Journal of Optometric Phototherapy

Microcurrent and Color Therapy for Ocular Conditions
Reduced Near Visual Function
Detecting Light but not Sight
Pulsed Light to the Iris

February 2008

The College of Syntonic Optometry is a nonprofit corporation dedicated to research in photoretinology - the therapeutic application of light to the visual system.

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Spectro-Chrome is the most advanced genuine systemic chromotherapy system based on physical and physiological science. The poster summarizes all pieces of information to perform and demonstrate the Spectro-Chrome method in a professional manner and is a must-have for every color therapy practitioner. The chart is available via www.international-light-association.org

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College of Syntonic Optometry

A NONPROFIT CORPORATION DEDICATED TO RESEARCH IN PHOTORETINOLOGY, THE THERAPEUTIC APPLICATION OF LIGHT TO THE VISUAL SYSTEM

February 4, 2008

Dear Colleagues,

This past year held great changes in the field of Syntonics. We saw the loss of two great pioneers in Syntonics. We also had another leap in international growth for our work. Our board continues to strive to better our organization and we have created new ways for members to participate in the organization.

It is with great sorrow that I speak of the passing of Wayne Farr and Dale Fast. Wayne was one of the first in our organization to begin teaching Syntonics throughout Europe and inspired many new practitioners to incorporate Syntonics into their lives. He invented an elaborate computer program to deliver full spectrum vision therapy in many optometric offices.

Dale was an extraordinary CSO librarian for many years , interpreting and restoring large numbers of historical texts. He had an undying curiosity that led him to many new therapies in the fields of nutrition, electro medicines, and color. His last project was to unite practitioners to produce research to bring vision therapy to the mainstream in our profession for the benefit of all those patients who never receive the care they deserve.

This year CSO members have wonderful new benefit with the creation of the Syntonic Library by Tom Cunningham. We are very grateful for his efforts. Members will have web access to articles, research papers, historical documents, newsletters and more. Tom is seeking input to what content you want on the site, for example: video conferences and lectures, interactive courses etc. Please contact him with any ideas or suggestions you have.

The seeds of our Syntonics teaching in Europe are bringing tremendous fruits. We will soon have more practitioners in Europe than in the USA. We can thank Stefan Collier for much of this growth. In great part due to his efforts, Syntonics is now a recognized and certified optometric specialty in the EU.

Ray Gottlieb , Geoff Shayler, and I were fortunate enough to present at the 40th Annual Conference of the Society of Functional Optometrists in November 2007 in Mainz Germany, at the invitation of Stefan. Our presentations on Syntonics and vision therapy were very well received and our experience there was unparalleled. Ray and I also presented a Syntonics workshop in London at the International Society of Lighting Engineers under the auspices of the International Light Association. Also presenting was Denise Hadden speaking on her work with visual fields, and we were joined there by fellow CSO comrades Sarah Cobb , Don Barneski and his wife Susan. With over 1600 attendees, many new audiences were exposed to Syntonics . The leaders of the conference expressed great interest in our work and spoke of future research projects of which we would be a part.

The Board continues to have quarterly phone conferences to improve our effectiveness, and to better serve our members. We are creating new development and out reach projects to improve membership recruitment. Part of this is the creation of a College faculty to teach regional basic courses around the country. We need more instructors and Fellows to fill this need and we are there to help any of you who wish to become a Fellow. But Fellowship is not required to volunteer and serve CSO. We need your help to bring our work to the world and to serve our patients the best we can.

CSO is, more that eve , the leader in phototherapy worldwide. At last year's annual conference in Kansas City we had attendees and speakers from over a dozen countries. This year's conference in Phoenix promises to bring people together from the US, Canada, Mexico, Europe, South Africa, and Australia. It will be a very exciting meeting and will also include a pre-conference workshop on specific frequency microcurrent therapy - a wonderful adjunct to our work. The family of light workers continues to grow with the support of you all. I hope to see you all in Phoenix.

Sincerely yours

Larry Wallace, O.D., FCSO
President of CSO

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Tony Cocilovo, MA, IIPA, has been a pioneer in the practical application of light to the body since the mid 1980's. His research has led him to obtain a US government patent on the Photon Stimulator in 1998 and holds a "patent pending" for the dual use of positive and negative ionic electrolyzed waters. Tony has been a practicing iridologist since 1978.
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The Effects of Reduced Near Visual Function
Geoff Shayler BSc, FCOptom, FSCO was the first behavioural optometrist to incorporate syntonics, kinesiology and primal reflex therapies with optometric vision therapy. He has been a regular contributor of articles for the Journal of Optometric Phototherapy as well as published in the UK and Europe on the links between the visual field and near processing with educational performance and behaviour.
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Visual Field Testing 1880
Brian Breiling, Psy.D. is a body oriented psychotherapist who for 20 years has specialized in the application of spectral light through the eyes and on the body. He brings a unique Eastern and Western understanding of the effects of light by integrating his experience in Clinical and Educational Psychology, Ayurveda and subtle energy healing. In 1996 he published ***Light Years Ahead.***
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A Conversation With Charlie
Dr. Charlie Butts, Dean Emeritus of the College of Syntonic Optometry, has applied phototherapy to over 3,000 of his patients and has had an enormous influence in optometry. He created the basic course in syntonics and has mentored many of the accomplished syntonic practitioners. He still enjoys enlightening new optometrists.
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Microcurrent and Color Therapy for Ocular Conditions
Dr. Larry Wallace is the President of the College of Syntonic Optometry. He is an inventor, writer, and speaker who holds patents on bioelectric devices for treating degenerative eye disease. Recipient of the H. Riley Spitler Award, he lives and practices in Ithaca, New York.
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Patients, People and Colortherapy
Nishant Mathews is a color therapist, counselor and body worker with an extensive background in conventional therapy practices and Buddhist psychology of awakening. Presently residing in Amsterdam, he offers training and consulting in Samassati Colortherapy. He is the author of several books including ***Light, the Master Matrix*** and ***The End of the Night.***
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From Light to Enlightenment

Dr. Jacob Liberman's first book, ***Light: Medicine of the Future***, established him as an authority in the field of light and color therapy and is considered a classic in its field. In 2001, he founded Exercise Your Eyes, and invented the Eyeport Vision Training system. It is the first FDA cleared medical device of its kind available to the public. He is a recipient of the H.R. Spitler Award for his pioneering contributions to the field of phototherapy.

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Detecting Light but not for Sight

Dr. Cathy Stern is a behavioral optometrist with specialized training in learning-related vision problems, visual rehabilitation, computer vision syndrome and sports vision strength training. She is the Vice President of the College of Syntonic Optometry, State Coordinator of the College of Optometrists in Vision Development and Massachusetts Keyperson for the American Optometric Association Sports Vision Section. **Page 34**

Autism: Using Yoke Prism to Change Visual Behavior

Dr. Ellis Edelman has practiced general optometry since 1950. In 1989, he incorporated phototherapy into the treatment of all types of vision related problems. He is the primary author of 2 books, **Suddenly Successful Student** and ***Suddenly Successful.*** His third book entitled, ***Change Your Mind and See*** will be published next year. He practices in Newtown Square, Pa., hopes to retire at a ripe age of 95.

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Case History

Dr. Don Barniske is a trustee of the College of Syntonic Optometry. In 1973, he researched color Visual Fields in children with learning problems and has been helping patients with visual enhancement since then. He is one of the first optometrist to use retinal CAT Scans to measure changes after therapy. His practice is in Brawley, CA, 150 feet below sea level in the desert.

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About the Cover

Former Professor, **Dr. Roberto Kaplan's** clinical tenure at University of Houston and Pacific University led to over 30 papers being published in Optometric and Social Science Journals. Dr. Kaplan', who is board certified in vision therapy, as three published books, ***Seeing Without Glasses***, ***The Power Behind Your Eyes*** and ***Conscious Seeing***, that have been translated into 20 languages.

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LETTERS

The opinions expressed in this section are those of the writers, and do not necessarily reflect the view of the *Journal of Optometric Phototherapy*. We reserve the right to edit letters as needed. Address email to: Sarah Cobb, eyeamsarah@hotmail.com

Dear Editor,

After considering the links between magno/parvo processing on Skeffington's Four Circles, and the effects of reduced "functional" fields on these areas, I wondered if we need to rethink our understanding of glaucoma. I would appreciate thoughts and comments.

The FDT (frequency doubling technique) screener was designed to identify glaucoma earlier as magno fibres are supposedly damaged earlier than parvo:

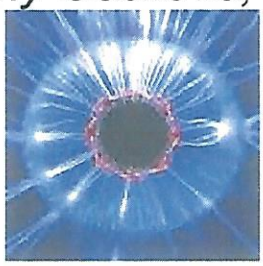
1. If this is so, does "eyesight" suffer because magno not providing input for parvo to function?
2. If, in glaucoma magno is failing before parvo, will this affect Skeffington circles *AntiGravity* and *Centering* before losing vision in *Identification*?
3. If an adult has small circular fields considered by the ophthalmologist to have glaucoma, but seems to behave like a child with "malingering / Streff" , does this suggest they have a functional (correctable) field problem rather than a pathological glaucoma (nerve damaged) field?
4. Theoretically then, will there be any
    a) association between glaucoma and balance
    b) association between glaucoma and convergence insufficiency
    c) association between glaucoma and reduced accommodation. etc.
    d) if one eye affected earlier than its partner, might we get mid-line shift problems?

Geoff Shayler

Email your comments to me at kinoptom@lineone.net

Close-Up Application of Pulsed Light to the Iris

Tony Cocilovo, MA



The application to the iris and pupillary border of the eye and to the meridian system of pulsed and colored visible spectrum light, by means of a small diameter optic fiber, has consistently demonstrated movement away from the sympathetic and towards the parasympathetic.

A new model of living systems and how they heal has evolved from the last ten years of research as a result of newly developed equipment that is able to sense very tiny electromagnetic emissions, even as small as a single photon. We can compare these new models to government, commerce, entertainment, travel, and even health and insurance systems that depend on light signals traveling through optic fiber. Just as these organizations are dependent upon light communitation so is the internal health of the body. The speed of the information exchange appropriately explains the gaps in prior chemical or mechanical healing theories.

All organisms emit light and light is recycled within the organism from light entering the traditional acupuncture meridians and the eyes[1]. It was also discovered that the crystaline connective tissue and bone structures emit light, similar to the lighting mechanism on a gas stove, the result of compressing a crystal. Our bodies create light every time we move and stretch. The process of continuous discovery led to the understanding that we are liquid crystals[2], and these crystals have the ability to open or close themselves to particular packets of light information. This is called "cellular vision". We know that healing is done by the body, specifically the cells. We now know where the specific directions come from that tell cells where to go, what to change into and what specific enzymes to produce etc. The directions are encoded in the inteference patterns of light. Even going further, our DNA can be considered as a liquid crystal gel-like state that acts on incoming light[3]. Although new understandings and models are emerging, present medical models and the huge economic systems that keep them in place are highly resistant to change.

Biophotons

The brain does not register all of the photons that enter the eye as vision. It takes about 600 photons arriving every second for the brain to register a signal. That is a much greater number of photons than the cells of the body require to elicit dynamic reactions. The eyes needed to adapt to a wide range of intensities, whereas the rest of the body was encased in a protective covering (skin) which limited the light that entered the body, insuring photonic storage and recycling. Operating within the boundaries of the skin. miserly cellular biophotonic operations developed utilizing from a few photons per day to several photons per second[4]. In fact, once photons are used for a particular reaction, they do not dissipate or decay, but are ready to be used for the next reaction process.

Photons are not like little snowballs. They have no mass and very little energy. That is why it takes so many photons to initiate the visual movies on the screen of the brain. In addition the eye is very

inefficient. It loses about ninety percent of the photons that enter the pupil. Out of the 600 photons that enter only 60 actually make good contact witht the receptors[5]. The rest are not able to be sensed by the receptors on the retina because they are absorbed, reflected, or fall between the rods. Knowing that cellular sensitivity is greater than retinal sensitivity, we can consider the possibility that vision is probably not the only function which uses light.

The ultra-weak photon emissions inside the body are called biophotons. Cells are both emitters and receivers. Biophotons operate in a slightly broader electromagnetic spectrum (260-800nm) than the visual spectrum - 480-750nm). Fritz-Albert Popp and his team of resarchers found biophotons to act as activation energies that provide the stimulus for the millions of reactions per second required for physical processes and healing. They posit that biophotons may be responsible for the total regulation of the biochemistry of the body[6]. Heat photons (far infrared - 900nm) do not provide the most suitable energy for cellular communication. Li and Popp[7] claim that "exciplexes", excited complexes are formed by all base pairs of DNA. These complexes form strong photon traps, and it is these traps that are the source of the living communication system. It is through the recognition of this communication channel that we have a new understanding of health and disease. The basis of how living systems operate can now be surmised without encountering the roadblocks set up by the current neurological and chemical paradigms. These visible spectrum photon communication systems exist in all living organisms.

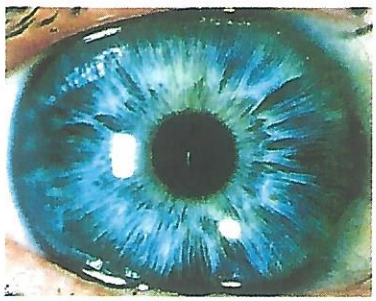
Meridians

We know that plants utilize light as nourishment directly from the sun. Plants are stable and can orient their leaves towards the sun with very little movement. However ambulatory organisms needed to have greater recycling and storage of sunlight. I believe that this is accomplished neatly by the meridian connective tissue matrix. Research at the Institute for Clinical and Experimental Medicine In Russia, found that light scatters at the surface of the skin, but can also travel beneath the skin[1]. The researchers found that the areas inside the body where light travelled the furthest, happen to coincide with the acupuncture meridians, leading to the conclusion that meridians are light conducting pathways, taking in light at the surface of the skin and conducting it along the meridians to nourish the organs of the body. The inflow of electrons from the sun during the day, and outflow to the atmosphere at night was captured by living systems in the form of meridians which then enabled the development of the internal organs. These meridians are the original nutritional supply route of light from the sun which nourishes and maintains the internal organs. The Autonomic Nervous System is the energetic regulator taking energy from the internal organs and routing it to the outer protective shell in emergencies.

The development of low level lasers and Light Emitting Diodes (LEDs) enabled acupoints to be treated at the surface of the skin since the light sources were smaller than anything in use earlier. When I developed the Photon Stimulator in the early 1990's, it was for use on the iris of the eye. My interest in the science of Iridology while living in France led me to the research of French neurologist Dr Paul Nogier[8] who was attempting to affect the autonomic nervous system (ANS) by shining pulsed light on the autonomic nerve wreath in the iris. Upon returning to the US, I coupled a length of narrow diameter optic fiber with a strobe light quite effectively allowing for safe and focused application. The small amount of colored light being emitted at the end of the optic fiber was well within retinal safety standards. However health benefits from iris treatment at that time were very erratic and unpredictable. I started testing it on ear and body acupoints with very impressive results. The optic fiber made application ideal. The strobe had an adjustable pulse rate and used a xenon bulb which produced white light as close to the sun's visible spectrum as possible. Xenon is ideal because it is "incoherent" unlike lasers which are "coherent". Coherency refers to the photons all travelling

in the same direction. Biological systems only absorb incoherent light. When laser light hits the skin there is a "Monte Carlo Effec:t"[9] the organism has to break down the coherent photonic flow before it can use it. Color was introduced by the placement of color gel slides between the light and the optic fiber lens. A US patent for the Photon Stimulator was granated in 1998 (Patent #5843074).

The Development of Iris Phototherapy



I attempted treatment of the iris only after my understanding changed about what was actually being affected by the use of light, using the Vascular Autonomic Signal as a monitoring system, and developing color application principles. My continued study led me to the understanding that the meridian sysem is partly a parsympathetic communication pathway, which is limited to treatment if the body is in sympathetic dominance. This makes sense since the meridians are pathways to the organs, and neurologically the parasympathetic is the energetic pathway to the organs. Nogier found that it was important to move one into the parasympathetic before attempting meridian therapy. Nogier also understood the importance of embryologic tissue[8]. Parasympathetic embryological tissue is in three places on the body: the navel, the concha of the ear, and the pupillary border. We had already been using light on the micro acupoint system in the ear with great results. By treating the master ear points Zero, and Shenmen we could change the parameters of the ANS quite easily. Simply by treating those two ear points bilaterally - using colors in the blue range, many symptoms would be relieved. We found this also to be true with treatment in the navel. Even immediately after surgery, pain was reduced by at least 50%. Now this is all anecdotal but the cases are in the thousands by individuals and practitioners throughout the world. From over ten years of involvement with light treatment, I have learned that the reestablishment of energy to the parasympathetic pathways should be foundational to the science of healing. and be utilized prior to the treatment of any disease.

I was fairly confident that by treating the pupillary border, since it was parasympathetically innervated, positive outcomes might be achieved. Once again I approached the iris as a treatment pathway. Using only colors in the blue to violet range and with very short treatment times of less than thirty seconds in each eye. Better than expected results followed. I was becoming convinced that many aspects of healing could occur just by moving into the parasympathetic. The symptomatic relief was so widespread that I found it difficult to address in any other way.

