**SYNTONIC PHOTOTHERAPY**

Raymond L. Gottlieb, O.D., Ph.D.

Dean: College of Syntonic Optometry

www.csovision.org

**ABSTRACT**

Syntonic phototherapy is an application of clinical phototherapy that is not well known by most LLLT

photobiomodulation researchers and clinicians in spite of its long history. This is because of three main reasons: this

approach was beyond the limits of the “reasonable” scientific paradigm, it has not been well researched and it is used mainly by optometrists. Clinical and basic researcher in the last decades about light’s impact on cells, tissues, blood, circadian rhythms and mood disorders has broadened the paradigm and increased the acceptance of light as a healing agent. Perhaps now is an appropriate time to describe Syntonic optometric phototherapy with the purpose of exciting research to validate and expand its use. Syntonics uses non-coherent, non-polarized, broad-band light delivered into the eyes to treat brain injury, headache, strabismus, eye pathology, learning disability, mood and developmental syndromes. The eyes permit direct, non-invasive application of light to the retinal blood supply and to non-visual, retinal photoreceptor systems that signal circadian and other brain centers. Patients look at prescribed colors for 20-minutes/day for twenty treatments. Visual field, pupil, and binocular testing, medical history and current symptoms determine the syntonic filter prescription. Presentation describes syntonic theory, phototherapy device, visual field and pupil tests and cases reports with pre- and post-data and case resolution.

**Keywords:** Syntonic phototherapy, ocular disease, functional vision, learning disabilities, attention deficit, visual field, strabismus, traumatic brain injury, stroke, autonomic nervous system.

**1. INTRODUCTION – HISTORICAL BACKGROUND**

Conceived of in the 1920’s by H. Riley Spitler, OD, MD, Syntonics Phototherapy was the first applied directly into the eyes and has evolved as a branch of optometry. Spitler founded the College of Syntonic Optometry in 1933 and

published his thesis, *The Syntonic Principle,* in 1941.¹ Spitler worked with Karl Loeb, MD, and helped develop his

Specific Light Therapy² approach which applied colored light on the skin over specific body areas for treating systemic ailments and adapted much of this into syntonics. Both stood on the shoulders of earlier American phototherapy practitioners Pleasanton, Pancoast, Babbitt and Ghadiali whose work and writings brought public attention to light in healing.

**1. 1 Early American light therapy**

Augustus Pleasanton, a retired U.S. Army General, demonstrated that the quality, yield and size of grapes and vines

increased significantly when grown in his greenhouse under alternating blue and normal panes compared with unaltered greenhouse. Blue light, he claimed, also cured certain diseases in animals and humans, and increased the fertility and sped up the maturation in animals. Pleasanton reported his findings in his book *On the Influence of the Blue Color of the Sky in Developing Animal and Vegetable Life* in 1871.³ His theories both enraged and inspired the botanists and horticulturists of his day. Pleasanton considered organisms to be living energy systems consistently kept in balance by sunlight.

Seth Pancoast was a distinguished US physician, professor of Microscopic Anatomy & Physiology at Institutes of

Medicine, Penn Medical University, Philadelphia. Pancoast held that “The physician's aim is simply to assist in the

restoration of equilibrium.” He treated with sunlight filtered through blue or red glass to achieve this balance. He

published *Blue and Red Light* in 1877.⁴ Red light was used to accelerate the nervous system of slow, excessively under-responsive people with symptoms of physical and mental strain and exhaustion, depression, poor appetite, and

constipation. Blue light was used to relax people with accelerated nervous energy, too strong a charge, with symptoms such as anxiety, pain, inflammation and subacute rheumatism or sciatica. Healthy physical life he saw as a perpetual and regular polarizing and depolarizing, disease is the loss of this regularity, death a depolarization of the nerve-tension, decay the ultimate depolarization of life forms. It is important to bear this in mind, because every remedy must be administered upon this basis.

