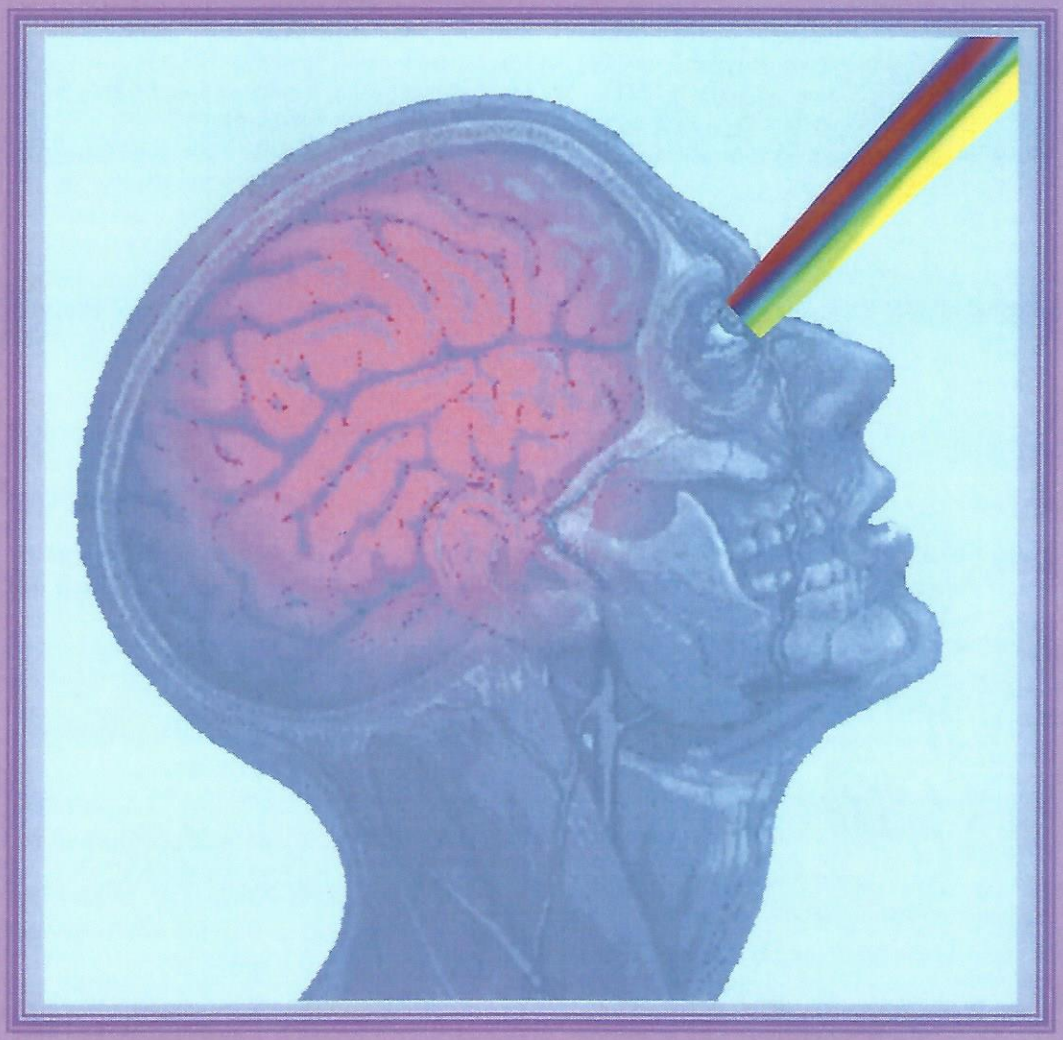
Journal of Optometric Phototherapy



Electrophonic Imaging
Bio-Typing and Morphological Analysis
The Autonomic Nervous System: A Delicate Interplay
The Alpha Omega Pupil
Monochrome Super Colors

March 2010

College of Optometric Phototherapy

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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ABOUT THE COVER

Radiations entering the eye affect neruo-hormones that course through the blood. Energy and information is carried by color and crystalline shapes to every cell throughout the body, directing the biochemical actions that support and govern vision.

SPECIAL THANKS TO: Rian Shah, N.D. for line editing and to our advertisers who make the color in this issue possible.

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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

Dear Colleagues,

CSO has grown throughout 2009-2010 with the merger of a new association, the Society of European Optometry (SOE). This merger was facilitated by the hard work of Stefan Collier and SOE President Benoit Lombaerts. Syntonics is an established specialty in behavioral optometry in Europe. Basic and advanced courses are held throughout Europe which includes certification. CSO gained over 50 new members in the merger.

CSO has also begun regional courses in the USA to teach Basic and Advanced courses for those who do not attend the annual conference. The curriculum has been developed by Stefan Collier, who will act as the primary instructor. We had 20 new members at last year's conference in Niagara Falls and many inquiries from prospective new members in the past few months. CSO has established membership in North America, Europe, Mexico, Australia, New Zealand, South America, and South Africa. The interest in phototherapy is growing at an accelerated pace. My experience with The International Light Association has reinforced how essential Sytnonics is for the world light community, as well as the importance of our leadership role in its evolution.

CSO was represented by Don Barniske, Ed Kondrot and I at the 6th annual conference in Greece. We all serve on their Board of Directors, striving to bring a closer collaboration between light practitioners around the world. We attended a very diverse number of presentations about the science of light therapy and therapies being practiced. There is truly a global explosion in the interest and science of light and color.

The board of CSO continues monthly conference calls to improve communication and grow your organization. The website, under the care of Tom Cunningham, is being developed to better serve your needs and reach those who want to learn more about our specialty. Board members Cathy Stern and Mary Van Hoy have been attending and speaking at numerous conferences in the field of vision therapy and the use of optometric phototherapy. Ray Gottlieb and I attended "The Science Behind Low Level Light Therapy", sponsored by the American Society for Photobiology, where Ray created a poster session on Syntonics. Ray also presented on Syntonics at an international conference on lighting and biology in San Francisco. Another year of research continues to validate the immense power of light in science within the healing arts.

The 78th Annual Conference on Light and Vision will continue to evolve our understanding of phototherapy. We will be privileged to have in our company Dr. Raymond Lanzafame, a leader in the U.S. and World Association of Laser therapy. He will present an overview of the biological effects of photo-bio-modulation in treatment. He will also discuss the biochemistry of phototherapy, it's affects on local tissue, and the vast array of therapies being developed using color. We will hear Rick Collier discuss how color therapy works and the prescribing of therapeutic lenses. Ed Kondrot will share his latest research on the use of Syntonics for glaucoma treatment and Geoff Heddle will discuss adrenal fatigue. Sarah Cobb, our editor and the most recent recipient of the Spitler Award, will present the medical aspects of Syntonics.

New this year is the addition of an advanced track of presentations. This will include information on advanced filters and biotyping analysis in prescribing, advanced field measuring, new syntonic syndromes and lateral light therapy. The basic course will again be taught by the CSO faculty. The pre-conference workshop will introduce the use of sound and voice analysis in prescribing color by Marysol Gonzalez Sterling, who will join us for Spain. You will again have the opportunity to attend the most exciting phototherapy conference in the world. I hope to see you all there.

Sincerely yours,

Larry Wallace, O.D., PhD, F.C.S.O.
President of CSO

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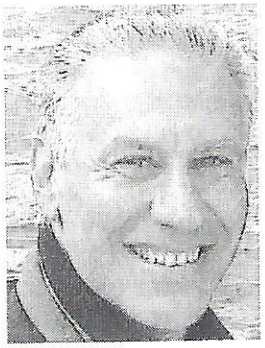

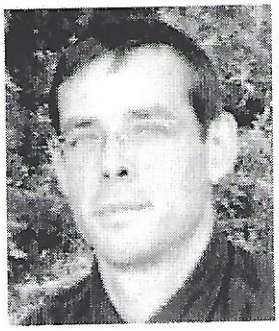

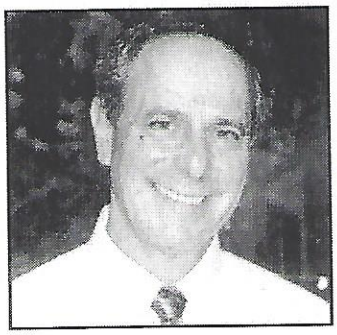

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Biotyping and Morphological Analysis in Syntonic Prescriptions

by Larry Wallace, O.D., PhD, F.S.C.O.

Historically, many healing disciplines have used body typing for diagnosis and treatment. This article will cover several different approaches that relate in their description of three basic biological types, all with consideration to mental and physical characteristics.

These described biotypes use optometry or color therapy in treatment. Expanding our understanding and observation skills of the physical and mental makeup of our patients can help the practitioner prescribe color more elegantly.

Morphological analysis has been in use for thousands of years, from the Greek typing of bodily fluids, to the 7000 year old Ayurvedic biotypes. Dr. Harry Riley Spitler said that proper morphological and biotyping analysis is of inestimable value in prescribing syntonic treatment. He also said that, regardless of all other considerations, a proper analysis of make-up and temperament would be an invaluable guide to help the patient.

Along with morphological analysis, the premise that structure governs function still dominates modern medicine. In light of new discoveries in biophysics, epigenetics, and neuroplasticty, the author wonders if this premise is still accurate: that environmental input can change the brain, the neuro-physiology, and even genetic expression.

Still, evidence and clinical experience show that an individual's hereditary makeup still governs nervous energy and endocrine function. Dominance of one part of the autonomic nervous system (ANS) can produce morphological types by creating an overactivity of one branch or underactivity of the other branch.

This ANS branch lateralization may predispose an individual to certain physical and psychological constitutions and maladies. The body's structure is an outward expression of the inner nervous equilibrium. Therefore, it is typical for an individual to become imbalanced in sympathy to their specific nervous dominance. Extreme imbalances are expressed as different biotypes via the thalamus and endocrine system. Dr. Spitler modified all of his color filter combinations for treatment according to the perceived body types.

In The Syntonic Principle, Dr. Spitler analyzed the modern approaches to biotyping from the 1700's to mid 1900's. He assessed the commonalities in each and adopted Kretchmer Biotyping as the most useful approach. Each of Spitler's 3 biotypes maintained the ANS as foundational for one's physical and mental characteristics. For example, special attention was given to the relation of width between the head and body, and the relation of vertical height between the face and total body. He used these measurements to define the three biotypes as Asthenic, Pyknic, and Syntonic. A narrow head and face was characteristic of Asthenic, a wide head was Pyknic, and a square head was called the Syntonic biotype.

According to Spitler, temperament and personality were also expressions of physical development. Asthenics were dominated by the sympathetic system, tending to be thin, fast thinkers. Pyknics were governed more by the parasympathetic system, tending to be heavier with slower mental processing. Syntonics were seen as balanced. Individuals were rarely considered a pure type but rather a combination, such as: Syntonic tending towards Pyknic, or Asthenic towards Syntonic, and so on .

Spitler thought the body type even extended to each cell and organ in the body. Of particular interest to him were the facial and vagus nerves which determine facial characteristics in response to the environment. [1]

Spitler was very likely influenced by Dr. Carl Loeb, with whom he worked before creating the College of Syntonic Optometry. Like Spitler, Loeb paid particular attention to the biotypes; he saw all symptoms and conditions as psycho-physical imbalances.

Dr. Loeb suggested the modification of color frequencies according to biotype, but advised against its use in directing therapy. Loeb used light to assist in conservation of energy; light has the ability to increase the body's assimilation, and assists in expenditure of energy by stimulating or raising metabolism, oxidation and elimination.

Light stimulation is used to initiate physiological compensation by reducing overactive function inherent in the vibratory rate that governs Loeb's three basic body types, which are: *Catabolic*, *Anabolic*, and *Metabolic*. The *Catabolic* or mental-type is similar to the *Asthenic* who expends energy. The *Anabolic* conserves energy like the *Pyknic*, while the balanced *Metabolic* type is similar to the *Syntonic*.

Loeb said that all three have a natural tendency to express themselves according to their vibratory rate. This rate, when imbalanced, conveys the color that is excessive. For example, the Anabolic has an inherent vibration of red in the body. When this red becomes excessive, they are called the Red Man or Vital type. In an imbalanced Anabolic, red is over-expressed and inflammatory disorders are more common. Anabolics seldom need red. If stimulation is needed, it is most often theta which produces more motor and less stimulation than delta, ultimately restoring underactive function.

The Catabolic is imbalanced by overzealous yellow–orange frequencies that create mental and motor instability; this type is termed the Yellow Man or Mental type.

Similar to Spitler's Syntonic type, the Metabolic is governed and stabilized by green. Overactivity of the inherent type causes disease by creating underactivity in another part of the mind or body. The underactive part is usually the cause of the complaint. Loeb recommends treating underactivity by inhibition rather than stimulation the overactive element. For example, for the Red Man, or Pyknic type, stimulation is achieved with the combination of theta-mu or with alpha-delta . This combination supplies the deficiency for this frequency.