Monitoring the Vascular Autonomic Signal (VAS)

In the book *"Auriculo-Somatology"* by R.J. Bourdiol[8], Nogier's techniques for monitoring the Vascular Autonomic Signal are discussed. The VAS is based on the fact that blood vessels are muscles, and those muscles are controlled by the ANS. Thus when there is a ANS reaction to a stimulus, it may be sensed at the radial artery by placing the thumb or fingers at the wrist . just as the pulse is taken to measure heart rate, but we are not counting beats per minute. We are looking for changes that we can attribute to a change in the tightness of the vessel wall. When in sympathetic the muscles are tight, and the vessel sensation is rather distant, tight, thin, weak:, all of these words fit. When it changes to parasympathetic, the vessel muscle relaxes and becomes stronger, fuller, broader, bigger. There are a variety of reactions but we basically aim for a smooth and constant parasympathetic vessel sensation which will continue to hold after the light is removed.

I attended a lecture by Dr. Pierre Fragnay and saw that he had coupled the monitoring of the VAS while he treated the iris with light [10]. This technique gives you an immediate feedback loop as to what reactions are affecting the ANS as you move the light around the pupillary border or iris.

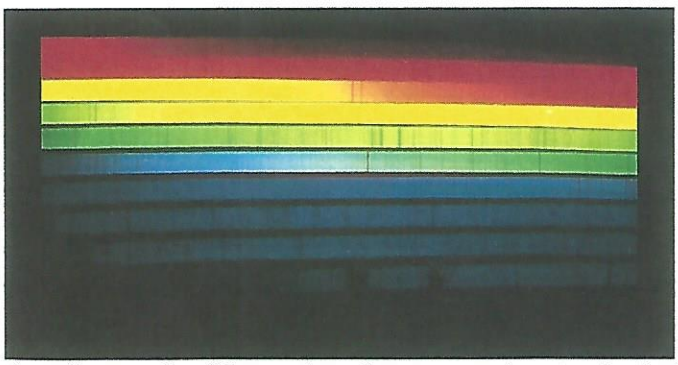
The VAS reactions were generally consistent when we used blue - violet light. There was considerable relaxation in the vessel walls, (movment into parasympathetic) and reports of relaxation, increased digestion, sensations of a "veil" lifting, deeper breathing, etc. A variety of sensations would be felt at locations where there were prior symptoms. In the days following these simple treatments, the reports were often unbelieveable, from deep internal states of peace to remission of illness. I believe individuals who did not have a parasympathetic reaction that would hold after 10 minutes of treatment may have had chronic conditions that require more sessions, and other forms of therapy.

Application of Light Using a Small Diameter Optic Fiber

The 1mm diameter optic fiber allows for a lot less light, and it can be guided easily to spicific areas of the iris and pupillary border depending on how close to the surface the optic fiber is safely held. The light that comes out of the optic fiber is incoherent, it spreads in every direction. Because of this it is difficult to keep a small amount from reaching the retina, but the retinal and optic nerve reactions are kept to a minimum.

Color

Pioneers in the field of color therapy were quite



handicapped without the photon sensing tools that are available today. Their theories were based on positive empirical outcomes without a true understanding of how light interacts in the body. As a result there was a lack of consistency in their color remedies. Johann von Goethe published the *Theory of Colors* (1810)[11] and found that colors influenced the mind and altered physical states. This is what really started scientists, medical doctors and psychologists experimenting with color. However, mixing Newton's newly discovered physics of color with the metaphysics and psychophysics of Edwin Babbitt's *Principles of Light and Color* (1878)[12] soon led to public confusion and distrust. The points of discussion became intermingled with belief and religion. At the same time information was being influenced by psychics, and ancient Indian texts. Much of it was very contradictory.

Unfortunately, those who assumed the title of "chromo-therapist" believed that color alone could cure everything. This was the case with Dinshah Ghadiali, who invented the Spectro-Chrome light tonation system in 1920[13]. So much of what Dinshah and earlier light researchers found was true. that light certainly can affect the body in beneficial ways. But they were not truly aware of the mechanisms involved - the meridian system, ANS systems, and that the body is a liquid crystal. Light therapists today accept color therapy as an adjunct tool that is most beneficial when used and applied appropriately along with other therapies. There is still controversy as to how to apply color to the body, but very few practitioners or color therapy systems have incorporated the new discoveries mentioned in this article. And as with most medical discoveries, we only hear about those that can be patented and have a profit potential. This is true even in the world of color therapies as demonstrated by expensive laser and infrared devices and treatments.

Some light researchers of the past developed application models based on metaphysical or philosophical theories while others chose to work with the physical science of light waves by the use of a spectrometer. a device which measures the wave length of each color. Dinshah Ghadiali used very specific color frequencies which were to be "tonated" on particular parts of the body for a period of time as explained in his *Spectro-Chrome*

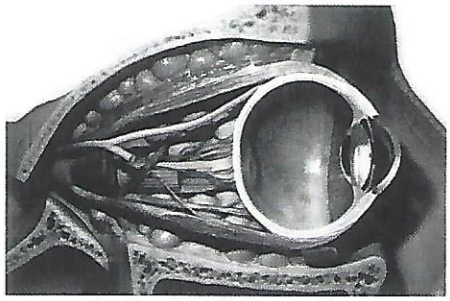
Metry Encyclopedia [13]. I agree with his conclusion that the body would respond best to the most familiar (and evolutionary) light signals. When an element is burned it emits a particular set of spectral lines. Dinshah matched the Fraunhofer emission lines[14] of the elements that the body uses such as oxygen, hydrogen, calcium, magnesium etc. using combinations of five glass color filters to produce a set of 12 basic therapeutic colors. I have chosen to use these same color frequencies, but spectrally matched by the Roscolene company in polyacrylate gel sheets - making them much lighter and easier to use than glass.

Effective treatment with light does not involve the use of complex color theories which attempt to cure diseases or health conditions with specific colors. With our new understandings, we can supply light and color to the body where it is most effective, using the most beneficial forms of light and color, and in ways that assist the body's own healing mechanisms. Light picks up where ordinary communication of the body fails. "Empirical" research once had value in the scientific community before double-blind studies became a corporate tool of exclusion. There can be much to learn from "anecdotal" evidence.

Practical Application

ANS normalization with Iris Phototherapy is good to use alone or prior to any other treatment. It helps put the client at rest, increases a sense of trust, allows for better response to other treatments, decreases recovery time, and can often by itself facilitate the desired healing. Treatments themselves are relatively short. The client and practitioner face each other while seated, and the Vascular Autonomic Signal is taken at the wrist pulse. Then the light tip is held approximately one half inch away from the surface of either eye. The light is moved slowly around the pupillary border using only shades of blue or violet. Changes will be noticed in the VAS. The light can be moved away slightly and returned to specific parts of the pupillary border to see if the response is repeated. This should be continued around the pupillary borders of both eyes looking for the broad relaxed VAS, and working until it can hold in both eyes without the light being applied. This takes some practice to first get comfortable taking the VAS and then to be able to notice changes. Not everyone will normalize with just one treatment, but improvement is usually experienced in most. Clients will sometimes have sensations - energetic, tingling, fullness, relief etc., in different parts of their body. I have come to believe that the areas where they have sensations are areas that have been accustomed to energetic restriction, and that when energy is restored an effect is felt. The total time required for the VAS photostimulatory reactions to be experienced after treatment of both eyes could be anywhere from five minutes to fifteen minutes.

This form of light application might be experienced by the organism as a "wake up" signal that stimulates the immune system. There are no special indications or requirements. It is safe and most likely beneficial to everyone - especially in the ways we currently live, eat, and don't sleep. It can be applied alone or used as an adjunct treatment to alternative or orthodox therapies. We know that the body heals itself. Some therapies have no effect but still allow healing, some promote healing, and some inhibit healing altogether. Iris phototherapy is a safe and non-invasive holistic modality that deserves consideration - especially now.



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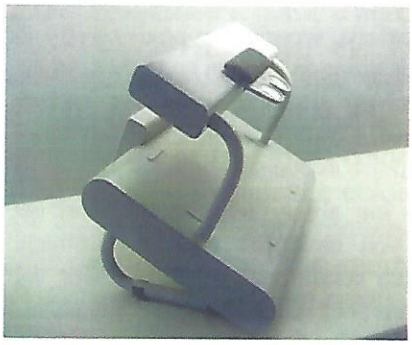


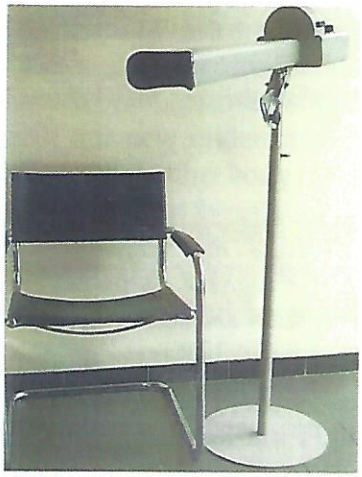
COFMA (Colorfield Machine)

A new colorfield tester with 2 build-in camera's and 1 LCD screen for a better Test observation and a correct charting of fields.

Incl: 1 COFMA, 1 case teststicks, 50 charts for the left eye, and 50 charts for the right eye, one 12 volt adapter, CE & URL Norm.

Price: 2.580,00 Euro excl. shipping

For more details just contact us!



COC (Color Coach)

A new Syntonizer for office Training. This instrument has the following integrated filters: alpha, delta, theta, mu, pi, omega, upsilon, lambda, D, S, N.

The COC has also the possibility to go in a stroboscopic performance and speed adjustable with a potencymeasurer.
The COC has also a removable binocular to improve binocular disorders.

Incl: 1 COFMA, one 12 volt adapter, CE & URL Norm.

Price: 2.995,00 Euro excl. shipping

For more details just contact us!

COB (Color Boy)

This instrument is a more simplified version of the Color Coach, adequate for hometraining. For some patients daily training with syntonics is advisable.
The Color Boy, a handy portable kit is perfectly suitable for hometraining.

Incl: 1 COB, one 12 volt adapter, CE & URL Norm.

Price: 365,00 Euro excl. Shipping

Thanks to the carton goggles which you can order in different filter combinations, a perfect hometraining is possible with the Color Boy.

Price: 16,00 Euro (6 pack) excl shipping

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The Effects of Reduced Near Visual Function (AF/NP ratio)

Geoff Shayler, BSc, FCOptom, FCSO

Abstract

Near visual function can be easily measured with a simple reading test. No specialised equipment or training is needed. The results of a number of studies have linked near visual function to peripheral processing, eye movement speed, and, importantly, scholastic ability(Shayler). Low plus, yoked prism lenses and optometric vision therapy can be used to improve and develop deficient visual processing. The following is an analysis and compounding of a number of research projects undertaken by the author over the past six years, which shows the potential impact of introducing a simple measurement into both optometric practice and educational establishments.

Quotations by Lawrence MacDonald, O.D., from The "Emmetropic Orthophore and Achievement" (New England Journal of Optometry – September 1954.

It is suggested that optometric findings be interpreted upon the basis of 'ranges of performance' rather than 'point of focus' and 'ocular alignments'.

It also elaborates upon the concept that emmetropia and orthophoria represent 'evidence of the existence of a visual problem'.

Physiologically, ranges act as a cushion to organasmic functioning, allowing the organism freedom and smoothness of movement.

Definitions and Method of assessment of visual terms used in this study

The near point (NP) in these studies was the measured distance from forehead to target at the closest point at which print just started to blur or became too blurred to read (depending on the particular study). This was *not* a test of convergence.

The far point (FP) in these studies was the measured distance from forehead to target at the farthest point at which print just started to blur or became too blurred to read (depending on the particular study).

Accommodative flexibility (AF) is the difference between the near and far points. I have not used the term "depth of focus" as this has a specific meaning in optics, which does not apply in this situation,

Near visual function, the AF/NP ratio, is the ratio of accommodative flexibility and near point.

SRL is an abbreviation used to indicate the wearing of stress relieving lenses (low plus and/or yoked prism).

Standard assessment tasks (SATs) are tests used in United Kingdom schools to monitor children's educational progress.

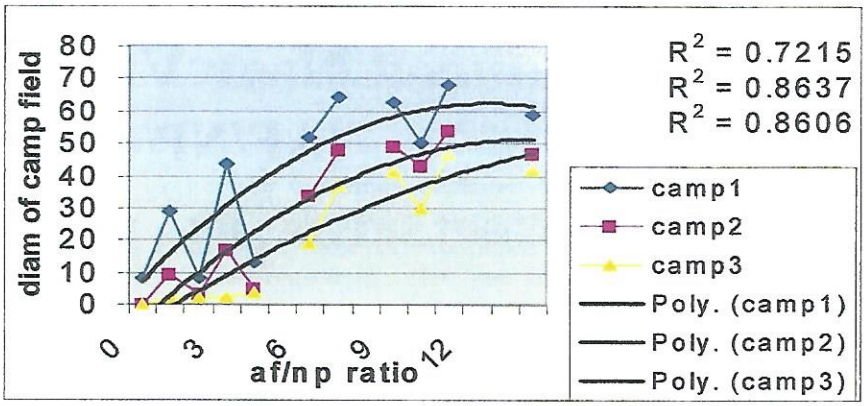
Practice based tests used the N7 sized print on the near Howell chart.

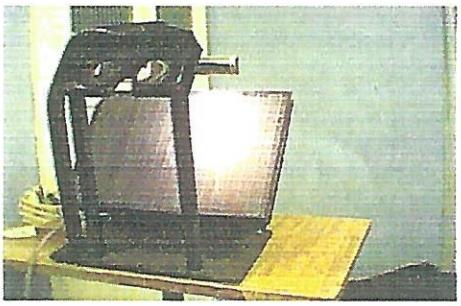
A chart was prepared with print using Times Roman N8 font for the school tests.

For simplicity we compare the AF/NP ratio in each of the studies so we can easily evaluate the results. Similar results will be found using NP, FP or AF.

The functional visual field

The functional (dynamic or motion) visual field was measured on a campimeter supplied by Rex Cross, using the three stage technique developed by Dr. Wayne Pharr (www.vision.cc).
This test shows that a low AF/NP ratio is associated with a reduced functional field and that as the field expands, the AF/NP ratio increases.





A number of studies in the past have linked learning difficulties to these reduced functional visual fields.

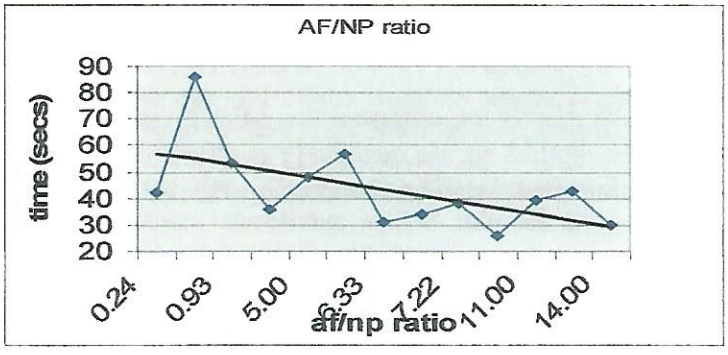
Low AF/NP 1.0 = Field diameters of 10, 5, 1 degrees
(Pharr levels 1, 2, 3)

High AF/NP 14.0 = Field diameters of 62,50,45 degrees

Speed of eye movement

In this study, the Dynamic Fixation Test, (DFT) designed by Geraint Griffiths for use in sports vision assessments, was used to compare eye movement speed with near visual processing.

The DFT test uses two charts with numbers read in a near/far and rotational basis. The time taken to complete three circuits was measured



The results showed a slow time with a low AF.NP ratio and a much quicker time with a high ratio.

Low AF/NP 1.0 = DFT 55 secs
High AF/NP 14.0 = DFT 30 secs

School Performance

What are SATS

Children's performances in United Kingdom schools are assessed by Standard Assessment Tasks, SATs. At Key Stage 1 children age 6-7 are examined in the 3 "R"s reading, writing and math (arithmetic) and are graded on a scale of 1 to 3. Children below grade 1 are graded "w" (working towards grade 1). The grades run w, 1, 2c, 2b, 2a, and 3. At Key Stage 2 children age 10-11 are examined in reading, writing, math, English and science and are graded from grade 3c to grade 5a depending on their marks.

These tests are marked by the teachers and independently assessed by external examiners.

SATS (Standard Assessment Tests) tests are given in May at the end of school year 2, year 6 and year 9. They are used to show a child's progress compared with other children born in the same month. The mean (average) score for each age group on an assessment is set at 100 and the standard deviation at 15. For any age group a given numerical value has the same meaning in terms of standing relative to the group. For example, an eight year old and a nine year old, each of whom has a standard age score of 105, have performed equally well in relation to the average for their respective age groups.

Key Stage 1
SATs take place in year 2. Each child is teacher assessed in reading, writing (including spelling and handwriting), maths (including number, shape, space and measurement). The child's class teacher will set short pieces of work in English and maths to judge the child's level of ability.

Key Stage 2
SATs are far more formal than Key Stage 1, hence they seem much more stressful. The tests which are taken in year 6 cover the three core subjects, English, maths and science. Very bright children may be assessed by teachers to see if they can reach higher levels. The papers are sent away to be marked with results being available before your child leaves primary school in July.

Key Stage 3
SATs are once again formal tests/exams. The exams cover work done in English, maths and science during school years 7 to 9. These exams are often used to decide which GSCE the child will be placed in. Level 8 is only available in maths, as changes this year have removed the extension papers in science and English.