Edwin S. Babbitt, an American writer & artist from New York, developed a far more sophisticated light therapy system that incorporated many different color frequencies in addition to red and blue obtained both from natural and artificial light sources and devices. He published *The Principles of Light and Color* in 1878.⁵

Dinshah P. Ghadiali was an electrical engineer who immigrated to America from Indian to develop and teach Spectro-Chrome, a color therapy that applied 12 colors over body areas according to their pharmaceutical actions to reduce symptoms. He claimed that balancing different color energies in the organism is essential for health. He published *Spectro-Chrome-Metry Encyclopedia* in 1933.⁶

For a compilation of these and other approaches based on syntonic phototherapy see Brian Breiling’s *Light Years*

*Ahead.*⁷

**1.2 Low Level Light Therapy (LLLT)**

Clinical and basic researcher in the last decades about light’s impact on cells, tissues, blood, circadian rhythms and mood disorders has broadened the paradigm and increased the acceptance of light as a healing agent. The following section describes evidence that lends support to the pioneering efforts by these American and other early light workers. LLLT has been successfully applied in laboratory experiments and in clinics for relieving pain, resolving inflammation, enhancing tissue repair mechanisms, stimulating immune function, defeating infection, and improving damaged neurological tissue. Laser therapy has also been used for preventing dental caries and stress-related heart and cerebrovascular disease and for healing cancer, asthma, herpes simplex, rheumatoid arthritis, intractable wounds

(ulcers), damaged nerves, tendons, muscles and bones, and for reducing infection, inflammation, and tinnitus. (See SPIEBiOs Conference Proceedings 2005-2009.⁸

Low power laser light therapy began when Endre Mester in Budapest, Hungry, in 1966 made investigation to determine whether ruby lasers could help cancer victims. He found that the laser irradiation increased the size and reproduction rates of monocellular organisms and stimulated fur growth on shaved rats. At a certain range of dose intensities, the hair grew fastest but slightly weaker and stronger doses had little effect. At even greater intensities, an inhibitory effect retarded fur growth. Similarly, Mester found the light was effective in speeding wound healing, also only in a window of intensities. Doses below had no effect and higher doses were detrimental to recovery.⁹

Russian biophysicist Tiina Karu and her group at the Laser Technology Research Center in Troitzk, Russia, have been conducting a systematic study of the biological effects of low power laser irradiation for four decades. Their research shows that the light used for therapy does not have to be coherent (laser). Incoherent red light is as effective in healing peptic ulcers as coherent laser light of the same wavelength. Karu says that lasers are used only because they are easier to control. Her data prove that comparatively low doses (102 -103 J/M2) and short periods (10-100 seconds) of irradiation stimulate lasting changes in cellular respiration chains as well as in RNA and DNA synthesis. Even seven days post stimulation, the number of cells, cell size, and respiratory activity were still increasing above non-stimulated tissue. Research on various organisms and cell types consistently demonstrated that light alters cell metabolism, causing synthetic cell processes to dominate catabolic ones.¹⁰ Karu described it this way: 'The primary changes induced by light are followed by a cascade of biochemical reactions in the cell that do not need further light activation.'11 Which wavelengths of the spectrum stimulate these changes? Karu found frequencies with maximum effectiveness in almost every visible-light band. Cells stimulated first with red light, then with blue showed much greater increases than with just red or blue alone. Red followed by wide-band (white) visible light stimulated no acceleration of growth.12

Karu's research explains how light finds just the right places in the body to heal. She found that starving or oxygen

deprived tissue responds to the irradiation but not healthy tissue. Bacteria already reproducing exponentially are little changed, whereas the application of light triggers huge increases in both reproduction and cell mass in initially stagnant colonies. Wounded, chronically inflamed, and ischaemic cells are characterized by their acidic, hypoxic and inhibited that light stimulates biological transformation and healing. Her work has encouraged clinicians worldwide to use low-intensity laser light therapy for healing a variety of human ailments.

**1.3 Low level laser therapy for visual disorders**

Myopic children with accommodative insufficiency were stimulated with a 2-mm spot of low intensity red or infra-red light on the limbal sclera for 12 minutes per day. A total of ten sessions were administered on consecutive days. One month following treatment, accommodative ranges in the treated children had increased to double that of matched myopic children who were not treated. After three years, the average annual increase in myopia for the laser treated children was only -0.43D whereas the untreated myopes increased by -1.6D.14 Other Russian clinical research using similar transscleral treatments successfully reduced symptoms of workers suffering extreme eye fatigue after long hours engaged in stressful visual tasks.15 Recent work to delay or reverse presbyopia has been initiated using a similar approach.16 Other, more serious ocular pathologies have also been successfully treated with light, for example, glaucoma and injured corneas.17 And in 2003 Janice Eells, et. al., found that red and near infra-red light prevented retinal damage in methyl alcohol poisoned mice.18