The Catabolic or Yellow Man expends too much physical and mental energy at the expense of vital organs. To balance this type, it is necessary to use frequencies of color which oppose mental and physical stimulants. Colors used would be blue and indigo. The Sytonic treatment would be omega on the head to slow mental speed and increase control. Pi increases control rather than slowing mental speed. Upsilon is for the Anabolic and pi for the the Catabolic type.

The Catabolic patient has energy leaks which drain the vital energies. The Catabolic also suffers from motor excess expressed as irritability, restlessness and weakened vital organs. Energy leaks are reduced with the high energy content of the blue frequencies. The use of yellow or delta is contraindicated.

Loeb's body types have similar physical characteristics to Spitler's, but with a more elaborate psychological makeup. I refer the reader to a *Course in Specific Light Therapy* a treatise on *Harmo-Chrome Therapy* written by Loeb in 1939 . Loeb uses detailed lists of mental and physical symptoms to determine the color frequencies needed. Prescribed colors are modified to the constitutional body type. Symptoms are especially representative in chronic conditions.[2]

Optometry employed Loeb's work in the elaborate area of chrome-orthoptics, later developed by Dr. Henning. Dr. Henning used body types to prescribe color and lenses in combination to treat a myriad of functional visual conditions.[3]

Optometry also has incorporated body types based upon the models of Sheldon. Sheldon describes three body types based on physique and behavior. These types have their origins in embryological development and are called: *Mesomorphy*, *Endomorphy*, and *Ectomorphy*. The corresponding behaviors are *Somatotonia*, *Viscerotonia*, and *Cerebrotonia*.

The Mesomorph is the strong, physical, action-type who is aggressive, skeletal, and expends energy. The Endomorph is more soft, sensitive, visceral and conserves energy. The Ectomorph is cerebral, thin, restricts energy, and is emotionally inhibited.

Mesomorphs exhibit imbalances in localization, extra-ocular muscles, phoria, and duction findings. They tend to have headaches and are environmentally sensitive. The Endomorphs exhibit imbalances in the intra-ocular and non-action visual skills such as identification. These individuals tend to complain of stomachaches and emotional upset. The Ectomorphs are lost in ideation and tend to have challenges in action and performance.

These body type observations, combined with the traditional 21-point vision analysis, serve to guide vision therapy, lens prescriptions, and treatment protocols. This elaborate system can offer the practitioner another tool for diagnosis and treatment. [4]

Dr. Samuel Hahnemann, who is considered the father of homeopathy, believed that deep seated, inherited constitutional weaknesses were an obstacle to cure. He found that some patients would not respond to what he determined to be the perfect remedy. He believed that genetic weaknesses called

miasms had to be considered if a complete cure was to occur.

Dr. Hahnemann developed three basic physical and emotional types: *Psoric*, *Sycotic*, and *Syphilitic*. These biotypes possess physical aspects that combine external and internal anatomy with corresponding mental and emotional components. Additionally, each type is defined by exclusive disease patterns and behaviors. Prescribed remedies must be specific to the symptoms expressed in these unique miasms.

The Psoric is thin, tends toward skin disorders and acute illnesses and believes they can recover at any moment.

The Sycotic has more flesh, is heavier, tends to over-indulge and exhibits excessive mucous. Scycotics exhibit more chronic disorders of the internal organs. They tend to view their disorder as weakness, attempting to cover up and hide their symptoms.

The Syphilitic suffers from more degenerative, systemic conditions and frequently suffers from wasting diseases. They tend toward mental imbalance and can be violent, viewing their situation as hopeless and eventually giving up. Treatment requires the practitioner to recognize the part that miasms play in health and disease in order to come to an effective treatment.[5]

Ayurvedic Medicine has used three genetically determined constitutional types to guide treatment for over seven thousand years. Treatment includes the prescribing of color according to these constitutional types. Each biotype derives its characteristics from a dominant earth element: wind, earth, fire, or water.

The first type, Vatta is associated with air or wind and has effected bodily movement. Vatta exhibits imbalance such as overexertion, restlessness and fatigue. Symptoms of a Vatta imbalance include constipation, worry, and being underweight. Regulation is restored by green and the use of red, orange and yellow-green for physical and emotional fatigue.

The second Ayurvedic type is Pitta. Pitta is governed by the fire and water elements which regulate metabolism and digestion. Pitta relates to the liver and production of bile. Symptoms of imbalance include skin irritations and intolerance to heat. Emotional symptoms include impatience, irritation, frustration, and a critical or demanding nature. For Pitta, red is regulatory, while blue and indigo are effective for symptom reduction.

The third type is Kapha, which is governed by the water and earth elements. Kapha relates to the structural matter and lubrication of the body. Excess Kapha is revealed by phlegm and dull, oily skin. Kapha types have a tendency to oversleep, are lethargic and may complain of sluggish digestion. Color regulation is accomplished with orange and violet, and symptoms are alleviated with red, green and orange. Color treatment for all three Ayurvedic types comprise three principles: add color deemed deficient, compensate for excessive color, and balance colors. For example, give green and violet for acute disorders and red for excessive violet in chronic cases.

In Ayurvedic medicine, ophthalmology is a major specialty. Aside from color treatment, additional Ayurvedic modalities include: herbs, diet augmentation, aromatherapy, massage, meditation, gem stones, yoga and metal therapy. After analyzing a patient's specific elemental symptoms, such as heat and moisture, as well as their communication style and mood, the treatment is selected and tailored to the patient's specific constitution. [6]

Chinese medicine includes the five elements when analyzing an individual's constitution and susceptibility to illness and treats the organs associated with each element.

The system that uses the most Western medical and biological approach is the one adopted by Dr. Spitler. Spitler embraced the Kretchmer system because it had a comprehensive physical and psychological framework that fit in well with the neuro-endocrine foundation of Sytnonics. Spitler realized that no one comprised a pure type but are mixtures of different body types. However, unless one is in ideal neurological balance comprising the Syntonic designation, one body type traditionally dominates. Humans will tend to become imbalanced when they exhibit the more extreme characteristics of their dominant type.

Spitler also incorporated the dominant vibratory model of Loeb, describing these with Greek letters instead of color. He separated an individual's imbalance by brain (mental) and body (physical) signs and symptoms and treated them using pairs of color frequencies. The biotype analysis is comprised of personality, functional, facial, bodily, and elemental characteristics. Observing facial and bodily signs is one of the first impressions the practitioner can assess.

Spitler wrote a lot about the facial characteristics in particular. In reference to his definitions of Asthenic and Pyknic types, the mouth and lips are the most moveable features of the face and are, therefore, a chief exponent of what lies within. The mouth changes throughout life. The characteristics of the chin illuminate physical tendencies, with light in the lower section suggestive of increased emotionality, typical of females. Chins that are projected forward indicate a more physical orientation. Besides the eyes, it is the character of action that is the most difficult to control.

The mouth and lips reveal a key to the physical nature of humankind. The forehead, if well balanced, is broad, but not too high or too full. The eyes reflect intellect, the quality of that power, and cannot be controlled by will. The width of the face at the angle of the jaw should be the same as the width of the head. The nose, ideally, is one-third that of the entire face, perpendicular from the bottom of the septum to the root where it joins the brow. Certain traits of character are strongly indicated by the nose.[7]

Loeb especially emphasized the appearance of the nose. He was of the opinion that the nose divulged more traits than the mouth. The first appearance of the embryonic nose is maintained for a lifetime. Loeb believed the nose closely expresses our mental life. The more developed the nasal organ, the more comprehensive and fluent the language.

Loeb paid special attention to details that expressed emotional oversensitivity, which strains the vital organs and lowers resistance and immune function. Emotional oversensitivity causes the greatest drain on the patient's vital resources. For example, the patient may complain of symptoms which make it appear that there are digestive disorders and the practitioner may believe that digestive organs are the cause. However, it is emotional imbalance that needs treatment. This may be ascertained by observing nasal characteristics.

The bridge of the nose being at, or higher than, the forehead signifies a rapid mind. Loeb called this the "electric mind". However, this tendency for a rapid mind must be supported by proper control and careful judgment. Lack of control and snap judgment may lead to disappointment followed by emotional and digestive disturbances.

Judgment, as a trait, is reflected in the nasal break at the base of the nose. A high break is associated with thoughtful judgment and a low break with fewer considerations when making decisions. The judgment needs to correlate with mental acuity for mental balance. When the top of the nose shows a depression as it descends from the forehead, the mind is deemed slow. A slow mind paired with high judgment creates a very slow decision maker who is immutable after reaching conclusion.

Too much control causes suppression which, when combined with pain, leads to excess complaining. Sluggish reasoning is also associated with a round, thick-tipped nose. This feature is associated with mental depression, inaction, and making decisions by guesswork. These patients also are hard to treat, as they frequently do not want to get better. However, they are happy to spend all day telling you about their ills.

A thin, pointy nose indicates restlessness and over-attention. If the nose is short and the nostrils depressed, the patient is more susceptible to respiratory disease. A short septum indicates liver dysfunction. A nose that is depressed and very thin is associated with lack of will. A concave nose on adults indicates immature mental action. While Loeb gleaned these conclusions from keen, in-depth observation, they may be debatable. Because he treated both the body and the head, he used this type of biotyping along with exhaustive symptom lists to prescribe color for physical and mental rebalancing.[8]

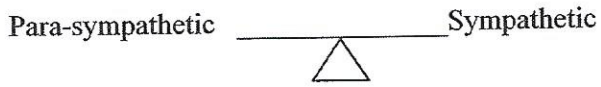
In contrast, Spitler treated only through the eyes. He used either sensory stimulation or depression for mental and nervous imbalance, and motor stimulants or depression for physical imbalance. This may be why Spitler primarily treated with combination filters.

Spitler believed the application of dual frequencies applied through the eyes could affect the efferent and afferent systems and, therefore, balance the mental and physical systems. The filters' actions were achieved through the thalamic response on sensory and motor control. The thalamus acts as a control center with all afferent and efferent nerves passing through the midbrain.

Spitler adopted Loeb's ideas about a dominant frequency for each body type and labeled them by the Greek filter combinations used in treatment. He also gave credence to Dinshah's Spectro-Chrome system.

Dinshah equated color with chemical potencies in a higher octave of vibration. These colors are visualized as spectral emissions following the application of thermal stimulation. The chemical potency can stimulate or inhibit each organ and affect anabolic and catabolic function.[9] It can be seen in

Spitler's chart that the Asthenic biotype uses more phosphorous (yellow-green), iron (yellow-green) and nitrogen (green) to burn energy. The Pyknic biotype uses more carbon (yellow), hydrogen (red) and oxygen (blue) to store energy. When imbalanced, each type needs the elements from the other biotypes. Spitler also describes the Asthenic as needing indigo and blue-green for the brain and yellow-green for the body. The Pyknic needs yellow or orange for the brain and indigo for the body.



Syntonics is often taught visualizing a balance board. The balance is achieved by either activating one side or inhibiting the other side. One either stimulates underactive function or depresses overactive function. The color combinations are chosen according to what the individual needs for their own unique constitution and makeup, as well as for their symptoms. So, red may stimulate one person but relax another. Blue may stimulate or inhibit the nervous system in the same unique way for each patient. Is the imbalance most evident in the brain or the body? Which functions are overactive and which underactive? It behooves the practitioner to study each patient carefully in order to best choose the color prescription for each individual.

Below are the descriptions and charts created by Dr. Spitler to guide the practitioner in creating a biotype for the patient.[10]

Spitler simplified the body types by saying the Syntonic was balanced and was, therefore, restored to balance using green. The imbalanced Pyknic, being parasympathetically dominant, typically needs red-orange–yellow frequencies for sensory and motor stimulation. The Asthenic, being sympathetically dominant, needs the blue-indigo-violet end of the spectrum for sensory and motor depression.

Spitler also includes different frequencies for the brain and body which are complimentary in color. An excellent example is the delta-omega (yellow-indigo) filter combination.

The earliest lectures given by Spitler and Cameron discuss treatment using frequencies that use body type to modify the treatment protocol. For instance, they discuss a Pyknic with esophoria and dominant red frequencies. This is what Loeb would say in his description of the Anabolic type.

Spitler, by using the concept of supporting the deficiency, would recommend prescribing blue-green (mu-upsilon) for a Pyknic with esophoria and yellow green (mu-theta) for exophoria. This counters the simplified prescribing model taught in the *Basic Course in Syntonics*. I think this is an example representing the use of color to either stimulate or inhibit the system; give a color to quiet an overactive system (inhibition) and support the body-mind's natural vibration (stimulation). That is why we occasionally use yellow-green or indigo for esophoria.

The conclusion is that we need to treat the patient as an individual and use whatever observational skills that work best for the practitioner.