Here is a table to show the expectations of a child:

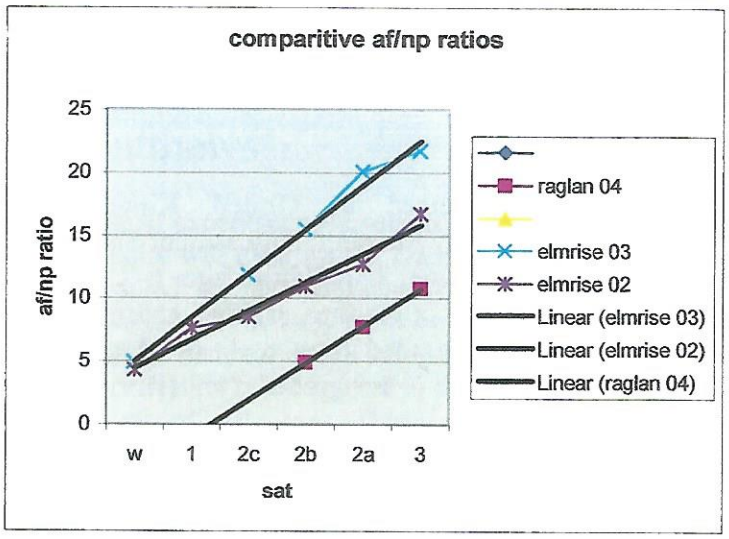
Level	Comments
Level W	Working towards level 1, very weak
Level 1	Average for a typical 5 year old
Level 2	Average for a typical 7 year old
Level 3	Average for a typical 9 year old
Level 4	Average for a typical 11 year old
Level 5	Average for a typical 13 year old
Level 6	Average for a typical 14 year old
Level 7	Above average for typical 14 yr old

Comparison of the three Key Stage 1 studies of AF/NP ratio

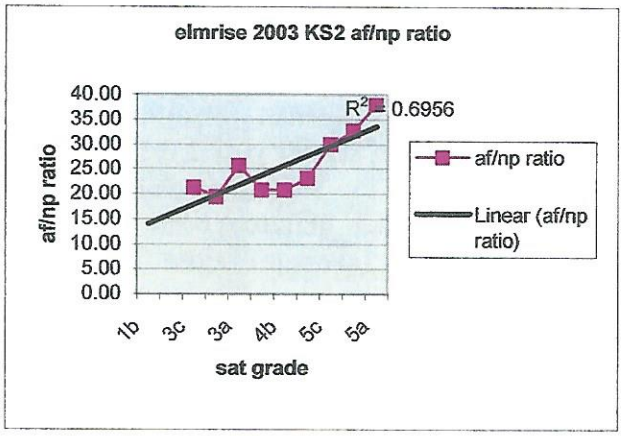
This study compares two consecutive school years at Elmrise School, Bournemouth, and the following year at Raglan School, London. The total number of children in the four studies (Key Stage 1 and 2) was about 250. The average AF/NP ratio for the children in each SAT grade was calculated.

Conclusion:

1) All three Key Stage 1 studies show similar trend angles for the average AF/NP ratio obtained for each SAT group.
2) All three studies show that children with a low AF/NP ratio are most likely to achieve in the low SAT grades.
3) Children with high AF/NP ratio have a greater chance of achieving high SAT grades.
4) There is a direct link between near visual processing as defined by the AF/NP ratio and the ability of the child to function in school as assessed by the SAT tests.

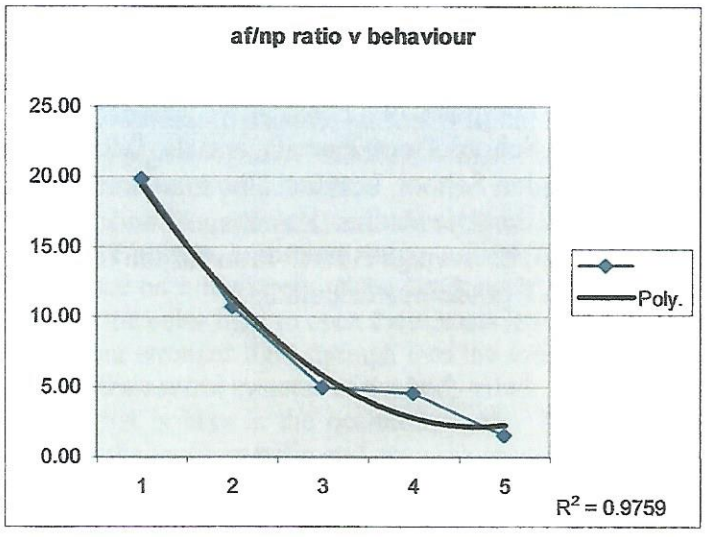


Elmrise 2003 Key Stage 2 Similar results are obtained with the older age group.
The measurements were taken with the child reading N8 Times Roman print.
The Elmrise 03 study at Key Stage 1 and the Elmrise Key Stage 2 study were measured to the distance of just too blurred to read rather than just blur; hence the higher AF/NP figures measured.



Key Stage 1 Low AF/NP ratio 0–5* = Lowest SAT grade "w"
Key Stage 1 High AF/NP ratio 10 – 13 (22 Elmrise 02)* = Highest SAT grade "3"study
*dependant on school / year group

Key Stage 2 Low AF/NP ratio 20* = Lowest SAT grade "3c"
Key Stage 2 High AF/NP ratio 35* = Highest SAT grade "5a"



Behaviour

The Elmrise 02 Key Stage 1 children were additionally graded on their general behaviour by the teacher with a scale of 1 – 5 where 1 = good, 5 = poor. The average AF/NP ratio was calculated for each grade of behaviour. This single study demonstrates that there is a likely relationship between visual processing and behaviour problems.

This is quite logical: if a child cannot function easily visually, then he is going to become more "stressed out" in school, which could lead to poorer behaviour.

Key Stage 1 Low AF/NP ratio 2 = worst behaved
Key Stage 1 High AF/NP ratio 20 = best behaved

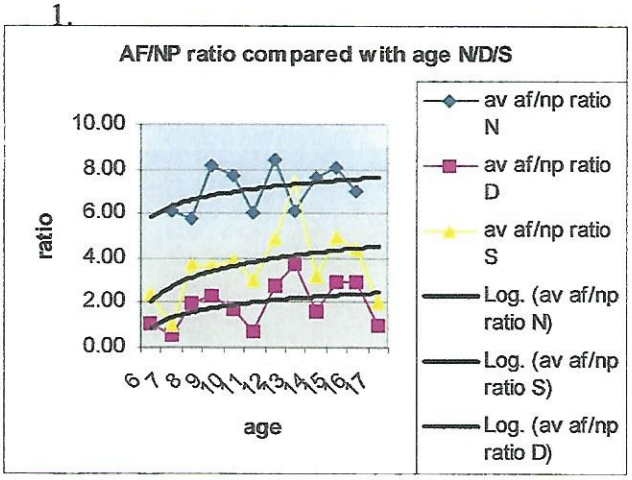
Comment:- A number of U.S. studies have shown a high percentage of juvenile delinquents have visual processing problems, and, in addition, when therapy has treated the visual problem, there has been a consequent reduction in the re-offend rate.

Development of the AF/NP ratio as a child gets older

This was a simple retrospective study looking at past records of patients seen in my practice in 2005. I pulled out the records of all patients seen between the ages of 6 – 17 with a +0.50DS prescription, as this can be considered the most commonly found Rx among "normal" children, but is also commonly found in children with learning difficulties.
In my records, I note the near and far points of clear focus whilst the patient is looking at the N7 print on the Howell near vision chart.[4] I also record the improved range if it can be improved with lenses. I found the records of 40 children with "normal" ranges and 35 with "reduced" ranges, which were fairly well matched for age (average ages (N 12.88, D 11.91 years old).These children were found to benefit from the use of this low plus prescription (+0.50), which, in many cases, was additionally supplied with yoked prism (up to 2 PD base down each eye). The lens provided was subjectively determined to maximise near vision performance (achieved by reducing near visual stress). This prescription, I have termed a Stress Relieving Lens (SRL).

The graphs below show the development with age of three groups :

1. Group N – (n=40) children with a "normal" range that could not be improved with lenses
2. Group D – (n=35) children with a "deficient" range that could be improved with SRLs
3. Group S – (n =35) the same children as group D, but the measurements taken whilst wearing their SRLs



Observations:

1) There is a major difference between the Normal group and those identified with Deficient near visual processing
2) There is a gradual increase in the AF/NP ratio as a child gets older
3) The graph lines are "roughly parallel" indicating that children with deficient near visual processing do not achieve normal performance without intervention
4) SRLs substantially help children with near visual processing difficulties
5) *The average improvement in AF/NP ratio with SRLs , i.e. comparing the S group to the D group was 94.58%*
6) Average AF/NP ratio (N 7.18, D 2.03) D just 28.23% as good as N

Average AF/NP ratio – deficient group 2.03
Average AF/NP ratio – deficient group with SRLs 3.94
Average AF/NP ratio – normal group 7.18

Effect of Optometric Vision Therapy (incorporating syntonics) on the AF/NP ratio

This study looked at the effect of a optometric vision therapy program of 20 one hour sessions over a two week period, which include 20 minutes of optometric (syntonic) phototherapy, the children being seen twice per day with a 3 hour gap between sessions, and compared the results to the study on the effect of SRLs above.

Table 1 Comparison of children with deficient near visual processing-group D and the earlier study group of children identified as needing vision therapy because of deficient visual processing.

Table 1	AF/NP ratio
pre VT	2.16
"D" group	2.03
"D" as percentage of pre VT	1.06

Comparison of the children considered to have normal processing the "N" group compared to the earlier study group of post VT children.

Table 2	AF/NP ratio
post VT	7.96
"N" group	7.19
"N" as percentage of post VT	110.71
percentage improvement shown with post VT	10.71

Test	*Effect of AF/NP ratio on measurement*	
Visual field	Low AF/NP	1.0 = Field diameters of 10, 5, 1 degrees
	High AF/NP	14.0 = Field diameters of 62, 50, 45 degrees
Eye movement speed	Low AF/NP	1.0 = DFT 55 seconds (slow)
	High AF/NP	14.0 = DFT 30 seconds (fast)
School performance	Low AF/NP ratio	0 – 5 = Lowest SAT grade "w"
Key Stage 1	High AF/NP ratio	10 – 13 = Highest SAT grade "3"
Key Stage 2	Low AF/NP ratio	20* = Lowest SAT grade "3c"
	High AF/NP ratio	35* = Highest SAT grade "5a"
Behaviour Key Stage 1	Low AF/NP ratio	2 = worst behaved
	High AF/NP ratio	20 = best behaved

The combination of these two studies not only show the major improvements possible with SRLs and/or with optometric vision therapy but also give us a baseline of normal and deficient visual processing

This gives typical AF/NP ratio results using the Howell chart (to the nearest 0.5):

- children with poor near visual processing 2.0
- children with normal near visual processing 7.5

Potential for improvement

Average AF/NP ratio	With Stress Relieving Lenses
for children with deficient visual processing, (D group)	2.03
for children with deficient visual processing, with SRLs (S group	3.94
for children with "normal" visual processing (N group)	7.18

This gives us "guide" base line AF/NP ratios when using the Howell chart in the consulting room and what we can hope a child has the potential to achieve.

Potential for improvement with optometric vision therapy

Average AF/NP ratio	
prior to OVT	2.16
post to OVT	7.96 (higher than average normal

Combined results

*Elmrise Key Stage 2 study were measured to the distance of just too blurred to read rather than just blur, hence the higher figures. Note that the school tests (both performance and behaviour) used larger N8 print rather than the optometric practice based N7 on the Howell chart leading automatically to larger numbers.

Conclusions

1) The AF/NP ratio, a simple measure of near visual performance is directly related to :-
- ✓ peripheral processing
- ✓ speed of eye movement
- ✓ the ability of a child to perform in school
- ✓ prediction of classroom behaviour
- ✓ size of target

2) The use of low plus and/or yoked prism "stress relieving" lenses and optometric vision therapy can substantially improve or normalise near visual function.

3) Vision therapy is more effective than the provision of lenses alone, but is more costly.

4) If we look back at the AF/NP relationship with school tests, we can surmise that children can substantially improve their near visual function by the use of appropriate optometric strategies, SRLs and/or optometric vision therapy.

5) We need therefore to train our optometric colleagues in the assessment and remediation of near visual stress as our profession has the potential to substantially change educational performance.

6) As behaviour is directly related to these ranges in the 6 -7 year old children in this study, then we also have the prospect of reducing delinquency problems of these children as they get older

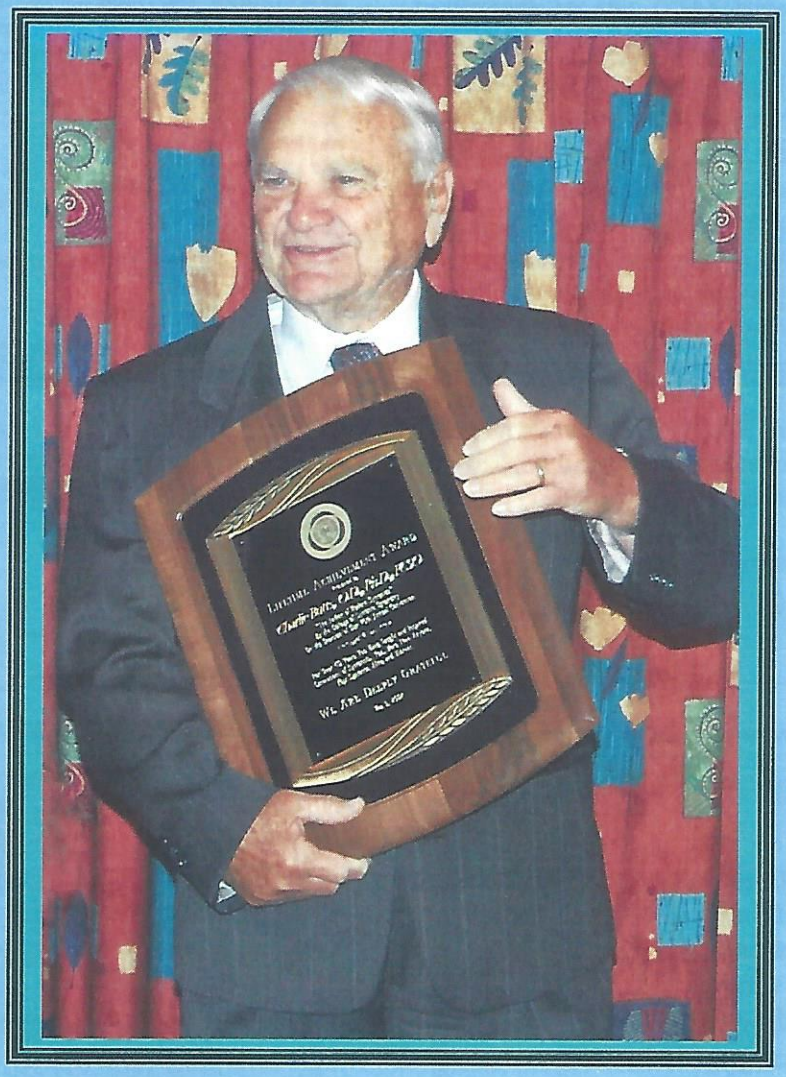
7) Educational and political awareness of these areas needs to be addressed to prevent future generations from continuing to fail, not only in education, but in their future personal development, employment, income, and behaviour patterns.

8) ***One in four children are failing in school as a direct result of inadequate visual development as defined by the AF/NP ratio – this figure is horrendous and we should do all we can to change this appalling ignorance of visual function and the effect of its malfunction on education.***

Lifetime Achievement Award

"The Father of Modern Syntonics"

Dr. Charles Butts



For over 40 years you have taught and inspired generations of Syntonists. You, more than anyone have kept Syntonics alive and vibrant.

We are deeply Grateful.

May 5, 2007

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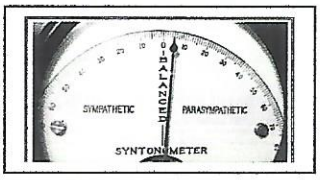
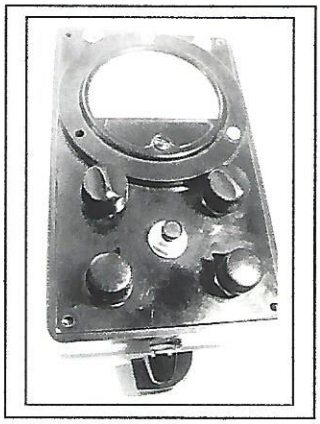
Dr. Spitler's **SYNTONOMETER**

Call for Data



Have You SEEN:

- Any data on this instrument?
- Instructions or procedures of how the Syntometer is used?



