

of the Neurological Diseases and Blindness Council, which was made in November 1966.

This report clearly shows that most of the blinding eye diseases are not problems of neurology.

There are two other reasons—of almost equal importance to those just cited—why an ophthalmologist is needed to direct ophthalmic research in the National Institutes of Health.

First, the eye, because of its unique physical properties, lends itself to the study of basic physiological problems in a manner that cannot be accomplished in other areas of the body.

Thus, the cornea, because of its avascularity and particular cellular structure, offers unique opportunities for studying the homograft rejection problems; that is, how to keep a newly grafted, clear cornea from going bad.

Information gained from this type of research will be of great value in the successful transplantation of other vital organs such as the kidney, lung, liver, and heart.

Conjunctival and corneal infections caused by viral agents offer an unusual opportunity to study the effect of chemicals and antibiotics on virus disease in man.

Many agents can be used topically on the eye which are too toxic to be used in the systemic treatment of such viral infections as colds, pneumonia, measles, smallpox, et cetera, and once effective agents have been found, they can be modified so that their toxicity can be reduced.

The lens of the eye is suspended in the ocular fluids or aqueous, free of blood vessels. It becomes opaque or cataractous because of aging and other metabolic processes.

Thus, the lens is like an *in vivo* tissue culture and offers unusual opportunities for studying these processes and defects.

Knowledge obtained from a study of the secretion of the aqueous will shed much light on the problems of secretion of the cerebral spinal fluid by the choroidal plexus, and urine by the kidney.

Another important reason why an ophthalmologist is needed to direct the ophthalmic activities of the National Institutes of Health is that the eye is "the window of the body."

It is affected, at least in some respects, by almost all systemic diseases. One professor of ophthalmology likes to tell his class each year that if a student can name five systemic diseases in which the eye is not involved, the student will automatically pass ophthalmology.

It is not possible in this testimony to name all the systemic diseases that effect the eye; but a few are: diabetes, hypertension, thyroid disease, leukemia, anemia, bacterial and viral infections, and many neurological problems.

To summarize, an ophthalmologist is needed to direct a separate eye institute because:

- (1) Most blinding eye diseases are not directly problems of neurology;
- (2) The eye offers a unique anatomical area to study basic metabolic and physiological processes;
- (3) The eye is affected by most systemic diseases, and knowledge gained from the study of these ophthalmic complications will be helpful in understanding disease processes in other areas of the body.