steps in the paradigm.

STEP NO.

1. The learner will demonstrate:
   a. Knowledge and Comprehension of visual and vision-related problems and their associated signs and symptoms.
   b. Skill in performing the patient interview, and the comprehension of clinical signs.
2. The learner will demonstrate the ability to perform appropriate health screening procedures.
3. The learner will demonstrate:
   a. Comprehension of the relationship between the signs and symptoms, and diagnostic possibilities; and the relative probability of these diagnostic possibilities.
   b. The ability to synthesize information obtained from the patient into an initial hypothesis (es).
4. The learner will demonstrate the ability to formulate a plan that will test this hypothesis (es) using the most effective data collection possible.
5. The learner will demonstrate mastery of the various tests and measurement procedures, and the comprehension of inconsistencies among these tests.
6. The learner will demonstrate the ability to reach an appropriate diagnosis by a method that distinguishes from among the diagnostic options.
7. The learner will demonstrate:
   a. The ability to formulate a treatment plan or management plan.
   b. The ability to implement the treatment or management plan decided on.
   c. The ability to evaluate the effectiveness of the therapy or management plan.

Information or Content Bases for the Goals of the Paradigm

These will include the cognitive and psychomotor prerequisites for the seven major steps. Since the steps are sequential in time, the content bases are additive. They are specified in terms which may correspond to current curricular areas or require new ones. It is important to note here that, while the committee did not attempt to specify any rigid time sequence for the introduction of information bases and clinical sequences, the nature of the paradigm implies a parallel structure i.e. vertical integration, in time, of content, skills, and clinical training. This further implies that clinical training begin earlier and much of the control base be introduced later than is true in most current curricula.

STEP NO.

1. Observation Skills
   Interviewing Skills
   Epidemiology
   Clinical Psychology
2. Pathology
   Toxicology
   Special Optometric Problems
   Behavioral Aberrations
3. Logic
   Visual Science
   Health Science
   Statistics
4. Interprofessional Roles
   Theory of Optometric Tests and Instruments
5. Clinical Skills
6. Anything Not Previously Covered
7. Optometric Therapeutics

Vision and Health Care Education, Management, and Delivery

Broad goals and content bases are stated for these optometric roles which are represented in the main, by items E and F of the optometrist's role.

Broad Goals

1. The learner will demonstrate the ability to advise patients how to apply environmental modifications to enhance visual function
2. The learner will demonstrate the ability to effectively communicate vision health information
3. The learner will demonstrate comprehension of what constitutes acceptable protocols for the delivery of vision care in any setting.
4. The learner will demonstrate knowledge of comprehensive health care programs.

Content Bases

1. Illumination
   Vision Science
   Optometry
2. Communication Skills
   Optometry
   Visual Science
   Health Science
3. Professional-Legal Aspects
   Social-Ethical Aspects
   Practice Management
4. Public Health

Levels of Clinical Proficiency

One issue to which the committee addressed itself was somewhat tangential to the purpose of the conference but has considerable importance in any consideration of curriculum models in a clinical discipline.

Clinical problems vary greatly in incidence yet the role of the optometrist makes him responsible for detection, diagnosis, treatment, referral and management for all disorders of the visual system. A crucial issue arises from this, for it is highly questionable whether any practitioner can be expected to be proficient in the management of a problem of so low an incidence that he may see very few such cases in a year or even a lifetime of practice. Can we reasonably expect the level of proficiency in management of strabismus, aniseikonia, or low vision, that we do in the solving of refractive problems? The answer is obviously no and the experience of all health professions has been that certain practitioners will develop the interest and abilities to manage these low incidence problems. We call such practitioners specialists and our expectation is that the generalist will detect and refer such problem cases to them.

What then is the obligation of the clinical training program in the optometric curriculum. Even if it were possible to provide sufficient ex-

perience to train *all* our graduates to a high level of proficiency in treating *all* disorders of the visual system, does it make sense to do so? Can we afford to use our resources to develop high competence in the management of keratoconus in 100 graduates who will, among them, see not many more than that number of keratoconic patients in a professional career? Is there any point in developing a skill which is not likely to be exercised to the degree necessary for its maintenance let alone its increase. Both logic and experience dictate the answers to these questions.

Can we resolve this self-imposed dilemma? The answer is yes but the methods of solution may be, and probably should be, diverse. One answer is the creation of residency programs in clearly defined specialties. This solves the patient care responsibility aspect by assigning it to the profession as a whole rather than to each practitioner. It does not answer the question of the structure of the undergraduate curriculum which remains: how do we provide highly competent generalists able to fully care for high-incidence cases, yet able to detect and refer low-incidence cases? How do we also provide graduates with proficiency in low-incidence conditions?

The committee suggests that a working model for such a solution might be as follows: Assume that the clinical training program is divided into 3 levels.

A. General Practice:

At this level the clinician will learn to diagnose and treat high incidence cases. These would include, but not be restricted to, refractive problems, deficiencies of binocular function, and common ocular pathology. All routine spectacle and contact lens corrections, vision therapy, ocular pathology detection, and general health screening procedures would be expected of the student at a high competence level.

B. Clerkships and Rotation:

The clinician would maintain and extend his general practice skills but would in addition be rotated through a series of clerkships dealing with low incidence problems. These might include, among others, (1) special prosthetics such as low vision, aniseikonia, and sophisticated contact lens devices, (2) special sensory, motor, and perceptual problems such as strabismus, amblyopia, developmental and learning disorders, (3) special techniques such as electrodiagnostic methods, (4) special ocular pathology diagnosis and treatment.

C. Specialty:

Upon completion of his clerkship each clinician would elect one (or more if practical) specialty areas in which he would serve for an extended period and at the conclusion of which he would be expected to demonstrate proficiency in the diagnostic and management skills required.

To summarize: All clinicians would develop competence in a) diagnosis and management of common visual disorders, b) detection and referral of uncommon disorders, and c) at least one of the specialty areas.

Although the model does not presuppose either the time at which a particular level would begin nor the length of time devoted to each level, it would permit, if desired, the introduction of the general practice level very early in the professional program. It is the consensus of the committee that this should be done. The problem-solving paradigm would apply at each level and should be retained throughout as the model for clinical instruction and patient care.

Additional Recommendations

The following recommendations for the teaching/learning activities may be considered as independent of the curriculum model and need not necessarily be considered as implementable only on adoption of this curriculum model. However, the development of the model does suggest the possibility of organizing our subject-matter in a different fashion, based on the knowledge categories previously enumerated. The result could be the production of new textbooks, as well. Curriculum design from the standpoint of an operational diagnostic sequence might make feasable a horizontal rather than a vertical, organization of the information base. Such an organization could result in more patient-centered teaching.

The committee feels the following should be considered along with the implementation of a new curricula:

1. Early patient care experiences.
2. Expanding percentages of student time spent in the patient care setting with patient care activities.
3. The teaching of knowledge and comprehension in the patient care setting, along with the psychomotor skills.
4. More small-group instruction.
5. More student responsibility for learning as exemplified by individualized instruction methods.
6. The use of a greater range of teaching strategies.
7. A modular construction of instructional units, consisting of great breadth and great depth to allow for an effective elective system.
8. More opportunities for electives under proper guidance.
9. More off-campus learning experiences such as externships, clinical rotations, clerkships, etc.
10. A more reasonable number of contact hours per week which would allow the learner more time for informal learning.
11. More criterion-referenced testing (mastery testing) of knowledge as well as skills for making decisions about learners and programs, and the de-emphasis of norm-referenced grading.

Continued on page 124

How to give up lecturing for fun & profit.

By H. Douglas Johnson

A few months ago at a meeting in Atlantic City, I had lunch one day with three other pharmacy school pharmacologists. In the course of our conversation I happened to mention that I have virtually given up the lecture method during the past two years—and this after quite a few years of teaching. I suddenly found myself in the midst of a curious audience and an impromptu explanation.

My colleagues' interest was not surprising—a good many people have been dissatisfied with the lecture method for a long time. What did surprise me was the enthusiasm with which I found myself talking about what I am now doing instead of lecturing.

This article, then, is motivated by three pharmacologists' interest and my own newly found enthusiasm.

Once upon a time there was a HEW capitation grant which allowed our school the "frill" of employing an educational psychologist on a part-time basis. (Today, we would evaluate this move much more seriously; Dr. Virginia Zachert has been worth her weight in polygraphs.) I got my money's worth at our first conversation, which went something like this:

Zachert: How are you presently teaching your course?

Johnson: Well, I give comprehensive lectures. I incorporate materials from many sources, and students are responsible for what is said in class.... My only dissatisfaction is the frantic scramble the students have taking notes....

Zachert: Would you agree that you are, in effect, teaching from your own textbook? If so, why don't you eliminate your problem by duplicating your material and distributing it in advance?

Johnson: That's fine, but then what do I do in class? There is nothing duller than lecturing to students who already have the notes.

Zachert: Oh, there are other things to do. Why not make an assignment in your "text," start with a written quiz, and then discuss the answers? If that doesn't generate enough discussion to fill the hour, ask more questions.

Johnson: That's easier said than done. My class rapport would drop to zero with a daily examination. Besides, who wants to grade all those papers?

Zachert: You misunderstand. The quiz is just a tool and doesn't need to be graded. The idea of taking an exam will motivate your students to study, and they can then use the quiz to evaluate how effective their effort has been. ... After all, you never know whether you really know something until you have been presented with a question—which you can or cannot answer.

I wasn't totally convinced at that point, but I did agree to try the idea for one subject area the next term. After all, my lecture notes were in prose form already, and the biggest chore would be for the department secretary who would have to type the stencils.

Well, friends, it works! The students and I were a bit uneasy the first few days. None of us knew exactly what to expect of the other. But before a week had passed, we agreed that we had never spent such unhassled hours in a classroom. Even if there were no other advantage, the method would be worthwhile on this basis alone.

During the succeeding two years, I have converted about two-thirds of my course to this new method, and I expect to change the remainder as soon as we complete a syllabus revision. I have hesitated to spend time preparing topics which may be moved to another course.

H. Douglas Johnson, Ph.D. is Professor of Pharmacy, School of Pharmacy, University of Georgia.

My reproduced "text-book" is prepared and distributed by subject area. Information is in compact form, and each unit usually consists of 10-20 single-spaced typewritten pages. A usual reading assignment is about four pages. (Students don't know it, but this is slightly more than I can present in a 50-minute lecture.) The motivating psychology of the quizzes is freely discussed. I tell students that we will do whatever is necessary to motivate their particular group to study, and I suggest the following sequence of pressures:

1. Taking the quiz;
2. Exchanging papers to expose answers;
3. Grading the papers;
4. Taking up the papers;
5. Recording the grades;
6. My threatening to use the grades;
7. Using the grades.

So far, we have never needed to go beyond the first step, and students are amazed to find how easily manipulated they are by the idea of an examination.

The daily quiz consists of three short discussion questions, and I go to class prepared with six or eight additional questions. Together these serve to organize the hour. We generally listen to a student answer first—these tend to be sketchy—and then we discuss a more complete answer. Students are free to ask questions any time. A few students do most of the talking, and I supply a lot of the answers, but this is OK. The material is discussed, and the class seems more vitally engaged than with a lecture. If we cover the important ideas of an assignment before the period is over, we leave early.

With experience, several other advantages of this study-quiz-discussion method have become apparent:

1. Students have an opportunity for oral expression, a useful activity for future pharmacists.
2. Material can be covered faster and with complete control of presentation schedule.
3. The discussion period provides an excellent opportunity to update the distributed notes.
4. Students get advance experience with my examination style, and there is less complaint about "confusing" questions. (The experience may also have improved my construction of questions.)
5. The questions used in class are useful in planning the "real" examinations, even though identical questions are not repeated.
6. The distributed notes can include information not generally passed along in lectures, i.e., reference citations.

Student response has been enthusiastic. The great majority favor this new method, although one or two students per class usually say they still prefer lectures. As for grades, my impression is that the method improves the performance of poor students but has little effect on good students. This may be due to the fact that poor as well as good students now have accurate and well-organized notes.

When asked about advantages and disadvantages, two comments are frequently made, but students are not of one mind as to whether they are advantages or disadvantages. "It makes me study every day." Some consider this desirable, but others are not so happy to be in this situation. "It is easier to skip class when I already have the notes." This is also viewed with mixed emotions.

So far I have worked with groups no larger than 40-50 students. Whether the study-quiz-discussion method would be equally successful with larger groups, I do not yet know. My guess is that the method will work in any classroom where the back row is close enough for eyeball contact and unamplified conversation.