**1.4 Light’s effects on blood constituents**

Light-sensitive blood constituents carry photic information and energy to affect far-off places in the body. Blue light

delivered on the skin behind the knees, for example, resulted in significant alterations in human circadian rhythms.19

Oren and Therman postulate that the blood constituents haemoglobin and bilirubin in animals may be counterparts to chlorophyll and phytochrome, the light-sensitive pigments in plants. Haemoglobin is similar to chlorophyll in structure. Both are reversibly altered by light.20 Other research has found that heme oxygenases are reversibly altered by specific wavelengths of visual light.21 The heme oxygenases are enzymes controlling oxygen-carbon dioxide exchange and also regulate vasodilatation, neurotransmission, anti-oxidation, anti-inflammatory, anti-viral, gene expression and other basic physiological functions.24 Nitric Oxide (NO) is another important blood that works to control bodily stress reactions. A well-known physiological effect of visible frequencies of light on blood is relaxation of blood vessel walls mediated by increases in free NO.25

**1.5 Light in circadian control systems**

Biological oscillations are a present and necessary element found in all life forms known to man. Clock mechanisms, sensitive to environmental light, have been identified in the brain as well as peripherally in organs, tissues and cells throughout the body. The peripheral clocks normally synchronized by master clocks in the brain maintain their rhythm and are light responsive even when cut off from the brain. The overall biorhythm pattern is made up of a sympathy of sub-rhythms that work together to maintain appropriate phase relations as yearly seasonal changes in temperature, diet, procreation and daylight (including color temperature and twilight length). In the last decades the importance of these biorhythms on mental, emotional and physical wellness has become an accepted area of the clinical and scientific paradigm. Just this decade came the discovery of a new, blue frequency photosensitive element in the ganglion layer of the retina that has direct connection into suprachiasmic circadian control centers.

**2. SYNTONIC THEORY**

Harry Riley Spitler, US medical doctor and optometrist, after studying the works of Pancoast, Babbitt and Ghadiali,

made systematic experiments with rabbits under various lighting. By 1916 he began to investigate the therapeutic use of light through the visual pathway via the eyes. Clinical application of selected light frequencies in optometric practice began in the 1920s. It was then that Spitler theorized the role of the eyes and of light and color on biological function and development. He developed the clinical science that he called Syntonics - from 'syntony', to bring into balance. This led to his hypothesis that brain centers controlling the autonomic and endocrine systems received direct input from the eyes and that the color of light could disturb or restore autonomic and hormonal balance. Spitler concluded that chronicsystemic, mental/emotional and visual ailments were caused primarily by imbalances in the autonomic nervous and endocrine systems. He was the first to suggest that the retinal-hypothalamic pathway plays a central role and that applying certain frequencies of light through the eyes could restore balance within the body's regulatory centers thereby directly correcting visual dysfunctions at their source. His model suggests that red (low energy, long wavelength) at one end of the visible spectrum stimulates the sympathetic nervous system, green (middle frequencies) yields physiological balance, and indigo (high energy, fast frequencies) activates the parasympathetic nervous system.1 In 1933, convinced that his approach was clinically valid, Spitler founded the College of Syntonic Optometry. Membership grew to over a thousand members before the start of the war.

Spilter‘s principal work, *“The Syntonic Principle,“* was published in 1941.1 Spitler’s hypothesized that patterns of

chronic illness are due to autonomic dysfunction and dominance of the sympathetic over the parasympathetic or *visa*

*versa*. This imbalance manifests as particular types of illness related to dominance or weakness of one relative to the

other. Autonomic bias can also influence an individual’s somatic, energetic and cognitive tendencies. The

parasympathetic dominant individuals are described as less analytical, less driven, rounder and more social than the

longer faced, thinner, analytical, sympathetic dominant loaners. Few people are pure types and balanced people Spitler called syntonic types. The two automatic branches have antagonistic effects on a variety of bodily functions including obvious differences in eye functions such as pupil size, accommodative strength, convergence eye posture (cross- vs. wall-eye tendency) and more. *The Syntonic Principle* describes retinal input to non-visual brain centers in the “central grey” including the hypothalamus, a key area for modulating endocrine/autonomic activity via the pituitary.