The measurement of the Sympathetic/Parasympathetic Balance of a patient seemed to be the purpose of this instrument. Copies of procedures, manuals, or ***experiences*** are **requested** to complete an article in the next Journal of Optometric Phototherapy! Thanks,

Contact: Sarah (360) 385-2823 Email: eyeamsarah@hotmail.com

Visual Field Testing 1880

A Cornerstone of the 1880's Psychoanalytic Revolution and the Scientific Study of Psychogenic Vision Disorders

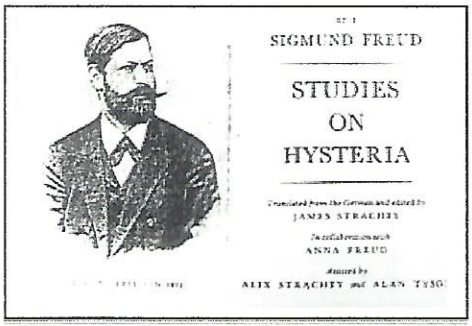
by

Brian Breiling, Psy.D.

It may come as a surprise to many optometrists that in the early 1880's, visual field research or perimetry laid the scientific groundwork for the fledgling field of psychoanalysis and the documentation of psychogenic visual disorders. Sigmund Freud and his early psychoanalytic colleagues routinely used visual field tests to assess their patients. Most importantly, in 1891, Freud and his colleague Josef Breuer were the first to establish that the traumatic psychogenic visual field collapse of hysteria could actually be reversed and dramatically expanded after a successful course of psychotherapy.(5)

On October 13, 1886, an obscure 30 year old Viennese neurologist, by the name Dr. Sigmund Freud, wrote to his research patron, Carl Koller, requesting research funds, saying: "If you want to give me something I need urgently, make it a perimeter (to measure the field of vision). Since as a clinician I depend more than anything else on the study of hysteria and one cannot publish anything nowadays without a perimeter."(6, 8)

At this time in history, medicine had yet to develop the clinical practice of psychiatry and European neurology was the model for what later became the fields of psychoanalysis, psychiatry and experimental psychology. Hysteria was the hot clinical topic and those who treated hysteria were some of the greatest academic minds of the era. For example Dr. Pierre Janet, a French experimental psychologist and physician, claimed that the hallmark sign of hysteria was a collapsed visual field.(9)



Studies on Hysteria 1895

In 1895 Freud co-wrote a groundbreaking work that would later become the foundation for the emerging field of psychoanalysis. The book called *Studies on Hysteria* was largely written by Freud's mentor and close friend, neurologist, professor, Dr. Josef Breuer who described his intense two year therapeutic experiences with a profoundly disabled hysteria patient, Bertha Pappenheim; known by the pseudonym of Freulein Anna O.(5) Ironically, Anna O., the case Freud referred to most often, he himself never treated.(13)

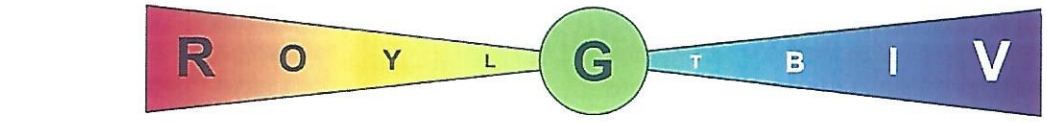
Anna O

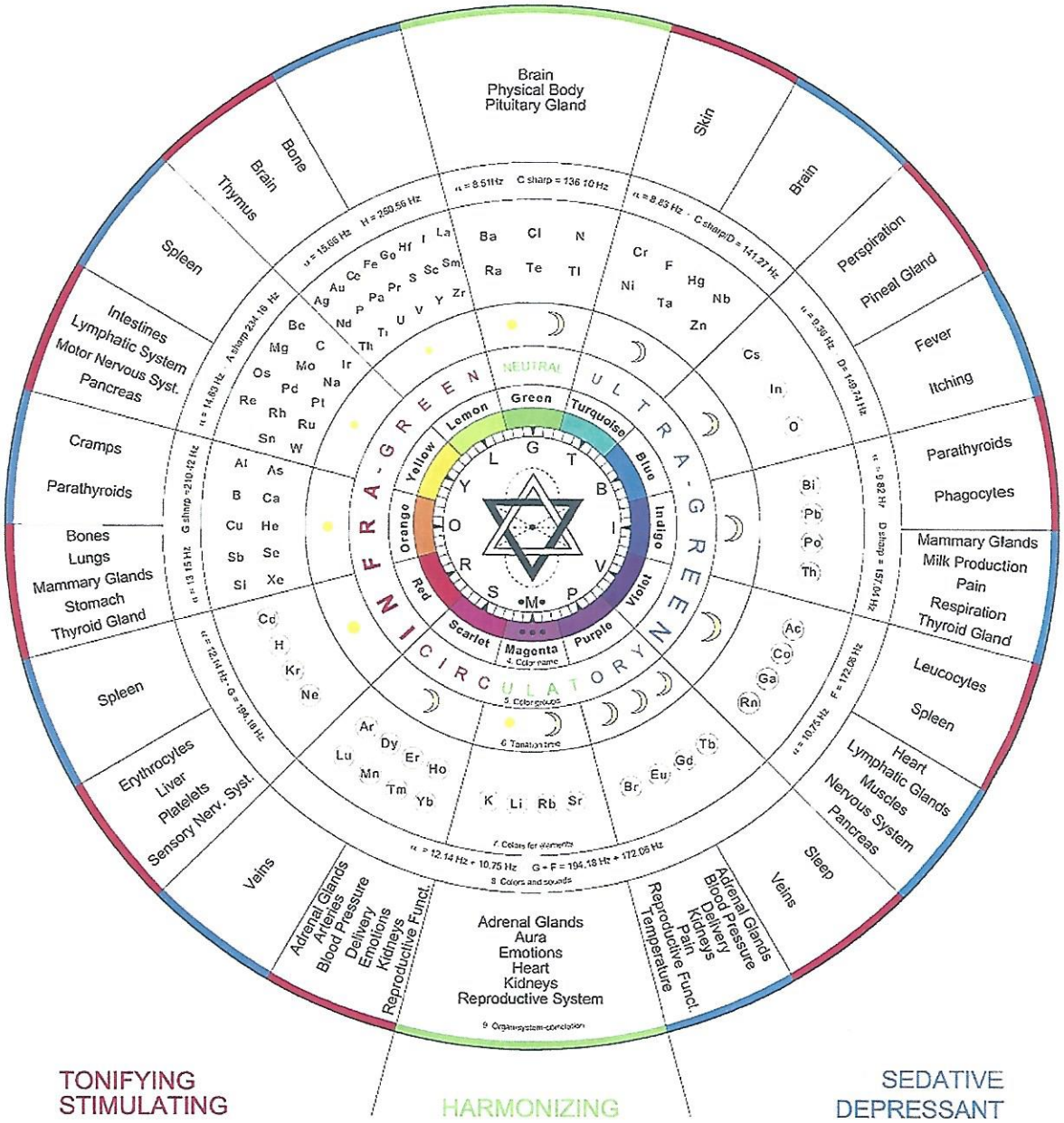
The Anna O. presented by Breuer in *Studies on Hysteria* was an enchanting, witty, delicate, extremely attractive young woman of 21 from a wealthy Viennese orthodox Jewish family. She possessed a powerful intellect, fertile imagination and was a gifted poet and playwright. These intellectual gifts would later save her life and change the future course of medicine.

Bertha entered Breuer's practice in 1880 at the time he and Freud had just studied the hypnotic treatment of hysterical disorders in Paris' Salpetriere Hospital with Drs. Jean Martin Charcot and Pierre Janet. Charcot believed that these mental and physical symptoms could be cured by suggestion. Janet's research aroused interest in the concept of subconscious mental activity and therapeutic methods aimed at the reintegration of the dissociated aspects (split off memories) of the personality. Initially Breuer and Freud developed a method of treatment that involved the re-enactment of traumatic experiences under hypnosis

THE SPECTRO-CHROME SYSTEM

Color Properties and Analogies





- Center: System of opposite colors: follow dotted lines.
- Color names in single alphabetic characters.
- Spectro-Chrome color wheel. Printing colors do not exactly represent the radiant tonation colors.
4. Full names of Spectro-Chrome colors.
5. Color groups, size of characters symbolizes intensity.
6. Recommended day/night-time for tonation.
7. Colors for elements.
8. Equivalent sounds for colors according to Cousto's Cosmic Octave, alpha-brainwave frequency and frequency of tuning fork in Hertz (Hz).
9. Color correlation to organ or system including trait of properties (stimulating/harmonizing/sedative).

DINSHAH P. GHADIALI

Color Attributes

Lemon (L)

22 Produces a favorable change in the process of nutrition and repair in persistent disorders (chronic alterative). Dissolves blood clots.
23 Promotes coughing to expel mucus and fluids from the lungs and air passages, areas #2-3-4-5-17 (expectorant).
24 Bone builder, by phosphorous effect
25 Brain stimulant, areas #1-15.
26 Thymus builder and stimulant, areas #4-5.
27 Mildly stimulates digestive system, areas #6-7-8-9-10-18-19 (laxative).
28 Equilibrator after extended use of Ultra-Green tonations.

Green (G)

29 Cerebral equilibrator, areas #1-15. Physical equilibrator, systemic front.
30 Pituitary stimulant and equilibrator, area #1.
31 Stimulates the rebuilding of muscles and tissues.
32 Destroys micro-organisms, germs, bacteria; cleanses and prevents decay (germicide, bactericide, disinfectant, antiseptic).

Turquoise (T)

33 Produces a favorable change in the processes of nutrition and repair in recent disorders (acute alterative).
34 Brain depressant, areas #1-15.
35 Skin tonic. Rebuilds burned skin (antipyrotic).
36 Equilibrator after extended use of Infra-Green tonations.

Yellow (Y)

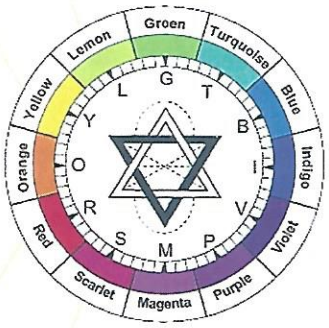
16 Motor nervous system stimulant, energizes muscles. Nerve builder for sensory and motor systems.
17 Stimulates the lymphatic system. Mild tissue stimulant.
18 Stimulates the intestines, pancreas, and production of digestive fluids - bile, hydrochloric acid, etc., areas #6-7-8-9-10-18-19 (digestive, cholagogue).
19 Increases bowel movements, areas #9-10-18-19 (cathartic).
20 Spleen depressant; equilibrator in melancholia, balances areas #6-7 through portal circulation
21 Expels worms and parasites (anthelmintic).

Blue (B)

37 Relieves itching, and irritation of abraded surfaces (antipruritic, demulcent).
38 Encourages perspiration (diaphoretic).
39 Mild sedative. Reduces/removes fever and inflammation (febrifugue, antipyretic, antiphlogistic).
40 Pineal stimulant, area #1; builds vitality.

Orange (O)

6 Lung builder, and respiratory stimulant, #areas #3-4-5-17.
7 Thyroid builder and stimulant, area #3.
8 Parathyroid depressant, area #3
9 Relieves cramps and muscle spasms (antispasmodic).
10 Stimulates mammary glands to increase milk production, areas #4-5 (galactagogue).
11 Stomach stimulant, areas #6-8 (stomachic).
12 Assists vomiting when stomach contains unsuitable matter, areas #6-8 (emetic).
13 Relieves flatulence or gas in the digestive tract, areas #6-7-8-9-10-18-19 (carminative).
14 Bone builder; corrects bone softness, rickets by calcium effect.
15 Tissue stimulant, decongestant.

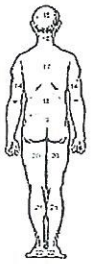


Indigo (I)

41 Parathyroid builder and stimulant, area #3.
42 Thyroid depressant, area #3.
43 Respiratory depressant, areas #3-4-5-17.
44 Causes contraction, controls abscesses, lessens secretions, arrests discharges and hemorrhages (adstringent, antipyic, anti-emetic, hemostatic).
45 Promotes production of phagocytes which destroy harmful micro-organisms, bacteria, germs.
46 Mammary depressant, reduces milk production, areas #4-5 (lactifuge).
47 Eases suffering, lessens excitement and over-activity (sedative).

Red (R)

1 Sensory nervous system stimulant, energizes the senses: sight, hearing, touch, taste and smell.
2 Liver builder and stimulant; areas #7-8.
3 Builds platelets, hemoglobin, etc., of the blood (hemoglobic).
4 Causes rapid expulsion of debris through the skin; may induce skin redness, itching, pimples, until the internal cleansing process is completed (irritant, pustulant).
5 Counter-agent for burns from x-rays, ultra-violet, etc.



Violet (V)

48 Spleen builder and stimulant, area #6.
49 Decreases muscular activity, including heart muscles.
50 Lymphatic glands depressant, systemic front. Pancreas depressant, areas #8-18.
51 Decreases activity of the nervous system (tranquilizer).
52 Promotes production of leucocytes, white (Violet) blood cells.

Scarlet (S)

70 Kidney and adrenal stimulant, area #18.
71 General stimulant Increases functional activity of the arteries.
72 Raises blood pressure by three effects:
73 Constricts blood vessels (vasoconstrictor).
74 Increases heart rate, areas #4-5.
75 Stimulates activity of the kidneys and adrenals, area #18; and the chromaffin system, systemic front and back.
76 Accelerates fetal expulsion at time of delivery (cbolic).
77 Emotional and reproductive system stimulant. Builds sex powers by increasing sensitivity and desire when deficient (aphrodisiac).
78 Stimulates the reproductive system, and menstrual function (emmenagogue).

Organ or Structure

1 Pituitary: gland, brain (front)
2 Neck
3 Thyroid, parathyroids
4, 5 Lungs, heart, thymus (directly below area #3) (female - emphemeral)
6 Spleen
7 Liver (also area #8), gall bladder
8 Stomach (also area #6), pancreas, (front)
9 Intestines (also area #10)
10 Bladder, ovaries, internal reproductive
11 External reproductive
12 Thighs
13 Shins
14 Arms
15 Brain (back)
16 Spine, spinal cord
17 Nape of neck
17 Lungs (back)
18 Kidneys, adrenals, pancreas (back)
19 Rectum, buttocks
20 Back of thighs
21 Calves
22 Feet

Magenta (M)

64 Emotional equilibrator, and auric builder, systemic front. Builds and equilibrates the functional activity of.
65 Heart, areas #4-5 (cardiotonic).
66 Blood circulatory system.
67 Kidneys and adreanals, area #18, and the chromaffin system, systemic front and back.
68 Reproductive system, areas # 10-11
69 Kidneys, area # 18

Purple (P)

53 Kidney and adrenal depressant, area #18.
54 Decreases sensitivity to pain. Induces relaxation and sleep (soporific).
55 Increases functional activity of the veins.
56 Lowers blood pressure by three effects:
57 Dilates blood vessels (vasodilator).
58 Reduces heart rate, areas #4-5.
59 Decreases activity of the kidneys and adrenals, area #18; and the chromaffin system, systemic front and back.
60 Lowers body temperature.
61 Controls fever and high blood pressure in malaria and recurrent fevers (antimalarial).
62 Emotional and reproductive system depressant Builds sex powers by decreasing sensitivity and desire when excessive (anaphrodisiac).
63 Moderates blood pressure between heart and lungs, areas #4-5. Controls lung hemorrhages; some cases respond better to Magenta or Scarlet (use heart/respiration ratio as a guide, see chapter five, Technique). When in doubt, try Purple first. The foregoing approach also applies to cases of dry coughing (non-productive of phlegm).

emphasizing the full and uninhibited expression of emotion. This procedure termed "abreaction" was the precursor of Psychoanalysis.(11)

Bertha's therapy sessions with Breuer began by falling into a deep hypnotic trance during which she recounted "fairy tales," narrating the origins of a particular symptom in imaginative outpourings she called her "private theater." After each of these sessions. which Bertha called "chimney sweeping," she experienced profound relief of her anguish and felt calm and cheerful; astonishing everyone, often the symptom would spontaneously shift and disappear.(5, 13)

Bertha's genius lay in inventing what she called the "talking cure," while Breuer's genius lay in his courage to follow her lead and to foresee its revolutionary significance as a healing method. Breuer became more excited as each dysfunction of vision, paralytic contracture, speech or hearing disorder, cough or tremor was "talked away." This was indeed revolutionary as a methodical and lasting cure for hysteria had never before been codified.(9, 11, 13)

Yet by the late 1890's Freud gave up the use of hypnotic regression as its effects were inconsistent and encouraged dependency on an authoritarian doctor, rather than the rational analysis of symptoms. He began to develop a new method of understanding and treating hysteria, which he referred to as "psychical analysis." It relied on the interpretation or analysis of what the patient said or didn't say during the free, uninhibited association of their ideas, thoughts and feelings.(9)

Later in 1906, Freud openly acknowledged that the development of his specialized form of psychotherapy, then called "psychoanalysis," whose foundational techniques were the "talking cure" and the "abreactive (or "cathartic") method" was actually inspired by the joint creative genius of Breuer and his patient Pappenheim.

Hysteria, also known as conversion disorder, is a rare and difficult disease to diagnose and presents puzzling, fascinating and often challenging treatment problems in optometry, psychology and medicine. The incidence of conversion disorders is between 4-9% of the patient populations.(20) Hysterical disorder is a pervasive disturbance characterized by involuntary psychogenic dysfunction of the sensory, motor, or visceral activities of the body, such as the loss of the ability to speak normally after an emotional trauma. The same symptoms are also termed in the literature as "psychogenic," "non-organic," "medically unexplained," and sometimes "functional disorders" that are unexplained by organic disease.