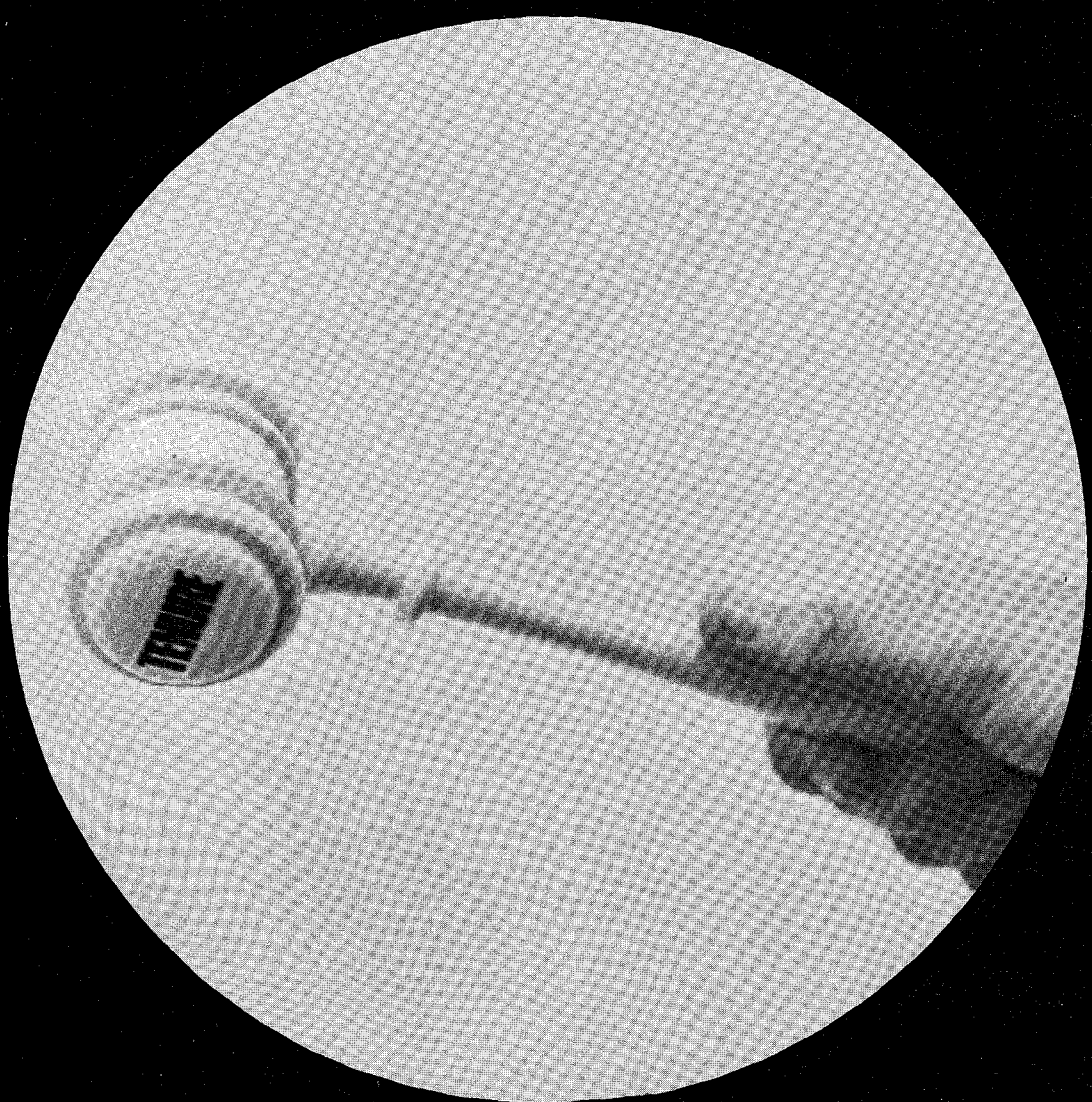
A final point I want to make is that for maximum effectiveness the distributed material needs to be carefully prepared. Sequence of ideas and clarity of phrasing must be carefully selected and, as in programmed instruction, these need student evaluation followed by revision. Sometimes a small change in wording or sequence will eliminate a major point of confusion. Manuscript preparation, then, is the real challenge of the method.

Reading this will have taken you about the same time as my encounter with our educational psychologist. Hopefully, it will have brought you to the same point—enough curiosity to try the quiz-discussion method for one topic in one course one time. This is a relatively minor effort. But be aware that you may like it. You may change your ways and live happily ever after. □

TENURE:

The Ivory Tower Goes to Court

By Louis A. Ebersold and Robert Weiss



Tenure is a fashionable subject for discussion these days. Popular periodicals, education journals, university conferences, and teacher association reports are devoting considerable energies to the study of tenure in American higher education. And as economic woes accelerate causing university administrators to cut expenses, while deserving prospective professors seek gainful employment, it is no wonder that this traditional form of *"job security"* is subject to threats and challenges from bestowers and "have-nots" alike.

This article will explore the forum of last resort where questions involving tenure are being posed with increasing frequency ... the courts. Judges throughout the land are grappling with legal arguments questioning the validity of tenure and its twin guarantees of academic freedom and economic security. Faced with pressures and threats both internal and external to our educational systems, the judiciary appears to be sensitive to the historical basis as well as the intricately complex development of tenure policy in higher educaton.

More often than not the courts' decisions serve to affirm and strengthen the tenure system. Indeed, if tenure systems really are on the demise, someone forgot to tell the judges.

A Historical Digression

The concept of tenure has been traced to the 12th century, when scholars were provided with various benefits of physical and economic security such as exemption from Army service and taxes. These concepts, including the separation of teacher and administrator, came to America with the English and European colonists. Harvard, chartered in 1650 to train young men for the ministry, entrusted teaching to graduate fellows who had not yet found a pulpit, and governing to the Board of Overseers. Gradually, however, as the role of the college expanded, teaching became a respectable profession and a stable teaching class began to emerge. Contractual relations developed and questions of duration of service and job security arose.

The issue of academic freedom arose at the turn of the 20th century as professors challenged the business practices of wealthy industrialists who supplied their favorite universities with funds. Some unenlightened administrators sought to silence and dismiss the critics to maintain the capital inflow. Academic and constitutional freedoms were ignored by administrators and denied by courts, who were just as frequently influenced by the businessmen's money.

In 1913, the American Association of University Professors (AAUP) was founded. One of its aims was to ensure greater degrees of academic freedom and economic security among members. The two issues were studied and eventually fused into a demand for tenure as a safeguard for both academic freedom and economic security. The concept then grew and has gained wide acceptance in education, from grade school to grad school and all levels in between.

It is not difficult to define tenure. Webster's 3rd International Dictionary defines it as "the act or right of holding property." Related to the academic profession, it becomes the right of a professor to maintain his professorship over an indefinite period of time. Usually before one can claim such a right one must go through a probationary period, and follow outlined procedures concluding with the approval of peers and administrators. Quite obviously, this is a broad definition. Basically, tenure is whatever a state authorizing statute, local ordinance, institutional regulation or system-wide rule defines it to be. This is clearly the position of the majority of the courts when faced with tenure questions. In a dispute on whether a professor had tenure, a U.S. District Court in Pennsylvania looked to the statement of tenure as provided in the University Regulations under a section entitled, "College Tenure Policy," Interestingly enough, the court did not look to any outside sources or refer to any commonly established understanding of the concept.[1]

The Michigan Court of Appeals when confronted with a similar question looked only to the written contract of employment to define tenure.[2] Different problems altogether were encountered in *Shaw v. Board of Trustees, MaComb County Community College* where the court concluded that the state statute, cited as the source of tenure, did not apply to community colleges.[3] As can be seen, the issue of interpretation is not cut and dry. Although once the source of the definition is located, it is clear that the party best able to guide the court to its definition has a head start on getting the judges to adopt the preferred interpretation.

Finally, the Supreme Court of the United States, in *Perry v. Sindermann,* studied state statutes and university regulations to discover whether or not Professor Sindermann had tenure.[4] The court was not able to find explicit language defining tenure in any document, but by generously interpreting various university policy regulations, the justices were satisfied that there was an unstated tenure system on Sindermann's campus and that due to his long years of service, he may have gained a *de facto* tenure.

These cases are recent, but they are merely applying traditional, established custom in looking to the authorizing documentation to give meaning to the word. The lesson in this is that the meaning of tenure is governed by local rules and laws, or just university regulations; and that although the concept has a general meaning to many citizens, legal determinations will frequently turn on specific language, locally drafted. Nevertheless, in this article tenure is referred to as a concept. The subsequent analysis will be of each of tenure's twin purposes—economic security and academic freedom.

The Supreme Court Tenure and Academic Freedom

Two recent cases in the Supreme Court could have considerable impact on tenure in higher education, *Board of Regents v. Roth,* and *Perry v. Sindermann* mentioned earlier.[5]

In *Roth,* a university professor, lacking tenure, sought to establish that his constitutional right to due process and freedom of speech

Dr. Ebersold is Executive Director of the Association of Schools and Colleges of Optometry. Mr. Weiss is a third year student at the National Law Center, George Washington University.

had been violated by the Board of Regents of California when they refused to renew his teaching contract. Roth had been employed for only one year. The court addressed the due process argument solely, since that was the claim Roth raised in his appeal.

For background, there are two due process clauses in the United States Constitution—in the 5th and 14th amendments. The fifth amendment applies to Federal agencies, whereas the fourteenth applies to the States. Since Roth was employed at a State university, his claim was based on the fourteenth amendment, specifically this wording:

> **... nor shall any State deprive any person of life, liberty, or property without due process of law ...**

As a precondition to gaining the protection of the due process clause, one must show first that there is state action, or prove enough contacts with the government so that the action of the school is that of a state. Secondly, as a result of that state action he/she was deprived of life, liberty, or property. Further, the basic elements of due process are adequate notice and a fair hearing. Roth's argument was that a state agency was acting to deprive him of his liberty and property when they did not rehire him; and that the failure to provide him with a hearing about this deprivation was a violation of the fourteenth amendment.

The U.S. Supreme Court did not agree. The Justices did not even reach the second argument, because they denied Roth's preliminary allegations. His liberty, reasoned the Court, had not been limited because he was free to seek another job or employer. Barring character malediction by the employer, the Board's mere refusal to rehire did not jeopardize Roth's opportunities elsewhere. Nor had his property interest been violated, because in fact he had no property interest in the job. Roth had taught for only one year. He did not have tenure, nor any objective and reasonable expectation of continued employment. Therefore, because he was not deprived of liberty or property he was not entitled by the Constitution to due process.

Perry v. Sindermann, decided on the same day, raised similar questions of due process as well as first amendment rights. There, the professor had been employed in the state university system of Texas for ten years. He had been repeatedly promoted to positions of higher responsibility and authority. However, after ten years, the University summarily refused to renew his contract. Professor Sindermann alleged first that the nonrenewal was due to some speeches and other activities he had promoted in which he expressed opposition to some specific administrative position, and that therefore, the nonrenewal was an infringement of his first amendment right to free

Tenure Philosophy:

(Excerpts from Selected Schools' Tenure Documents)

Southern California College of Optometry

The purpose of the tenure policy is to strengthen and implement the procedures of the institution by providing for stability, freedom of expression and insurance of continuity of its faculty.

Tenure may be granted to faculty members who show evidence of consistent contributions and value to the College. Tenure provides mutual assurance of benefit, responsibility and accountability between the College and faculty members. Acceptance of tenure by a faculty member constitutes a promise of loyalty and support to the College as a consideration for a permanent appointment.

University of Houston College of Optometry

The Board of Regents of the University of Houston seeks to promote the welfare of the University by a statement of general policy governing the employment of members of the faculty of the University. The Board desires to maintain commensurate with the ideals of a university of the first class a learned faculty who will search for truth and who by precept and example will instruct and inspire the students. To that end competent teachers are given assurance that they may feel secure in their positions and that they will be promoted upon the basis of merit as circumstances permit.

Unless otherwise specified at the time of appointment, it is the intention of the Board that the term of service of a professor, associate professor, or assistant professor will be continued during good behavior and satisfactory service after a probationary period.

Massachusetts College of Optometry

The principle of faculty tenure imposes reciprocal responsibilities on the College and on the faculty member. The College has the responsibility of maintaining the principles of academic freedom. The faculty member, on his or her part, is obligated to maintain high professional standards of research, conduct and teaching.

Pacific University

The intent of the tenure policy of Pacific University is to strengthen the university by providing for stability, freedom of expression, and assurance of continuity in service for its professors. Only in these ways can the university assure itself of the services of a dedicated and competent faculty. The granting of tenure to a member of the faculty shall follow consistent evidence of contributions and value to the university. While this tenure statement has been strongly influenced by AAUP recommendations on the subject, and while the following provisions for the regulation of academic tenure at Pacific University are intended to affirm the idea of tenure as practiced in American higher education, this document is to be read and interpreted as an independent and coherent document and is subject to the Bylaws of the University.

speech; and second that he was deprived of liberty and property and denied due process when his employment was terminated.

The Court was receptive to both arguments. The Justices reaffirmed earlier positions involving first amendment freedoms and school teachers, where it had held that a teacher's employment could not be terminated due to his/her exercise of first amendment rights.[6]

Additionally, the Court was much more receptive to Sindermann's due process argument than it had been to Roth's. The Justices recognized the ambiguity of the University's tenure regulations, which may have provided Sindermann with implied tenure. They acknowledged that if the professor had tenure, his claim of "property interest" would be significantly strengthened. The court said:

> **... A written contract with an explicit tenure provision clearly is evidence of a formal understanding that supports a teacher's claim of entitlement to continued employment unless sufficient cause is shown ...**

In effect, the Court seemed to be accepting that a primary difference between a tenured and non-tenured professor was that the former had a property interest in his employment, but the latter did not. Because of this property interest of tenured faculty, they were protected by the due process clause of the Constitution. Hence, their employment could not be terminated without notice and a fair hearing. Indeed, the conclusion is not that startling. A professor's property interest in his/her job is determined by his/her contract. As long as there is a contract, there is a property interest. Tenured professors have a perpetual contract. Although by its terms the contract may have expired, tenure, by definition maintains the employment relationship. However, non-tenured professors have only the contract. When the contract expires, the employment relationship is severed, and the property interest is terminated. This is why due process attaches to the tenured, but not the non-tenured.

The fact that this distinction between the tenured and non-tenured teachers was recognized by the Supreme Court seemed to be a victory for tenure supporters. And yet, tenure's detractors scored as well. For to them, *Sindermann* displayed the Court's willingness to accept the duty of upholding academic freedom on the campus, irrespective of tenure. Indeed, it had specifically held that no university could fire a faculty member or fail to renew any professor's contract on the basis of his/her exercise of first amendment rights. Thus, tenure's opponents assert, if the Courts will protect academic freedom, is not tenure's claim of protection superfluous?

Institutional Hearings

Most tenure rules require on-campus hearings prior to dismissal. Merely because Courts are available to decide disputes does not mean universities or any organizations should be deterred from developing such internal systems of conflict resolution. Although the Supreme Court's decisions may have provided a forum outside the university for non-tenured professor's claims, they certainly do not encourage the dismantling of university procedures to handle the complaints of tenured faculty. Indeed, on-campus hearings provide many advantages where courts are overcrowded and overburdened with cases. Campus hearings may provide speedy relief. Likewise, on-campus decision-makers are intimately involved with the university community and can make determinations with abundant

knowledge of specific and peculiar issues in individual cases.

Of course, such campus apparatus is ultimately subject to court review, should the professor still feel his/her rights have been abused. Indeed, the primary disadvantage of such university procedures is that they do not extend to everyone equally, but inure only to those with tenure. However, this is clearly not an issue about which the privileged have reason to complain. In fact these advantages make the prospects of tenure more enticing to the new professor. This is not to say that tenure is right, but only to point out that these decisions by the Supreme Court do little to diminish its place in the university. More encouragement is provided by the courts on questions of economic security, which will be considered next.

Universities are feeling the economic pinch as much as other sectors of the economy. On many campuses student enrollment is down, government and alumni funds are diminishing and other sources of income are drying up. Yet, at the same time, costs continue to rise. As a result, at more than a few colleges, budget cuts have been mandated and administrators are faced with the choice of making across-the-board salary cuts or reducing the number of professors.

At more than a few colleges, budget cuts have been mandated and administrators are faced with the choice of making across-the-board salary cuts or reducing the number of professors.