**3. SYNTONIC THERAPY**

**3.1 The Syntonizer**

The traditional syntonic therapy device, the Syntonizer, uses a white light source placed behind colored absorption filters focused by a frosted lens. Early devices used carbon arc but the light source after the 1933 model was changed to incandescent. These days a vibration series 50W, 115V bulb powered at 145V to increase color temperature. There are several newer devices that use more modern sources and other types of filters. Patients looked down a tube at a 50mm diameter frosted collimating lens from a distance of 50 cm. See Figure 1. The glass filters were initially manufactured by Corning and are rather thick (5-10mm). Usually two filters are inserted together but single filters or three together are sometimes prescribed in various combinations. Treatments generally last 20 minutes.

Figure 1.



Figure 1. Traditional syntonic therapy device “The Syntonizer.” (not to scale)

**3.2 Filters**

There are 13 different syntonic filters that can be used alone or combined in pairs or threes for a total of 30

different prescriptions. Treatments use one pair of filters for 20 minute or two pairs, one for the first 10 and the

other for remaining 10 minutes. The same prescription is generally used for the whole 20 sessions but if

progress evaluations show no progress, the prescription is altered. There are several blue and yellow filters. To

distinguish them more easily, Spitler gave them Greek letter designations starting with alpha for red through the

spectrum to omega for indigo. A magenta filter, not in the spectrum, he called ‘N’ for Neurasthenia, a medical

diagnosis popular 100 years ago with symptoms similar to modern chronic fatigue and fibromalaysia. These

days just five filters pairs are prescribed for the majority of patients. See Figure 2.



Figure 2. Showing spectral transmission for five common syntonic filter prescriptions

**3.3 Diagnosis**

Syntonic filter prescriptions are based on the patient’s medical history, symptom profile, and clinical measurements.

Success of treatment is judged by improvements in signs and symptoms, personal and social behavior (mood/attitude, coping ability, and social/verbal skills), performance (academic, athletic and expressive) and functional vision test results. Progress is monitored after the first six to eight treatments and the syntonic prescription modified if necessary. The most common syntonic diagnostic and treatment protocols are organized as syndromes called “Lazy Eye; "Acute;" "Emotional Fatigue;" "Chronic" and “Pain” are treated respectively using red/amber, green/amber, blue/green, red/indigo (deep red) and blue/indigo filter pairs.



Figure 3. A field being plotted on a campimeter and patient’s eye turn and fields before and after 20 treatments

Of special importance in syntonics are measurements of eye pupil fatigue and collapsed visual fields. Normally pupils constrict and stay small for at least ten seconds when tested by shining sustained light into the eye as the patient looks into the distance in a dim room. Fatigued pupils constrict at first but then appear to fatigue and widen within a few seconds, under the sustained bright light stimulation. Pupil fatigue is not uncommon, especially in children showing weakness in functional optometric tests and in emotionally stressed, toxic or post-trauma patients. The severity of release (sluggish response, short latency dilation) correlates with reduced visual fields and autonomic nervous system imbalance.

Visual fields measure the awareness and sensitivity of central and peripheral vision of each eye as the patient looks at a central target. Blind areas are diagnostic for pathology due to damaged retina, vision tracks or visual cortex following retinal degeneration, glaucoma, brain tumor, retinal detachment, stroke, or head trauma. These are almost always permanent losses.

Visual fields can also be constricted because of fatigue, toxic, nutritional or emotional or physical distress. These

patients often present with a history of head trauma, high fever or birth or pregnancy difficulties. Nerve tissue in these cases has not been destroyed but is stressed physiologically due to poor oxygen, edema, toxic or metabolic imbalance. These are called functional field constrictions. The patient looks with one eye covered at a central fixation spot. The practitioner monitors the patient’s fixation while moving a small target from the periphery towards the center. The patient indicates when they first see the target. Syntonic practitioners measure the central 60 degrees of the field using a campimeter device. (Figure 3)

From ten to twenty percent of a normal sample of school children have fields of less than 15 degrees in diameter and

some lose all but the central one or two degrees of vision.26 Generally the more tunneled the field the poorer are the

child’s learning, reading, social and performance abilities.27, 28 Functional fields use kinetic or moving test probes that were once the standard in medical practice. Kinetic tests have been replaced by computerized visual field devices that are less labor intensive and excellent for measuring blind areas due to visual pathology such as glaucoma, stroke or retinal detachment, but are not sensitive to functional field constriction. Functional visual fields are rarely screened in pediatric or ophthalmology clinics or in school settings. A substantial number of children with unexplained learning and emotional dysfunction suffer needlessly every day in our schools and for the rest of their lives. With appropriate syntonic treatment these fields can expand to normal and when they do the patients’ symptoms, mood, and performance improve, as do objective clinical measures.29

**3.4 Syntonic syndromes**

Filters are commonly prescribed on the basis of classifying patients into syndromes called: 'acute', 'chronic', 'emotional fatigue,' 'lazy eye' and ‘pain.’ Other filters and prescription combinations are also used for individuals with specific visual conditions.'