Biotyping is another step up from the rudimentary prescribing based on *The Syndromes* or from the four basic filter combinations in *Dr. Butt's Miracle Workers*. This approach is often based on the phorias or symptom list that allows for simplified filter prescriptions. This method is still successful in 80% of our cases. But in chronic cases this may be too simplified.

Ocular symptoms are signs of inner imbalance. Through observation, such as morphogenetic analysis, we may see deeper into the causes of these imbalances and treat within a more holistic framework. This analysis is most pertinent for chronic disorders and less so for acute cases. The practitioner may adapt from these various approaches aspects of morphogenetic typing that speak best to him/her. By making more astute observations, we can improve the quality and effectiveness of our patient care.

MORPHOLOGICAL ANALYSIS

Definition: A description of organized beings with special reference to their forms and structure.

There are two great divisions of the autonomic nervous system: the *sympathetic* and *parasympathetic*. These two systems are antagonistic and it is the over-activity of the one, and the relative under-activity of the other that produces morphologic types.

The principle underlying all syntonic training is to more nearly balance the patient nervously and physiologically.

In syntonics we recognize three broad morphological classifications, categorizing the patients according to their physical and mental characteristics. They are *pyknic* (P), *syntonic* (S), and *asthenic* (A). The pyknic type (parasympathetic predominating) manifests certain physical and mental characteristics which, although not always outstanding, are typical. The syntonic type (sympathetic and parasympathetic *balanced*) is that individual who is mentally and physiologically well balanced, and is seldom handled syntonically except for bifocals, opacities, etc. The asthenic type (sympathetic predominating) manifests certain physical and mental characteristics which, although not always outstanding, are typical.

The morphological types' characteristics on the following pages are extremes, and are not often encountered in routine practice, although many patients have tendencies towards one extreme or the other. These types are further subdivided into:

- *Pyknic* leaning towards *syntonic* (abbreviated "P/S")
- *Syntonic* leaning towards *pyknic* (S/P)
- *Syntonic* leaning towards *asthenic* (S/A)
- *Asthenic* leaning towards *syntonic* (A/S)

All babies are pyknics in type. They change to true types at five or six years of age.

Writing and interpreting syntonic prescriptions

Syntonic Indication (a generalization) - syntonic type (sympathetic and parasympathetic balanced) being mentally and physically well balanced is seldom handled syntonically except when they are presbyopic or have opacity conditions, and generally the frequency band Mu (equilibrator) is indicated.

Pyknic Indication - pyknic type (parasympathetic predominating) being physically slow and sluggish, requires both mental and nervous stimulation. Therefore, one would generally employ frequencies toward the low frequency (red end) of the spectrum: Alpha (sensory stimulant), Delta (motor stimulant), Theta (intense motor stimulant) and combinations of these with other filters. If intense stimulation is required, filter "S" (stimulant) is added to the combinations.

Asthenic Indication - asthenic type (sympathetic predominating) being over-active both mentally and nervously, requires depressing or slowing down. Therefore, the higher frequencies (blue/violet end) of the spectrum would be indicated: Omega (motor depressant), Upsilon (intense sensory depressant), Pi (sensory depressant) and combinations of these with other filters. If a greater depressant is Indicated filter "D" (depressant) is added to the combinations. However, a sensory depressant (Pi or Upsilon) combined with a motor stimulant (Delta) is sometimes indicated for asthenics.

Facial and Bodily Signs and Characteristics:

Asthenic	Syntonic	Pyknic
Thin triangular face	Square face	Full round face
Thin upper lip - as a rule		Full lips
Long nose - high bridge		Small depressed nose
Narrow bridge		Wide bridge
Rapid pulse (Mu slows)		Slow pulse (Mu increases)
Hollow cheeks		Full round cheeks
Mouth closed, eyes open		Mouth open, eyes closed
Pointed, very narrow chin		Globular chin
Long neck		Short neck
Long extremities		Short extremities
Bass voice		Tenor voice
Trunk short & narrow		Trunk long & full
Shoulders square, high, angular		Shoulders sloping
Crowded ill-set teeth		Teeth even, not crowded
High cheek bones		Depressed cheek bones
Bony		Fleshy
Pale		Red
Tall - usually		Stodgy
Lips pale		Lips red to purple
Eyes large, maybe narrow PD		Eyes small, wide PD
Delicate texture skin		Rather coarse skin
Narrow head		Wide head
Tend to be fleshier after 35		

Functional Tendencies or Trends:		
High metabolic rate		Low metabolic rate
Hyperopia		Myopia
Esophoria		Exophoria
Dyspepsia		Asthma
Hypotension (low BP)		Hypertension (high BP)
Hyperthyroid		Hypothyroid
Headache		Apoplexy
Melancholia		Fatty degeneration heart & kidneys
General debility		Inflammations - gouty type
Wasting diseases		Rheumatism
Dizziness		Scrofula (swollen lymph glands)
Intestinal cramps (gas)		
Heart failure, Class IV		Diabetes - Mendelian recession
Menstrual cramps - at times		Menorrhagia (profuse flow)
Gastric ulcers		Gall bladder
Tumors (cystic)		Tumors
Acidosis		Alkalosis

MORPHOLOGICAL ANALYSIS
Characteristics based on the Kretchmer biotypes.

Asthenic	Syntonic	Pyknic
Syntonic Elements Used:		
Phosphorus Iron Nitrogen		Carbon Hydrogen Oxygen
Syntonic Elements Needed:		
Carbon Hydrogen Oxygen	Sugar Sodium	Phosphorus Iron Nitrogen
Frequencies To Which These Types	Correspond Or	Oscillate:
Brain: Delta Body: Mu-Upsilon or Omega	Brain: Mu Body: Mu	Brain: Omega or Pi Body: Alpha or Aplha Theta
Frequencies Which These Types Need:		
Brain: Omega or Mu Upsilon Body: Mu Delta or Mu		Brain: Theta Body: Omega or Pi Omega

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Electrophotonic Imaging: Measuring Human Consciousness

by Sam Berne, OD, FCOVD, FCSO

Leading physicist Fritz Albert Popp devoted much of his career proving that a tiny current of light emanates from living things, and that light is the central conductor for communication in the body. Popp said that a healthy person had a balanced amount of photon emissions. Conversely, a person with disease had an imbalanced amount of photon emissions. I define a balanced amount of photon emissions as an interrelated and fluid relationship between the sympathetic and parasympathetic energy field.

We are part of the ever growing field of Energy Medicine. I have been searching for a reliable and scientific way to measure the relative energetic (photon) state of humans with respect to health and disease.

I have both discovered and monitored photon emissions using a new technology called Electrophotonic Imaging. Electrophotonic Imaging, or EPC is breakthrough technology that measures human energy fields that surround the body. This amazing tool, invented by Russian Biophysicist Konstantin Korotkov, captures photon (light) emissions from the ten fingers which act as electrical termination points for the 12 main meridians of the body. Once the emitted light is captured via camera, the images are analyzed with a sophisticated mathematical tool know as fractal dimensionality.

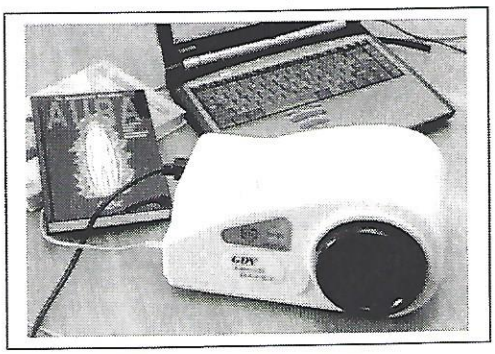
In real time, we collect data measurements from the energy of chakras, glands, and organs. By being able to measure the energy fields, we may be able to see patterns that could exhibit physical problems later. Since we are light beings, emitting photons, we can measure a natural informational change in our system using photons and electrons The EPC allows us to both measure and understand the physical, mental, psychological and spiritual consciousness. The intent is to work with human conditions on a quantum level, not a molecular level.

The EPC Process: First, a person's fingertips are photographed. Following the image collection, complex mathematical calculations are performed that derive statistics characterizing the strength, shape, dimensions, and irregularities of the fingertip images. When the 10 individual fingertip photographs are collated and interpreted, an image of the entire "aura", or full body energy field, is created. The software calculates over 30 parameters, such as: area, brightness, density, fractality, and entropy. These are statistically evaluated to track changes in health status, alterations in psychological states, or effects from participation in various therapeutic processes before and after such experiences.

Applications of the EPC:

- Locating actual physical areas of energy stagnation
- Demonstrating levels of vitality and stamina
- Studying effects of drug protocols
- Evaluating changes occurring after various forms of complementary modalities
- Measuring psychological and emotional states through chakra measurements

The EPC measures one's functional energy which correlates with his/her health status. Factors such as genetic predisposition, psycho-emotional states, environmental loading, (food, water, air, ecology) affect our energetic as well as physical health. In 1992 Dr. Fritz Popp and his colleagues wrote



a book entitled *Recent Advances in Biophoton Research and Its Applications.* The authors wrote that "low-level light known as biophoton emission's, a type of internally produced electro-magnetic radiation, is important in understanding the membrane- transport, bio-regulation, and gene expression."[1]

The EPC as it Relates to Health: Two Separate Studies

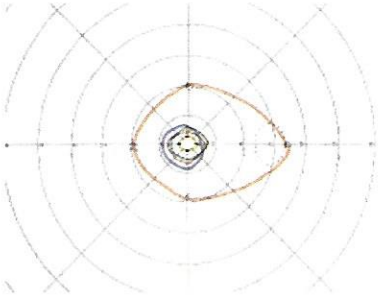
EPC data was evaluated in relation to Heart Rate Variability (HRV) measurements. The study used top Swedish athletes and found increased stability in their HRV values and central nervous system activity after six months of emotional self-management training. Data collected also showed an increase in balanced EPC photon emissions.

A group of Finnish healers and 21 massage therapists performed simulated healing under highly standardized conditions. Measurements, including blood flow, electrodermal activity, and EPC images, were taken. The authors found that during the healing simulation, the EPC patterns changed significantly in both groups, however, more pronounced changes occurred and were recorded among the healers. [3]

Syntonics Case History Using the EPC

I decided to see what changes, if any, a treatment regimen of Syntonics would have on a vision therapy patient. I chose Dena, a 6 year old amblyope. During her initial vision evaluation, I also measured her energy fields and chakras.

Dena responded well to the Syntonics treatment. At her final re-evaluation, I measured Dena's energy fields and chakras. Please see Dena's Case history, evaluation results, and EPC pictures below.



Case History: Dena

Date of Birth: 01/12/1995
Age: 6 Years, 11 months
Sex: Female
Reason for Evaluation: Lazy right eye. First Diagnosed by school nurse 5 months ago. Brief symptom list and history see below

Organization
*Fails to plan for homework
*Trouble keeping on task
*Does not finish tasks
*Seeks excessive attention
*Disorganized, messy room

Medical History
*Prenatal-normal
*Birth; natural with no complications
*Early Childhood; normal
*Medications; none
*Developmental History; normal

Date of Evaluation: 6/18/09—See initial EPC data on 6/18/2009

Visual Acuity unaided	
20" OD 20/60	14" OD 20/50
OS 20/20	OS 20/20
OU 20/20	OU 20/20

Ocular Motilities
Pursuits Grade 1 Jerky erratic with both eyes
Saccades Grade 1 head movement

Pupils
Alpha Omega Grade 3 OU, Release time 1-2 seconds; Fluctuation: Marked, Amplitude: Moderate

Monroe Visual 3
7 out 16 correct

Brock Posture Board
OD 2" out exophoria. Suppression 60% of the time
#4 OD +0.75= -1.00x47
OS +0.25= -0.25x85
#7 OD +0.75= -1.25x47; VA 20/40
OS +0.25sph; VA 20/20

Distance Phoria 5 eso
Distance Vergences
BO x|6|-2
BI x|2|-1

Near Phorea 7 eso
Near Vergences
BO x|4|-1
BI x|4/|0

14B OD+1.50 over #7 @ 16"
OS +1.25 over #7 @ 16 "
PRA -1.25
NRA +1.75
Ocular Health
Normal