At Bloomfield College, the university opted for the latter alternative when it dismissed thirteen tenured faculty members. In a resulting lawsuit, the Superior Court of New Jersey held that the Board of Trustees had exceeded its authority, *AAUP, Bloomfield College Chapter v. Bloomfield College.*[7] The court said:

> **... They (the Board) have failed to demonstrate by a preponderance of the evidence that their purported action was in good faith related to a condition of financial exigency within the institution (p. 856) ...**

The faculty handbook at Bloomfield College recognized and authorized a tenure system which would provide economic security as well as academic freedom to the tenured professors. It defined tenure as continuous employment. However, the faculty attorney acknowledged that in a time of demonstrably bona fide financial exigency, termination of continuous employment might be necessary. Thus, the issue for the court was whether or not the university could demonstrate that there was such financial exigency that tenured professors could be fired. The evidence was overwhelmingly against the college. It was readily apparent that Bloomfield was using the financial status of the college to abolish the whole tenure system. Not only were 12 non-tenured replacements hired after the 13 tenured were fired, not only did the court find the college to have substnatial land holdings including a golf course which could more readily have been used to alleviate the financial squeeze, but the court also found Bloomfield's defenses of its action to be virtually a sham. In essence, the court did not find that a "demonstrably bona fide financial exigency" existed. Therefore, the teachers could not be dismissed. Tenure had saved their positions. Since non-tenured personnel could be dismissed when their contracts expired, it is clear that tenure provides professors at Bloomfield (and most colleges with similar provisions) with a form of economic security. Again the Court:

> **... Although academic tenure does not constitute a guarantee of life employment; i.e. tenure teachers may be released for cause or reasons of the kind here involved, it denotes clearly defined limitations upon the institution's power to terminate the teacher's services ... (p. 853)**

At the University of Wisconsin, budget demands also led to the dismissing of tenured faculty. Hoping to avoid the sort of financial evaluation by the court that occurred in Bloomfield, the administration called the action a layoff. It continued to let tenure run even for the unemployed, and promised to offer those it had "laid off" new positions as they became available. Additionally, the university offered hearings on two issues: (1) sufficient evidence to support a layoff, (2) whether or not there were material deviations in fiscal determinations.[8]

Although the court recognized that the practical impact of a layoff was virtually identical to a dismissal, it did not examine the financial status of the university but focused instead on the methods used to determine who was dismissed. The District Court held first that the teachers with tenure had sufficient tenure to require that their position not be terminated without a due process hearing. But the court questioned when the due process hearing should occur. In a school as large as Wisconsin, different colleges experienced different budgetary demands. Did the teacher's due process rights permit them input into initial determinations by administrators as to how the various colleges were to share the budgetary constraints? The court held that due process rights entitled individual teachers to hearings only after the dismissal. And that at these hearings any dismissed teacher must be given the opportunity to demonstrate either (1) that his/her dismissal was arbitrary or (2) that his/her dismissal was based on some constitutionally impermissible ground.

Continued on page 124

Training in Ocular Pathology:

Diagnostician or Technician?

By Jerome A. Hirsch

While a student at the Pennsylvania State College of Optometry, (now Pennsylvania College of Optometry) I became greatly interested in the subject of ocular pathology. Because of this special interest, I felt I learned the subject area well. By 1959 my military career brought me into close association with two military ophthalmologists which gave me the opportunity to observe them and gain even more insight into ocular disease.

At that time, I was transferred to Wilford Hall Hospital, Texas, a 400 bed teaching institution. There was a residency program in Ophthalmology with three board certified Ophthalmologists and four residents with whom I worked on a daily basis. I was very much impressed and surprised by the rapidity with which the residents not only learned ocular pathology but were able to recognize it clinically. Here were first year residents who could take a history and visual acuity, examine the external or internal eye and arrive at a reasonable diagnosis.

In an attempt to rationalize the apparent "grasp" of ocular pathology that the ophthalmology resident had in such a short period compared to the graduate optometrist who had a four semester course in ocular pathology, one factor became quite evident. I, the optometrist, had learned ocular pathology as a separate course, an entity so to speak, but the physician was taking all his knowledge of general pathology, including histopathology, and applying it to the eye. It is true that I was given a course in gross pathology by an M.D. but I could not and was not taught to apply it to the eye. I also had courses in general histopathology and a smattering of ocular histopathology but again, I could not see the forest for trees.

When I had the opportunity, two years ago, to assume the role of a lecturer in Ocular Pathology, I spent the summer up-dating myself and the course material in ocular pathology. Although almost 25 years had elapsed, it seemed as if the only change was that I was now lecturing instead of Dr. George MacElree, the great teacher at P.S.C.O. who had stimulated my interest in Ocular Pathology. The classroom work was a memory drudge rather than a learning experience. The material presented was organized in an anotomical approach, such as lids, cornea, aqueous, iris, rather than a truly pathological approach, which would include inflammation, degeneration, and neoplasms. The laboratory exercises were still microscopically oriented with the students primarily "bluffing" their way through to learn just enough to pass the course and then forget the material as soon as possible. There was no real attempt to take all this material and "tie it together in one large ball of wax". The student was just learning what was happening and not how or why and did not truly understand ocular pathology. This is what differentiates the technician from the diagnostician.

This analysis was really brought home to me when I started using ocular pathology slides on my examination. With each of these slides I gave a brief history of the patient and visual acuities which almost identified the condition and which, in connection with the slide, gave a firm basis for the tentative diagnosis I asked for. I did this as I personally don't feel that a slide by itself is a clinical means for identifying a pathology. The fundus photographs of occlusion of the central retinal artery and Tay-Sachs disease cannot be truly differentiated unless we know the age of the patient. The same is true of senile and macular degeneration and many other instances. In addition, I did not use the same slides I used in classroom presentations.

I was very much surprised to find the students doing very poorly. Some of the reasons the students gave were: "It didn't look like the slide you showed in class", "I wasn't there for your lecture" (attendance is not mandatory), "It didn't look like the picture in Adler's" or "I didn't read the history you gave". It was clear that a lot of students were just memorizing pic-

Jerome A. Hirsch, O.D. is Associate Professor at the Pennsylvania College of Optometry.

tures of pathologies rather than understanding them and that they were technicians and not diagnosticians. We were training our people to be classroom technicians able to regurgetate a vast amount of ingested material rather than rationalizing, clinical diagnosticians.

This then was the difference between the optometry student and the Ophthalmological resident. It is true that many optometrists are able to orient their thought processes along these lines after many years of practice but most optometrists are still at the stage of thinking of identification of pathology by comparison of the fundus or external picture of the patient with the visual impression of a previously memorized text book picture. The latter group give little thought to the great variances in the clinical picture of the same pathology. ("Pathologies don't read textbooks to assume their typical appearance"—J. A. Hirsch)

The Basic Analysis

The optometrists engaged in visual training and developmental vision are continually stressing that the eyes are an integral part of the human being and the stresses, both ocular and extra-ocular, are manifested both ocularly and generally. At P.C.O. this salient point is taught both in the classroom and clinics. Yet, our ocular pathology course has been taught for many years as though the eyes were two objects isolated in the head, attached to the brain and suffering their own peculiar brand of diseases. In reality however, the pathological processes which are evident in the eye and its adnexa are the same as any pathological process within the body. The corneal ulcerative process is no different than that found in the big toe, the hypertensive changes of the retina are the same as those of the kidney, the hyper-allergenic response of the eye is the same as that elsewhere in the body and so forth.

The solution to the problem then became clear:

1. Study the general gross pathological process and its clinical appearance.
2. Become familiar with and study the general histopathology of the processes.
3. Study and understand these histopathological processes as they occur in the eye.
4. Apply the pathology and histopathology to the eye to understand and recognize ocular diseases.

Solving the Problem

The resources for solving the problem were all at P.C.O. General pathology was taught by Joseph Toland, O.D., M.D. (in that order), General histopathology was taught by Prof. Sol Pollan; I taught Ocular pathology and ocular histopathology and Dr. Toland taught a course in Ocular Conference which compromised the clinical management of ocular disease. The only action necessary was to take the course material, rearrange and augment it and organize it.

Sequencing of the courses seemed the most immediate action necessary. It must also be remembered that ocular and general pathology are technically studies of the histological aspect of the disease process and what we call ocular and general pathology are, in reality, ocular and general diseases. We will however refer to histopathology as laboratory studies and pathology as classroom studies.

1. General Pathology (Classroom)

The course as presented as one semester course in its present form, content and primary presentation was fine.

2. General and Ocular Histopathology (Laboratory)

The course as given needed revision. In its present form it followed the classroom lecture but left the student dangling as there was very little "tie-in" with the eye. The ocular portion was given in the second semester and dealt with specific pathologies rather than the disease process.

The restructuring was as follows: First semester—one hour general histopathology of the pathology lecture for that week followed by one hour of the ocular application of the gross and general histopathology of that week. Thus, the student is "led" from general pathology to ocular histopathology via general pathology and understands it meaningfully.

I have always thought that unless one had a complete set of all the slides to be viewed for every student, and a great deal of time, that the use of the microscope as a teaching aid in histopathology was very limited. I also feel that the student could give the impression that he was working but was actually engaged in a social chat with his neighbors.

We have an excellent collection of microscopic slides of eye pathologies but unfortunately many of them are very limited in numbers. I wanted to secure a method for an interesting, enjoyable course and made use of microscope camera which the school had purchased. I now have 400 ocular histopathological transparencies ranging from rhabdomyosarcoma to macular detachment. Our ocular histopathology laboratory consists of projecting

Our ocular pathology course has been taught for many years as though the eyes were two objects isolated in the head, attached to the brain and suffering their own peculiar brand of diseases.

Let us call a spade a spade and admit that there are many of us lecturing on these rare or infrequent diseases which few individuals have ever or will ever see.

slides appropriate to the general histopathology which was covered in the previous hour. Students are randomly selected to identify the tissues, describe the pathological process and determine what effect this condition will have on the patient and his vision. Such teaching, in my opinion, gets the student to think on his feet; keep current on anatomy, histology and pathology and permits him to learn the principles of pathology in the eye.

The second semester of ocular pathology is integrated with classroom lecture in ocular pathology and will be discussed then.

3. Ocular Pathology Lecture

P.C.O., like many other schools does not require attendance at lecture and permits the use of a note-taking service. Thus a student can pass the course by staying home and memorizing the notes. Ocular pathology has one advantage and that is the use of slides depicting the various diseases. Thus, attendance is better than average.

During my first year, I prepared a complete course outline for my lectures and had this duplicated for the students who brought this to class and added notes as I lectured and presented the slides. Comments were good and bad but I must admit that the bad comments dealt with some inaccuracies in the notes and the form of outline. (This is being corrected). With the outline, the student could follow the lecture, pay attention to the slides and add additional information.

The idea was good but I was upset by the fact that the student who enters the clinic in his second year must wait until late in the third year to study the most common diseases in our clinics (glaucoma, hypertension and diabetes) just because they are at the back of the eye. This is one of the shortcomings of the segmented, anatomical approach and one I intended to change.

I have now reorganized my course to cover in depth those topics of vital interest and to help the student, with his basis in the pathologies, to understand ocular disease. I start with glaucoma, then hypertension and vascular diseases and diabetes. In conjunction with these lectures, we do tonometry in the laboratory when we discuss glaucoma sphygnomenometry when we lecture on hypertension and Schirmer Test with glucose par testing when diabetes is the topic of lecture. This gives a true meaning to the laboratory. Corneal inflammation, conjunctival inflammation and inflammation of the iris and ciliary body are presented in that order and then a lecture on the acute red eye ties them up with acute glaucoma. Ocular histopathology slides are integrated with the external and fundus slides to reinforce and recall the underlying causes of what we see.

Next semester we will present as a group the developmental, degenerate, allergic, traumatic conditions of the eye plus some others still being prepared. Thus injury can be discussed as it effects the eye rather than a portion of the eye being discussed and traumatic effects being mentioned. This will be true of all the other conditions of eye pathology and disease.

The segmented eye approach to ocular pathology will still be retained as an outline which is being re-organized and updated at present. This will still serve as a study guide for the student for exams, state and national boards and private practice. It will include all the topics covered plus those topics which are rare or infrequent. Let us call a spade a spade and admit that there are many of us lecturing on these rare or infrequent diseases which few individuals have ever or will ever see. Is it not more important that they read of these in their homes rather than hearing a lecturer talk about what he has read about them at home when classroom time could be spent on the more common types which he has observed and the future practitioners are more likely to see?

The optometry graduate today is better trained to diagnose ocular pathology than the early resident in Ophthalmology, yet he does not feel he is prepared to do this. The fault in my opinion does not lie with the student but the educator. It is the educator's role to make ocular pathology a more meaningful experience and eliminate the factor of rote memory. Besides the courses in general pathology and ocular pathology there are many other subjects taught in our schools that are directed toward a truer understanding of the "sick" eye. What about the role of pharmacology for diagnosis, the effect of pathology on the refractive state of the eye and the visual acuity, isn't this physiological optics and visual science and don't we learn the role of contact lenses for the aphakic or scarred eye?

Let us make our presence felt in the optometric diagnosis and management of ocular pathology but let us do it with confidence and meaning as diagnosticians rather than with mechanics and memorization as technicians.

The Lensometer as a Teaching Aid

By Kermit Kors

The lensometer is a very versatile instrument. While its use in the optometric office and in the optical laboratory are well known, its use and value as a teaching aid are not as well known nor as well developed.

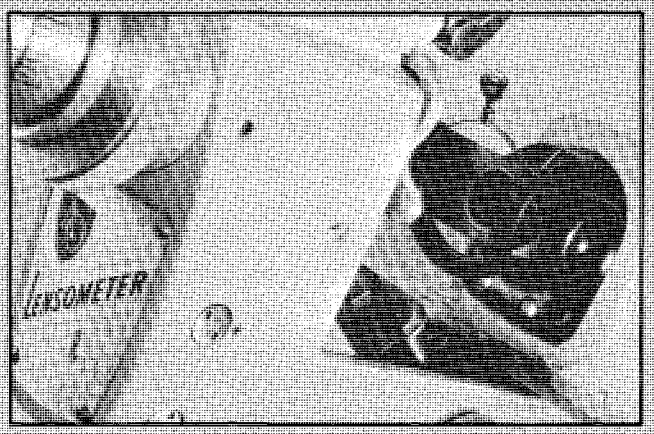
This paper describes two exercises that make use of the unique capabilities of the lensometer to demonstrate, in ophthalmic optics laboratory, principles discussed in lecture.