Acute Syndrome' individuals have a history or symptoms relating to recent onset problems including infection, injury, head trauma, anoxia, stroke, or high fevers. This syndrome requires palliation to alleviate the symptoms. Blue/green filters are used to reduce acute vascular inflammatory reactions following trauma, fever or hypoxia. These patients often suffer from headaches, hypersensitivity or pain and blue/indigo filters are also prescribed to decrease pain by sensory depression.

The 'Chronic Syndrome' includes individuals with chronic health problems due to glandular, metabolic or organic imbalances, toxic conditions, or a past traumatic event. Yellow paired with green filters are used to stimulate metabolic balance and detoxification. Patients who waken with morning headaches are suspects. Yellow green is often combined with red indigo for 10 minutes of each in cases where emotional instability is also a symptom.13

Symptoms of the 'Emotional Fatigue Syndrome,' include: emotional exhaustion, mood swings, negative emotional affect, and poor coping ability. This syndrome is most frequently seen in children. Other symptoms include: abnormal fatigue, headache, dizziness, frustration, allergies, asthma, and fluid retention. The red and indigo filters are paired to stimulate sympathetic/parasympathetic balance and to support the adrenals. Red indigo can be used for 20 minutes alone but is usually combined with yellow/green for 10 minutes each.

For the 'Lazy Eye Syndrome,' the red and amber filters are used together. According to Spitler, red amber

stimulates the sympathetic nervous system and increases cell membrane capacitance (build-up of electrical charge before discharge) that increases nerve cell charge in order to 'break through' synaptic resistance to overcome amblyopia.4 These patients are often 'parasympathetic dominant' individuals exhibiting patterns of generalized muscle flexion (tight-fisted pencil grip, gritted jaws, inward turning feet).

Patients with headache and pain are prescribed the blue and indigo filter pair, strong parasympathetic stimulation drying and vessel dilation. The ‘Pain Syndrome’ filters are rarely used for an entire 20-minute treatment but generally share the time with the green-blue filter pair. When the pain recedes, the green-blue or the green-amber filters are used.

**4. EXAMPLES OF SUCCESSFUL SYNTONIC CASES**

The following case descriptions are of four individuals treated in my office. Not all cases are as dramatic and not all of my syntonic patients have shown such obvious success. All but the first patient received only syntonic phototherapy. The first also received vision training to help straighten her crossed eyes. In all of these cases and in the vast majority of cases, there was no question in my mind that the only intervention that could account for the healing was the color.

A 78-year-old woman came for vision therapy because of double vision that began two months earlier when she

suddenly became cross-eyed. Ophthalmologists and neurologists could not determine the cause. In addition, she was

mentally confused and emotionally distraught and had been since her husband’s death ten months earlier. After just

twelve syntonic treatments, her eyes suddenly straightened, the double vision vanished, and she became mentally sharp and emotionally balanced. When I asked her what had helped, she answered, "I know it was the green light. Every time I watched the green light I could feel waves that felt like electricity or energy moving inside my head. Finally during one light session I felt a kind of energy shift in my brain and my vision and everything else became clear."

Another patient, a 6-year old girl, was being expelled from public school class because she could not learn and was

seriously disrupting her first grade class. Diagnosed as autistic and retarded from an early age, she was so hyperactive that even objective optometric testing was impossible. Her history included toxic pregnancy (pre-eclampsia), blue baby syndrome (hypoxia due to the umbilical cord wrapped around her neck), and her father was rundown and killed in a crosswalk a few feet in front of her when she was two. She started syntonic color therapy using yellow-green filters with the thought that the toxicity to eliminate any toxemia that might have transferred and remained from the pregnancy. The results were astounding. In five treatments, for the first time in her life she had become a calm, cooperative and communicative little girl who could communicate normally and to learn and participate normally in her first grade class.