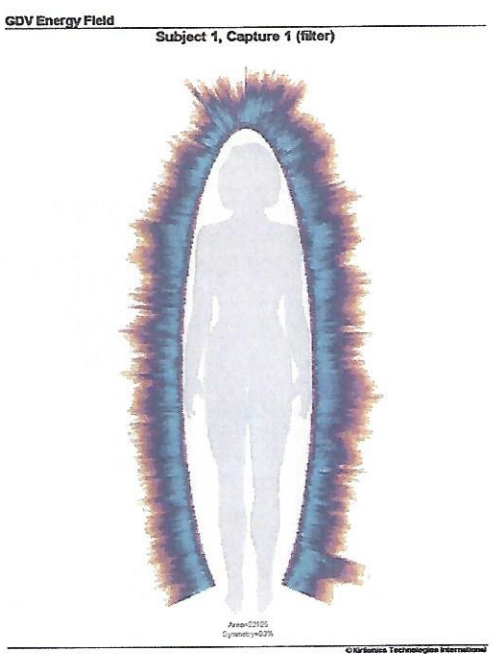
Goldman Tinometry
OD 15 mm
OS 14 mm

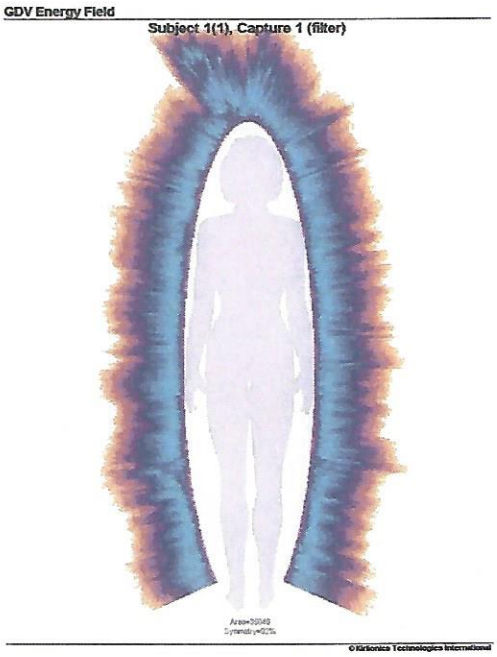
Diagnosis: Amblyopia Right Eye, Intermittent Divergent Strabismus, Suppression, Oculomotor Dysfunction
Prognosis:
Doctor's Goals:
1. **Improve Visual Acuity to 20/30 in Right Eye**
2. **Improve Binocular Status and Reduce Suppression**
3. **Increase Visual Fields**
4. **Improve Visual Information Processing**

Patient's Goals:
1. **Improve acuity in right eye**
2. **Improve sports performance**
3. **Keep track of personal belongings**

Syntonics Treatment:
Rationale: I decided to treat the amblyopia by using 10 minutes of Alpha Omega followed by 10 minutes of Alpha Delta. I expected to treat with these two colors for 1 week and re-measure the fields. If the fields began to open, and I could measure the blind spot, I would continue with the same regimen for another 2 weeks. If the visual fields were not opened completely and the blind spot was not its normal size after 3 weeks of treatment, I would change my treatment and use 10 minutes of Alpha Omega followed by 10 minutes of Mu Delta. I expected to use these colors for another month and re-evaluate the visual fields and blind spot.

1) 06/23/2009	Alpha Omega, 10 minutes	
	Alpha Delta, 10 minutes	
	Both 5 days per week in office	
2) Retested Visual Fields, 06//30//2009	Fields began to open	
	Blind spot enlarged OU	
	Continued w/ same treatment for 2 weeks	
	Alpha Omega, 10 minutes	
	Alpha Delta, 10 minutes Both 5 days per week in office	
3) Retested the fields, 07/09/2009	Fields still not fully opened	
	Changed Filters	
	Alpha Omega, 10 minutes	
	Mu-Delta, 10 minutes 5 days per week in office for two weeks	
4) Retested the Acuity and Fields, 07/23/2009	Visual Acuity Unaided	
	20" OD $20/20^{-2}$ OS 20/20 OU 20/20	14" OD $20/20^{-3}$ OS 20/20 OU 20/20
Retested using the EPC 7/30/2009 Discharged from Vision Therapy		

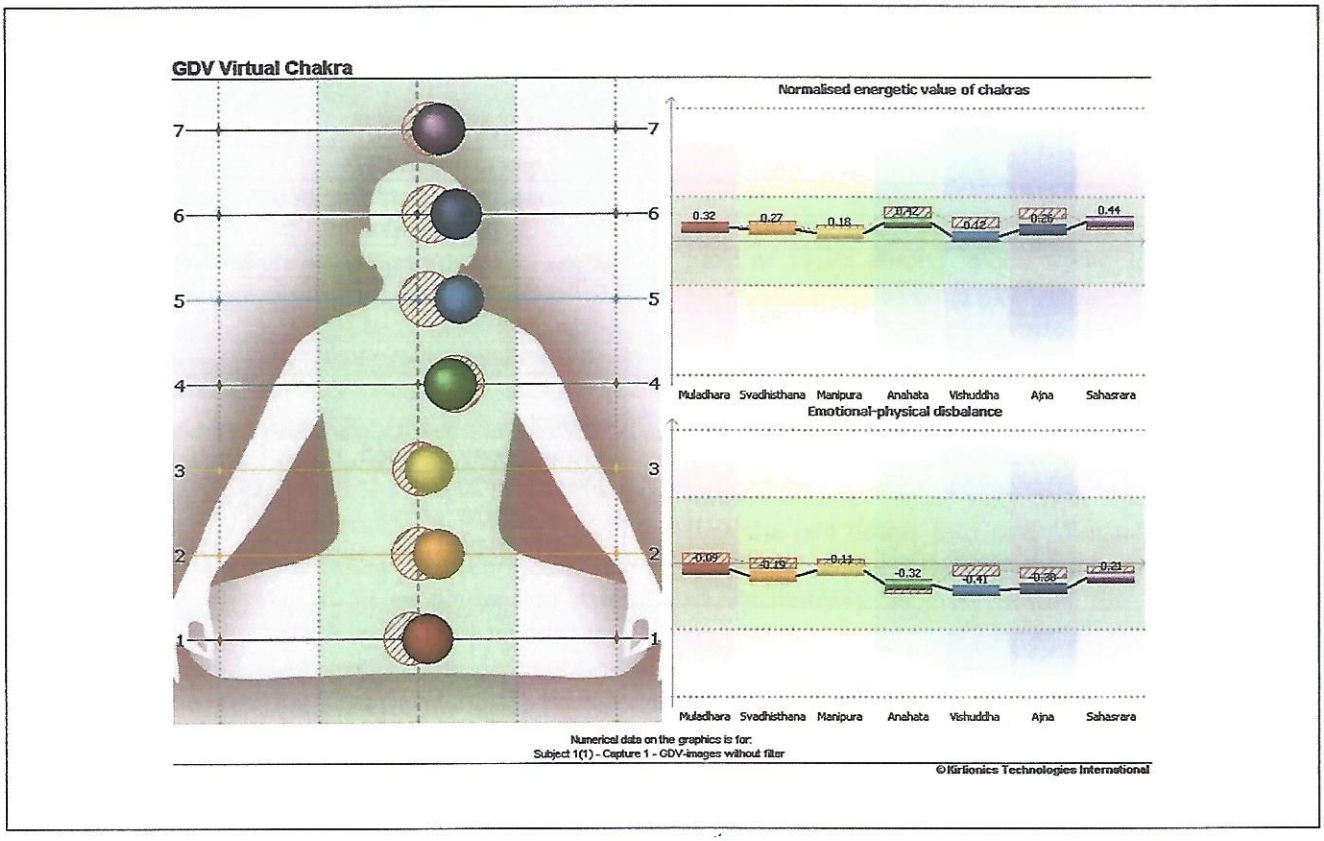




Analysis of Energy Fields--Dena

In subject 1 Capture 1, Dena's initial EPC showed a reduced energy field and some spikes throughout the energy field picture. In subject 1 (1) Capture 1, the re-evaluation EPC pictures show the total energy field was much more full and bright with a more equal energy distribution.

In comparing the chakra readings, the initial evaluation data shows chakras 4-6 to be drifting to the emotional (left side). However, after the syntonics treatment, the chakra diagrams are more aligned. Dena's energy pattern is showing more coherence.


GDV Virtual Chakra
Normalised energetic value of chakras
7
6
5
4
3
2
1
0.32
0.27
0.18
0.42
0.42
0.26
0.44
Muladhara Svadhisthana Manipura Anahata Vishuddha Ajna Sahasrara
Emotional-physical disbalance
-0.09
-0.15
-0.11
-0.32
-0.41
-0.38
-0.21
Muladhara Svadhisthana Manipura Anahata Vishuddha Ajna Sahasrara
Numerical data on the graphics is for:
Subject 1(1) - Capture 1 - GDV-images without filter
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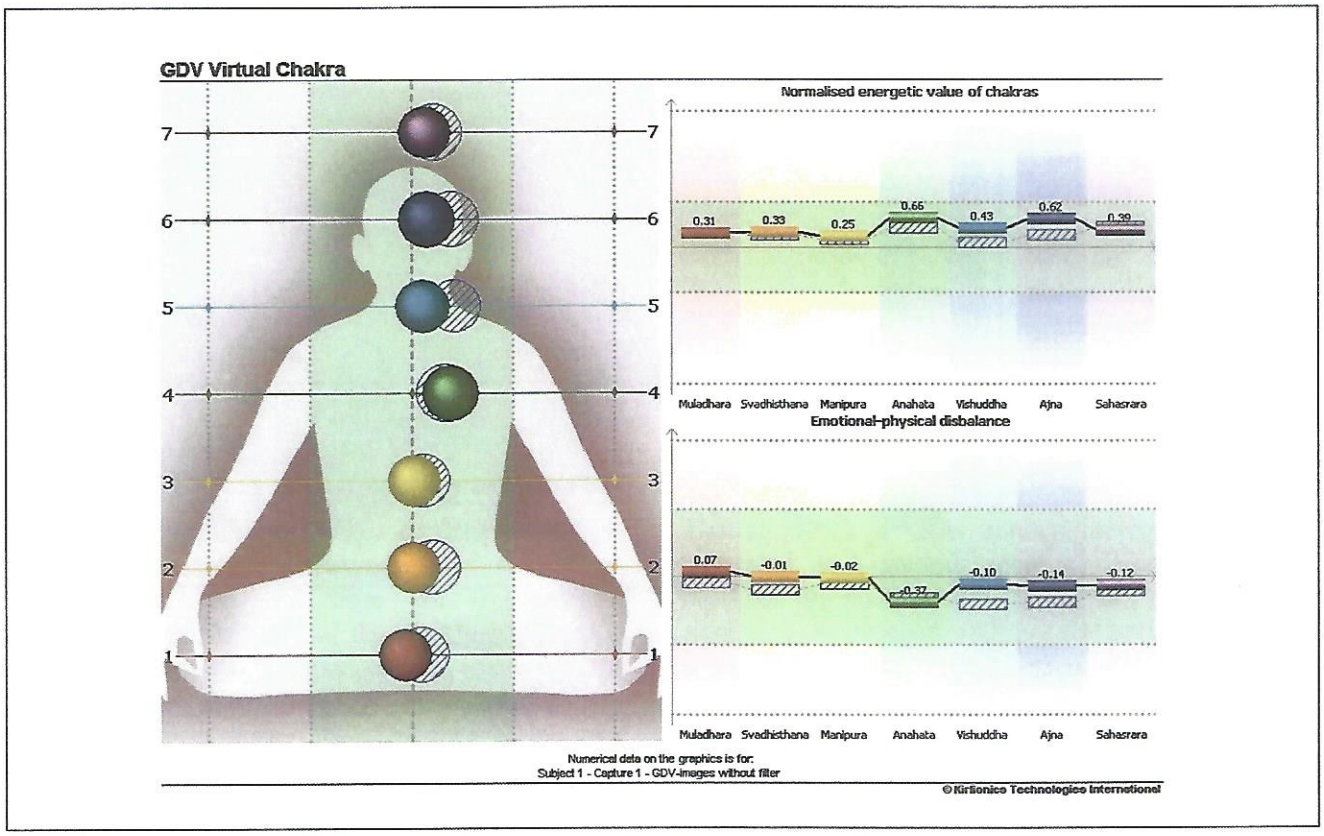
GDV Virtual Chakra
Normalised energetic value of chakras
7
6
5
4
3
2
1
0.31
0.33
0.25
0.66
0.43
0.62
0.39
Muladhara Svadhisthana Manipura Anahata Vishuddha Ajna Sahasrara
Emotional-physical disbalance
0.07
-0.01
-0.02
-0.37
-0.10
-0.14
-0.12
Muladhara Svadhisthana Manipura Anahata Vishuddha Ajna Sahasrara
Numerical data on the graphics is for:
Subject 1 - Capture 1 - GDV-images without filter
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Conclusion:

Dr. Korotkov's EPC is a diagnostic tool that validates the effectiveness of Syntonic Phototherapy. Since the eye contains approximately 137 million photoreceptors in the retina, application of Syntonics not only has an impact on improving visual conditions, but also influences our energy fields and chakra patterns. I look forward to doing more in-depth studies using the EPC.