The role of ophthalmic optics in Optometry is one of fundamental importance. This role may or may not be changing in terms of who is going to edge and mount the lenses and adjust the patients' eyeglasses but few will argue that a thorough knowledge of theoretical principles of ophthalmic optics is essential in the Optometric curriculum. At the University of California School of Optometry our emphasis, in ophthalmic optics laboratory, is directed to understanding basic principles taught in lecture while acquiring practical experience in lens measurements, layout, fabrication, etc. These exercises were designed with this teaching objective in mind.

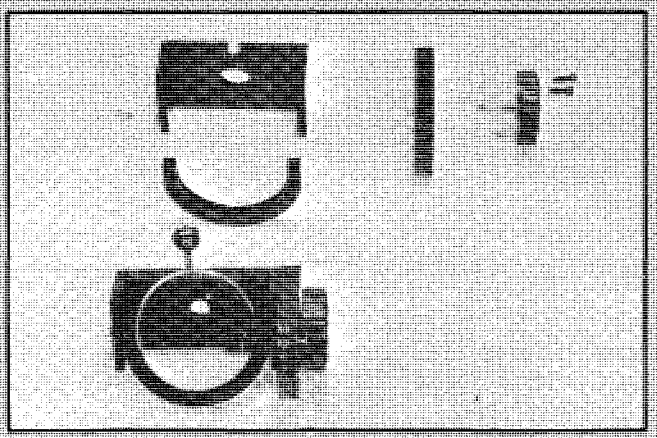
The first exercise studies the effect of tilting a lens in front of a patient's eye. This makes use of a lens holding device that is attached to the lens stop of the lensometer. The lens holding device accepts a standard lens from a trial lens set and allows it to be tilted about a horizontal axis in front of the lensometer lens stop. A scale and pointer indicate in degrees the amount of tilt from the horizontal. This lens holding device is shown in Figures 1 and 2 and the instruction sheet for the laboratory exercise is shown in Figure 3. The instruction sheet and illustrations are sufficiently complete to explain the operation of the device.

The second exercise studies decentration of bifocals and the prismatic effects obtained through the segment area. This makes use of a device which we call the "Bifocal Decentration Demonstrator." It consists of a curved track that allows two lenses to be moved laterally, and independently of each other, in front of the lens stop of a lensometer. One lens is either a plus or minus sphere and represents the power of the major lens of a bifocal. The other movable lens is a plano Executive bifocal with either a plus one and a half or plus two and a half diopter add. The lenses are mounted in carriers that ride in the curved track. Each lens has a pointer that may be "calibrated" or set to coincide with the pole or "center" of the lens. The pointers indicate decentration "in" or "out" on a millimeter scale etched on the non-movable curved track. Photographs of this device attached to a lensometer are shown in Figure 4. A schematic drawing is shown in Figure 5 and the instruction sheet for the laboratory exercise is shown in Figure 6A, B, C & D. The instruction sheet and illustrations are sufficiently complete to explain the operation of the device.

We thank Mr. Dave Rehder, School of Optometry Machinist, for his part in the mechanical design and construction of these teaching aids for the lensometer.



The lens tilting device in place on the lensometer.



The lens tilting device when disassembled.

Kermit Kors is Assistant Clinical Professor of Optometry, School of Optometry, University of California in Berkeley.

Ophthalmic Optics Laboratory

Laboratory Exercise #

Effect of Tilt on Power of Lens

Purpose of Exercise: The purpose of this exercise is to measure the effect of tilt on the power of a lens.

Introduction:

When lenses are tilted, a change in the spherical power of the lens is effected and cylindrical power is induced. This induced cylinder power is of the same sign as the power in the meridian tilted and the axis of the induced cylinder coincides with the axis about which the lens is tilted. When the lens power is high or when the degree of tilt is considerable, the powers changed or induced are surprisingly large.

This effect of tilting has practical implications in the design of corrected curve lenses and in fitting and adjusting spectacle lenses. Patients become aware of this phenomenon and frequently ask about it or comment on it.

The calculations for tilt are made by Martin's Formulae:

$$\text{New Sphere} = F\left(1 + \frac{\sin^2 \theta}{3}\right)$$

$$\text{Induced Cylinder} = F \tan^2 \theta$$

Where: F = Original sphere power in meridian tilted

θ = Angle of tilt

Equipment: Lensometer
Trial lens set
Lens tilting frame

Procedure:

Take six lenses of the proper power from the trial lens set (+3.00 D.S., -3.00 D.S., +6.00 D.S., -6.00 D.S., +9.00 D.S., -9.00 D.S.). The lenses will be held in the lens tilting frame slightly in advance of the lens stop. The measured vertex power for each lens will differ slightly from the power indicated on the trial lens ring handle. Use the power you measure for each lens in the zero tilt position in your calculations.

1) By Martin's formula calculate the new power for 15° and for 30° of tilt for each of the six lenses.

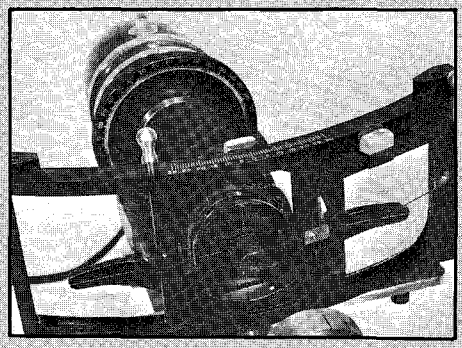
2) Measure the new power with the lensometer for 15° and for 30° of tilt.

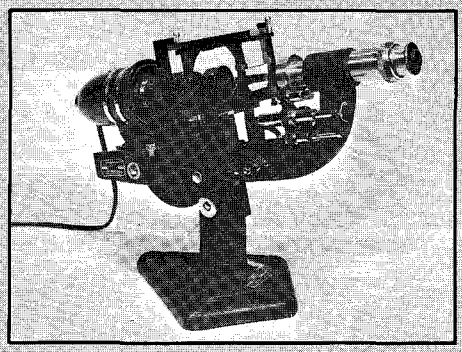
3) Graph your results.

Discussion:

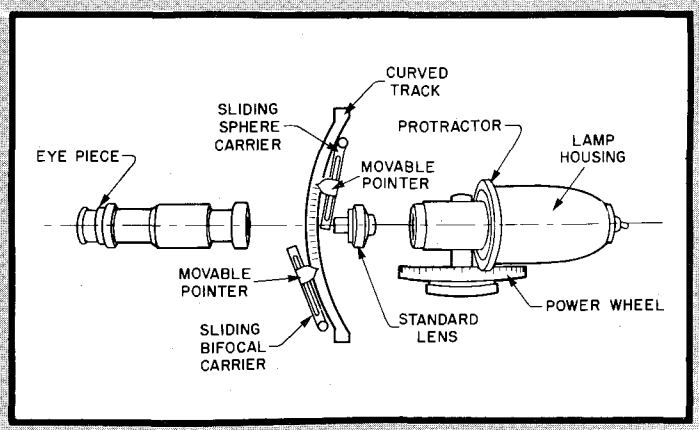
What factors might account for differences between measured power and calculated power?

Bifocal Decentration Demonstrator attached to the lensometer.





Schematic diagram of Bifocal Decentration Demonstrator.



Ophthalmic Optics Laboratory

Laboratory Exercise V

Decentration of Bifocals

Purpose of Exercise: The purpose of this exercise is to study the principles (and limitations), involved in decentering bifocals – of any kind – to obtain a desired prismatic effect.

Introduction:

Conventional bifocals consist of a major or distance lens decentered for the patient's distance P.D. and a reading lens decentered for the patient's near P.D.

When an optometrist designs bifocal lenses and writes the laboratory order he starts with the distance P.D. of the patient and calculates decentration of the Major Reference Point (M.R.P.) in or out according to the distance between centers of the frame. He then specifies additional decentration for the segment according to the patient's near P.D.

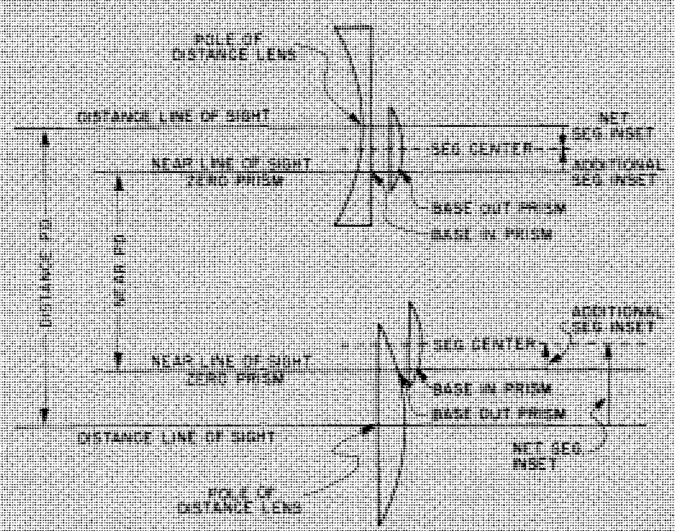
The laboratory must start with the segment center of the semi-finished bifocal blank and work backward to locate the point where they are to grind the pole of the finished lens. The segment center is a point on the semi-finished blank that must be located by a physical rather than an optical measurement.

Bifocals may be designed (1) so that the segment decentration places the segment centers or poles the same distance apart as the near P.D. In this case the segments do not contribute to the prismatic effect at the near visual task although the distance lens may.

Or they may be designed (2) so that the segment decentration neutralizes exactly the prismatic effect of the major lens when converging at near.

Or they may be designed (3) so that segment decentration provides some desired amount of prism at near, base in or base out, independently of the prismatic effect of the major lens.

In this exercise we will calculate the amount of segment decentration necessary to neutralize exactly the prismatic effect due to the major lens.



We need an equation that will set the prism due to the distance lens measured at the near P.D., equal (but with opposite base) to the prism due to the segment:

$$\left(\frac{\Delta P.D.}{2}\right)\left(F \text{ major lens at } 180^\circ\right) = \left(\begin{matrix}\text{Additional}\\ \text{seg inset}\end{matrix}\right)\left(F \text{ add}\right)$$

or

$$\text{Additional seg inset} = \frac{\left(\frac{\Delta P.D.}{2}\right)\left(F \text{ major lens at } 180^\circ\right)}{F \text{ add}}$$

or

$$\text{Net seg inset} = \left(\frac{\Delta P.D.}{2}\right) - \frac{\left(\frac{\Delta P.D.}{2}\right)\left(F \text{ major lens at } 180^\circ\right)}{F \text{ add}}$$

Where: Δ P.D. = Distance P.D. in centimeters minus near P.D. in centimeters

Additional seg inset = Decentration of segment center in or out from near line of sight, in centimeters

Net seg inset = Decentration of segment center in or out from distance line of sight, in centimeters

When the distance lens is plus in the 180° meridian you must decenter the segment center more than the near P.D. alone would require. When the distance lens is minus in the 180° meridian you must decenter the segment center less than the near P.D. alone would require.

Semi-finished bifocal lenses are mono-axial. This can be illustrated as the Executive Bifocal blank.

When the back surface of the lens is ground the poles of the major lens and the bifocal segment are located. The optic axes of the two lenses are then established and these axes may or may not coincide.

Equipment: Lensometer
Bifocal Decentration Demonstrator

Procedure:

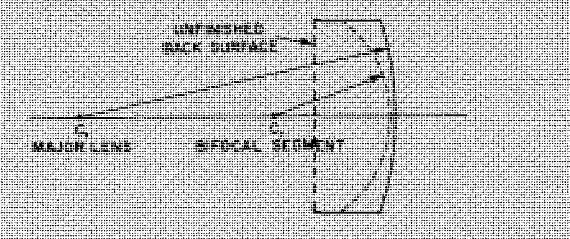
Part I. Calculations

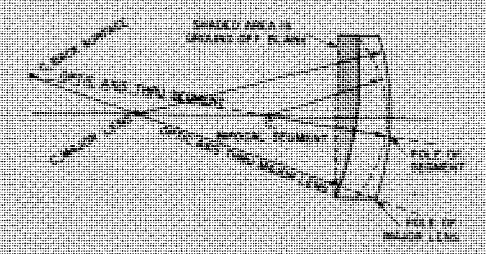
Assume your patient has a distance P.D. of 68 mm and a near P.D. of 63 mm.

(1) Calculate the net segment decentration required for zero prismatic effect through the segment area for the following combinations of lenses:

	Distance Lens	Reading Add
a.	+3.00 D.S.	+2.50 D.
b.	–4.50 D.S.	+2.50 D.
c.	+1.00 D.S.	+2.50 D.
d.	–2.50 D.S.	+2.50 D.

(2) Assuming an Executive type bifocal (60 x 36 mm blank) and a frame with a 22 mm bridge, what is the largest eye size that may be used in each case?





Part II. Measurements

(1) Using the Bifocal Decentration Demonstrator for each lens combination above (1a., 1b., 1c., and 1d.) perform the following:

(a) Locate the pole of the major lens and set the indicator at zero

(b) Locate the pole of the bifocal segment and set the indicator at zero

(c) Decenter the major lens for the near P.D. (Δ P.D./2) and measure the prismatic effect at near

(d) With the major lens in the position above (1c.) move the bifocal so that the prismatic effect through the segment area is equal to zero. Note the net segment decentration required and compare with results obtained from calculations in 1a, 1b, 1c, and 1d.

Discussion:

What factors limit the amount of Base In Prism or Base Out Prism that may be obtained through the segment area by decentration?

What factors might account for differences between measured decentration and calculated decentration?

