prismatic correction to deflect refracted rays through lens element **34** to the left side of the retina. Similarly, a right directed prismatic correction of refracted rays in element **34** will cause the rays traversing lens element **34** to be brought to a focus on the retinal focal plane **42** on the right side of the retina.

The orientation of the prismatic correction may be placed to facilitate the accommodation of the brain to the dual images. While accommodation is enhanced by the physical displacement of the images to separate the distinct areas of the retina, it may be possible for an individual to adapt to images which are not physically isolated on the retina, but which are partially or totally superimposed. Accommodation may be enhanced in some individuals by developing each image in a different color. This can be done by adding a pigment to one or both of the lens elements **32** and **34** or by placing a colored membrane over either or both of the lens elements. While such an approach necessarily provides an unnatural colored aspect to the resulting image on the retina, this disadvantage may be outweighed by the increased ease of accommodation to the system. Further, the color can be added to only the lens element which is unique to the image of lesser importance to the individual, either the far or near object.

FIGS. **4A** and **4B** illustrate schematic views of an optical system utilizing the hydrogel lens of FIG. **1**. In FIG. **4A** the lens **10** has a plurality of hydrogel lens elements **32** and **34**. Element **32** has a power D1 and element **34** has a power D2. The rays from far object **46** located at a far distance **48** are brought to a focus through lens elements **32** and **34** at a far focal distance **50** to produce an image **46*a*** located in an area **52** of the retinal focal plane **42** indicated by an x-y axis.

In FIG. **4B** the rays from a near object **54** at a near distance **56** passing through elements **32** and **34** are also brought to a focus at a near focal distance **57** to produce an image **56*a*** in area **58** located in the retinal focal plane **42**. Area **52** is generally the area to the left of the y axis and area **58** is generally the area to the right of the y axis. If the elements **32** and **34** have a left or right prismatic correction, the images **46*a*** and **56*a*** will be formed in different areas of the retina, illustrated generally by areas **52** and **58**. The area **52** of FIG. **4A** corresponds generally to the area **40** of FIG. **3** while the area **58** of FIG. **4B** correspond generally to the area **44** of FIG. **3**.

FIG. **5** illustrates a hydrogel lens **60** including lens optic **62** in which at least one lens element of the lens **60** is colored. The lens element **64** is colored red so as to produce an image which is color distinguishable from the image produced by the element **66**.

FIG. **6** illustrates a hydrogel lens **70** including an optic **72**, a convex anterior surface **74**, a plano posterior surface **76**, an edge **78** therebetween, positioning holes **80** and **82**, haptics **84** and **86** engaged in holes **88** and **90**, and three laminated lens elements **92**, **94** and **96**. The lens elements may be clear or suitably colored with pigments in a fashion to produce images of three different colors to assist the patient in distinguishing between the images of the near, far and intermediate distance objects such as laminated lens elements **92** and **96** being blue and laminated lens element **94** being yellow. To this end, it must be recognized that the colored elements **92**, **94**, and **96** operate subtractively on the incident rays.

FIG. **7** illustrates a sectional view of the hydrogel lens **10** of FIG. **1** taken along line **7—7** of FIG. to illustrate the junction between the laminated elements. The smaller lens element **32** is joined to the larger lens element **34** by a layer of transparent adhesive **100**. The adhesive material **100** may include an additive to provide anti-reflective characteristics. Alternatively, a conventional, discrete, anti-reflective highly pigmented opaque coating **102** may be applied to the periphery edge **104** of the smaller diameter lens element **32** to reduce extraneous light reflected from the edge **104** to mask rays which would otherwise produce reflections.

MODE OF OPERATION

In the case where a defective natural lens is to be replaced, it is customary to make extensive measurements on the eye prior to removal of the defective natural lens and to replace it with a fixed focus implantable lens. Such measurements allow the selection of a lens having appropriate power for the individual and also the nominal distance to the object which is desired to be brought in to focus on the retina. This approach to the problem has the disadvantage that a wide range of powers must be available to the surgeon. Since each lens is individually fabricated, the economic burden of fabricating a wide variety of powers adds substantially to the cost of the lenses. It would be much cheaper to manufacture only a few lenses and use them in all patients. The cost of manufacture would be reduced and inventory requirements would be less burdensome.

Reduction of the cost of the lenses would have the effect of increasing the availability of the procedure to those who currently lack the economic means to afford such an operation. This is the overriding consideration in medical care.

It is recognized that the technique of using less than the entire retina is usually not as desirable as a system which duplicates the normal lens use of the entire retina. There is a loss of acuity which shows up in reduced resolution and contrast, particularly in low light conditions. In addition, the accommodation of the brain to such a system takes a period of time and the degree of success varies with individuals.

The flexible hydrogel material allows the lens to be folded or rolled up and inserted into the eye through an incision or puncture which is much smaller than required for a conventional, rigid lens. Since the insertion procedure is simplified, the cost of implantation is reduced and the chance for success is enhanced.

Various modifications can be made to the present invention without departing from the apparent scope thereof.

I claim:

1. A laminated zone of focus hydrogel lens for use with an eye comprising:

a. a first lamination hydrogel element encompassing a first area of said lens;

b. a second lamination hydrogel element encompassing a second area of said lens;

c. said first lamination element, in combination with said second lamination element serving to create an image of a first distinct portion of the retina; and,

d. said second lamination element serving to simultaneously create an image on a second distinct portion of the retina which is, different from said first portion; wherein

e. at least two of said laminated elements are of different colors.

2. A lens according to claim **1** where in said first and second lamination elements have differing indices of refraction.