On the Presentation of the Proctor Medal of the Association for Research in Ophthalmology to Francis Heed Adler

Someone has said: "If you observe a really happy man you will find him building a boat, writing a symphony, . . . growing double dahlias in his garden, or looking for dinosaur eggs in the Gobi Desert. He will not be striving for happiness as a goal in itself. He will have become aware that he is happy in the course of living life twenty-four crowded hours of the day."

Such a man is Francis Heed Adler, who tonight will receive the Proctor Award of the Association for Research in Ophthalmology. Most of you are aware of Dr. Adler’s qualifications for this high honor. But at the risk of repeating what you may already know, I shall review some of the highlights of his career as physiologist, teacher, clinician, editor, musician, civic leader, and a warm human being.

Dr. Adler was born in 1895 in Philadelphia and except for short stays in the Pocono Mountains of Pennsylvania and Woods Hole, Massachusetts, he has always lived there. His very early education included attendance at the Friend’s Select School and the Delancy School from which he graduated in 1912. He then enrolled in the Department of Liberal Arts of the University of Pennsylvania and after 3 years entered the Medical School of the same university, in 1916 he was granted a Bachelor of Arts degree.

While in medical school Dr. Adler began working in the department of zoology under the guidance of Dr. Merkel Jacobs who was then Professor of Physiology. During the summer months he continued his studies at the Marine Biological Laboratory at Woods Hole. As a result of this work he received a Master of Arts degree in 1918. He graduated from medical school a year later having been elected to membership in the honorary fraternities, Alpha Omega Alpha and Sigma Xi.

Following a two year internship at the Hospital of the University of Pennsylvania, Dr. Adler embarked on a dual career in physiology and ophthalmology. He became a member of Dr. George E. de Schweinitz’s staff in the Department of Ophthalmology at the University Hospital while continuing his academic career at the University of Pennsylvania, serving first as an instructor and then as associate in physiology. In 1933 he was appointed assistant surgeon at Dr. B. F. Bear’s clinic at Will’s Eye Hospital; later he served as attending surgeon at the same institution.

In 1937 Dr. Adler accepted an invitation to become Professor of Ophthalmology and Head of the Department at the University of Pennsylvania. This was a particularly happy situation for the academically oriented physician-surgeon because this appointment enabled him to devote time to teaching and practicing his specialty at the highest level.

In 1945 his official title was changed to the William F. Norris and George E. de Schweinitz Professor of Ophthalmology, a position he held until his retirement in 1960 when he was made Emeritus Professor of
Ophthalmology at the Hospital of the University of Pennsylvania.

Dr. Adler's research ranges broadly over many areas of basic and clinical ophthalmology, and is characterized by a fine perception of the underlying chemical and physical principles involved in the physiology of the organism. To choose but one example, his thorough understanding of the postulates of dialysis led him to select urea as the particular substance whose distributional pattern in the eye would provide the crucial information required to assess the validity of the then popularly held dialysis theory of aqueous formation. From his carefully performed experiments on cat eyes, Dr. Adler concluded that "Aqueous humor cannot be a dialysate," but instead must be a stromal dialysate modified by the ciliary epithelial cells. This prophetic deduction was made long before any information was available concerning the composition of the aqueous humor from the posterior chamber and before the use of isotopes made it possible to localize transport processes at the cellular level.

While Dr. Adler's numerous original publications earned for him a reputation as an outstanding investigator, he is probably best known for his textbooks. Applying his knowledge of both physiology and clinical ophthalmology, in 1931 he wrote his textbook *Clinical Physiology of the Eye*, in which he undertook to describe "in as simple terms as possible the fundamental facts and the generally accepted theories of how the eye functions." At the time no comparable treatise in the English language existed, a fact which contributed to its rapid disappearance from the bookseller's shelves. Nevertheless, fifteen years later, Dr. Adler thought that an entirely new book, rather than a revision of this text, was necessary if the student and practicing ophthalmologist were to be apprised of the enormous progress being made in basic physiology, and if ocular disorders were to be treated rationally on the basis of an understanding of how the various parts of the eye functioned under normal conditions.

With his usual diligence and enthusiasm, Dr. Adler undertook the tremendous task of reviewing, collating, and correlating with clinical experience the myriad papers dealing with ocular physiology. His efforts reached fruition in 1950 with publication of the first edition of *The Physiology of the Eye: Clinical Application*, a book now in its fourth edition. It is a superbly written treatise which weaves its way deftly through a maze of data and theory to culminate in their application to the problems of therapy. Its lucid exposition is a testimony to Dr. Adler's own dictum that until an author thoroughly understands the phenomena to be discussed he should study more and write less.

Adler's revisions of Gifford's *Textbook of Ophthalmology* have been helpful to an even greater number of students. This completely rewritten text provides a concise up-to-date authoritative account of the fundamentals of ophthalmology for both the medical student and the general practitioner.

Dr. Adler has influenced students not only through his medical textbooks; "he is far and away at his best," says Dr. William LaMotte, Jr., a former resident, "surrounded by six to twelve young men pursuing an idea, a thought, a principle, probing, searching, stimulating, guiding." This kind of inspirational teaching transmits to the student an attitude of mind rather than a specific fact or technique which can be learned more casually, and forgotten more quickly.