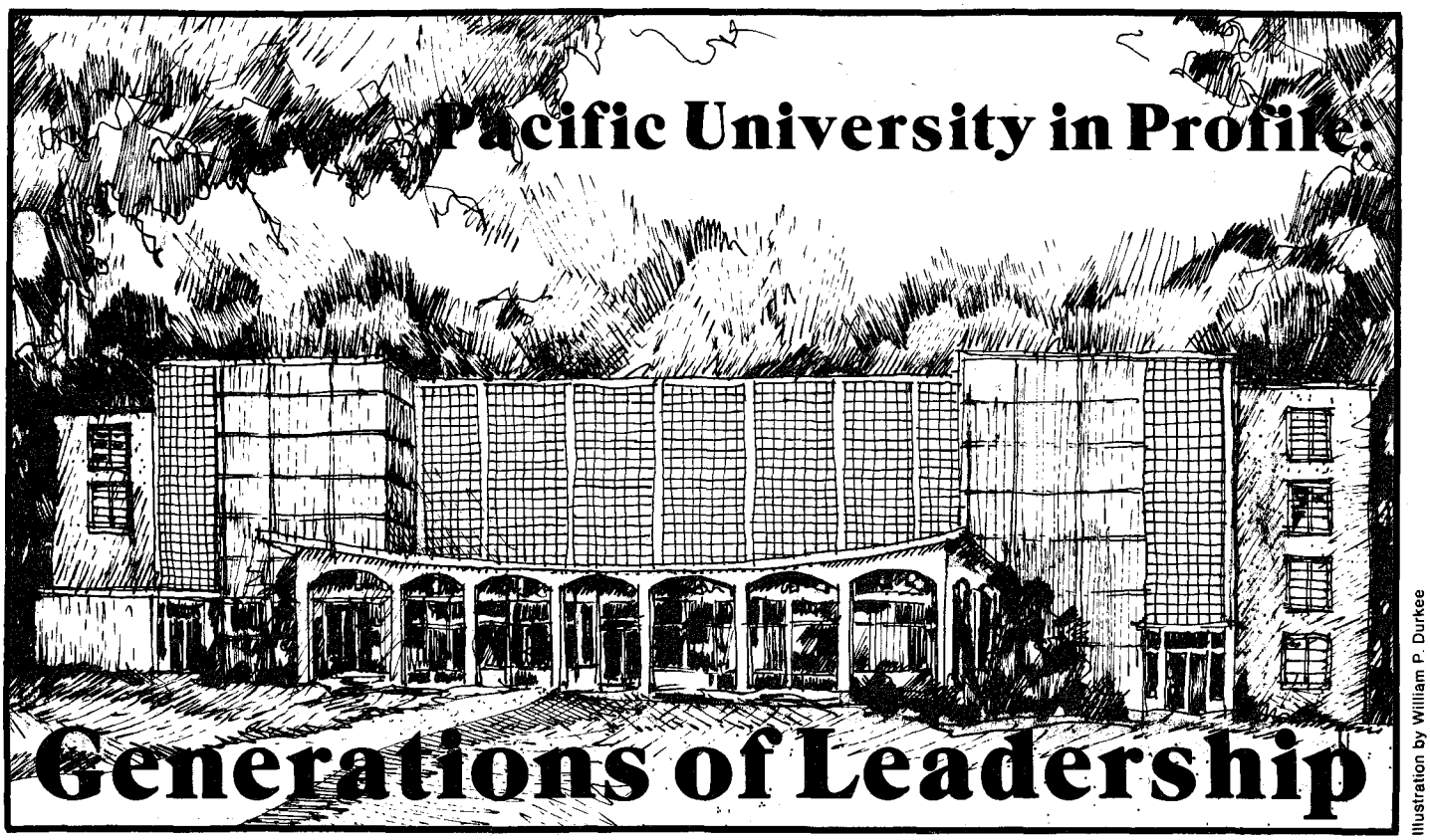


Illustration by William P. Durkee

By Charlotte Filer

Pacific University in Forest Grove, Oregon, a small university whose total student enrollment numbers roughly 1,000, is currently celebrating its 125th birthday. It is commemorating the best of those years with the theme, "Generations of Leadership."

Optometric leaders it may well be honoring include William R. Baldwin, President, Massachusetts College of Optometry and Immediate Past President of ASCO; Jason Boe, President, Oregon State Senate; and Charles W. McQuarrie, Vice President, American Optometric Association—all graduates of the Pacific University College of Optometry. Other graduates are active in national, state, and local professional and service organizations.

Although the College of Optometry has been part of Pacific University for the past 30 years, its history actually dates back to 1921 and the founding of the North Pacific College of Optometry in Portland. World War II caused suspension of that college, but in 1944 the Oregon Optometric Association Board of Directors purchased the college's physical assets and charter with the idea of establishing a college of optometry within a university in or around Portland. An investigation was launched to seek a "quality institution," and on May 22, 1945, Pacific University College of Optometry was born.

Charlotte Filer is Public Information Officer at Pacific University.

Humble Beginnings

At the start, the College of Optometry had only meager physical assets purchased from North Pacific which were crowded into the basement of historic Marsh Hall on the Pacific campus. But even then the school had serious aspirations and set its sights high. Dr. Walter C. Giersbach, then President of the Pacific University recalls, "The staff (of the College of Optometry) was excellent and the standards they set for themselves were of the best from the very beginning."

A five-year curriculum was created, leading to the Doctor of Optometry degree. Pacific had the first five-year program in optometry in the nation, and was also the first university granting the Doctor of Optometry degree to be recognized by the National Association for Accreditation of Colleges.

In the spring of 1952 the College of Optometry moved to the new, modern, and well-equipped Jefferson Hall on the southeastern section of the Pacific campus. In 1966 an additional wing and a third floor were added which tripled the available functional space.

Throughout its history, the Pacific University faculty has remained dedicated to the idea that a strong liberal arts curriculum is an essential prerequisite for professional training. In optometry, Pacific has proved that the liberal arts traditions blend well with professional aspirations. At Pacific, the Doctor of Optometry degree is awarded only to students holding baccalaureate degrees, although students are permitted to complete their undergraduate degrees while enrolled at the College of Optometry.

The professional curriculum itself consists of 135 hours of approved course work, a program which normally requires four years of professional study and is preceded by a minimum of two years of pre-optometric course work. Essentially, all students enter with a minimum of three or four years of college level work.

Continuing Growth

Today, the College of Optometry accounts for 297 of Pacific University's 1,000 students. The rest at-

tend either the university's College of Arts and Sciences, its School of Music,, or graduate school. For 1975-76, there is a projected all-time high optometry school enrollment of 305 in-course students and six to eight master's candidates. (The Graduate Studies Program of Pacific University, through the College of Optometry, offers graduate programs in physiological optics and clinical optometry, both leading to the master of science degree.) Next year, the College of Optometry expects nearly 1,200 student applications for 84 entering class places.

And the expansion goes on. This summer, a clinical Visually Evoked Response (VER) facility will go into operation, augmenting an existing VER basic research program operational since 1972. Also in late summer, a new 16-hour continuing education course in clincial application of VER will be offered to practicing optometrists. The innovative course has already attracted optometrists from Canada, South Africa, Alaska, Colorado, Michigan, Minnesota, Illinois, and California, as well as from Oregon.

Participants will explore the potential of electrode placement and attachment operations of equipment and on-line and post-analyses of VER examinations. Patients will include infants, functional amblyopes, organic amblyopes, patients who are difficult to examine for visual acuity by subjective means, and those having special problems. Both flash and steady state VER will be used for measurement of refraction, visual acuity, binocular summation, and analysis of macular integrity.

Patient Relations

Another innovation at Pacific which has attracted national attention is "Patient Communications," a course which utilizes video tape, two-way mirrors, and role playing. Its goal is to help students develop their skills in patient relationships and patient interviewing. Role playing by selected drama students and community theater actors permits students to confront personality problems commonly encountered in the optometrist's office—angry, aggressive, shy, withdrawn, or even overly-talkative patients.

Clinically, Pacific now boasts four optometry clinics. It operates a full service clinic on the Forest Grove campus, one in downtown Portland 25 miles away, one general practice clinic affiliated with the Albina Action Center in Portland, and a geriatric and low vision clinic at the Masonic Home for the Elderly in Forest Grove.

In addition, Pacific students operate vision screening clinics throughout the state, examining some 4,000 persons per year. And still more satellite clinics are plan ned for the future.

New Drug Law

Pacific College of Optometry is no longer the little school which valiantly opened its doors in the basement of old Marsh Hall. And a recent legislative act in Oregon is bound to bring further progress its way.

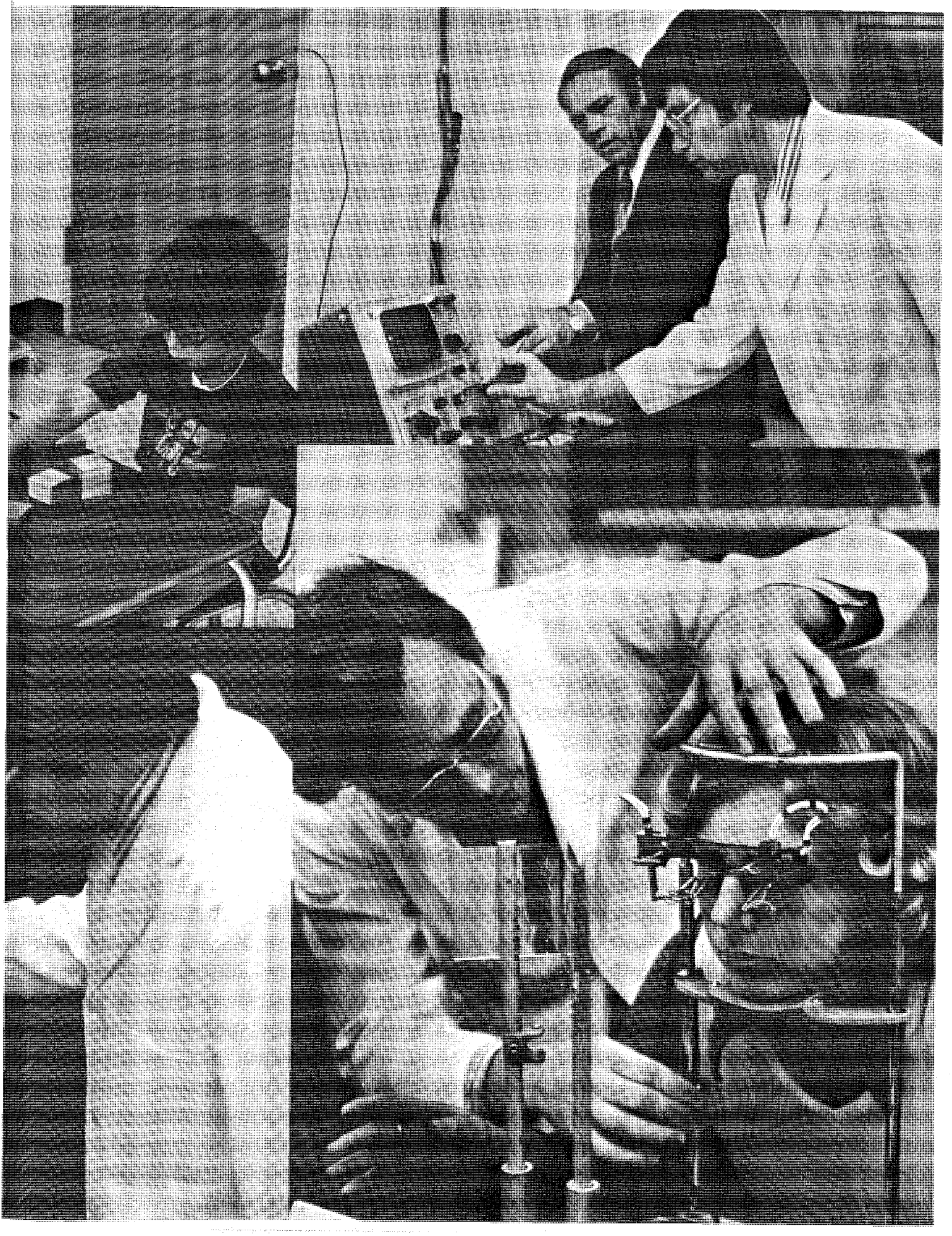
Last May 20, H.R. 2740 was signed into law by Oregon Governor Bob Staub, and Oregon became the fourth state in the nation to permit optometrists to use diagnostic drugs in their practices. The significance for the state's only College of Optometry is great. Certification under the new law implies education.

To topically apply drugs (in this instance, cycloplegics, mydriatics, anesthetics, dyes, and miotics), an optometrist needs further pharmacology training. He or she needs to be thoroughly knowledgeable regarding the pharmaceutical effects on the eye and body. Pacific's new optometric dean, Willard B. Bleything, is keenly aware of this.

Dr. Bleything, who testified on behalf of the progressive drug law, stresses the need for more continuing education, more research, and for residency programs at Pacific in the years immediately ahead.

"Because it is the function of optometric education to disseminate knowledge in the field of visual science," says Dr. Bleything, "we should be well equipped and are duty bound to expand the frontiers of that knowledge."

The Pacific University College of Optometry is planning to meet that challenge. No longer a little school, Pacific still is thinking about the big job ahead. It is not unlikely that, for Pacific University College of Optometry, the finest "generations of leadership" are still to come.



A Report to the American Optometric Association House of Delegates

By John D. Costabile, O.D., Chairman
Council on Optometric Education

Having been appointed by President Bernard Shannon as Chairman last June, I am privileged to report to the House of Delegates on the activities of the Council on Optometric Education this past year.

Since it was established in 1944, the Council on Optometric Education has been the principle agency of the profession to assume responsibility for accrediting educational programs. In collaboration with other organizations of the profession, the Council developed educational policies and initiated an accreditation program which originally included only optometric education programs, but over the years has been expanded to include post doctoral residencies, the newly developing programs that prepare optometric specialists, paraoptometric programs for assistants and technicians to enter practice and provide services for the profession and the public. The agencies represented on the Council on Optometric Education (the American Optometric Association, International Association of Boards of Examiners in Optometry, Inc., Association of Schools and Colleges of Optometry) believe that the educational accreditation in optometry has functioned well and has continued the improvement of quality education.

The Council on Optometric Education has been granted *by-law authority* by the American Optometric Association to accredit optometric and related education programs. However, all accrediting agencies in the United States must be recognized by the Council on Postsecondary Accreditation and the United States Office of Education.

The Council on Postsecondary Accreditation is a voluntary non-governmental agency. It was developed to regulate the activities of institutions and specialized accrediting agencies. The Council on Postsecondary Accreditation, an agency representing the colleges and universities of the country, recognize the Council on Optometric Education as the accrediting agency for optometric education. All accreditation criteria and procedures of the Council must meet standards established by the Council on Postsecondary Accreditation.

In recent years, the United States Office of Education, Department of Health, Education and Welfare, has become increasingly prominent in accreditation recognition and governance. It has statutory authority for determining federal funding eligibility and is the government's counterpart of the Council on Postsecondary Accreditation. Recognition of the Council on Optometric Education by the United States Office of Education is essential since only programs accredited by government recognized agencies are eligible to receive federal funds.

The United States Office of Education has developed revised criteria for recognizing specialized and regional or institutional accrediting ageh cies. The purpose of the recognition criteria, established by the Commissioner of Education, is to insure improvement of accreditation processes throughout

the United States by requiring accreditation agencies to be more responsive to public needs and to be representative of those groups affected by the accreditation program. Specifically, each accrediting agency must be structured for adequate representation and autonomy at the decision making level.