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The Alpha Omega Pupil:
Clinical Considerations, Testing and Recording Standardization

by John J. Pulaski, O.D., FCSO

Introduction

Pupil reactions are the most important objective measurement Syntonic optometry has for assessing the integrity of visual perception as it relates to autonomic nervous (ANS) balance and adrenal functioning. Sensitive measurement of the pupil is used for diagnosis, to determine the course of treatment and to objectively monitor the effectiveness of our therapy. The purpose of this paper is to present an update of our current understanding of pupil reactions and to standardize the testing and recording of this important clinical measurement.

The reactions of the pupil are arguably the most sensitive measure of ANS activity in the human body. The pupil has rightfully been called the "Window to the Soul" or the "Apple of One's Eye" and is a beautiful example of a closed-loop biological servomechanism.[1] It's revelations and complexity are profound enough to attract the interests of optometrists and ophthalmologists, as well as physiologists, psychologists, neurologists, physicists, neuroscientists and biological engineers.[8] There are volumes of studies that use the pupillary reactions to monitor such things as cognitive function, Schizophrenia, Alzheimer's, Autism, alertness and fatigue and even sexual preference.[3,5,6,9]

Alpha Omega Pupil (AO pupil)

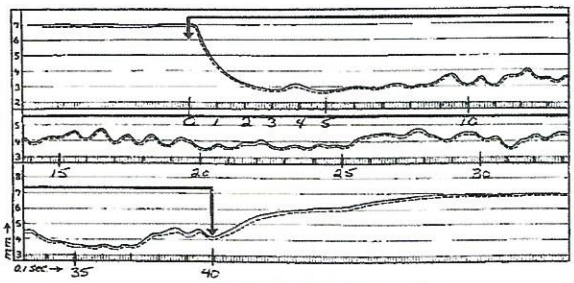
The syntonic optometrist's observations of the pupil are unique; we monitor not only the pupil's immediate reaction to light called the dynamic pupillary light reflex (PLR), but also its continuous reactions under sustained illumination to light over a period of time. Abnormalities in these sustained pupillary reactions have been called the Alpha Omega Pupil (AO pupil), a term that was suggested by Dr. Paul Johnson in 1934 after listening to the presentation of a paper by Dr. Dulton Brewer on pupillary asthenia.[4] The name is unique to the practice of syntonics.[2]

The AO Pupil is characterized by the abnormal re-dilation of the pupil during direct, constant light stimulation. According to Lowenfeld, a normal pupil should have a brisk PLR and hold this constriction without fluctuation for 8-9 seconds under constant light stimulation. As direct light stimulation is maintained, a slight fluctuation and re-dilation of the pupil of no more than 1-2 mm will occur over the next 40 seconds. This is termed "Pupillary Unrest" (see Figure 1).[7]

An Alpha Omega pupil may not constrict fully to light (decreased PLR latency and amplitude) and will show re-dilation and fluctuations before eight seconds of stimulation have elapsed. It differs from Pupillary Unrest in that its occurrence happens before 8-9 seconds have elapsed and has an amplitude that is greater than 1-2 mm. It is important to note that the abnormality is brought to normalcy with phototherapy treatment

In addition, the AO pupil is a key indicator of the limits of the functional visual field. There is an inverse relation that exists between the size of the functional field of vision and the length of time to re-dilation of the pupil. The quicker the release, the smaller the functional field.

Figure 1Pupillogram of normal 24 y.o. female under sustained light (Loewenfeld, "The Pupil")[7]



Neurological Etiology

The cause of the AO pupil has not been specifically determined and a detailed discussion of this is beyond the scope of this paper. Most pupil studies are done using the PLR as a reference with virtually no attention paid to sustained light stimulation. My research in this area indicates that the reactions are likely influenced by higher cortical pathways that exhibit sympathetic inhibitory inputs to the Edinger-Westphal nucleus probably by adrenergic inputs from the hypothalamus. There is also a nonadrenergic pathway from the nucleus coeruleus.

The neurological complexity of the pupillary reaction has been well stated by Loewenfeld.[7] "Any sensory, emotional, or mental stimulus elicits reflex dilation. Any sound, touch or pain, fear, joy or anger or spontaneous thoughts and intentional efforts all dilate the pupils. The amplitude of reaction depends on the degree of arousal caused by the stimulus and the subject's physical and mental state at the time of stimulation."

Testing

Below are the most important factors in pupillary testing. The key to accurate pupillary testing is consistency.

1. Room Illumination – The room should be dimly lit with the patient in dark adapted state.
2. Patient Fixation – The patient should look straight ahead at a non-accommodative, non-descript, distant target.
3. Light Source – A small, bright, concise light should be used that will remain consistent from visit to visit. A battery charged transilluminator is recommended.
4. Testing Distance and Location – The light should be introduced from below or temporal to the eye being tested to a location straight into the line of sight. The distance from the patient should be approximately 6-8" from the eye.
5. Duration – The light should be shone for approximately 10 seconds before each eye.

Questions to be Considered During Testing

(From Loewenfeld "The Pupil")[7]

1. Observe the size - too large/small for age, ambient illumination, etc.
2. Are the contractions to light and to near vision equally extensive?
3. Are they equal in size?
4. If unequal, is difference greater in dim or bright?
5. Do both constrict to light? Is the consensual response present?
6. Do both re-dilate when light is removed?
7. Is reflex dilation to sensory stimuli intact on both sides?
8. Are there other motor or sensory defects relating to the pupillary syndrome?

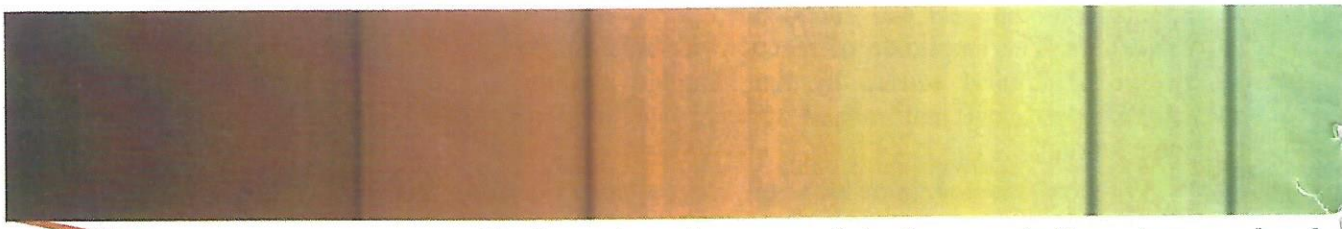
Observation of the AO Pupil

1. Observe the pupil under constant light stimulation for at least ten seconds.
2. Test right eye first and then immediately repeat the test on the left eye.
3. Observe the time that the pupil begins to re-dilate (release time), the amplitude of the re-dilation (change of pupil diameter from initial constriction to light to maximum dilation diameter) and any fluctuations.
4. Repeat at least three, observing changes with repeated stimulation.
5. Observe any sensory reactions such as: tearing, pain, photophobia, withdrawal, etc.

Table 1:
Recording of Pupil Reactions

OD		OS
0 1 2 3 4	PLR	0 1 2 3 4
0 1 2 3 4	Near Reflex	0 1 2 3 4
Yes No	Normal Direct	Yes No
Yes No	Normal Consensual	Yes No
_____	Pupillary Diameter	_____
_____	Time of Release	_____
_____	Amplitude of Release	_____
0 1 2 3 4	Fluctuations	0 1 2 3 4
0 1 2 3 4	AO Pupil	0 1 2 3 4
_____	Change in Repeated Stimulation	_____
_____	Sensory Reactions	_____

The Electromag



wallchart released into public domain b

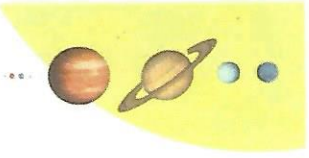
Wavelenght in Meter	10^8	10^6	10^4	10^2	1m	
Frequency in Hertz	$3x10^0$	$3x10^2$	$3x10^4$	$3x10^6$	$3x10^8$	3

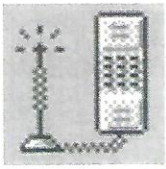
Interaction: non-thermal | thermal

Absorption in Atmosphere in Percent (%): 80, 60, 40, 20

Window 2

ELF-Atmospherics
SLF
AC Mains Power
Audible Frequencies
ULF
VLF-Atmospherics
Long Wave (LW)
Medium Wave (MW)
Short Wave (SW)
Ultra Short Wave
Microwaves





gnetic Spectrum

www.international-light-association.org

10^{-2}	10^{-4}	10^{-6}	10^{-8}	10^{-10}	10^{-12}	10^{-14}	10^{-16}
$x10^{10}$	$3x10^{12}$	$3x10^{14}$	$3x10^{16}$	$3x10^{18}$	$3x10^{20}$	$3x10^{22}$	$3x10^{24}$

optical

actinic/ionizing

Window 1

Infrared Radiation

Visible Light

Ultraviolet Radiation

Weak

Roentgen-Radiation

Hard

Radioactive Gamma-Rays

Ultrahard Cosmic Radiation

About the Centerfold:
The Electromagnetic Spectrum

by Alexander Wunsch

The Electromagnetic Spectrum wall chart provides some orientation in the endless ocean of electromagnetic waves. All electromagnetic radiation comes in discrete portions of energy quanta or photons. The source of photons is an oscillator which periodically emits these energy portions. Therefore, we can measure a frequency (the number of oscillations per second) in Hertz (Hz). Since photons travel at the speed of light, the frequency defines the wavelength of the electromagnetic radiation. Photons exhibit a particle nature or a wave nature depending on the observable conditions.

On top of the wall chart (**line 1**) you will find a magnification of the visible part of optical sunlight radiation displaying a number of black lines, the so-called Fraunhofer lines. These are absorption lines from heavy elements that are present in the outer layer (chromosphere) of the sun. **Line 2** indicates the wavelength in meter. As you can see in the wall chart, **line 3** denotes the frequency starting with 3 Hz and ending with 3×10^{24} Hz. In nature, the electromagnetic spectrum is endless and can't be fully displayed. **Line 4** defines the quality of interaction; frequencies below 30 kHz exhibit non-thermal effects, while the segment of visible radiation separates the thermal effects from the ionizing properties of wavelengths shorter than 400 nm. The yellow bar delineates the range of radiation behaving like visible light (e. g. focusable by lenses) while the white gap between the thermal and ionizing parts of the spectrum represents the small visible part ranging from 800 to 400 nm. The Earth's atmosphere has specific filter properties, displayed in **line 5,** that result in two frequency windows with 80% transmission; other frequencies won't pass through the atmospheric layers due to absorbance near 100%. Window 1 ranges from 3000 nm up to 290 nm, while window 2 is centered at a wavelength of 1 meter and ranges from about 100 meters up to 1 cm. **Line 6** gives examples of electromagnetic activities and the bottom of the wall chart, **line 7**, illustrates them.

Starting with extremely low frequencies found in galactic rotations and rotational activities in solar systems, the frequencies represented by planetary rotation are followed by a number of technical, man-made sources of electromagnetic radiation.

Please note that radio and television broadcast systems are active in the area of the atmospheric transmission window 2 and, therefore, may act as jamming transmitters and prevent our body from receiving the natural radiation in this frequency range that originates from the sun and other extraterrestrial sources. Beyond 290 nm (Ultraviolet B) the atmosphere and the magnetosphere protect us from aggressive short wave radiation like Roentgen, gamma rays and ultra hard cosmic radiation. Such extremely high frequencies originate from radioactive decay and atomic fusion processes found in microcosmic domains.

This wall chart created by Alexander Wunsch has been released into public domain by the International Light Association (ILA) and can be downloaded for free in high resolution from the ILA website:

http://www.international-light-association.eu/PDF/ila_EMS_pd.jpg

Grading and Recording of the AO Pupil

Observations of pupillary activity are recorded (Table 1) and used to determine the grading of the AO Pupil on a 0 – 4+ scale (Table 2). Fluctuations in pupillary reactions tend to be most prominent at the 2+ - 3+ levels with many variations in reactions that may not fit a hard and fast rule. These levels will also be seen as the field begins to open beyond the blind spot during treatment (15° radius). A 4+ AO pupil may show a very weak PLR with an immediate release to a large pupil diameter. These cases usually involve an intensely emotional or highly stressed patient.

Table 2

Grading the Alpha Omega Pupil

(Pulaski 2009)

Grade	Release Time	Fluctuations	Amplitude
Normal	≥ 7 seconds	Trace	Trace
1+ AO	4 – 6 sec	Moderate	Mild
2+ AO	2 – 3 sec	Marked	Mild-Moderate
3+ AO	1 – 2 sec	Mild-Moderate	Moderate
4+ AO	< 1 sec	Mild	Large

Treatment is determined by the combined assessment of the pupil, the functional visual field, and a comprehensive patient history. During treatment, the grading level of the AO pupil will be an indication of the effectiveness of the light therapy and the balance and flexibility of ANS functioning. Pupillary observation alone may be used to monitor treatment in those patients who cannot be field tested or those whose field results are uncertain.