Lisa was ten years old. Her mother brought her for an eye examination because Lisa had suddenly stopped riding her

bicycle. When asked why she said that she was afraid to ride because she couldn't see very well. Her history revealed a recent mild head injury. Three months earlier she had fallen down a flight of stairs and hit her head on the doorframe at the bottom. She had suffered a bump and slight headache that was gone by the next morning. No doctor examined her at the time. The visual field in each eye was constricted to 15-degrees and in her superior visual field with the test target appeared doubled even though one eye was covered. This acute problem required green/blue light. At the seven-day progress exam her field had enlarged to normal with no target doubling. Her vision and self-confidence had returned.

Nine-year-old Kristin fell off a fence at age five years. A month after that she became withdrawn, anxious, confused,

completely unaffectionate and she refused to attend school. She could not move her eyes normally and her visual fields were collapsed to less than 2 degrees. Her mother told us that she failed to see things that were right in front of her, that she often banged into walls and tripped over obvious objects, and she could not follow directions because she forgot them as soon as she heard them. Syntonic treatments commenced and as her visual field expanded her personality totally changed. A week post-treatment, her mother wrote that the night before, Kristin had come to her, sat on her lap, hugged her and told her she loved her, the first affection in four years.

**5. OPTOMETRIC RESEARCH OF SYNTONICS IMPACT ON CHILDREN’S LEARNING**

The impact on children's learning and vision by syntonic phototherapy has been measured in three controlled studies by optometrists: Kaplan,30 Liberman29 and Ingersol.31 These studies provide evidence that relatively short-term syntonic treatment can significantly improve visual skills, peripheral vision, memory, behavior, mood, general performance and academic achievement. They also confirm that children with learning problems have a functional reduction in their visual fields. The research validated the increase in peripheral vision and visual skills. These three studies found profound improvements in the children who used syntonic phototherapy compared with control subjects matched for age and academic success who did not. In Liberman’s study, the syntonics group showed increases over the control group in standardized tests: visual field area of 2,916 % vs. 14 %; visual memory (unrelated words) of 50 vs.13 months; visual memory (abstract symbols) of 21 vs. 3 months; and auditory memory of 24 vs.15 months. Teachers and parents of students in the syntonics group reported better emotional recovery, less tension and hyperactivity, and greater ability to handle criticism and confrontation as well as improvement in academic scores (75% of subjects) and handwriting (40%).

Some subjects using Ritalin for hyperactivity were able to discontinue its use.

**6. CONCLUSION**

Spitler’s conjectures, that chronic ocular and systemic disease is caused by imbalance of the autonomic nervous system and that light restores health by rebalancing and toning the autonomic, light from the blue side of the visible spectrum modulating parasympathetic action and light from the red side stimulating sympathetic action, were based on the most up-to-date scientific findings of that era. Spitler died unexpectedly in 1966. The College of Syntonic Optometry and records of Spitler’s early and current research were housed in Ohio. After his death, the building was sold and the records and research equipment shipped to officers of the College. Unfortunately, these were confiscated and later destroyed at the Ohio border by Federal officers on the grounds that it was illegal to ship unapproved devices claiming to treat medical conditions across state line. In the early 1970’s Syntonic membership began to grow and spread internationally.

Now, decades later, a growing body of research has provided a solid evidence for light’s role modulating biological

actions. Depending on its frequency and dose, light has been shown to influence circulation, cell respiration and immune function by stimulating photosensitive elements in the blood, altering mitochondrial metabolism, triggering non-visual eye-brain pathways to modulate circadian phase and amplitude, reverse depression, improve sleep in Alzheimer’s patients and more. The accelerating volume and quality of light research is changing the acceptance of light and color as a medical tool. It’s time to reexamine Spitler’s Syntonic Principle and to conduct appropriate clinical research on the efficacy of syntonic phototherapy.

Today, nearly eighty years after its beginning, a small but growing percentage of optometrists (∼1200) plus a few non-optometric practitioners, practice syntonic phototherapy in the U. S. and other countries. Syntonists have successfully treated many thousands of patients since 1933. The lives and health of children and adults with learning, reading and attention disabilities, people suffering the effects following head trauma and stroke, retinal diseases, cross eyes, headaches and senility have been greatly enhanced by syntonics when nothing else was helping. More information is available on line at [www.csovision.org](http://www.csovision.org).

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