

for blindness, more effective questioning can be directed to them regarding this.

On the importance of sight, I would like to state that sight provides the average individual with at least 80 to 90 percent of the knowledge of his environment. Sound waves can be heard at best only a few miles, but light waves travel the seemingly limitless expanses of the universe to show us the distant stars.

Loss of this precious window to the world about us dooms most of the blind to a life of dependency and frustration in a surrounding of perpetual darkness. Even with all of our rehabilitation measures, the income of the blind is usually at the subsistence level.

The families of the blind also are often subjected to great hardship because of lost family income or the task of caring for the blind person's physical needs.

The effect of blindness on the public is less devastating but is terribly expensive. Our estimated 1 million blind, augmented by some 30,000 newly blinded each year, costs us an estimated billion dollars annually.

Cost of rehabilitation, cost of subsistence of the blinded individual and his family, loss of productivity, and loss of taxes, all increase the annual tax burden on the public.

Disorders of the eyes constitute the Nation's leading cause of disability. Some 90 million Americans are estimated to require correction or treatment of some eye difficulty. Some 3.5 million of these have permanent noncorrectable defects.

A million persons are estimated to have undiagnosed glaucoma, one of our leading causes of blindness. Glaucoma is one of our most damaging eye diseases and the cause of a great deal of our blindness.

The United States is estimated to have 1.5 million persons blind in one eye.

Most of us accept good vision as a matter of course. But the fear of blindness among our people is second only to the fear of cancer as the worst thing that can happen to us.

In spite of our fear, in spite of scientific advancement, blindness has increased in incidence some 340 percent since the 1940's.

The increased lifespan of adults and the decreased mortality of premature babies have both worked to increase the incidence of blindness.

MAGNITUDE OF OUR EYE RESEARCH NEEDS

Eighty percent of all our blindness is estimated to be the result of diseases whose cause or basic mechanism of action is not adequately understood. This lack of knowledge is apparent throughout both basic and clinical research.

This, again, is from statistics furnished by Dr. Duane, which he can probably explain better than I.

To give nonmedical people an idea of the tremendous variety of things which must be explored in eye research, the following outline is presented:

A. Anatomical factors, covering embryological development, gross anatomy, microscopic anatomy, and neuroanatomy of the eye and also the pathways in the brain and the visual cortex.

B. Biochemical, biophysical, pathologic, pharmacologic, physiologic, and psychologic factors in the eye in health.