
Remarks on the acceptance of the Friedenwald Memorial Award

Jin H. Kinoshita

It is indeed a great honor to be selected as the recipient of the Friedenwald Memorial Award. Although I feel undeserving of this distinguished award it is reassuring that the contributions to ophthalmology by a basic scientist do not go unnoticed and should receive such recognition. I know this award will serve to justify the time and effort spent by my inspiring and outstanding teachers who guided me through various phases of my training. At Bard College, a small school in New York, my interests in laboratory investigations were awakened and nurtured by Dr. Vasil Obreshkove, a physiologist, who allowed me the thrill of running my first micro-respirometer. For graduate training, he enrolled me at his Alma Mater—a place called Harvard. There, in the Department of Biochemistry, my thesis adviser, Dr. Eric G. Ball, patiently guided me through the “head-shrinking” experiences of a graduate student. He impressed me with the importance and effectiveness of applying critical scientific judgment and methods to a research problem. Under his influence and that of Dr. A. Baird Hastings, then the head of the department, I became aware of, and interested in, the application of biochemical principles to aid in the understanding of physiological and pathological processes. The opportunity to extend this interest became available with the opening in the Howe Laboratory which was made possible by the westward migration of Dr. Everett Kinsey. It was Dr. David

G. Cogan who opened my eyes to a new and unexplored world where individuals with special talents could have an exciting time in uncovering new facts concerning the eye.

Drifting away from the mainstream of biochemists into the special pond of eye researchers is a difficult process requiring a considerable period of reorientation. It is quite a change for the biochemist to leave his home department for the field of ophthalmology where the vocabulary is so different. To be thrust into a world of pingueculas, trephines, drusen, syn-echiae, and colobomas is a bewildering experience for anyone. This is especially true for the biochemist who is brought up in a simple environment where all he had to know about were DNA, RNA, or ATP. I think the difference in vocabulary is the main factor that tends to set apart the ophthalmologist from the basic scientist. Any basic scientist in the eye field gains so much from a close association with ophthalmologists that it becomes essential to keep a “hot line” between them constantly open.

The Howe Laboratory, under the guidance of a director who speaks both languages fluently, is an ideal environment for the blending of interests of the clinical as well as the basic scientists. In such a setting an eye researcher from both worlds can broaden and deepen his scientific experiences. It is not a difficult matter for any basic scientist brought up in this en-

vironment to forget his natural point of origin. This may be the reason why Everett Kinsey says that, although he is regarded by ophthalmologists as a biochemist, the biochemists often mistake him for an ophthalmologist.

Interaction with ophthalmologists is important for any basic scientist entering ophthalmic research, for the training of a Ph.D., although extremely thorough, is too narrow in scope to give him the necessary background to undertake the more pressing ophthalmological problems. By taking advantage of what the eye department can offer, the basic scientist can make his best contributions in studies dealing with a disease process or a particular function of an ocular organ. A number of times I have read or heard that the eye could serve as a tool in the study of basic mechanisms. There are those of us who feel that knowledge of basic mechanisms should serve in an understanding of the eye.

Disease processes are so complex that a lead to an understanding of the underlying mechanisms will probably result only after an exhaustive exchange of ideas between individuals of different training. Therefore, it is important that the eye department, which invites a basic scientist to join the staff, assume the responsibility of establishing a close rapport between the basic and clinical scientists. If this kind of relationship does not exist, there is no particular advantage for the basic scientist to be in an eye department.

The study of a disease process or a physiological function of an ocular tissue entails a much broader approach than one to which a biochemist is accustomed. For this very reason a biochemist tends to drift apart from his home department. The nature of the eye problem may compel him to study the organ as a whole, or at least a number of associated mechanisms of a particular tissue. Ordinarily the bio-

chemist, today, focuses his attention on a small area of a problem and does a penetrating study of the subject. Because of the difference in orientation, the objectives of the study undertaken by the eye biochemists may not always be appreciated by the home department. One way to help this situation is to submit papers to basic science journals when a confined area of a more general project is completed, so that not only can we benefit from the opinions of several experts outside the field, but it would also reveal to others how biochemical studies can be applied to eye problems.

It is important for basic scientists in ophthalmic research to meet others of the same background so that they can discuss critically the problems of mutual interests. Since most eye departments cannot afford the luxury of having more than one or two individuals in any one basic science field, it becomes almost a necessity to hold separate meetings for those pathologists, biochemists, anatomists, and immunologists who study the eye. These meetings help in allaying the fears of isolation that plague the basic scientists who enter this field. This type of forum will continue to be successful as long as it is kept informal and the free discussion phase is emphasized.

Today in ophthalmic research, a team of scientists is attempting to do what Dr. Friedenwald did by himself. We are fortunate that this unusually gifted ophthalmologist and basic scientist blazed the trail before us, for now we have guidelines to follow and standards of quality to match. Ophthalmology would be greatly benefited if we, collectively, could be half as successful as Dr. Friedenwald. As representing one facet of Dr. Friedenwald's many interests, I gratefully accept this distinguished award.