Studies on Hysteria opens with detailed description of Anna O's debilitating physical symptoms: violent, aggressive mood swings, suicide attempts, aphasia and language disturbances, paralysis of three limbs, pseudo seizures, "absences" of profound stupors, and contractures.

Breuer zeroed in on Bertha's host of non-organic, conversion visual disorders: visual field restriction, color distortion, convergent squint with diplopia, central amblyopia, macropsia, an inability to read, deviation of both eyes to the right, and a range of terrifying visions and hallucinations such as hallucinating a "death's head" instead of seeing her father. She had extreme difficulty recognizing familiar people and had strange perceptions of people appearing as wax figures. Her vision was so blurred that only through laborious "recognizing work" of minute features was she able to identify people familiar with her. She identified her mother by her dark hair, and part of her nose and a shock of red hair represented her brother, while she confirmed Breuer's presence by feeling his hands. Breuer observed, "In a vase filled with spring flowers she perceived but one."

For over a hundred years psychoanalysts have observed that disturbances in the visual field occur in every neurosis as a result of anxiety and resistance. The most common phenomena are contraction of the field, darkening of the field and diminution of acuity.(19)

Today hysterical fields or ocular conversion symptoms are seen in profound unilateral or bilateral concentric constriction or narrowing of the peripheral visual fields within the central 10 degrees and tubular, spiral or star shaped visual fields.(3,4,12,16,) Psychogenic vision disorders can include amblyopia, narrowing of the fields to complete amaurosis.(7) Amaurosis or hysterical blindness is the loss of sight or partial blindness in eyes that are organically intact. This hysterical (conversion) symptom is thought to be due to an unconscious attempt to screen out threatening or guilt-laden situations.(2. Despite the blindness, the pupils continue to react to light and the patient automatically avoids object that would result in injury (9).

Visual conversion reaction in children is an illness that is occasionally seen by optometrists and ophthalmologists. Signs of VCR include amblyopia, reduced accommodation, and a deterioration in hand writing, visual field defects with a static quantitative anomaly.(2).

In the two current psychology diagnostic manuals, the DSM-IV-R and ICD-9, hysterical symptoms are also called conversion disorder, or dissociative identity disorder (formerly multiple personality disorder), histrionic personality disorder or post traumatic stress disorder (PTSD). The roles of repressed, not yet conscious, traumatic memories and anxiety and depression are seen as key targets for intervention.(11)

Breuer hypothesized that all her symptoms were caused by undischarged affect attached to conflicted or traumatic memories and by her heightened constitutional sensitivity to "hypnoid" states of consciousness that were disconnected, dreamlike, and highly suggestible. Analysts believe Hysteric symptoms solve the conflict, which is too painful to be faced or resolved in consciousness.(9,11)

Recent breakthroughs in functional brain imaging are showing the neurobiological correlates of conversion symptoms.(21) A modern Chinese ophthalmologist recommends that doctors should treat patients with psychogenic visual symptoms using suggestion, patience and reassurance, the same successful strategies Breuer used a 128 years ago to support the long and dramatic recovery of Anna O.(14)

Perimetry is still used internationally and reported in optometric and ophthalmologic literature in the diagnosis of functional visual disturbances due to hysteria.(14)Perhaps modern clinical psychologists should return once again to using perimetry, the powerful research tool that provided early validation for their theories and practice.

Finally, the biography of Anna O/Bertha Pappenheim is a heroine's spiritual journey and demonstrates the "creative" aspects of mental illness" that were embraced, endured and eventually radically transformed her life such that she matured to lead a healthy and passionately productive life of service. She later became Germany's first social worker and gave herself to serving orphans, victims of sexual slavery and championed the causes of education and equal rights for women.

By astutely listening to and following the powerful inner voice of her imagination Bertha profoundly transformed herself and countless others in the causes she served. For the rest of her life she followed and expressed her inner voice through her practice of the talking cure, and the writing cure. The talking cure of her youth became the necessary angel of her last days as she dictated poems, prayers and fairy tales from her death bed in 1936.

Bertha Pappenheim

In 1954 West Germany issued a commemorative stamp honoring Bertha as "A Helper of Mankind," acknowledging her tireless pioneering work as a Jewish feminist and world renown social activist.

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Conversation with Charlie

by Sarah Cobb

1. **What do you remember about the history of the college?**
   The college is chartered in Ohio. There was a physical brick building in Pique, Ohio where Dr. Spitler taught and practiced. He had regular advanced classes for optometrists owned by the College of Syntonic Optometry. When Dr. Spitler passed away the board sold the physical building but maintained the charter. The money was given to Dr. Spitler's widow. We are still chartered to teach Syntonics.

2. **What is wrong with using mu delta alone without adding alpha omega?**
   If you have a physiological stress you automatically have emotional stress, accommodative stress and a dysfunctional field. As the field expands during treatment, we add alpha omega to reduce emotional stress.

3. **What about using mu upsilon without adding upsilon omega?** In acute conditions which includes fevers, head traumas and headaches, mu upsilon is used to reduce edematous conditions. Along with this blues are added for a sensory and or motor relaxant. This enhances the mu upsilon response. So go to page 67 in book and study the Autonomic chapter. These frequencies act as a physiologic balancer and leaves the pH alkaline.

4. **Is the order of the filters important?**
   Take for example mu delta. The light first passes through delta. Delta is a sensory stimulate to the sympathetic system. This frequency, as it passes through the filter, picks up neg. ions from the elements and chemical in the filter and then goes to mu. As this wave passes through mu it also picks up other negative ions that only delta lets through. Both then pass to retina and are changed into electrical impulses which travel to the hypothalamus where it causes a physiological response. Go to your filters chart and see what response it causes this is for CHRONIC conditions.

5. **What is wrong with using mu delta and mu upsilon together in a treatment?**
   Mu delta is a motor stimulate for the sympathetic system. These selected frequencies pass through mu and is a physiological balancer for chronic conditions. Upsilon is a sensory relaxant for the parasympathetic system. These frequencies pass through mu and are used for acute physiological problems, for example traumas, fevers and headaches. Therefore, using these in combination, they are canceling each other out. And then you end up with mu only.

6. **What tests are important to use in evaluating and diagnosing a case?**
   The tests I feel that you have to do to correctly diagnosis cases: Case History, a good 21 point exam (O.E.P. example), pen light test, string test, a field with a good field charter (the college field charter is as good as you can get).

7. **Can a person be allergic to color? Do you still use a color when patient complains about it?**
   This is possible. The way you treat it is give them a lesser time (3minutes) so they can tolerate it, gradually increase in the series of therapy to full strength if possible. You can reduce the strength of the filter by going more toward the middle of the balance board. If I feel that I made the correct diagnosis, I tell the patient we some times get worse before we get better. DON'T let the patient diagnosis their case. ***You are the doctor***!

Microcurrent and Color Therapy for Ocular Conditions

Larry B. Wallace , O.D. , F.C.S.O.

The world is governed by 4 basic forces: gravity, weak and strong atomic forces and electromagnetism. Electromagnetic radiation is ubiquitous on earth and governs our physical universe. The human species is particularly sensitive to the ultra and low electromagnetic frequencies from 1 to 100 Hz and from frequencies

HIGH FREQUENCY TECHNIQUE

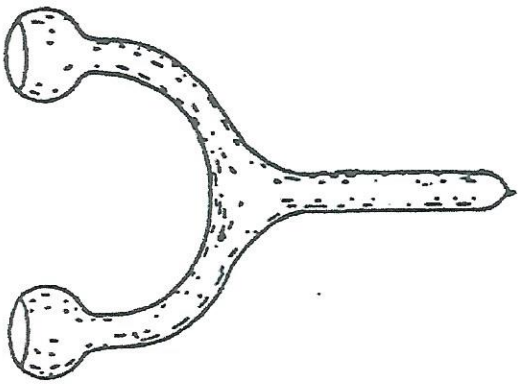


Figure 1 - Diaclast

in the 10 to the 15th Hz, which is the realm of visible light. Microcurrent operates in the very low frequency range where humans are very sensitive to the earth's normal electromagnetic radiations and at the high frequencies of sunlight. Microcurrent and color are integral to energy medicine and the new paradigm of healing.

Historically optometry was actively using energy treatments which are examined in Jack Kutz's book Oculo-Physical Therapy for Optometrists written in 1930. Treatments include: galvanism, diathermy, magnetism, massage, nutrition, color therapy, and homeopathy. Of particular interest were chapters written by Dr. HR. Spitler, the founder of Syntonic optometry. He describes using a direct current device called a Diaclast on the eyes to treat cataracts, optic nerve atrophy, amblyopia, chalazion and conjunctivitis.[2]

By applying direct current, free electrons were used to affect the water, sodium, and calcium in the cells to produce acidic or alkaline fields , and changing the pH modify ions and cellular chemistry for healing effects. In addition this treatment could restore the normal analog (direct) current of the eye which he stated was .04 to .08 micro amps. Treatment delivered 1 to 8 mille amps for 10 to 15 minutes 3 times a week. Today's instruments typically use micro-amps or dosages 100 times as strong. The body's normal direct nervous system was integral to the healing system developed by Robert Becker in the 1980's.[3] This involved hot or cold electro pads on the eye. He also describes the use of color to treat cataracts.

Spitler formulated the following conclusions:

Negative Pole (like red) Causes:	Positive Pole (like blue) Causes:
An alkaline field, attracts hydrogen	An acidic field, attracts oxygen
Vascular dialation	Vaso-constriction
Reduced scarring	Increased tissue tone
Produce NOAH	Produce HCL
Increased nerve flow	Decreased nerve flow

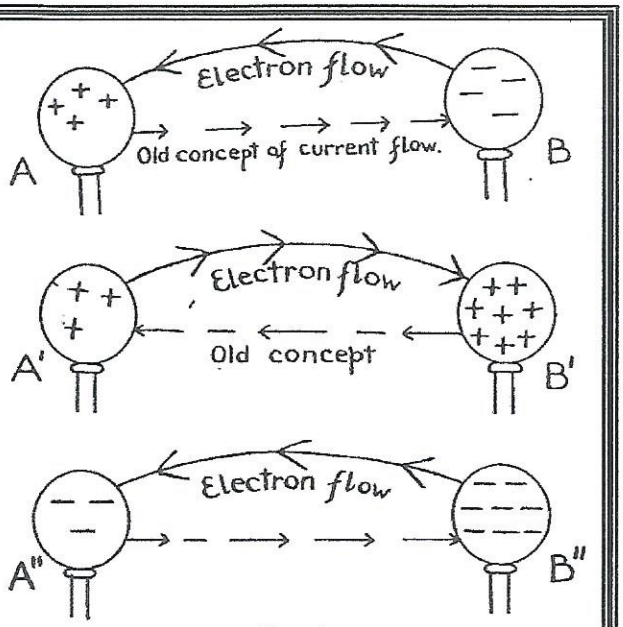


Figure 31.

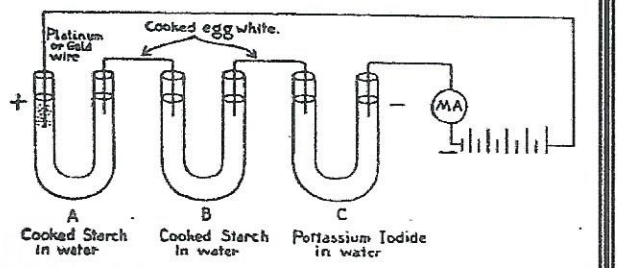


Figure 2

Spitler concluded that eletrophysical therapy could improve and preserve vision through electro-chemical means by acting on the body's solutions of water and sodium chloride producing electrolytes with local polar tissues effects 6 to 8 mm into the eyes, and interpolar effects by the formation of isotopes and isobars. The hot pole of the Diaclast produces NaOH an alkaline solution, while the cold pole produces HCL and oxygen and an acidic state. Therefore direct current produces ions for chemical effects associated with changes in pH. Spitler used the hot pole for amblyopia, optic atrophy, and cataracts by freeing the excess calcium in the lens or by reducing acidosis in the aqueous. The cold pole was used for chalazion and conjunctivitis. Direct current was believed to move blood and lymph, increase metabolism, reduce congestion, decrease pressure and toxicity, balance pH, create heat in the tissues, and produce ionization for new chemical rebalancing.[4]

For many years I had been treating macular degeneration and other retinal conditions syntonically with mostly blue green and yellow green and had excellent results in improving acuity, visual fields and halting the progression of vision loss. This led to the formulation of syntonic prescriptions to treat 30 forms of ocular pathology published in the CSO Blue book[5] After reading about the use of direct current by Spitler I theorized that microcurrent might complement the color treatments and deliver a local tissue effect to improve outcomes further. I invented and received a patent for an electromagnetic device called the Electro-Stim in 1995 (see figure 3). A description of the treatment was detailed in The Journal of Optometric Phototherapy in 1997.[6]

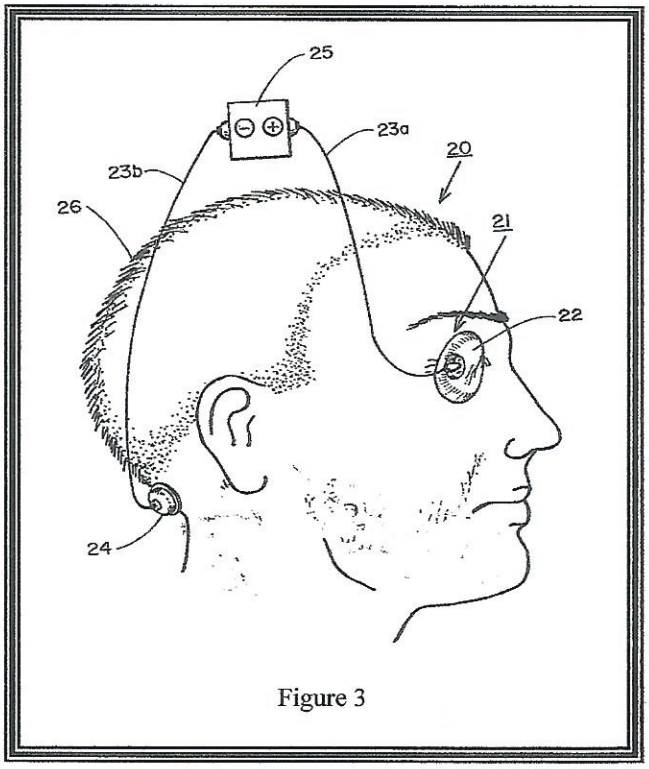
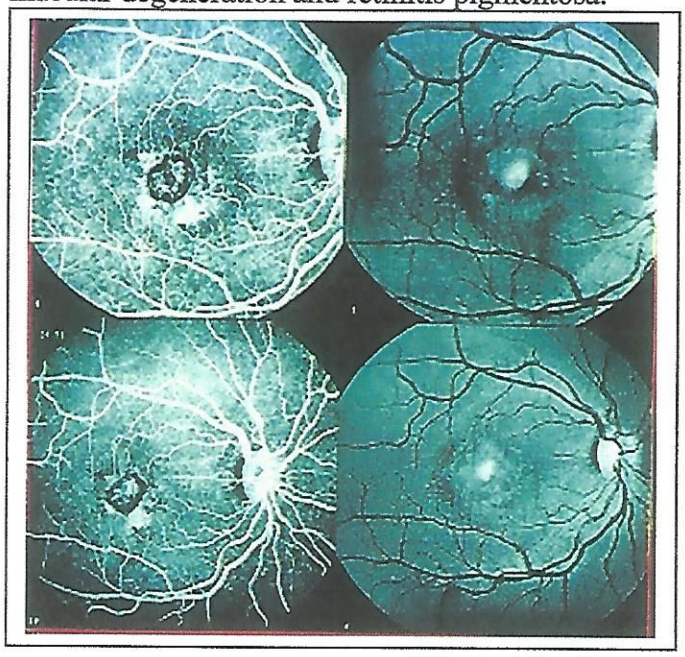


Figure 3

Various studies were conducted with this device. The first study treated 43 patients with dry macular degeneration whereby 54% improved 1 to 4 lines of acuity and 31% improved 2 to 4 lines, kinetic field expanded 85% and Humphrey Static fields showed improvement in 55% of the cases. Flourescein angiography documented improved blood flow and scar reduction.

Patients with retinitis pigmentosa also were successfully treated. Subsequently a new

generation of instruments were developed, one of which is now completing Phase 1 FDA testing for macular degeneration and retinitis pigmentosa.



Parallel to the use of microcurrent Luftig was treating a wide range of ocular pathology with color, homeopathy, nutrition, and physical adjustments. [7] His most important modality was color and white light applied to the eyes. He stated that light had the power to: stimulate inherent healing, recondition the whole eye, address constitution, protect the eye, and strengthen the retina, eye muscles, photoreceptors, and the optic nerve.