In recent years, accreditation—both institutional and specialized—has been subjected to continuing criticism. Essentially, criticism focuses on the alleged non-responsiveness of accreditation to the changing social structure of education. Accreditation has been accused of not fulfilling a social need and, in fact, of actually stifling constructive change in educational patterns.

Recent reports and national studies related to accreditation, clearly suggest that if accrediting agencies do not become more responsive to the public, the federal government would, undoubtedly, initiate a review of programs to determine eligibility for federal funding. Currently, eligibility for federal funding is directly related to accreditation status granted by recognized non-governmental accrediting agencies. Under a federal review system, non-governmental voluntary accreditation would virtually disappear. The Council and all other specialized accrediting agencies have resisted and will continue to oppose the development of educational accreditation by government. However, the success of specialized accrediting agencies in preventing government intervention will be dependent upon the willingness of these agencies to adapt to the accepted concepts of responsibility and accountability in accreditation and education.

The principles of accountability and due process have been emphasized by both the Council on Postsecondary Accreditation and the United States Office of Education as these issues relate to education and specifically to the objectives of accrediting agencies. These principles were considered by the Council on Optometric Education in its self-assessment study to determine the need for change in the structure, policies and function of optometric accreditation activities.

A year ago the House of Delegates took action as a result of recommendations by the Council and approved adding a public member to the Council's membership. Subsequently, President Bernard Shannon appointed Dr. Frank Dickey, Provost of the University of North Carolina at Charlotte and former Executive Director of the National Commission on accrediting to this post—Unfortunately, Dr. Dickey resigned when he determined he did not have the time necessary to devote to this responsibility. However, I am pleased to state that Dr. Lewis Rohrbaugh from Rockport, Maine, a former member of the Board of the Association of Academic Health Centers and former member of the Board of Trustees at the Massachusetts College of Optometry, has been duly appointed by President Shannon to fill Dr. Dickey's unexpired term on the Council.

In satisfying the requirements for renewal of recognition, the Executive Secretary, on behalf of the Council on Optometric Education, submitted an Interim Report on January 16, 1975 to the United States Office of Education Accreditation and Institutional Eligibility Staff in response to the Commissioner of Education's request of February 2, 1973 regarding Criterion 5 of the January 16, 1969 Criteria for Nationally Recognized Accrediting Agencies. The report included a new self-study instrument entitled "A Guide for Self-Study for Schools and Colleges of Optometry," and a sample self-study from the Illinois College of Optometry. T. H. Bell, United States Commission of Education, notified the Council on April 25, 1975, of the acceptance of the report as fulfilling the stipulations specified in his 1973 decision to continue recognition of the Council and stated, "Please accept my warm congratulations to your organization for its progressive development."

One of the immediate results of our self-assessment has been the complete revision of the Council's Manual of Accrediting which was accomplished at the Spring Interim meeting and will be forthcoming in two documents entitled: "Manual of Evaluation Procedures" and "Procedures for Evaluation Requirements and Guidelines—Optometric Education Programs." The Council believes that this effort will greatly clarify the requirements and guidelines of optometric programs, the procedures of evaluation and the Council's evaluation procedures.

The "Manual of Evaluation Procedures" lists the duties of the Council on Optometric Education as follows:

a. To act as the agency of the association in matters related to the evaluation and accreditation of optometric educational, paraoptometric educational and associated programs.
b. To formulate and adopt requirements and guidelines for the accreditation of optometric educational and paraoptometric educational programs.
c. To accredit optometric educational and paraoptometric educational programs.
d. To submit an annual report to the House of Delegates of this Association and interim reports to the Board of Trustees on request, and the Council's annual budget to the Board of Trustees of this Association.
e. To study and make recommendations including the formulation and recommendation of policy on:
   1. Optometric education and paraoptometric education.
   2. The recognition of special areas of optometric practice.
   3. The recognition of categories of paraoptometric programs.
   4. The approval or disapproval of national certifying boards of special areas of optometric practice and for paraoptometric programs.
   5. The educational and administrative standards of the certifying boards for special areas of optometric practice and for paraoptometric programs.
   6. Associated subjects that affect optometric auxiliary and related education.
f. To act on behalf of this Association in maintaining effective liaison with certifying boards and related agencies for special areas of optometric practice and for paraoptometric programs.

A number of new schools of optometry are now

coming on the scene. The University of Missouri at St. Louis is moving closer to establishing a new college of optometry as a bill to purchase the Marillac campus and equip the college in the amount of six point two million dollars is now on Governor Bond's desk for signature. The State Legislature in Florida has mandated the establishment of a school in that state. At the present time it has not been decided whether it will be located at the University of Miami, a private university, or at the University of South Florida at Tampa, a state supported institution. There is considerable activity this year in the states of Washington, Minnesota, Oklahoma, Iowa, Georgia, Virginia, Maryland and a Health Sciences Research Project is in process studying the possibilities of establishing a regional optometry school for New England through the New England Board of Higher Education. There is also a very fine report on the need for additional optometric education that has been completed and published by the Southern Region Educational Board. This study recommends the need for three new schools of optometry in the Southern Region Educational Board region which includes the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas and West Virginia.

The Council feels that to insure the quality and quantity of optometric manpower needed in the next 30 years, it is imperative now to assist all new schools to be in as strong a position as possible from the beginning.

To help insure a solid base on which to build, the Council recently adopted a twelve point *Guideline for New Schools and Colleges of Optometry* and also adopted *Guidelines for Self-Study for Developing Schools of Optometry.* The Council feels that to insure the quality and quantity of optometric manpower needed in the next 30 years, it is imperative now to assist all new schools to be in as strong a position as possible from the beginning.

Eight of the schools and colleges have or are now developing programs for optometric assistants and technicians. In addition, over twenty other junior and community colleges have them and during this last year inquiries have been received from thirty more.

As the reality of federal legislation materializes for National Health Insurance and third party care programs, the profession of optometry is going to feel more and more pressure to deliver quantity as well as continued quality eye care for the American public.

During the past year, the Council made site evaluation visits to the following schools and colleges of optometry: The University of Waterloo School of Optometry; The Pacific University College of Optometry; The State University of New York, State College of Optometry; and The Southern College of Optometry. In addition to evaluation of the professional degree programs, a site visit was made to the Plano Child Development Center Optometric Technician's Program in Chicago.

At its Spring Interim Meeting, the Council met informally with members of the Puerto Rico Optometric Association and learned of their keen interest in establishing a school of optometry in Puerto Rico. The Council offered its assistance to help the Association by providing information upon request.

Upon request, the Council has agreed to work with the Association of Schools and Colleges of Optometry in support of the National Center for Higher Education Management Systems—Information Exchange Procedures Implementation Project (NCHEMS-IEP). The Council on Optometric Education feels that the information obtained from this joint project would provide more uniform information on the annual survey and permit standardization and better understanding of relative terms such as costs, teaching loads, salary and other information that the Council must be clearer on than our present survey provides. The project cost is $9,960 and AOA has approved providing matching funds in the amount of $3,180 with ASCO, and the remaining $3,600 data processing costs will be paid by each school.

A summary tabulation of the 1974-75 Annual Survey of Optometric Educational Institutions shows the following:

1. 1,024 first year students were enrolled for the school year 1974-75. This is an increase of 36 over the last year figure of 988.
2. Of these first year enrollees, 59% have had four years or more of college, 23% have had two years and 18% have had three years. Last year 53% had four years or more. 53% have Baccalaureate or higher degrees which is a 5% increase over the 49% recorded last year.
3. The mean grade point average for entering optometric students took another large jump from 3.00 last year to 3.08 this year, whereas seven of the twelve U. S. schools had a mean grade point average over 3.00 last year, ten of the twelve schools have achieved it this year. It should be kept in mind that these students meet all other admissions requirements which are considered necessary to become successful optometrists. Also, for the first time three schools achieved better than a 3.30 mean GPA.
4. 3,679 students were enrolled in the professional degree program for 1974-75. For the year 1973-74 the total enrollment was 3,529. This is an increase of 150 students over the past year. In addition, there were 129 students enrolled in paraoptometric programs, 66 graduate students and 196 special students.
5. 769 students received the O.D. degree in June, 1974. This is an increase of 85 over the 684 graduated in 1973.
6. The projection of the number of anticipated graduates in the next four years is: 74—75, 801; 75—76, 881; 76—77, 895; 77—78, 922.

7. Women comprised 13% of the 1974-75 entering class. Of all of the students, women represent 10% of the total now enrolled.
8. Minority student enrollment increased from 279 students in 1973-74 to 319 students this year. This represents 9% of all students enrolled.
9. The number of applications received by the schools and colleges increased 17%, or, from 7,122 last year to 8,328 this year.
10. There are 344 full time equivalent faculty (FTE) members in teaching and research and 90 FTE in administration, making a total full time equivalent faculty of 434. 21% are involved in administration and 79% in teaching and research.
11. The student-faculty ratio has been increasing for the last four years from 1 faculty to 9.6 students in 1970-71 to 1 to 10.7 this year. For the 1w schools and colleges, there were 2,826 students enrolled and 531 faculty in 1970-71 and for 1974-75, there are 3,679 students enrolled and 650 faculty. This reflects the shortage of funds available for the operation of the optometric educational institutions and also the proportional increasing number of students and declining numbers of faculty.
12. The federal share of aid to optometric students through scholarships increased 4% from 68% in 1973-74 to 72% in 1974-75. However, the number of dollars decreased from $509,470 in 1973-74 to $429,943 in 1974-75 provided by the government, out of $749,420 available in 1973-74 and $598,120 in 1974-75 respectively.

Of $2,278,079 available to optometric students for loans in 1974-75, $1,639,550 of this amount was made available through the government. This represents a 2% increase over 1973-74.

Some of this selected information just reported has been taken from the Annual Survey of Optometric Educational Institutions by the Council on Optometric Education.

The present law under which schools and colleges of the health professions have received construction grants, special project grants, institutional support through a capitation system, financial distress grants and student loan and scholarship funding was an extension of the 1971 Health Manpower Training Act extended for one year in 1974. Federal funding continues to be a critical issue with the schools and colleges of optometry as the administration recommends phasing out capitation support and eliminating other federal support programs.

The University of Alabama at Birmingham and the University of Houston received approval for construction grants. The University of Alabama's new optometry building will open shortly and the University of Houston broke ground for their new optometry building in May.

The following schools have an accreditation classification of "Accredited," which indicates that an educational program meets or exceeds the minimum requirements of the Council on Optometric Education: Illinois College of Optometry; Indiana University, School of Optometry; Massachusetts College of Optometry; Pacific University, College of Optometry; Pennsylvania College of Optometry; Southern California College of Optometry; Southern College of Optometry; The Ohio State University, College of Optometry; the University of Alabama in Birmingham, School of Optometry/The Medical Center; the University of California, Berkeley, School of Optometry; the University of Houston, College of Optometry; the University of Waterloo, School of Optometry. The State College of Optometry, State University of New York, has the accreditation classification of "preliminary accredited."

This report would not be complete without recognition of those individuals who made the work of the Council possible. Dr. Charles E. Seger has been a member of the Council for 10 years, 9 of them as Chairman. He has just completed his last meeting as a member of the Council. Through his outstanding leadership, high standards of optometric educational excellence have been maintained and improved. With his vision of the profession's needs for the future, he has consistently encouraged creativity in the schools and colleges to keep the curriculum and clinic experiences current so that as the graduates move out into the field as practitioners, they are prepared to provide the highest level of care to the public through the full scope of optometric practice. Dr. Seger's wisdom and wise counsel will be sorely missed. His place is being taken by Dr. Robert W. Head.

Federal funding continues to be a critical issue with the schools and colleges of optometry as the administration recommends phasing out capitation support and eliminating other federal support programs.

Other members of the Council are: Drs. Emile J. Bernard, Jr., Irvin M. Borish, A. John Rose, Alfred A. Rosenbloom, Jr., and Bradford W. Wild. Also, Mr. Ellis S. Smith, Jr. serves as Executive Secretary to the Council.

The work of the Council has been ably supported by President Bernard Shannon and the AOA Board of Trustees and both the St. Louis and Washington offices have aided the Council in the improvement of optometric education.

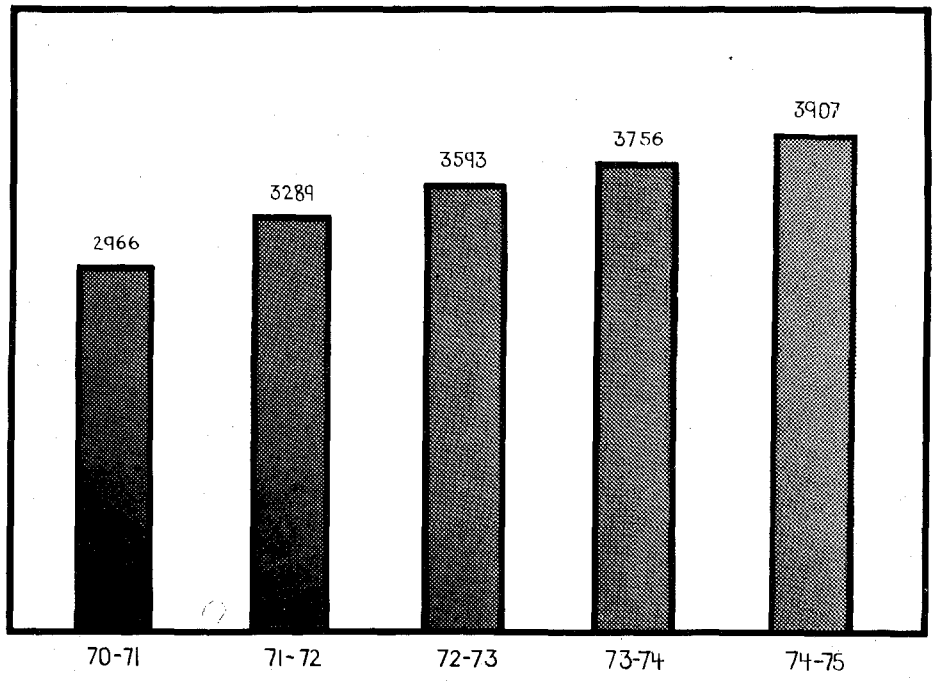
Tribute is especially due to those individual volunteers and staff in Washington who have labored so valiantly in the halls of the legislature and with other governmental agencies on behalf of optometry and optometric education.

The cooperation and support of the schools and colleges of optometry and the Association of Schools and Colleges of Optometry office in Washington, which is so necessary, have also made the work of the Council most productive this year.