In summary, the complexity of pupillary reactions cannot be underestimated as careful observation of the prolonged pupil reflexes to light reveals a "live, streaming view" of neurological processing. This reflects the on-going interaction of the human being with their environment through visual processing, projection and perception.

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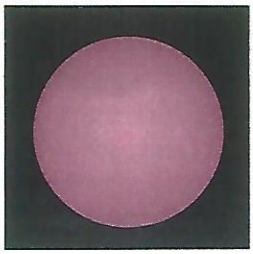
N is for Neurasthenia



by Ray Gottlieb

All of the the colored filters on the original syntonics phototherapy device (a.k.a. "The College Instrument" or the "Syntonizer") have Greek letter names except for three of them: the D, S and N filters. D is a washed out, broadband blue filter. D stands for depressor and is used in combination with other syntonic filters to depress the nervous energy of overcharged people. The S filter is light yellow. S stands for stimulator and is combined with other filters to stimulate an increase of nerve energy in sluggish people. N is for neurasthenia, and is a beautiful magenta filter that absorbs green frequencies but transmits the long and short wavelengths of the visible light spectrum.

Nowadays, most people haven't heard of neurasthenia or only have a vague sense of what it might be. The word refers to loss of nervous strength and was coined in an article by George Beard, an American neurologist. In the article, "Neurasthenia, or Nervous Exhaustion," published in 1869[1], Beard felt that neurasthenia was a by-product of the stresses of industrialization, such as economic insecurity, "too much freedom of thought," "repression of turbulent emotions," overspecialization and, above all, the pressure of time. Indeed, neurasthenia was also known as American Nervousness. Americans were supposed to be particularly prone to neurasthenia, which resulted in the nickname "American-itis" popularized by psychologist, William James. James, Marcel Proust and Virginia Woolf were said to have had it. [2]

Symptoms of neurasthenia include brain fog, fatigue, poor sleep, melancholia, anxiety, headache, moving muscle and joint pain and neurocognitive impairment of memory, processing speed and attention. Neurasthenia was a very common medical diagnosis in the two decades just before and after the turn of the 20th Century, especially during WWI and its aftermath. Its cure included extreme rest, electrotherapy and Americanitis Elixir, which was sold in drug stores and claimed to soothe bouts related to neurasthenia., In the 1920's the neurasthenia diagnosis gradually fell out of favor. Possibly because psychiatry became more accepted and patients with neurasthenia symptoms were alternatively diagnosed with anxiety, neurosis, hysteria or obsessive-compulsive disorder. After the 1920's, patients presenting with neurasthenia symptoms were told that, since diagnostic tests indicate nothing physically wrong, their symptoms were purely in their head and their problem was psychosomatic.[2]

The condition hasn't gone away, however, and has been living under various assumed names. It's been called: myalgic encephalomyelitis, Icelandic disease, Royal Free disease, post-viral fatigue syndrome, chronic mononucleosis, fibromyalgia, multiple chemical sensitivity, depression, and most prominent these days, chronic fatigue syndrome. Acute fatigue disappears after a period of rest. In chronic fatigue the mechanisms for reducing acute fatigue are no longer effective. Chronic fatigue syndrome is diagnosed when patients suffer from severe fatigue that persists or relapses for six or more months. Symptoms must be new or have definite point of onset (not lifelong), are not substantially alleviated by rest, and result in a reduction from previous levels of occupational, educational, social or personal activities. Patients must exhibit at least four of the following impairments: neurocognitive functions, poor sleep quality and recurrent sore throat, muscle aches, arthralgias, headache, and postexertional malaise.[3]

Fatigue is shockingly common. Surveys of large populations report that up to half of the general population have bouts of sustained fatigue and more than one-third suffer from chronic fatigue lasting longer than 6 months. Mental (central nervous system) fatigue causes failure to sustain motivation and attention on mental tasks that require effort to finish. Chronic fatigue extracts a significant cost not only to individuals but is also a huge loss to society. [3]

Research indicates that decreased vagal nerve (parasympathetic) activity and increased sympathetic nerve activity are associated with central nervous system fatigue.[4] This brings us back to phototherapy and the use of the magenta filter. Harmono Chrome Therapy, introduced by Carl Loeb in 1922 didn't include magenta. It was introduced later as Harmono Chrome Controller Number 6 (he used numbers rather than Greek letters). Number 6 was called the Anti-Neurosis filter. According to Loeb, #6 is similar to

#15 (alpha omega, red indigo), the emotional stabilizer. The difference is that #15 (alpha-omega) sedates physical over-activity and tension due to mental and emotional disturbances, but tends to create sadness and depression in some patients. So Loeb introduced #6 (N) to avoid the risk of depression. In Loeb's view, #6 lessens the activity of the patient without lowering his power.[4]

In Bertrand DeJarnette's Chromotherapy approach, 60 (the N or #6 equivalent) was specifically indicated for mentally and nervously distressed patients who also manifest signs of coldness or paleness due to poor circulation. DeJarnette, like Spitler, worked with Loeb before splitting off to start his own system. Magenta according to DeJarnette combines 30% alpha (red) and 70% omega (indigo). It is red enough to be warming to the circulation and thus brings relaxation without inhibiting circulation.[5] Thus, in Spitler's syntonic model, it brings up the parasympathetic (vagal) activity without overly depressing the sympathetic.

In addition to the neurasthenia syndromes, such as the anti-neurosis and mentally and nervously distressed patients described just above, N was used by syntonists for patients with specific ocular symptoms. These are listed in the original owner's manual for the Amblyo-Syntonizer.[6] N was used for treating Asthenopia. For Asthenic (A) and Sympathetic (S) types* with complaints of asthenopia "due to a lack of balance of the motor apparatus of the eyes", N was used alone for from 8 to 20 minutes. Pyknic (P) types were treated using Theta-Omega instead. All body types were prescribed N for treating asthenopia due to "lack of nerve tone". N was not used for Asthenopia due to ciliary spasm.

N was also used to treat several types of headache. For eye strain headaches, (supra-orbital or frontal), S types received N alone whereas P's were prescribed Pi+N and A's Upsilon + N. P and S migraine patients got N alone and A's got Delta + N. N was not used for occipital (thumping) headaches.

"N was also prescribed for syntonic treatment of certain phorias and tropias."**

Asthenics with esophoria were treated with omega + N but S and P types N was not given. For esotropia, S and A types were prescribed omega+N (P types were given omega treatments). Loeb recommended #6 (N) for relaxing myopia claiming that it worked better than infra-red treatments used at the time (1920's) by physicians specializing in eye work [4]

In the last decade, clinicians and medical researchers are taking these complaints more seriously. Scientific and technological breakthroughs are deepening our understanding of the complex interactions of immune, autonomic, and central nervous system dynamics. Clinical tests with greater sensitivity and sophistication provide objective means for detecting abnormalities in diet, toxicity, infection, allergy, genetics and the delayed effects resulting from physical and emotional trauma. It's likely that in the near future these breakthroughs will also provide a solid scientific basis for syntonic phototherapy.

* See the article on body typing by Larry Wallace in this issue.

** It is not to be assumed that the Amblyo-Syntonizer Technique is primarily for the treatment of phoria. However, considering phorias are often due to lack of innervation or irritation, it will be understood that the proper physiologic equilibrium between the Sympathetic and Parasympathetic nervous system is of extreme importance. This equilibrium may be obtained and maintained through the use of selected frequencies in the visible range of the spectrum, and is of great assistance when employed in conjunction with Myoculator (rotator), version, kinetic, prismatic and other types of orthoptic training. The statement with reference to phorias also applies to tropias. (p 46)[6]

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2 Evengård, B, *et. al.*, Chronic fatigue syndrome: new insights and old ignorance. (1999), *J. Internal Medicine;* 246: 455-469
3 Masaaki, Tanaka, et. al. (2009) Central nervous system fatigue alters autonomic nerve activity, *Life Sciences;* 84: 235–239
4 Loeb, Carl; 1922 *Harmono Chrome Therapy: Actina Therapy Digest: Second Edition* page 18.
5 DeJarnette, Bertrand, *Chromotherapy,* Nebraska City 1941
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Nascentization

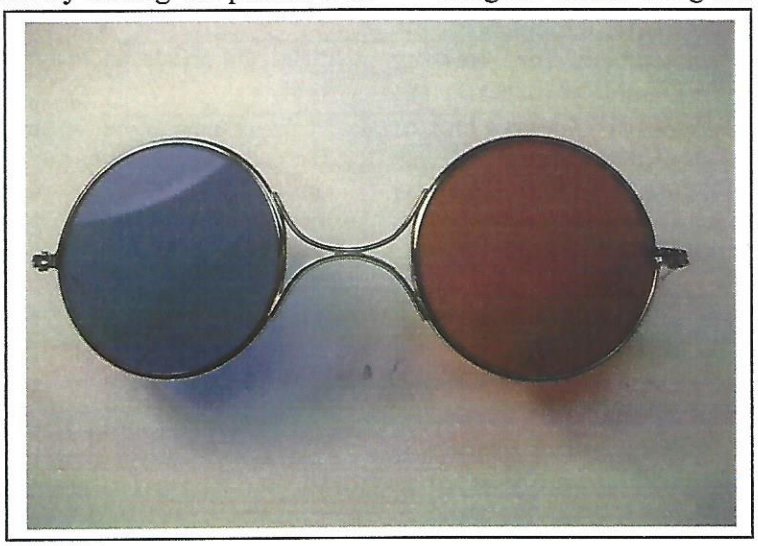
by Don Barniske, O.D., F.C.S.O.

Nascentization is the act of employing different frequencies of light through the visual system to disturb or dissociate established combinations of neural patterns thereby rendering the patient susceptible to the formation of new combinations of neural responses.

Nascentization is used to place the patient in a receptive state prior to utilization of selected light frequencies with syntonic phototherapy.

Patients are nascentized according to their ocular or visual departures from normal. If an ocular departure from normal is solely within the eye and its appendages within the orbit, including external or internal eye muscles, then **"L"** or **local nascentization** is indicated. If a visual complaint that is external to the orbit is determined, then **"N/L"** or **not local nascentization** is indicated.

"L" nascentization is given by having the patient wear green lenses over each eye while fixating white light with the collimating (diffusing) lens in place. Green or mu filters may also be used without wearing green lenses.



"N/L" nascentization is given by having the patient wear the red-blue glasses (red lens over non-dominate or non-fixating eye and blue lens over dominate eye), while fixating white light with the collimating (diffusing) lens in place. Considering that red and blue are the extreme frequencies at opposite ends of the visible spectrum, a visual and nervous antagonism is set up when the patient views and fuses the light with the red-blue glasses. The patient under "N/L" nascentization may first report seeing a red light, changing to a blue light, then changing to red; the light alternates back and forth, sometimes quickly, sometimes slowly and gradually slowing down. Ultimately, the patient should be able to fuse the red and blue lights into one single light of a pink or violet color. When trying to determine gross fusion, a red lens is placed over one eye and the patient is asked to fixate upon a white fixation light with both eyes open. When they see the light as pink, it is like achieving "luster."

Not all patients will react the same way to nascentization. Some may even find it impossible to fuse the two colors into one. Regardless of the visual reaction of the patient to nascentization, or the ability/inability to fuse during the process, nervous relationships and former habits of action are so disturbed and dissociated that the response to selected syntonic frequencies is accelerated.

During normal visual experiences the patient is never required to view, at the same time, a red object with one eye and a blue object with the other. Therefore, while using the nascentizing lenses, the patient's usual visual organization is disturbed so that it is possible to more easily assimilate the selected syntonic frequency.

Eyeglass lenses are not recommended to be worn by the patient during nascentization or syntonization. If fusion is impossible without lenses, then clear prism lenses allowing fusion should be considered.

Having taken a case history, performed testing as indicated and settled upon a diagnosis, determine whether the condition is "local" or "not local". It is now time to proceed with nascentization. Patients are nascentized from three to five minutes before each syntonic application.

Nascentization should be handled in a definite order to be sure that the patient's nervous system has been made as fully receptive as possible. It is suggested that the steps be carried out in the following order:

1. Switch on the constant light. Place collimating lens in position. Make sure no target is in front of the collimating lens.
2. Place either the "N/L" or "L" lenses in position according to the diagnosis of the patient.
3. When nascentizing "N/L", the red lens should be before the non-dominant or non-fixating eye.
4. Seat the patient comfortably at the syntonizer.
5. Instruct the patient to look through the light formed by the collimating lens.
6. Have the patient report the color of the light or lights seen.
7. Inquire occasionally whether the light is being fused. If the patient has fused the light, the fusion should be maintained under nascentization for about two minutes.
8. As soon as nascentization is completed, syntonization may begin.

Question the patient to ascertain if the light is fusing during nascentization. When fusing under "L" nascentization, the subjective interpretation will be an approximation of white. When fusing under "N/L" nascentization, the subjective sensation will be of varying shades of pink to amethyst. Variations of subjective sensations will depend upon the patient's color sense or some phase of color perception.