Light and microcurrent therapy meet the criteria of natural healing by being able to:

- Mechanically adjust circulation
- Reduce functional irritation
- Mineralize and alkalize the blood
- Balance endocrines, nerves, spinal system, and pH
- Balance the electro-magnetic milieu of the body
- Balance the thermal physiology

Disease could be defined by the loss of the body's ability to assimilate or select those frequencies for health with resulting disorder, disharmony, dis-ease, with imbalances between: hot/cold, red/blue, electro+/electro-, autonomics, and alkaline/ acid. Specific actions of electromagnetic therapies are now better understood. For instance, using wide band filters of color, some of the actions include:

- **Red:** stimulates the arterial blood, lymph, oxidation, and alkalinity
- **Blue:** increases oxygenation , lowers nerve tonus, reduces inflammation
- **Green:** serves as an antiseptic, and balances the ANS and blood circulation.
- **Yellow:** stimulates the nerves and arouses the lymph
- **Orange:** stimulates muscles and visceral organs
- **Indigo:** increases purification, reduces salts and deposits, animates venous flow

Narrow band color is most often applied without thermal action by the use of cool lasers. Most common is the Helium-Neon laser with a wavelength of 680nm. Studies have shown successful treatment for corneal injuries, glaucoma, choroid and retinal dystrophies, keratitis, uveitis, and neuralgia. In the treatment of macular degeneration, actions include reduced drusen, increased phagocytosis, and increased metabolic exchange of the RPE layer. Treatment has increased optic nerve transmission, acuity in ambyopia, and reduced toxemia. The theory of action complements microcurrent in many ways.

The actions of microcurrent and color are both local and global. Syntonics has used color to support visual function and health by locally affecting ocular tissues, and non-locally by balancing the neurology and endocrinology. This occurs by light stimulation of the retinal-hypothalamic pathway and activation of the pineal and pituitary glands. Also action occurs by irradiating the blood supply directly. In a 20 minute session of color or microcurrent therapy 25% of the body's blood is exposed to light and electrical energy.

Cool Laser Actions: [8]

- Increased DNA synthesis in retinal ganglion cells
- Stimulates lymphatic system by 2 times with volume by 37 to 60 times for glaucoma and tissues dystrophy
- Reduces lipid peri-oxidation, increases free radical defense enzymes in eye tissue and brain
- Increases corneal permeability by activating membrane phospholipases and electrolytes

Microcurrent Actions : [9]

- Regenerates visual purple and rhodopsin
- Rebuilds intracellular ATP: increasing active transport and waste management
- Releases neuro-protective factors modifying aptosis
- Reduces genetic damage to the ATP and DNA
- Increases fuel within cells: ATP and intracellular proteins
- Increases nerve conduction and a velocity
- Relaxes smooth muscles for increased circulation

Blood carries molecules that are very sensitive to electromagnetic stimulation. One such substance is nitric oxide which acts as a carrier and signal stimulator to the hypothalamus. Insufficient nitric oxide is implicated in many degenerative diseases while excessive amounts can contribute to such diseases as glaucoma. The crystalline structure of blood also is postulated to be a major carrier of information and energy to all the cells of the body.[10]

The liquid crystal matrix of the connective tissue and the microtubules can send energy and information throughout the body's systems to coordinate all biological functions [11] Dr. Leonard Horowitz describes several processes that are strongly related to this ECM(extra cellular matrix). Through microcurrent and light stimulation the ECM can be cleared of toxins, which enhances the DNA and bioelectric control systems that regulate cell growth, repair and health. Flowing currents can be created in the ECM and cell membranes depending on the frequencies that are applied. This modifies the electrical potential in the cell membrane, the intracellular mineral concentrations, and cellular energy by activating the ionic membrane pump. It also modifies genetic influences. The biofield can also be rebalanced. This is the EM field that regulates the organism. Inherent in this concept is that the body responds to external oscillating frequencies and emits frequencies which can be measured and can impact the environment. Health is a state of coherence of coupled oscillations within and with out the body.[12]

These ideas lead to some of new innovations in color and microcurrent therapies. One frontier approach is specific frequency microcurrent therapy being pioneered by Dr Edward Kondrot.[13]Simply put, the technique involves pulsing microcurrent at very specific frequencies matching the normal oscillation of a given tissue to restore a normal vibration and an inverse frequency to neutralize the pathology's oscillation or frequency. There are frequencies for all of our anatomy and for each ocular pathological condition. This use of narrow bands of energy may have a parallel with color as well. Narrow band filters of light are postulated to be necessary to affect the DNA and their regulatory functions.[14] The portals where color and microcurrent are applied may require more specificity as well.

In the field of energy medicine healing techniques can be described by three different types: a minimal level where no outside energy is applied (hypnosis, visualization), an energy reinforcement level where the energy does nor surpass what the body itself uses for control(acupuncture , homeopathy) and finally greater amounts than the body produces labeled high energy transfer techniques(electro therapy)[15] . Of particular interest for the optometric practitioner is the Acu-light Vision Enhancement developed by

Sarah Cobb. The treatments consist of applying colored light using a crystal gem light source on various acupuncture and body points to balance physiology and treat a wide range of functional and pathological conditions of the visual system. Colors used include turquoise, rose, magenta , blue, violet, yellow, green, ruby and gold. [16] This approach complements syntonics and microcurrent therapies for potentially greater efficacy. Here is energy transfer through the reinforcement level. The future of healing lies in approaches such as these.

"As beings of matter, we are beings of energy. Electromagnetism pervades biology and there is an electromagnetic component to every biological process. It is where all matter and energy flows. Researching the biological structures without looking at the energy is like is like studying a computer hard drive without plugging on the power cord."[17] Humans are biologically designed to be sensitive to the electromagnetic spectrum in the low frequencies of microcurrent therapy and in the range of the visible spectrum. The First Annual International Microcurrent Conference occurred in October 2007 in Phoenix Arizona. Cases were presented detailing treatment of conditions varying from vascular disease, paraplegia, pain, facial rejuvenation, glaucoma and macular degeneration. Treatments presented also included the use of color and microcurrent concurrently. An exciting new era is set to transform healing and medical care. Microcurrent and color therapies transcend the use of pharmaceuticals and surgery for many conditions and are free of the host of negative side effects associated with these approaches. Optometry is wonderfully positioned to embrace and utilize these therapeutic modalities. In the case of retinitis pigmentosa and dry macular degeneration the profession can meet the great need of those who are losing their vision where no current treatment options exist. Opportunities for enhancing, restoring and preventing vision loss are unfolding in quantum leaps for the modern optometric practitioner.

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Patients, People, and Colortherapy

Nishant Matthews

When a person comes to us it is easy to see them as a patient who has a problem that we can diagnose and propose treatments.

And, for the most part, this style of working works fine.

However, if we step back just a little bit as see the person who brings us this problem, we will generally find someone who not only has the specific problem that we are diagnosing, we will also see a personality system of someone who is in various shades of contraction and shock. Such people are operating within a generalized field of trauma and trauma related reactions. Such conditions will show up in the field maps (especially in the constricted blue) and also in the tautness of the personality's need to maintain control. More trauma = more controlling behavior patterns.

Blue light to the occipital notch calms the nervous system and centers the client.

When we include this awareness into our treatment program, we see that we need to broaden our treatment modality to include the trauma element. Specifically that means we understand that traumatized people have developed strong personality control systems, and that we need to get the co-operation of the control system. If we can get the permission of the control system to treat the person, then our work will be more integrative, more efficient, longer lasting, and giving more results for less effort.

One of the simplest, most direct way of relaxing the control system is through using a hand held color light device on a few areas of the head, neck, and face. If we use the color light to open these areas first, then we can use our stronger light through into the eyes without stressing the control systems of the body mind.

First is blue in the occipital notch. This point will relax the reptilian brain and open the central nervous system to experiencing a relaxed, open state of being. This point will clear up the cramps and stresses of the body mind so that additional input is not only not challenging, but actually welcome. Use a royal blue on and off the body for a time of 1-3 minutes.

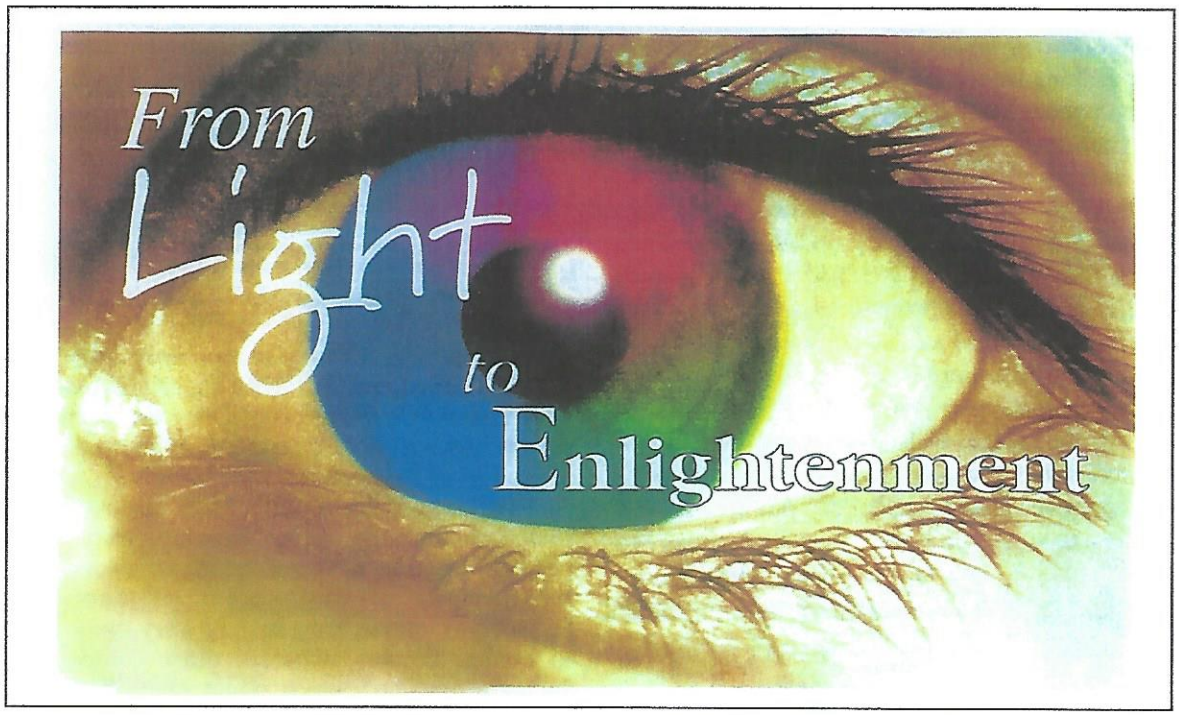
Second is red applied to the forehead in the area just superior to the eyes. The size of this area is about the size of a silver dollar on adults, or a quarter on small children. Red here will have the same effect as red light into the pupil, only without going through the brain. It will be a tonic to the system and give a sense of heightened energy. Combined with the blue light first, the red light will give us a sense of being relaxed and confident and secure that we can handle the things that come along. Again, the treatment is both on and off the body and lasting one to three minutes for both areas.

Third is green light into the temples area, just lateral and slightly superior to the outer extremity of the eye. This area is like a window into the brain. The green light is relaxing, opening, and restoring the ability to absorb new input without feeling threatened. On and off the body, 1-3 minutes time for both areas.

These three simple treatments open the doors for the deeper therapy to happen more efficiently and more gracefully. They can be done in the office by any practitioner who is sufficiently skilled, and they can also be taught to patients and their families as supportive home care to be done on a daily basis. For families who are adept at such, it is possible to have this done at home before coming to the office for treatment.

Try it. I believe it will make the syntonics work go even deeper and quicker.

Any questions or comments please feel free to contact Nishant Matthews (nishantm@orange.nl).



An Interview with Dr. Jacob Liberman

Edited and used with permission from Kindred Spirit Magazine

When you mention Dr. Jacob Liberman most people immediately think of his best selling book Light: Medicine of the Future and associate him with the therapeutic use of light and colour. But, as Richard Beaumont discovered, Dr. Liberman has extended his sights far beyond light therapy..

Light has always been of interest to me, and I had read Dr Liberman's classic book Light: Medicine of the Future some years ago, but as I read his more recent book Take Off Your Glasses and See, my preconceptions of his work were challenged considerably. I read astonishing things such as how people with very poor vision had at times improved their vision considerably after only days of working with Dr Liberman; how short-sightedness and far-sightedness are often related to unresolved emotional traumas; and how we can even learn to see normally invisible energies such as auras if we can allow our eyes to see for us.

As the telephone interview got under way Dr Liberman told me he was taking his portable phone out onto the sun-drenched deck of his Hawaiian home, and he was admiring the morning butterflies as I looked out onto the dark English evening and the obligatory torrents of rain. We have a choice, I thought, and indeed the theme of choice ran throughout our dialogue.

I began by asking him to explain how phototherapy worked, intending to introduce our readers to a subject with which they may be completely unfamiliar. His reply posed more questions than it offered answers as he refused to give me a left-brained answer of: `It works like this..? Instead he began with: `There are a million different ways to use any tool. A brush in one person's hand is a broom, but with Picasso it becomes something to make a beautiful piece of art with. So phototherapy, as with anything else, can be used in a multitude of ways.'

He went on to explain that a fundamental understanding of light does not even exist yet: We have evolved under light. Light is something no one really understands, and I say that because Einstein spent his entire life looking at the subject of light and, just before he died, said he knew no more than in the beginning. When we think of light most of us think of something that comes out of a light bulb, or the sun's emissions. When the physicists look at light they will tell you that light is the energy that is the foundation of everything. Everything that we experience is frozen light - even our bodies.

`My particular interest in light is that from the 70s onwards I began treating people, by way of their eyes, with different frequencies of light - which we call colours. I noticed very profound changes in people when I did this. Basically, certain frequencies of energy would create this effect and

other frequencies of energy created that effect - but there is no such thing as something having a specific effect on anything else; the effect is connected to the relationship. For instance, if you look at a frequency of light that you perceive as red, you may have fond memories of playing with a red fire truck as a child, or something memorable about that. Looking at red might feel beautiful. Someone else who looks at the same frequency which they perceive as red, and who for some reason (even if it is unknown to them) has a fear of fire, might feel the heat as they look at it. Their heart rate, respiration and pulse rate may begin to speed, and for them the same thing may be a very frightening experience. It is the same with everything else. The Talmud (an ancient Hebrew text) says we do not see things as they are, we see them as *we* are.

'In other words, vision is actually an outpouring of an inner way of seeing things. This is not an esoteric idea that I am speaking of. Most people think that eyesight (vision) is the process that is created by light from the environment entering the eye. In my years of working with this in the 80s, I actually did some very sophisticated measurements in the laboratory and found that light not only enters the eye but is also actually being projected out of the eye, based on how the person relates with this thing we call light. Everyone seems to project different frequencies of light out of their eyes'

Dr Liberman explained that what most people refer to as colour is actually the response of their consciousness to different frequencies of energy in the visible range. The colour is not out there in the environment, we actually create it within ourselves.

Throughout both his books he says that vision impairment is often linked to emotional and psychological blockages. He gave a most eloquent response when I raised this subject: 'When we have issues in our life that are traumatic and unresolved, we try our best to keep them buried. We actually keep them in the dark. We block them out of our field of awareness - out of our field of vision. Over time we develop a whole way of seeing that somehow blocks out things that we don't wish to see.'

He continued to explain that in the 70s, when he told optometrists and people in the vision-care field that there were physiological changes in the eyes in response to emotions in the immediate moment, they thought he was crazy. Yet, on the day of this interview he had received a letter from an optometrist friend who had come to one of his events a few years ago wearing glasses and had left at the end of the week no longer needing them. He wrote in his letter that when he is looking at the curvature of the cornea (which covers the iris) and asks individuals to imagine times in their life when they were very angry about something, within minutes he sees enormous changes in corneal curvature.

"We do not see things as they are, we see them as we are... In other words, vision is actually an outpouring of an inner way of seeing things."

Dr Liberman explains: 'Corneal curvature is very significantly related to one's prescription. Try to imagine that you have an experience that is traumatic, and for some reason or other you not only have this instantaneous change, but that these experiences occur over and over again. For many people they do; it becomes like a chronic way of holding our entire body. It is in the eyes as well as in the posture of the body.'

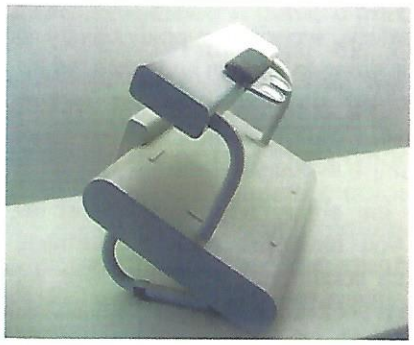
He then spoke about 'a huge discovery' that he had made accidentally from working with thousands of people: 'What I discovered was that when people look at the spectrum of frequencies of energy that we perceive as colour, they may be very open and receptive to certain colours, whereas other colours provoke an "allergic reaction" which might manifest as their feeling emotionally unsafe. It could manifest in a somatic experience, where they would begin sweating or they would get chilly, or their heart rate would speed up or they would feel like they had to run to the toilet.

`What I found after working with this thousands of times was that when people looked at the frequencies of light that they were unreceptive to, or that they did not like, they had the same kind of allergic reaction as in the original experience.'

I noticed in the program for his next course that he was using singing as a tool in his workshops. I wondered why. Was there a way to relate a certain tone that cannot be sung by somebody to a specific colour with which they are uncomfortable? Dr Liberman said he knows people who do that but that he only uses singing because of the beauty and the joy that it elicits. I want to make it clear that my work is not about fixing people or fixing problems. I do not have that perception of life any more. My work is about allowing people to see themselves more clearly so that they naturally expand. I do not teach, or utilize light and colour, to heal anything. I merely utilize it as a reflection for each individual to expand their consciousness and to make their awareness of life a little fuller. What I have found is that light can be used to expand consciousness and consciousness can then become a foundation for wellness.'