Optometric Education in the Seventies

By Alan R. Gold

The Journal *is privileged to reprint, as a service to its readers and the profession, selected portions of the* Annual Survey of Optometric Educational Institutions, 1974-75. *The* Journal *agrees with the Council on Optometric Education that these figures are of interest to those who are concerned with the present and future development of optometric health manpower in the United States and Canada.*



Total Enrollment (U.S. & Canada)

In 1974, Dr. Charles Seeger delivered his Council on Optometric Education's Annual Report to the American Optometric Association's House of Delegates in an optimistic tone. Dr. Seeger's report was reprinted in the *Journal of the American Optometric Association* (July, 1974) with many supporting charts and tables depicting important cumulative data concerning costs, enrollment, and profile data of the student population.

In 1975, Dr. John Costabile current chairman of the Council on Optometric Education again reported to the House of Delegates on activities of the Council during his first year as chairman. His report is printed for the first time in the *Journal of Optometric Education* with the kind permission of the Council and the *Journal of the American Optometric Association.* As a supplement to Dr. Costabile's report, the ASCO National Office staff has assembled some of the more important tabular information gathered over the last five years by the Council and portrayed them for comparison of activities in the 70's.

With few exceptions, optometric education during the first half of the decade has prospered and grown in many important areas. Assuming the trends will continue through the 70's and future decades, optometry will have the brightest and most heterogenous mix of students preparing to carry on the practice responsibilities of optometry.

Admissions

Today, admission to an optometry program is extremely competitive, due in part to an increased interest in all of the health professions by undergraduate students. External factors such as a per-

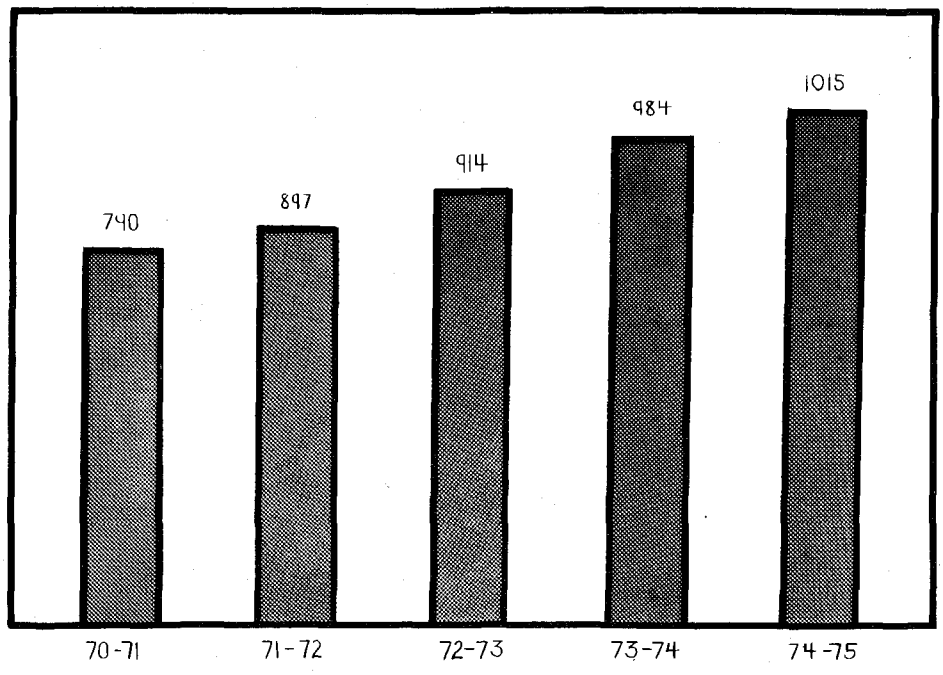
Dr. Gold is Special Assistant for Research in the ASCO National Office. A 1974 graduate of Massachusetts College of Optometry, Dr. Gold has already produced two volumes on potential funding sources in the federal government and private foundations for the Association.

Charts by Shirley Papp

ceived depressed job market in other areas of interest, and a favorable economic outlook for the health care professions plus the large available applicant pool resulting from post-World War II "baby boom" children have been noted as affecting the optometry admissions programs nationally.

Specifically, in 1974-75, 3,500 applicants competed for the 982 available places in optometry programs. These figures provided by Dr. Nira Levine, chairman of the Optometry College Admissions Test Committee, which is an operating division of the Council on Student Affairs of the Association, resulted in an applicant to vacancy ratio of 3.6 to 1, a figure that compares favorably with other health professions. These figures supplied by Psychological Corporation, administrator of the testing program, show a 14% gain over the previous year. Psychological Corporation also reports that this 14% gain has been seen in each year since they began to administer the program.

Although the long term admissions situation is difficult to predict as the societal and economic priorities in American society may shift and as the total available applicant pool of college-age students shrink, admission to optometry schools will no doubt remain extremely competitive.

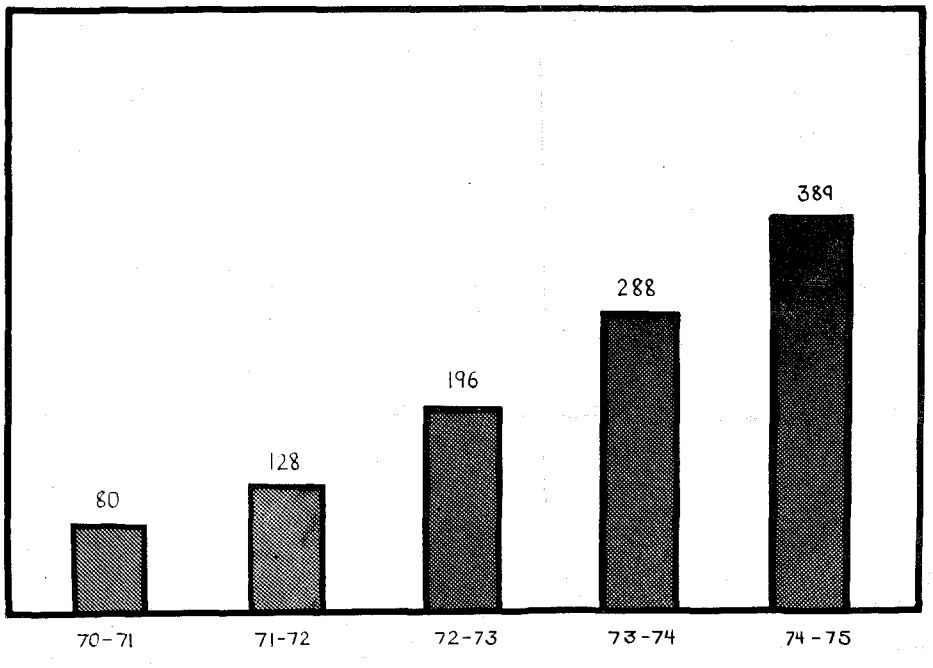


First Year Enrollment (U.S. & Canada)

Student Profile

Assuming that college grade point averages have some correlation with intelligence, he or she (several years ago we would have said *he*) is extremely bright. The successful applicant's grade point average (GPA) has risen markedly since the beginning of the decade. The mean GPA for the years 1970-71 was 2.67 on a 4.0 scale (A=4.0) compared with 3.08 in 1974-75.

Ten of the twelve schools reported mean GPA's exceeding 3.0 Fifty-nine percent (59%) of the students admitted to the first year class possessed a baccalaureate or higher degree from an undergraduate university. Massachusetts College of Optometry has a program under which holders of Ph.D.-level degrees in certain scientific disciplines can earn an O.D. Degree in a shortened period of time. The COE data also shows that two other schools—Indiana University and Pacific University also have Ph.D's enrolled in their institutions.



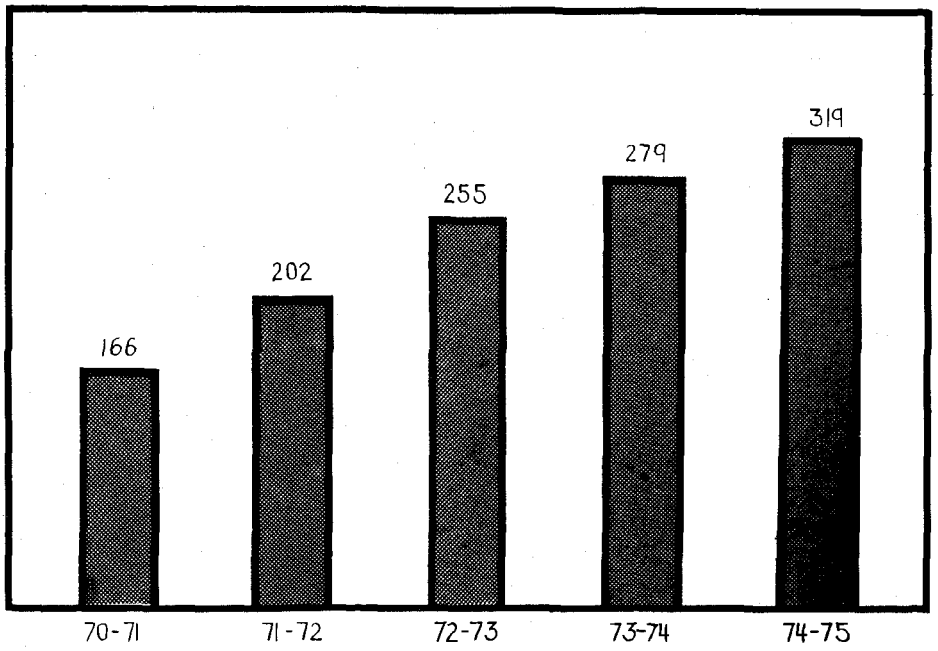
Female Enrollment (U.S. & Canada)

As a result of enrollment increases in all of the nation's schools combined with the addition of new schools in Alabama and New York, total enrollment has increased by approximately 50% since 1970. Most of the students are still male but as in medicine, law and other professions, female applications have risen markedly. In 1970, the entering class contained just 90 females, where now their number is 389 entering female students. Females now constitute about 10% of total optometric enrollment.

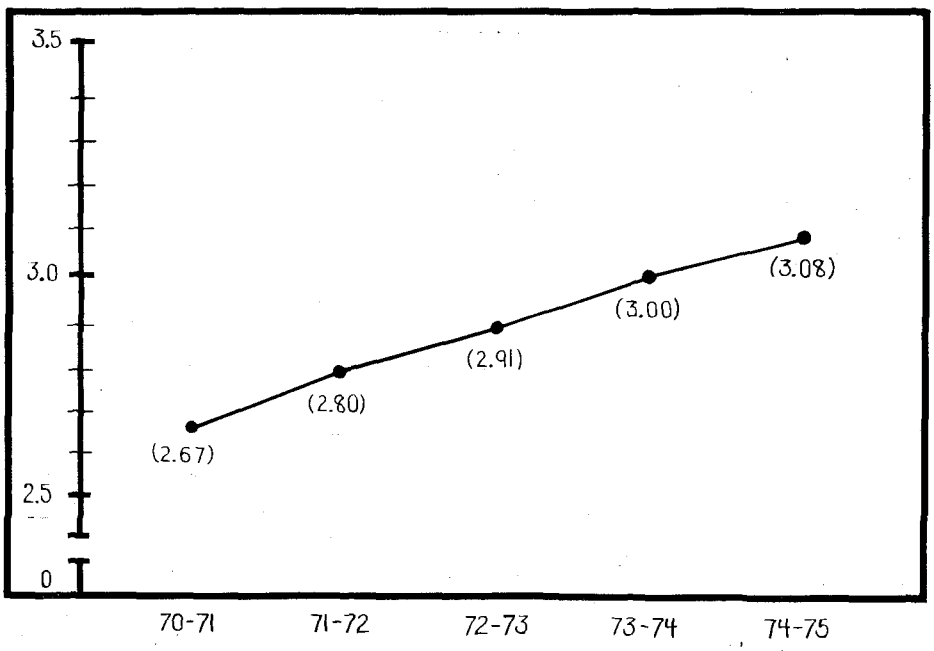
Enrollment of minority applicants—Black Americans, Spanish Surnamed Americans, Asian Americans, and Foreign Nationals are also on the rise. Although the figures vary from school to school,

minority enrollment has virtually doubled within the last five years.

Although students appear to be brighter and more abundant than in previous years, they certainly are not any richer. Due to necessary increases in tuitions and fees which now exceed $2,600 in our private colleges and $1,500 in state schools, our institutions processed almost $2.9 million from federal and state sources in financial aid and loans to students last year.



Minority Enrollment (U.S. Only)



Mean Grade Point Average for Entering Optometric Students

Federal Support

Federal monies have been flowing (trickling is perhaps a more accurate description) into optometric education since the mid-sixties. Under the Health Professions Education Assistance Act, and later its successor the Comprehensive Health Manpower Training Act of 1971, the federal government agreed to assist schools of medicine, osteopathy, dentistry, pharmacy, podiatry, veterinary medicine and optometry with funds for construction, special projects, financial distress, student loans and scholarships and institutional support through a "capitation" or fixed amount per enrolled student system. The construction grants have helped our schools construct or rennovate often antiquated facilities.

The most recent grant totaling $3.7 million went to PCO for a new clinical training building on the PCO campus in Philadelphia. Through the use of special projects funds, the schools have designed and implemented new and innovative approaches to optometric education and clinical training. According to the latest figure, approximately 16% of total optometric educational revenues comes from the federal government.

Educational Costs

How much does it cost to educate an optometry student? The answer depends on who you ask.

In 1974, the National Academy of Sciences Institute of Medicine released a study placing this figure at approximately $3,200 per optometry student. These costs were determined as a result of data drawn from four optometry schools that were asked to participate in the study. The report, widely criticized in regard to its methodology, and small sample of not necessarily representative schools, yielded what are called "historical costs"—that is costs based on how much was spent by institutions for education in the recent past. Perhaps a better way of measuring actual cost is the use of another method known as "constructed costs." These costs are incurred by providing health education under optimal conditions based on current and projected parameters for health education. Unfortunately, the IOM study was taken by Congress to serve as a basis for granting capitation payments for future years. In other words, a poorly drawn study for optometry based on historical costs is now the basis for which Congress intends to support optometric education in the future.

Unhappy with shortcomings of the IOM study, ASCO commissioned an independent organization, FORE Consultants, to study

"constructed optometric educational costs." The FORE report yielded a yearly average figure of $15,485 per student. This data closely approximated other studies conducted by health education professions.