The filters and light sources are broad band filter combinations and may not apply to narrow band width filters and light sources. Please consult the manufacturer if narrow band light/filter combinations are being utilized. Nascentization utilizing the broad band filters would render the patient more susceptible to narrow band light therapy.

Smart, but harmful!

Can flat screens harm the eyes?

Why do people who spend their working days sitting at a computer often feel exhausted? And why do ever more people suffer from eye problems? One cause may be the light emitted by flat TV and computer screens. Early studies point to hitherto unknown connections.

By Reinhard Gerl // Germany. www.bluelightprotect.com

In modern working life TFT flat screens have become ever more prevalent. These modern flat computer monitors and LCD TV screens use background lighting based on mercury. These are active light sources which many professional people have to face for long hours every day. Thus our eyes are subjected for longer and more frequently to the so-called mercury light.

The light spectrum of the screen - like that of energy-saving lamps - contains an unnaturally high proportion of blue light. LED displays also emit a high proportion of blue light and there is no reasonable alternative.

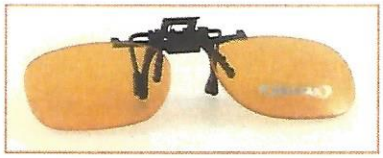
Early scientific research*, deserving serious consideration, suggests that a light spectrum with a high proportion of blue light may result in damage to the back wall of the eye, the macula. The sudden leap in age related macular degeneration (AMD) could be the result of increasing stress due to blue light. Macular degeneration is caused by damage to the point of sharpest vision and can result in blindness. The macula, the back wall of the eye, is especially sensitive to blue light. Currently, more than 10 million people in the United States suffer from age-related macular degeneration.

Many people working at flat screen computers complain of headaches, impaired, concentration, tiredness, sleep interference and strain. Burning, weepy and red eyes, stabbing pain, blurred vision, twitching eyelids, periodic short-sightedness, double vision and changed color perception are frequent and typical problems resulting from working on computers.

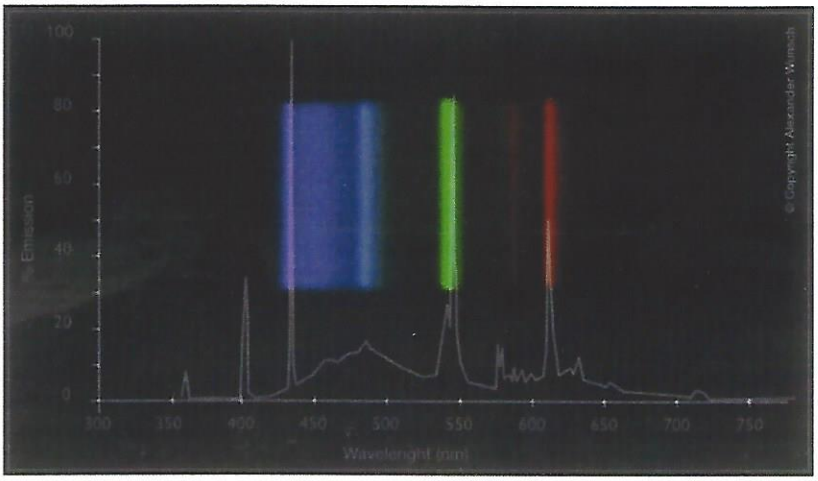
However, people who for professional reasons have to spend many hours in front of TFT flat computer screens can protect themselves from blue light by wearing spectacle lenses with a special filter. Special yellow lenses can filter out a large proportion of the harmful blue light. Computer safety glasses are now available which are specifically designed to provide optical protection from blue light. Further information regarding these special protective glasses may be obtained from Innovative Eyewear, Germany (www.bluelightprotect.com).

Source: Algvere, Peep V.; Marshall, John; Seregard, Stefan: "Age related maculopathy and the impact of blue light hazard", in: Acta ophthalmologica, Issue 84, H.1, pp 4-15. Available online: doi:10.1111/j.1600-0420.2005.00627.x.

PRiSMA® CLASSiC bluelight*protect* pro
Blue light protection ++ optimal



PRiSMA® CLiP-ON bluelight*protect* lite
Blue light protection + good



The colored strips depict the spectrum of a TFT screen which has cathode ray tubes as a background (photographed through a pocket spectroscope).It represents the spectrum already familiar from energy-saving lamps and other mercury containing light sources.

As a comparison the spectral distribution curve of an energy-saving lamp with 6500 K correlated color temperature is represented in grey. The high blue portion as well as the sharp peak at 436 nm are clearly identifiable.

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The Autonomic Nervous System: A Delicate Interplay

by Rian Shah, N.D.

"Popp stated that....health (is) a state of perfect subatomic communication, and ill health (is) a state where communication breaks down. We are ill when our waves are out of synch."
The Field, Lynne McTaggart

Fritz-Albert Popp understood that a person's health could be predicted according to the light in his/her body, and its relative state of coherence. This made him question how the coherence of light was affected by specific foods. In attempt to answer this question, he compared light emitted from free range chicken eggs to that from hens raised in traditional chicken farms; he found that the light emitted from the free range chicken eggs was more coherent. This spiked his curiosity and he continued to measure and compare light emissions from different foods. He found that the higher quality food had the lowest, most coherent light.[1]

Our patients come to us exhausted and depressed and there are many possibilities in our differential diagnosis. Stress, poor dietary choices, lack of exercise and nutritional deficiencies all play small parts in the larger picture of Adrenal Fatigue Syndrome (AFS). While AFS, in its early stages, does not typically show abnormal hormone/catecholamine levels, it can present with tell-tale signs, symptoms, and history of present illness. The following discussion of the autonomic nervous system (ANS) is an effort to better elucidate the pathophysiology of the adrenal system, explain the push-pull nature of the ANS, and describe the naturopathic protocol for diagnosis and testing of AFS.

If Popp was correct is suggesting that higher quality food emits a more coherent and harmonic light, then by combining Syntonics along with good nutrition we may be able to help our patients increase their energy and overcome AFS with greater expedition.

The Adrenal System

The adrenal glands are the size of grapes, pyramidal in shape, and sit atop each kidney. Their main function is to modulate the stress response by releasing hormones through the synthesis of catecholamines, steroids, cortisol and adrenaline.

The adrenal glands, hypothalamus, and pituitary gland work in concert to produce the complex set of feedback interactions and direct influences that is called the hypothalamic-pituitary-adrenal axis (HPA). The HPA axis helps to regulate temperature, digestion, immune system, mood, sexuality and energy usage. It is also a major part of the neuroendocrine system that controls the body's reaction to stress, trauma and injury.

The adrenal cortex and medulla are two distinct structures that make up the adrenal gland. Each structure performs a very separate function and produces different hormones.

The *adrenal cortex*, which is the outermost section of the adrenal gland, secretes hormones that have an effect on metabolism. **Cortisol** controls the use of fats, carbohydrates and proteins. **Corticosterone** suppresses the inflammatory response and modulates the immune system. **Aldosterone** maintains blood volume and blood pressure by controlling the amount of sodium excreted into the urine. The **androgen hormones** have an effect on male sex characteristics.

Deep within the adrenal gland is the *adrenal medulla* which secretes epinepherine and norepinepherine. **Epinepherine** (adrenaline) increases the heart rate and force of heart contractions, facilitates blood flow to the muscles and brain, causes relaxation of smooth muscles, and helps with conversion of glycogen to glucose in the liver. **Norepinephrine** (also called noradrenaline) has little effect on smooth muscle, metabolic processes, and cardiac output, but has strong vasoconstrictive effects, thus increasing blood pressure.[2]

The adrenal glands are directly linked to the sympathetic nervous system; the adrenal medulla can be considered a sympathetic ganglion. Sympathetic fibers run through the sympathetic trunk before connecting with the adrenal medulla.[3]

The two divisions of the ANS, the sympathetic "fight or flight" and the parasympathetic "rest and digest", typically function in complementary opposition to each other. When one pushes, the other pulls and vice versa. For example, standing up from a sitting position would cause the blood pressure to plummet if it were not for a compensatory increase in arterial sympathetic tone. Heart rate also requires constant modulation by sympathetic and parasympathetic influences.

This push/pull should change dominance throughout the day. However, a person can maintain a primary tone in one division. When a dominant tone is maintained for too long, one loses this fluid interchangeability and may begin to experience troubling symptoms, such as: hypertension, digestive issues, migraines, and many others. The goal should be to maintain homeostasis.

The Effect of Stress on the Body

When someone is in a chronic stress state, or sympathetic tone, their adrenal glands become stimulated to activate the "fight or flight" response. As stress hormones course their way through the blood they begin to effect organs and tissues; blood is diverted from the gastrointestinal tract and skin toward the vital organs, pupils dilate allowing more light to enter the eye, heart rate and myocyte contractility are increased while blood flow to the skeletal muscles and lungs is enhanced. The body is primed to "run from the bear" to the best of its ability.

It can be conceived that after a period of time in this stressed state, the constant barrage of hormones and steroids begin to change the body on a cellular level. At first the constant supply of adrenaline keeps a stressed person going. However, research suggests that chronic stress selectively targets brain circuits responsible for integration of the stressors into the body. This results in a decreased HPA axis responsiveness.[4] As the body struggles to keep up, the hormones and steroids excreted by the adrenal glands decrease and the patient becomes profoundly fatigued. He/she looses their built-in "motor" and dependence on caffeine and other stimulants may become paramount. AFS is a common diagnosis at this stage in the game.

Nevertheless, AFS is not a recognized syndrome by most traditional M.D.'s. This is because medical students are taught to only recognize extreme adrenal malfunction – either Addison's disease, when the adrenal glands produce far too little cortisol, or Cushing's disease, when the adrenal glands produce far too much cortisol. They test adrenal function by testing ACTH levels, using a bell curve to recognize abnormal levels. Yet, the ACTH test only considers the top and bottom 2% of the curve abnormal. People can experience symptoms of adrenal malfunction outside of this mean, but it is not recognized by the mainstream.[5]

Symptoms of Adrenal Fatigue Syndrome

There are common symptoms of AFS. A patient may complain of salt cravings, high or low blood sugar, increased PMS, perimenopause or menopausal symptoms under stress, mild depression, lack of energy, decreased ability to handle stress, muscle weakness, absent mindedness, decreased sex drive, mild constipation alternating with diarrhea, and many others.

Patients with adrenal fatigue also have a distinct energy pattern. They are fatigued in the morning, not waking up until 10 AM and do not feel fully awake until after a noon meal. They experience a diurnal lull in cortisol and, as a result, feel low during the afternoon between 2-4 PM. Patients generally begin to feel better after 6 PM; however, they are usually tired after 9 and in bed by 11 PM. These patients find that they work best late at night or early in the morning.

Assessment of Adrenal Fatigue Syndrome

Since symptoms of AFS can also be symptoms of a deeper problem, it may be wise to cast a wide net when forming the differential diagnosis in order to avoid missing a more severe issue.

There are no specific tests that provide a true diagnosis of AFS. However, there are tests that may contribute to an assessment, such as the Pupilary Dilation Test (*Please see Dr. Pulaski's article, in this issue, on the "Alpha Omega Pupil" for a complete description of this in-office test*), the postural hypotension test, the AM cortisol test, or the ACTH stimulation test. Although stated earlier that the ACTH typically comes back within normal limits, it is still important when attempting to rule out a more pressing problem. It is also customary to assess the adrenals together with thyroid to rule out thyroid hormone insufficiency which occurs in long-standing hypothyroidism.

There is still some question as to why the Pupilary Dilation Test will show pupilary fasciculations in a

patient with a stressed adrenal system; this reaction may be due to low aldosterone in some cases. The pupil in a typical, healthy subject reacts briskly and remains constricted as long as the light beam is present. If the body is severely sodium depleted, the pupilary constriction does not "hold" and the pupil oscillates. Although salt depletion may occur as a result of many abnormal physiologic processes, the most common is diminished adrenal function and diminished aldosterone and the subsequent chronic loss of sodium and chloride into the urine.

Luckily, there is much we can do to help reset the health of the adrenal glands. This is where naturopathic medicine and Syntonics come together.

History and Scope of Naturopathic Medicine

Naturopathic medicine grew out of alternative healing systems of the eighteenth and nineteenth centuries, but traces its philosophical roots to the vitalistic school of medicine of Ancient Greece (circa 400 BC). Over the centuries since this time, the two competing philosophies of medicine, vitalistic (now called natural medicine) and mechanistic (now called allopathic or conventional medicine), have alternately diverged and converged, influencing and shaping one another. While always focusing on nature cure, healthy diet and lifestyle and prevention of disease, it has become more and more mainstream. Today, there are 6 accredited schools that have naturopathic medical programs. Graduates must obtain licensure by taking rigorous board exams and keep licensure only by keeping up with CE credits. Naturopaths are licensed primary care physicians in 13 states, with California the most recent to obtain licensure.