Dr Liberman then shared with me a central tenet of his work concerning being more present in life: `...the reason most people are in their minds, in other words are not very present, is because we encounter things in life all day that we are allergic to, and in the process of avoiding them we are in stress. So we go into the mind often to avoid the experience of dealing directly with some life experience. Most of our thinking is really worrying. We are trying to guarantee results, to be

OPTOMATTERS – SYNTONICS – EQUIPMENT - 2008



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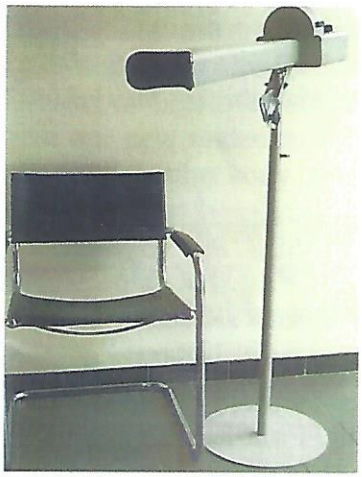

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successful, we'll do this, we'll do that.'

As he paused I thought it might be a good time to ask him about his concept of open thinking and spiritual intuition, hoping to get him to elucidate on parts of his book that had fascinated me. In doing so, I realized I had tried to do exactly what he had explained we all do. But how to interview someone without asking questions? I needn't have concerned myself with even that thought, as Dr Liberman simply ignored my question and continued unabated: 'You see, we think that we have to think. My experience is that life is doing the thinking for us. All of our life we have been conditioned to believe that we have to do things. We have to make things happen. We forget that life is already happening. Look around. Everything from the sun rising in the morning, weather patterns, seasonal changes, everything that happens in nature is miraculous. We have no understanding of it and yet we think we have to make things happen. That is because we think we are living life and we are not. We *are* life. We are part of this experience called life. The way most of us are seeing it is we think we are outside of that; living the experience of life. No, we are actually life itself. The more aligned we are with the energy, the life force, the healthier we are, the happier and more prosperous we are.'

It was becoming very clear that my preconceptions of Dr. Liberman the man, based upon his books, were insufficient. It's so easy to create a kind of mental familiarity with someone from their books, but that doesn't allow for their continual evolution. (His first book was published in 1991 and the second one in 1995 - a lot can happen in the years leading up to the present time.) As the interview progressed, Dr Liberman began to use more references to natural and even mystical states and in doing so redefined himself and his approach.

I asked him about a reference in his book when he said that the most powerful aspect of his energetic work was assisting the flow of invisible energy in people. His reply was both simple and profound: 'If I have any effect on people it is just by being an ordinary, simple, accessible, vulnerable human being. We have all been conditioned to believe that it is what we *do* that is important and what I have discovered is it is not what we do, it is who we are that is important. Our presence is the most powerful thing that we have. Even in medical studies, when they look at the effectiveness of pharmaceutical agents what they discover is that pharmaceutical agents are often no more valuable or effective than placebos. So when you ask what is the heart of my work and life, it is to be as ordinary a human being as I can.

Thirty-two years ago I had a miraculous healing of my eyesight. It happened in a moment when I became so present that I had a magical experience and when I came out of that my eyesight was clear. I have never worn glasses since that day! That was in 1976. When I had that experience, what came to me was that there is a master key to this system. If we can find that master key we can begin to understand life more deeply.

I asked him directly about what he does in his workshops: 'I prepare nothing for my workshops. That can be scary but there is no safety, security, or predictability in life; no one knows what is going to happen and when, so the workshop is not a teaching situation, it is just another extension of the way I live. I want to come there and allow myself to be surprised as much as everyone else.'

I commented that his ability to respond must be extremely high. 'What you have just said is absolutely profound. You see we are conditioned to believe that we have to do things and that is not actually the way the dance of life works. Life always has the first move; it initiates the action and then all we need to do is be present and in our presence there is an automatic response to that. What you just said hit the nail right on the head. If I am totally present then I naturally respond in an appropriate manner to whatever enters my awareness.'

"...health, wellness, integrity, sanity, prosperity — happens naturally when we are living in, a state of balance."

So, is there a cutting edge for him, I wondered? 'The cutting edge for me is my life. I still feel that life is the ultimate healing tool. We have an expression in medicine that the body is always seeking homeostasis, seeking balance. The word 'balance' is synonymous with health, wholeness, sanity, integrity, even prosperity. Everything that everyone is looking for - health, wellness, integrity, sanity, and prosperity - happens naturally when we are living in a state of balance. Just as the body is always seeking balance, the universe is always seeking balance. It does that and in doing so defines the expression "the only constant is change". Subtle movements of life called "change" actually keep the balance. Change is the heartbeat of life. It happens naturally. So what is the cutting edge for me? It is to continually become simpler, more present in my life, so that I can respond to life as fully and as present as is possible for me each moment.

'I just want to be happy. When asked, people always say health and happiness are the most important things in life. What they don't realize is that happiness is the foundation of health. Unhappiness is the foundation of disease. To become happy we must embrace life more and become receptive to the aspects of life we have been unreceptive or allergic to.

'What my work is really about is that I have found that light can be used to assist us in "seeing the light". We can use light to reflect back to us a way of being more balanced and

present in our lives. When we do that the expansion in our awareness becomes the foundation for a whole new way of being, a whole new way of living and a whole new level of wellness:

When I asked him specific questions related to the current movement in corrective care against ultraviolet rays or the dangers of sunscreen products and preparations, he again pointed towards a change to a simpler lifestyle and the engendering of greater understanding: 'Everything in moderation. Everything we have on the planet we need for some reason or other whether we are aware of it or not. Get caught up in things being right or wrong, good or bad, and we just end up stressed. Everything is happening exactly as it needs to happen. I am not saying that as a New Agey rhetorical statement; that is the way I actually see my life experience. Every time something has happened in my life, even if at first I thought it was terrible, after being with it I realize I had a sense about this in the beginning, all the time. What I have learned in my sixty years of living is that we have a continually expanding awareness, and that awareness is curative. That is the heart of my work.

'I think fixing the body is always going to be important. We will always have pharmaceutical agents and surgical interventions when we need them. Most of the time that is not what we need; 93 per cent of disease is chronic illness, only 7 per cent is acute illness. There is only one thing that changes chronic illness and that is a change of lifestyle. A change of lifestyle is when you see life differently. It is not so much about doing more exercise, yoga or meditation. It is about integrating those practices into our life, so they become a natural part of who we are, such that we begin seeing life in a whole different way. Life is continually changing. Our maximum potential emerges the more we are able to flow with the continual changes life presents. I use light to assist people in becoming more present, more aware and more unconditionally accepting of who they are.

To learn more about Jacob Liberman's current work, log onto www.exerciseyoureyes.com.

Detecting *Light* but Not For *Sight*

Adapted from Current Biology, October 2006

Cathy Stern, O.D., F.C.S.O.

The eye performs a dual role in detecting light for a range of physiological responses that are distinct from sight. Light exposure resets circadian rhythms, induces suppression of the nocturnal pineal hormone melatonin, induces pupillary constriction, increases heart rate and changes the frequency of EEG brain waves that are indicative of a more alert state.

Understanding how light stimulates non-visual functions was led by the discovery of melanopsin in the mammalian eye. Melanopsin protein was found to be located, not in the outer retina where rhodopsin and cone opsins are present, but in about 1–3% of cells in the ganglion cell layer.

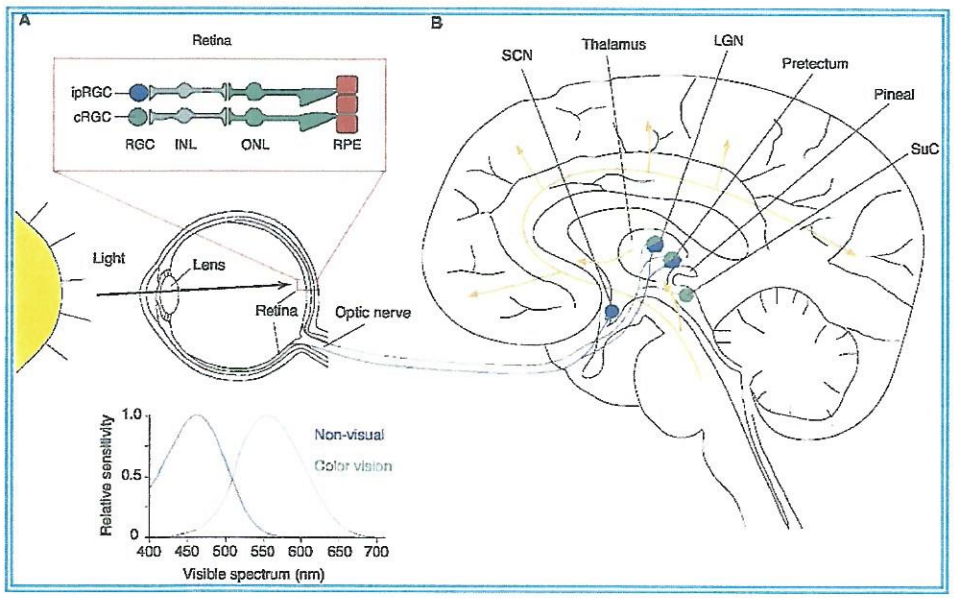
These melanopsin-containing ganglion cells project to multiple brain areas involved in non-image forming responses, including the suprachiasmatic nuclei (SCN) of the hypothalamus, the site of the principal mammalian circadian pacemaker. The melanopsin containing ganglion cells are directly photosensitive, with a peak spectral sensitivity to short-wavelength blue light.

Clinical studies showed that some totally blind humans, lacking any detectable visual response to light, retained normal non-visual function in terms of their light-induced melatonin suppression and circadian phase resetting responses, Similarly, red–green color blind patients show normal melatonin suppression during white and green light exposure.

In addition to its role in synchronizing circadian rhythms, light has a direct alerting effect on the human brain. Brain areas associated with performance of an auditory task showed enhanced responses following exposure to light. In addition, the light-induced increase in subjective alertness corresponded with enhanced responses in the posterior thalamus, including the pulvinar nucleus, which has been implicated in visual pattern discrimination and visual attention.

One mechanism by which light could exert its alerting effect is through the activation of neurons in the SCN, the site of the circadian pacemaker. The SCN strictly controls the timing of release of the pineal hormone melatonin. Light exposure at night acutely suppresses melatonin and induces a simultaneous increase in alertness.

Preliminary studies measuring light-induced changes in EEG correlates of arousal have shown that blue light (460 nm) is more effective than green light (555 nm) at suppressing delta/theta activity (0.5–5 Hz), which is considered a marker of both the circadian and homeostatic drive for arousal. Furthermore, blue light preferentially activates high-alpha frequency oscillations (9.5–10.5 Hz) which closely parallel the circadian rhythm of melatonin production.



ipRGCs
- Non-visual brain areas
- Ascending arousal system
- cortical activation

cRGCs
- Visual brain areas
- Increased alertness

Advances in understanding how light stimulates non-visual functions are ongoing and will better illuminate how syntonic phototherapy is such a powerful tool.

Pathways for light-induced activation of non-visual brain areas.
(A) Light exposure activates melanopsin-containing intrinsically photosensitive retinal ganglion cells (ipRGC), which are most sensitive to short-wavelength visible light, and cone-driven classical ganglion cells (cRGC) of the color vision system, which are most sensitive to mid-wavelength light. (B) Melanopsin-containing ipRGCs project to a range of 'non-visual' areas of the brain, including the suprachiasmatic nuclei (SCN), which then project multisynaptically to the pineal gland, as well as to many areas that share input from the visual photoreceptor system, such as the lateral geniculate nucleus (LGN), pretectum and superior colliculus (SuC). Through as yet unidentified pathways, light stimulates the ascending arousal system and eventually the cortex to enhance alertness and cognition. INL, inner nuclear layer; ONL, outer nuclear layer; RPE, retinal pigment epithelium. (Adapted from Saper, C.B., Scammell, T.E., and Lu, J. (2005). Hypothalamic regulation of sleep and circadian rhythms. Nature 437, 1257–1263.

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LIGHTTHERAPY

"The PhotonWave is a great instrument and I've been so happy to work with it and see the changes, not only does it improve eyesight, it brings a deep insight and assists in disrupting the underlying cause of eye problems, this may also include other health problems as well.

The overall subjective and behavioural changes in the subjects are beyond normal responses one would expect from vision therapy.

Dr. Robert Kaplan OD Vienna Austria

"The Light is making my work so much easier and faster, working on a deeper level for the patients with macula degeneration and glaucoma, it is really incredible"

testifies ***U.Herrmann Ophthalmologist Germany***

"We are amazed of the possibilities of the PhotonWave, specially in cases such as ***Chronic Fatigue Syndrome, allergies, autism, detoxification of heavy metals,*** *what a different perspective it makes! "*

Dr. Dietrich Klinghardt MD Seattle

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2870 Liezele, Belgium
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www.rainbow-flash.com

To document the evolution of the light sessions we use: The Computerized Functional Colour Field tester (FCFTester) allows a quick, efficient and reliable measurement of the functional visual fields. The Form Fields (functional campimetry), the Colour Fields (red, blue, green) and the Blind Spot can be measured.

The software program is accompanied by a removable hardware top-piece, and is easily installed and calibrated on any computer monitor

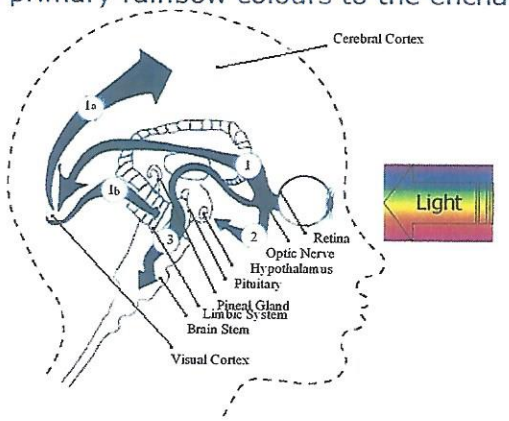
Technical information of the PhotonWave

- It is possible to install **38 programs** that run then automatically: 3 color combinations, freq. and time choice
- The **rainbow-colour program** is the favourite of many
- **Narrowband filters(10 nanometers bandwidth)** are within the electromagnetic spectrum (**monochromatic)**
- Light pulse frequency: 0.1-35Hz
- adjustable time: 1-99 minutes
- Digital control panel
- Quality materials and construction with long durability
- Professional design
- International fully automatic power selection: 100-240V
- Fused and grounded : eliminates fire and shock hazard
- Safety guaranteed with CE mark
- A darkening hood is included

Yes, light does affect physical and psychological well-being.

PhotonWave Extra®

From primary rainbow colours to the enchanting



40 different colour combinations

PhotonWave® has been designed based on research and experience within the field of medicine, optometry, kinesiology, psychology and osteopathy.

Light stimulation of the optic nerve sends „photocurrent" through the visual cortex to 1a) the cerebral cortex and 1b) to the thalamus, pituitary and limbic system.

Light stimulates the hypothalamus "the brains' master controller" Thus light frequency, colour, has profound effects on physical and emotional well-being.

Clinical application of light stimulation with PhotonWave

has proven successful in eye diseases, dyslexia, attention deficit disorder (ADD), hyperactivity ADHD, chronic pain, head trauma, immune dysfunction, seasonal depressions.

Relief from allergies. Detoxification from heavy metals.

Typical advantages of PhotonWave:

Energy and time saving: from 8 to 15 minutes per session Clients complaining of physical, psychosomatic or immune- system disorders respond usually prompt and great breakthroughs take place after a **fewer number of sessions ever experienced**.

Autism: Using Yoke Prisms to Change Visual Behavior

By Ellis Edelman, O.D.

It has been scientifically proven, that approximately 80 % of all our information sent to the visual cortex (brain), enters comes through the eyes. All visual processing as well as motoric (skeletal-muscular) movements and posturing is "self directed". That is, the individual must consciously make decisions based on incoming visual-motor inputs. These decisions are based on the person being "aware" of constant changes within our environment.

Since "vision" is our dominant sense modality, we can alter visual as well as emotional behavior rather quickly through the application of lenses, prisms and phototherapy. However, these changes may not occur as expected if the individual "fails to see' or ignores the modified visual information.

An individual who has been diagnosed as being autistic for example, may not respond to the application of yoke prisms as hoped. The majority of autistic spectrum individuals exhibit a "lack" of efficient eye fixation (central vision). They prefer to use mostly "peripheral" vision along with tactual (touching) when looking around their environment. Their ability to converge both eyes while looking at close distances is minimal, in terns of sustaining cognitive focusing. Many show "tactual defensiveness" at near while doing ocular tracking. They usually posture visually beyond the area where they are asked to look and pay attention. Many of these children pay very little "visual attention" to their environment beyond arms reach. Their whole world seems to be comprised of awareness only at near.

The following information describes how "yoke prisms" alter the sensory-motor visual information. They are "directional" not "disruptive" which infers they encourage a change or shift in the individuals habitual visual processing.