The residency program at the Hospital of the University of Pennsylvania which now includes training also at the Children's, Veterans, and Philadelphia General Hospitals, was started by Dr. Adler, and has grown from three to twelve trainees. To express their affection and high esteem for him, the sixty or more ophthalmologists who completed the training program at Pennsylvania recently commissioned Franklin Watkins to paint his portrait, which now hangs appropriately in the de Schweinitz library of the Hospital.
Along with his many other activities, Dr. Adler in 1950 undertook the arduous task of serving as Editor-in-Chief of the "A.M.A. Archives of Ophthalmology," a position he held until 1960. He brought to this position an array of talent and editorial skills which were needed to improve the caliber of the clinical and scientific papers published in this periodical. The lot of an editor, however, is not a happy one, he pleases few and angers many. Adler's decision to accept for publication only those papers that he and a board of consulting editors considered to be of highest quality was not popular with many aspiring contributors. It did, however, quickly enhance the quality of the publication, and, as Adler's "friendly rival," Derrick Vail, said some years later "led the 'Archives of Ophthalmology' out of a slump to a peak of eminence and respect." Moreover, these high editorial standards established by Dr. Adler, and continued under the erudite leadership of Drs. David Cogan and Henry Allen, have had a marked effect on the quality of research and writing in ophthalmology, generally.

Francis Adler has also contributed greatly to ophthalmology through his active membership in the leading societies concerned with his specialty. He was Chairman of the Section of Ophthalmology of the A.M.A., 1952-1953; president of the American Ophthalmological Society, 1962; and president of the American Academy of Ophthalmology and Otolaryngology, 1965. He served for a number of years as a member and later as a consultant of the American Board of Ophthalmology, a board whose testing procedures he helped design. He is a fellow in the American College of Surgeons.

Dr. Adler has received many of the highest honors of his specialty; he was awarded the Howe Medal for distinguished service in Ophthalmology; the Medal in Ophthalmology of the A.M.A.; and the Lucian Howe Medal by the University of Buffalo. His honorary lectureships included, among others, the Gifford, Edwin Jackson, Bedell, and de Schweinitz.

My personal recollections of Dr. Adler are many and pleasurable; I shall mention only two.

Frank is probably unaware of the tremendous influence he had on my decision to pursue a career in ophthalmic research. Back in 1937, when he assumed the chair of ophthalmology at the University of Pennsylvania, I had just begun to think about such a career, so I wrote to him about the possibility of an opening in his department. At that time, National Institutes of Health grants were nonexistent, and funds and space for full-time research workers in clinical departments were as scarce as the idea was novel that a biochemist should aspire to such a position.

Dr. Adler's courteous reply in which he outlined in detail his own background in the basic sciences encouraged me to make research in ophthalmology my goal.

During the war years, Jonas Friedenwald, David Cogan, Morton Grant, Alson Braley, and I made frequent trips to Philadelphia to discuss with Frank Adler and Irving Leopold (Harold Scheie was overseas) progress, if any, in our quest for a treatment for Lewisite and mustard gas lesions. These occasions were sometimes brightened by visits to Dr. Adler's home in Chestnut Hill where we engaged in bowling on the green, a sport which I suspect was performed less well as the evening wore on! These gatherings also provided an excellent opportunity to learn more about the many facets of Dr. Adler's personality, a chance to meet his charming wife, Marty, his children, and an enormous Great Dane dog, Napoleon, whose bark was literally worse than his bite!

When I asked Marty to give me a few personal glimpses of him she wrote, "What can I say of the perpetual motion machine that is my husband? What makes Francis run? It is a mysterious and propelling force which, injected into all mankind, would solve all the problems that plague this day and age. I have no answers as to its source. I know only this—that Francis arises at 6:30 A.M. and by 8 o'clock when the first
patient arrives he has vacuumed the swimming pool, transplanted three dozen petunias, talked at length into his dictaphone and, like as not, has laid several yards of a brick path!! By 8 p.m. he is still going strong, happily tidying the garden and the voice of his clippers can be heard in the land. Long ere this, his loving wife has collapsed with a book and a strong drink.”

For years the violin was Frank's avocation and second career. He played in the Curtis String Quartet with Catherine Drinker Bowen who in her book *Friends and Fiddlers* speaks thusly of him . . . “Dr. Retinus is an ophthalmologist, with an impressive office in the city. . . . There were lady secretaries, and outsize telescopes and Turkey carpets and fine etchings—and on the mantel a familiar black fiddle case. ‘But of course I bring it to town!’ cried Dr. Retinus, ‘I practise every day, after office hours.’ . . . This man’s days, filled with delicate eye operations, with lectures delivered at the University, with scientific papers read in distant cities, with the writing of a large green book about eyes . . . this man’s days include an hour’s practice upon the lowly violin. . . .” His quartet-playing continued for years, until an acute attack of Ménière’s marred his hearing so the pleasure of playing had to be discontinued.

Frank has served for many years on the Board of the Free Library of Philadelphia of which he is now Vice-President. As Chairman of their Music Committee he has been active in fund raising for their yearly series of chamber music concerts.

Over a year ago Frank became interested in recording for the blind. He has put on tape over thirty books of such diversity as *Good-bye, Mr. Chips; Gavin’s War and Peace in the Space Age; For Whom the Bell Tolls; The Negro Revolt* by Lomax; *The Last of the Mohicans*; and many others.

Summer evenings find Frank on the terrace with his telescope spying on the Russians on the moon!

Add to all of his other accomplishments that he is a greenhouse gardener (his salpiglossis and carnations are glorious) and also a gourmet cook, and it is easy to understand why, as Marty says, his family of three daughters, one son, ten grandchildren, and one wife all adore him.

As we gather here this evening to pay tribute to this accomplished scholar, it is easy to understand too, why the Association for Research in Ophthalmology has elected to bestow on Francis Adler its highest award.

I now have the privilege and great pleasure of presenting to you, Dr. Adler, the Proctor Medal.

V. Everett Kinsey