Why the large discrepancies? Part of the problem lies in the difficulty of comparing costs of private non-affiliated schools such as Massachusetts College of Optometry, Southern College of Optometry, Pennsylvania College of Optometry, Illinois College of Optometry, Southern California College of Optometry with the state related universities—Indiana University, University of California, Berkeley, University of Houston, University of Alabama at Birmingham, The Ohio State University and the State University of New York. As just one example of the difficulty involved, at state schools, certain administrative jobs such as admissions and other university-operated services are not funded out of the optometry school budget. At some universities it is nearly impossible to apply costs generated by these university-operated functions to the optometry program.

Therefore, if only costs which are in the direct optometry school budget are considered, then a lower figure is obtained which does not adequately reflect the total amount of university spending for optometric education.

Data in the COE report indicates the presence of 16.75 full-time equivalent administrators at Southern College of Optometry but only .85 full-time equivalent administrators at the University of California Berkeley. It is unreasonable to believe that all the administrative burdens at the Berkeley campus is accomplished by less than one full time individual.

The profession needs a better method of comparison of health education cost. Currently, the Council on Optometric Education in conjunction with ASCO is participating in a cost comparison project operated by the National Center for Higher Education Management Systems. It is hoped that this project will produce a common reporting system for all of the schools to accurately demonstrate and compare cost between and among our institutions.

LETTERS

I read your Journal's Spring issue with interest. As you know, equitable relations between this country's various health professions will best flourish in an atmosphere of mutual understanding and this goal, to be realized, requires free communication. I, therefore, commend your Journal for its efforts along these lines and encourage their continuance.

We in the Veterans Administration have, as Dr. Myers' article indicated, a definite commitment to the interdisciplinary team delivery of care of the visually impaired veteran and we fully anticipate and encourage the clinical support of professionals from ophthalmology, optometry, blind rehabilitation, and social work to help our hospitals provide this specialized care.

Thus, the Veterans Administration's Department of Medicine and Surgery encourages your schools and colleges to now join with our hospitals and their staffs in discussing how they can provide this care to our country's veterans.

Lyndon E. Lee, Jr., M.D.
Assistant Chief Medical Director
for Professional Services

Congratulations on **JOE.** You put to shame the journals of many other health organizations with substantially more resources. I have asked that our library subscribe and have circulated the two issues you sent to our publications people in the hopes that they may be able to learn from your innovations.

Thanks for sending me the first two issues. Best wishes on your continued success.

Richard P. Penna, Pharm.D.
Assistant Executive Director
for Professional Affairs American
Pharmaceutical Association

CLASSIFIEDS

Model-

Continued from page 98

12 More evaluation of the effectiveness of instruction.
13. More concern for learning and less for teaching.

Conclusion

In closing, the committee wishes to point out that this document does not represent a complete curriculum model. Neither should it be misconstrued as signifying the model curriculum. It is a guideline that points the way, and as such, is merely one of a number of alternatives. Perhaps highest on the list of priorities of those curricular aspects to be dealt with are the statements of attitudinal indicators that the optometric practitioner should demonstrate. The importance of these affective components of our profession stems from the fact that they are so pervasive in all that we do and so vital to the delivery of quality vision care.

While the committee did not consider the affective domain in any detail, certain tentative conclusions reflecting a consensus did result.

1. Professionalization requires not only a method of dealing with and solving clinical problems but also a set of attitudes and behaviors indispensable to proper, humane patient care.
2. At present these behaviors have not been explicitly formulated. This must be done before strategies for developing them in our graduates can be developed.
3. It is probable that the most effective method for learning in this domain is through the observation of faculty, especially clinical faculty, and the student's identification with them as role models.

Finally, detailed and explicit behavioral objectives were not developed for any area of the curriculum model. While this must be done, we believe this is beyond the capacity of committee activity. This process will require a great deal of time and effort and will probably best be accomplished by individuals or teams highly knowledgeable in specific content and/or skill areas.

Tenure-

Continued from page 106

Unlike *Bloomfield,* the court in *Johnson* did not discuss the nitty gritty financial concerns which were the catalysts for the dismissals. Perhaps this was due to the failure on the part of the aggrieved teachers to place that into question, undoubtedly because the university *was* in dire financial straits. However, the court was concerned with the mechanics of dismissal. And although it ultimately found that the university had acted properly, there would have been no court review of the dismissal had the professors not had tenure. In *Levitt v. Board of Trustees of the Nebraska State College,* faced with the same issue as *Bloomfield* and *Johnson,* i.e., dismissal on account of financial exigency, the court chose the *Johnson* approach in analyzing the method of dismissal.[9] However, since the *Johnson* court had subjected the method to a rigorous judicial examination, in *Levitt* the court hesitated to question the procedures developed by the Board of Trustees. Instead, it determined that evaluative procedures existed, that they had been followed, and that, therefore, the dismissals were proper.

Even in this sort of cursory examination, it is clear that tenure distinctly provides the tenured faculty with economic security not accorded the non-tenured. Whether the judge actively examines the university's allegations of financial difficulties, or tacitly accepts those claims and examines the procedures through which dismissals are determined, the campus administrators must realize that tenured professors may not be summarily dismissed. The remedies provided at law for failure to heed this rule include reinstatement as in *Bloomfield,* reinstatement with back pay, see *University of Alaska v. Chauvin*[10] or in some instance back pay without reinstatement, see *Zimmer v. Spencer.*

It should be apparent from this summary of recent court decisions that the judiciary is affirming the concept of tenure. Whether the decision is based on contract law (*Bloomfield*), or constitutional law (*Johnson*), the basic tenets of tenure are strengthened. Even when judges affirm university administrator's behavior, merely by examining the procedures, they are according more weight to the claims of tenured than to non-tenured faculty.

The tacit judicial approval of tenure as a universally recognized educational concept is bound to enhance the power wielded by the tenured class. It can only help to fend off the challenges of have-nots and bestowers. As the concept of tenure is wedded with the imposing weight of judicial approval, it becomes a substantial task to divorce tenure from education and even more difficult to abort the concept, which has been steadily maturing. Nevertheless tenure has its critics. There are those who point to stagnation in faculty ranks, the divisive politics between older professors with tenure and younger professors striving to attain it. Others claim it preserves incompetence and encourages laziness. But, these critics have yet to persuade the courts, or provide the courts with legal alternatives, and until they do, tenure, good or bad, is here to stay.

References

[1] *Ching v. Park* 369 F. Supp. 959 M.D. Pa. (1974)
[2] *Bruno v. Detroit Institute of Technology,* 215 NW 2d 745 (1974).
[3] *Shaw v. Board of Trustees, McComb County Community College,* 207 NW 2d 129.
[4] *Perry v. Sindermann,* 708 U.S. 594 (1972).
[5] *Board of Regents v. Roth* 708 U.S. 564 (1972).
[6] *Shelton v. Tucker,* 364 U.S. 479 (1960). *Keyishian v. Board of Regents,* 385 U.S. 589 (1967). *Pickering v. Board of Education,* 391 U.S. 563 (1968).
[7] *AAUP, Bloomfield College Chapter v. Bloomfield College,* 322 A.2d 846 (1974).
[8] *Johnson v. Board of Regents, University of Wisconsin System,* 377 F. supp. 277 (1974).
[9] *Levitt v. Board of Trustees of the Nebraska State College,* 376 F. Supp. 945 (1974).
[10] *University of Alaska v. Chauvin,* 521 P.2d. 1234 (1974).
[11] *Zimmer v. Spencer.* 485 F.2d 176 (1973).

ASSOCIATION of SCHOOLS and COLLEGES of OPTOMETRY

The Association of Schools and Colleges of Optometry (ASCO) represents the professional programs of optometric education in the United States and Canada. ASCO is a non-profit, tax-exempt professional educational association with national headquarters in Washington, D.C.

BOARD OF DIRECTORS

Dr. Alfred A. Rosenbloom, President
Illinois College of Optometry
Chicago, Illinois

Dr. Gordon G. Heath, Director
Indiana University
School of Optometry
Bloomington, Indiana

Dr. Richard L. Hopping, President
Southern California College of Optometry
Fullerton, California

Dr. William R. Baldwin, President
Massachusetts College of Optometry
Boston, Massachusetts

Dr. Willard Bleything, Dean
Pacific University
College of Optometry
Forest Grove, Oregon

Dr. Norman E. Wallis, President
Pennsylvania College of Optometry
Philadelphia, Pennsylvania

Dr. Spurgeon B. Eure, President
Southern College of Optometry
Memphis, Tennessee

Dr. Alden N. Haffner, Dean
State University of New York
College of Optometry
New York, New York

Dr. Frederick W. Hebbard, Dean
Ohio State University
College of Optometry
Columbus, Ohio

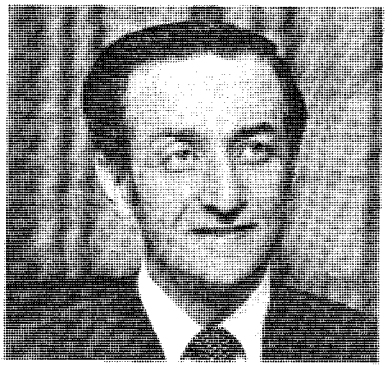
Dr. Henry B. Peters, Dean
University of Alabama
School of Optometry
Birmingham, Alabama

Dr. Monroe J. Hirsch, Dean
University of California
School of Optometry
Berkeley, California

Dr. Chester H. Pheiffer, Dean
University of Houston
College of Optometry
Houston, Texas

Dr. Merrill E. Woodruff, Director
University of Waterloo
School of Optometry
Waterloo, Ontario, Canada

President
Norman E. Wallis, O.D. Ph.D.
President, Pennsylvania
College of Optometry



Vice-President
Alden N. Haffner, O.D. Ph.D.
Dean, State University of
New York, College of
Optometry

Secretary-Treasurer
Frederick W. Hebbard, O.D. Ph.D.
Ohio State University,
College of Optometry

Wild Should Wild Remain.

"Man always kills the thing he loves, and so we the pioneers have killed our wilderness. Some say we had to. Be that as it may, I am glad I shall never be young without wild country to be young in."

ALDO LEOPOLD

"Integrity is wholeness, the greatest beauty is organic wholeness, the wholeness of life and things, the divine beauty of the universe. Love that, not man apart from that...."

ROBINSON JEFFERS

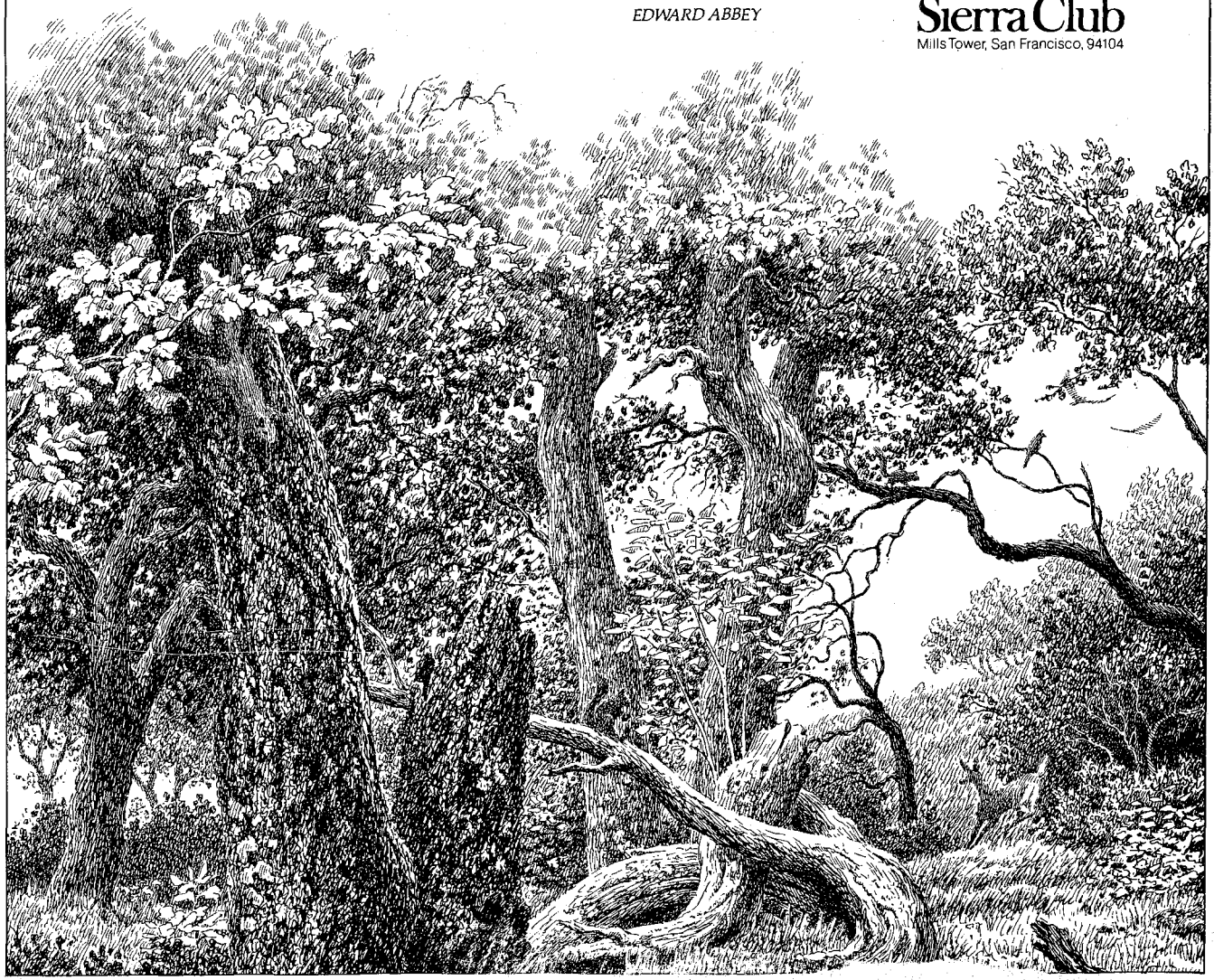
"The love of wilderness is more than a hunger for what is always beyond reach; it is also an expression of loyalty to the earth, (the earth which bore us and sustains us), the only home we shall ever know, the only paradise we ever need—if only we had the eyes to see."

EDWARD ABBEY

"We need wilderness preserved—as much of it as is still left, and as many kinds... It is important to us... simply because it is there—important, that is, simply as an idea."

WALLACE STEGNER

Sierra Club
Mills Tower, San Francisco, 94104



ASSOCIATION OF SCHOOLS
AND COLLEGES OF OPTOMETRY
1730 M Street, N.W., Suite 411
Washington, DC 20036

Plan de San Luis y Diaz
Miron
Mexico City, Mexico

Non-Profit Org.
U.S. POSTAGE PAID
at Wash., D.C.
Permit No. 46070