Base- Up yoke prisms reduce the spatial volume, encourage more awareness of the near-point visual demand by "optically" shifting the eye fixation to within arms reach. Therefore, Base-Up yoke prisms are prescribed to be worn for all close work when attempting to develop better hand-eye coordination, reduce the peripheral distractions and to visually promote more use of central vision(eye fixations).

Base-Up yoke prisms can be applied for those individuals who exhibit a major problem of distractibility, have difficulty paying attention to the task and to increase the cognitive ability during new learning experiences. The power of these directional prisms may vary from 1 prism diopter to 3 diopters. They can be incorporated into the therapeutic glasses when appropriate.

Base-Down yoke prisms can be applied to those individuals who are literally "locked in" to their near world. They show a very limited or practically no rapport with their surrounding environment. They appear to be "highly introverted", usually "egocentric" in their thought processing and may exhibit a type of "excessive compulsive behavior".

Base-Down yoke prisms when applied to these individuals just described will shift their visual attention "away from self' by becoming much more aware of what is around them, where things are in relationship to themselves and to "release" from, their habitual "locked-in" perceptual processing. Base-Down yoke prisms can be used alone as plano or incorporated into therapeutic prescription glasses. Both Base-Up and Base-Down yoke prisms are usually recommended to be used for specific activities. They can be used to shift priority from central fixation at near to peripheral awareness at far.

It is very important to remember as previously mentioned, self-directed eye movements and ocular control should be achieved early as possible in the therapeutic rehabilitation of those individuals with vision related performance problems. Phototherapy

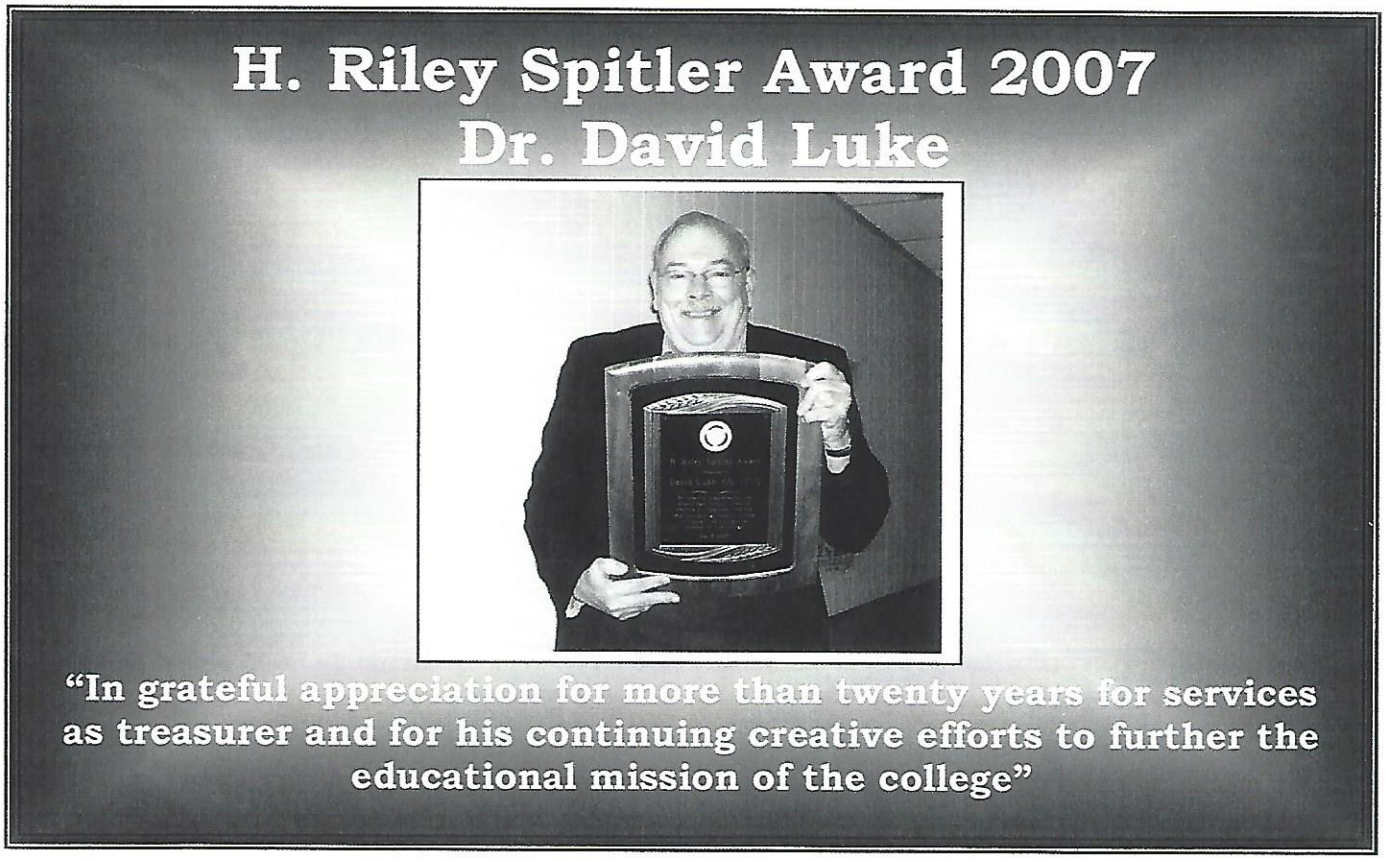
should be offered along with lenses, yoke prisms and office centered therapy. There are many visual dysfunctions such as esotropia, exotropia, amblyopia, adductive fatigue as well as imbalances within the autonomic nervous system.

I have prescribed very often the use of therapeutic yoke prisms to be worn during photo therapy sessions. I may recommend alternating Base-Up one day and then Base-Down the next day in order to "rock" their perceptual view. Autistic spectrum individuals will very often strongly resist "changes" simply because they can not express or communicate their dislike or fear of even a small change of the procedural approach.

Since the majority of autistic children are unable to self-direct their eye movements, plotting of their visual fields within an instrument setting is very difficult and unreliable. An excellent way to approximate the size of the visual field is to use the pupillary response to a direct light stimulus. As you know, there is an inverse relationship in terms of pupil size. The larger the pupil dilation, the smaller the size of the visual field. You can actually estimate the size to within a few degrees, plus or minus Also, there is a direct relationship between how fast the pupil dilates to how ***fast*** the visual fields will "collapse". The faster the dilation, the quicker the fields will contract.

The pupillary response will also reflect the relationship of the two branches of the autonomic nervous system. The larger the dilation, the more dominant branch will be the sympathetic. The pupillary response will also indicate what color filters to use when doing photo therapy. Other significant indications of reduced fields will be observed when you attempt to do ocular tracking. Excessive head movements while following the near point target definitely confirms small size fields. The reason for the head movements is because you have moved the target beyond their limited fields.

At the conclusion of the evaluation, I recommended the following: Yoke prisms, both Up and Dn (2 P.D.), Phototherapy: Alpha Omega, Mu-Delta, Office centered vision therapy, Home therapy to supplement office procedures, and then slowly reduce the amount of Ritalin. All the autistic patients receive the many procedures and testing I have described when it is deemed necessary and appropriate.



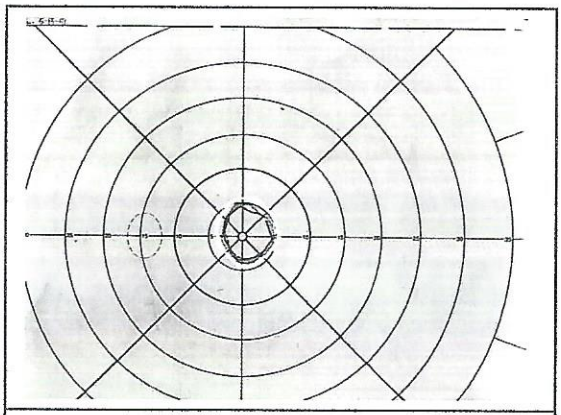
Case History

Visual Fields That Stayed Small For Two Years

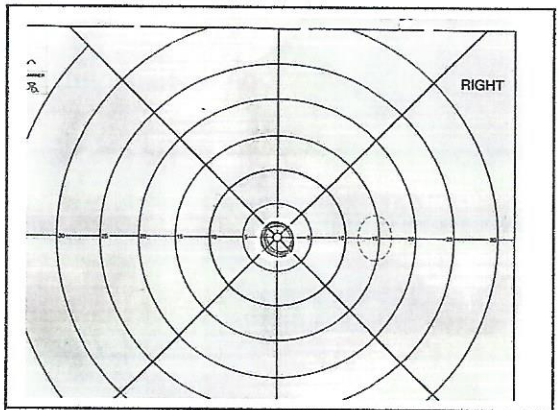
Were Greatly Enhanced in Only 20 Sessions

By Don Barniske, O.D.

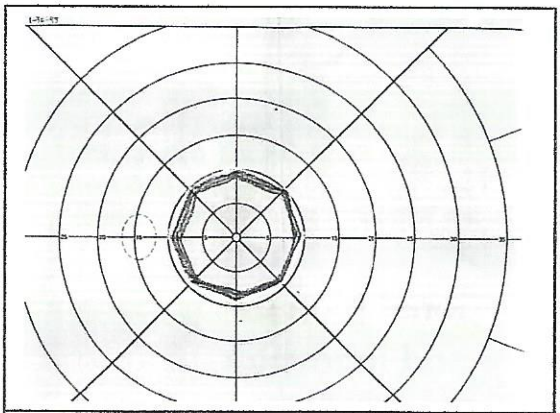
Andre, a 4th grader, was provided a basic eye exam and visual therapy evaluation including color visual fields with campimetry. He was in good health, using no medication and with no allergies present. His first visual fields indicated 3 degrees from fixation. The family moved away and didn't return for 18.5 months. Another evaluation was provided. His visual fields, tested with a ½ degree target, were 8 degrees from fixation. Twenty four months after the initial evaluation, he started anti-suppression therapy with the college instrument syntonizer, 20 min. per day for 20 visits recommended.



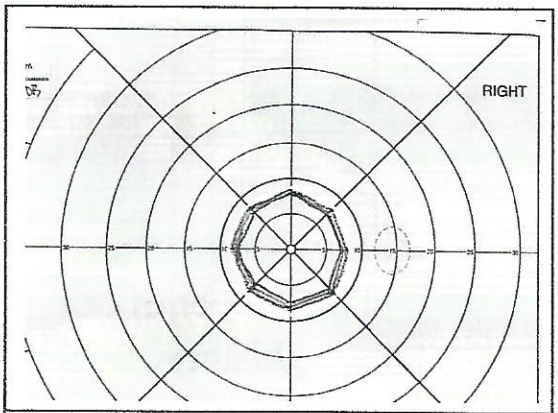
5-13-96 Initial field, Left eye



5-13-96 Initial field, Right eye



1-30-98 Two years later with no treatment



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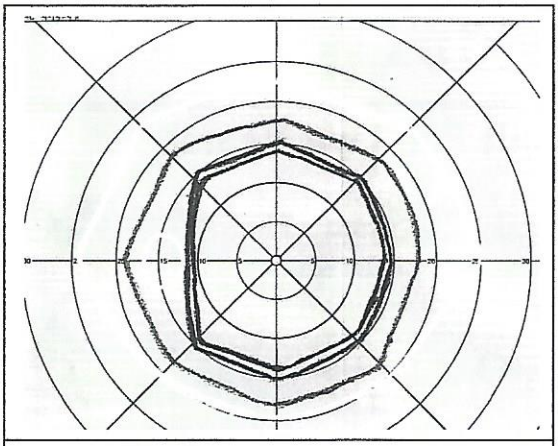
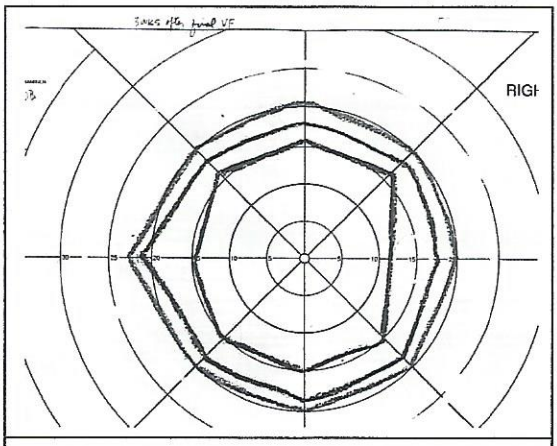


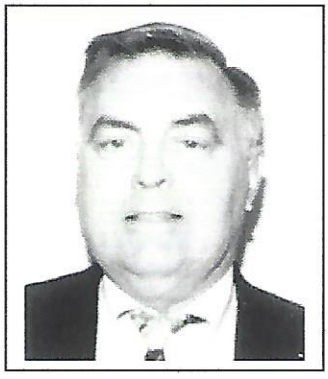
9-15-98 After 20 phototherapy sessions



9-15-98 After 20 phototherapy sessions

On the first visit, nacentization with red/blue lenses (red on left eye) for 3 minutes were used. He was unable to tolerate alpha omega due to dizziness, but tolerated omega for 6 minutes. Day 2, he was nacentized for 6 min., then alpha omega for 10 min. (with some dizziness), then mu delta for 10 min. with no discomfort. On the 3rd visit, he was able to continue without discomfort. We continued his phototherapy with 3 min. nacentization with red/blue lenses (red on non-dominant eye) and 10 min. alpha omega and 10 min mu delta for completion of his 20 sessions. Fields were monitored three times during the 20 sessions and 3 weeks post therapy. His white fields were 25+ degrees from fixation with normal blind spots and his color fields had expanded significantly.

IN MEMORIAM



Dr. Dale Fast
The keeper of our history.

Dr. Wayne Pharr
International pioneer, teacher and innovator.

About the Cover

Light, Colour and the Iris of the Eye

By
Roberto Kaplan. O.D., M.Ed., FCOVD.

Light entering the eye carries vital information for gaining knowledge, wisdom, regenerating tissue and modifying behaviour of the human being. The acceptance of the light is dependent upon the presence of the person behind the eye. What halts this presence is emotional incompletion. The cover image portrays how the individual code of the person can be analysed via the iris of the eye. The structural code determines how the person will respond to light entering the eye. There are fundamentally three processing styles that can be decoded.

The orange colouration is a thinking /understanding form that influences the person to use a logical form of vision perception. The petal-like shapes, in certain locations on the iris, reveals how and when the person's perception will be more influenced by inner and outer emotional circumstances. The final structural code on the iris is feeling, the relatively smooth structure. This structure generates a feeling perceptual processing style.

From this EyeCode®, it becomes apparent that one can determine which frequencies of light through the eyes are best suited to help the person be more present. This precisely helps break down the emotional resistance. In addition, the code of the iris, in certain regions, shows exactly in which area of their life the restricted emotion is likely to be.

The image portrays how in the presence of illness, the light frequencies can awaken the person to their latent healing potential. It is possible that even looking at images like this one, that includes the person's iris, can be used as visual stimuli to activate the retinal receptivity. Over time this will impregnate the autonomic nervous system and provide a form of rebalancing.

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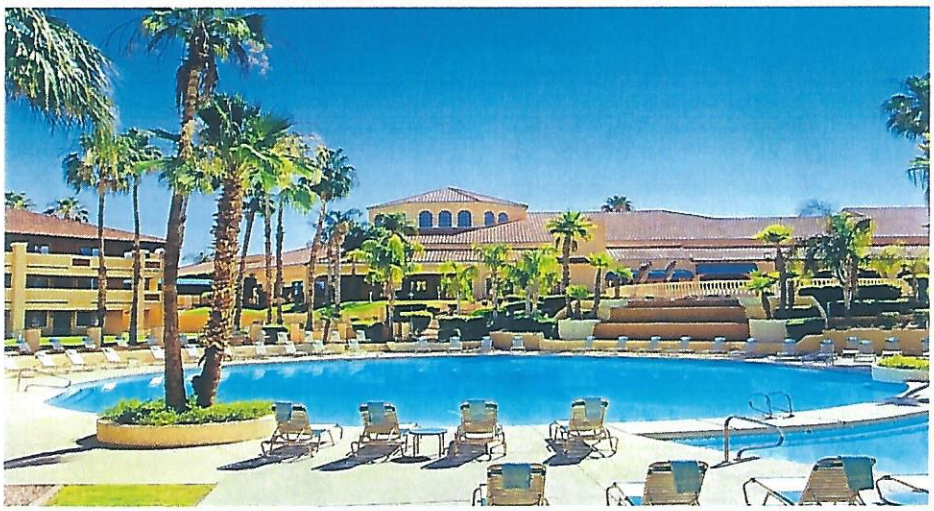
www.robertokaplan.com



College of Syntonic Optometry
76th Annual Conference on Light and Vision
Phoenix, Arizona
May 1-4, 2008
www.syntonicphototherapy.com

International Light Association
5th Annual Meeting & Conference
Heidelberg, Germany
October 20-26, 2008

www.international-light-association.org

Syntonic Basic I Bolzano, Italy, March 2-3, March 15-16

Syntonic Basic II, Solothurn, Switzerland, April 22-23

Syntonic Basic II, Barcelona, Spain, June 14-15

Syntonic Basic II, Stuttgart, Germany, June 28-29

Contact Dr. Stefan Collier

Australian College of Syntonic presents:
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Annual Australian College of Syntonics Conference
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Further details contact Nada in Australia
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