Naturopathic physicians are guided by six principles: First do no harm, The Healing Power of Nature, Discover and Treat the Cause – Not just the Effect, Treat the Whole Person, The Physician as Teacher, and Prevention as the Best Cure. The naturopath's goal is to understand the patient's needs, begin to know them as individuals and attempt understand their presenting symptoms as individual expressions of their state of wellness. Naturopaths believe that when a person has a toxic lifestyle, whether it is through diet, environment, or psychological influences, they become imbalanced and more susceptible to disease. By removing these toxic impediments to healing, the body in its infinite wisdom will heal itself. Sometimes, by itself, but most of the time with assistance from counseling, herbs, homeopathy, phototherapy, physical medicine, and hydrotherapy, with pharmaceutical medications as a last resort.

A person with AFS has, most likely, many influencing factors that should be identified and removed in order them to optimize treatments with light. I will outline how this presentation would be approached and managed by a naturopath.

The Naturopathic Interview

An in-depth interview will help to identify the contributing factors to the patient's AFS:

1) History of Present Illness: when did the symptoms begin? Can you think of a defining moment? How does this affect your daily life? What do you think contributed to the way you are feeling now? Rate your stress from a 1-10. Any previous diagnosis of chronic illness? Recurring infections?

2) Describe your diet? Tell me what you ate for breakfast, lunch and dinner for the last 3 days. Amount of caffeine or other stimulants, amount of water, amount of sugar and processed food. What supplements/medications and dosages are you taking? How much exercise are you getting every day and what type?

Understanding the patient on a deep level is crucial here because no matter what therapy is chosen, if the cause is not identified and dealt with the problems will most likely return. The focus or pivot of the stress may be emotional, physical, nutritional, chemical, or spiritual. A thorough interview will establish trust with the patient and will help guide them to their own answers. The interview style should be open-ended, avoiding yes/no type answers as much as possible. Reflective listening and paraphrasing techniques can also be helpful in guiding the patient to the source of their stress. The patient always knows, on some level. It is our job to help them uncover the answer for themselves; this is an empowering way for them to begin treatment as it makes treatment and recovery their choice.

Lifestyle Protocol for Adrenal Health

As practitioners of light there are protocols that will balance the ANS and bring a patient back into fluidity. If Syntonics is, in effect, energetic, and it is agreed that

the body has both physical and energetic properties, then in order to get the most of prescribed energetic therapeutic methods, a person's energetic field must be clear and receptive. If according to Popp the wrong foods affect our coherence of light and therefore the effectiveness of intracellular communication, a more resonant channel can be created by guiding patients toward a healthy, whole grain, organic diet.

Eating toxic foods, whether these are foods a person is sensitive to or simply junk food, can cause chemical stress in the body. Unhealthy, processed food takes a lot of energy to process the nutrients which can weaken the body and manifest as low energy. Sugar and high glycemic index diets cause exhausting insulin spikes and reactive dysglycemia. These sensitivities can be investigated by undertaking an Elimination Diet of detoxification and subsequent regimen of additions to the diet over a specific period of time.

Energetic medicine is the medicine of relation – relation of cell to cell, relation of tissue to tissue, relation of body to tissues, relation of person to body, and relation of person to person. Expanding our assessment beyond what we are used to and moving as deeply as our patient will allow gives us the opportunity to develop a deeper and more harmonious energy with them and with ourselves. Once we can help bring balance and clarity to old, unhealthy habits, we can help our patients to better understand themselves and how their daily choices affect their health. The power of a caring relationship is the most powerful healing there is.

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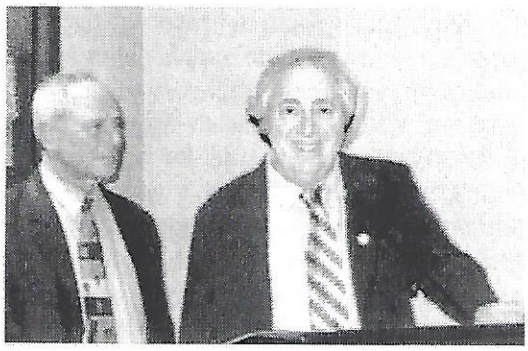
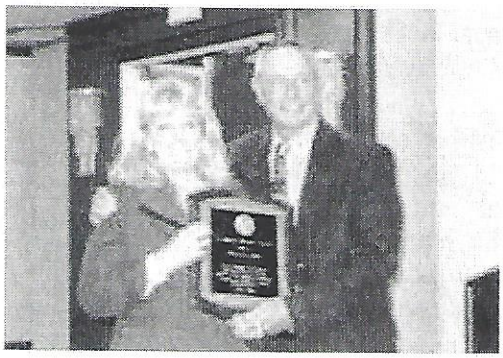
Congratulations to Dr. Larry Wallace



Ph.D Awarded to Larry Wallace for significant contributions to phototherapy: conducting original research, inventing new therapy approach, compiling extensive historic and theoretical literature search.

Harry Riley Spitler Award Presented to Sarah Cobb



"Given with respect and gratitude to honor your years of service as JOP editor, secretary, author, teacher and for research, invention and innovation in advancing syntonics worldwide"

May 2, 2009

Ayurveda Fields Vision Education

by **Fernanda Leite Ribeiro**

We all know that vision can be improved through natural methods. However, our patients may experience a specific difficulty in overcoming the emotional barrier that comes with visual loss. They simply want to regain their vision like magic. Many times this gives rise to frustration in the face of what is possible and, therefore, what we offer is not sufficient.

For this reason, we proposed a joint study with Dr. Maisa Misiara, an Ayurvedic and Homeopathic physician. Our goal was to unite visual education to Ayurvedic medicine, which is traditional Indian medicine. According to Ayurveda, everything is nutrition: the food we eat, the air we breathe, and our thoughts and emotions. Health is directly linked to our capacity to digest this food. According to the Ayurvedic perspective, if we "eat" with our eyes and do not have adequate visual digestion, we become intoxicated and do not see clearly.

The regulating element of this digestive force is called *Agni*. It governs all the transformations in the body, from the digestive system to the subtle mental processing of information. It keeps balanced the temperature of the body, the immune system and the assimilation of our feelings, thoughts and perceptions. In short, *Agni* governs everything that is assimilated by our sense organs. It transforms the adverse situations of our physical and emotional life. When we cannot digest, we get sick. However, each human being has a unique energetic constitution; each *Agni* manifests differently. Ayurvedic treatments consist of detoxification and nourishment in a way that is appropriate for each energetic constitution.

For the joint study with Dr. Maisa, we invited 12 people with different visual problems. The study was divided into three phases, and began with each person receiving a complete optometric evaluation and measurement of the functional visual field. Following this assessment, each had a consultation with Dr. Maisa, whereby they answered a questionnaire evaluating their point of view regarding the following items:

1. Reading quality and agility, attention, concentration and content apprehension
2. Ocular movement related to amplitude, pain, and comfort
3. Perception of details – an increase or decrease in the capacity to observe more details
4. Perception of peripheral vision
5. Free considerations

The answers to the questionnaire were elucidated in the form of a conversation, without the participants realizing that it was a questionnaire; this was done to avoid ready answers. Following the conversation, a treatment was prescribed based upon detoxification and specific nutrition appropriate for each energetic type. Between 7-14 nutritional eye sessions were were also prescribed (netra basti) depending upon the case. Netra basti consists of the application of ghee (clarified butter) medicated in the eyes for a half an hour session. Ghee serves to nourish and relax the tissues.

Finally, all participants received 10 sessions of visual education and 15 syntonic sessions. After the nutrition treatment and visual education, we repeated all the evaluations and questionnaires.

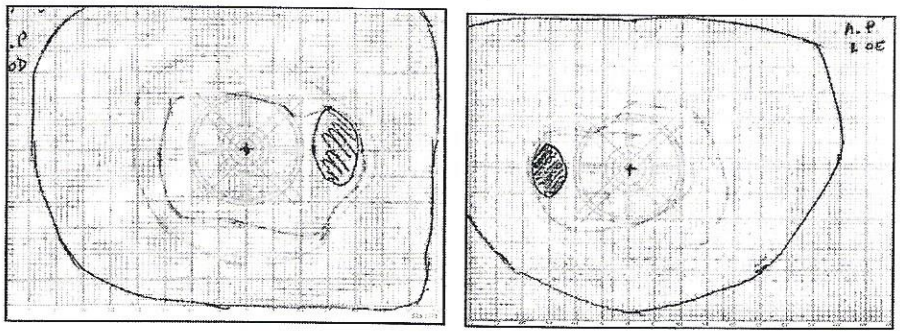
It must be pointed out that after the Ayurvedic treatment, each person in the study presented deep changes related to an increased awareness of inner processes. The external vision was sustained with what we call an "inner vision" and the solving of emotional knots. In other words, they were putting their house in order.

Considering the objective of this article is to show the change that occurred in the visual fields of each person in different phases, we shall refrain from expanding upon the results of the Ayurvedic therapy.

The cases were selected where the changes in functional visual field were significant:

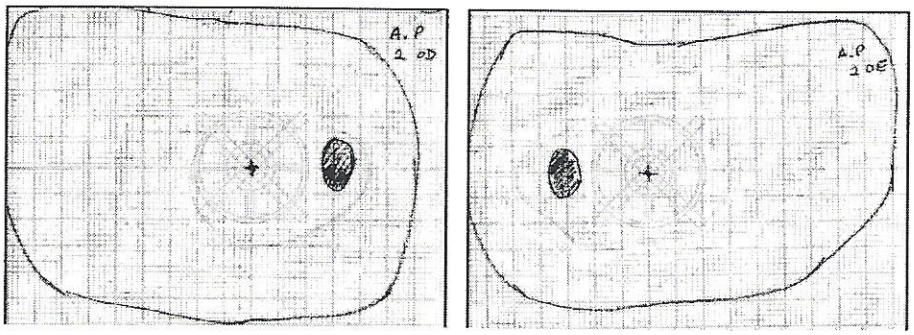
A.P., 43 yrs.
High myopia and astigmatism
.
Retinoscopy:
OD -7,50 -2,50 X 15°
OS -8,00 -2,25 X 170°.
VA with contacts for far:
20/70 OD e 20/50 OS.
VA from near (with contacts): 1M.

Visual functional field: (A.P. 1 OD and OS)



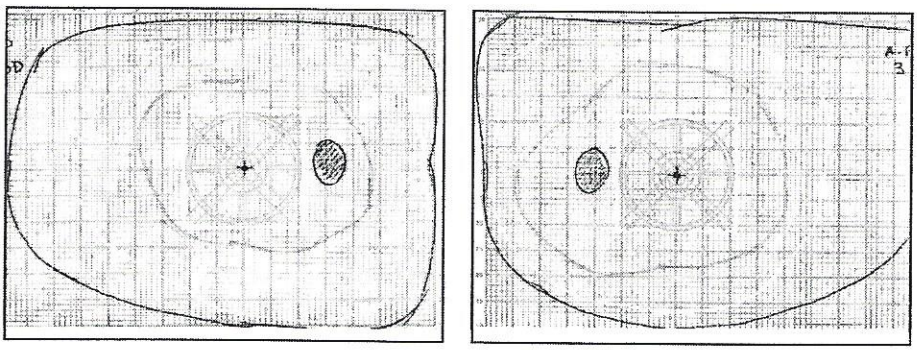
Visual functional field:
(A.P. 2 OD and OS)

After ayurvedic treatment :
VA with contacts :
20/40 OD, 20/40+ OS



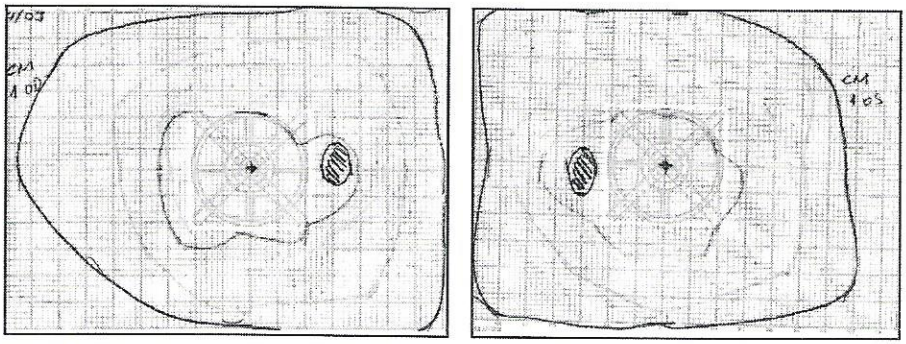
Final visual functional field:
(A.P. 3 OD and OS)

Syntonics: 15 sessions - ud.
After vision education :
VA improved to 20/25
AO with contacts
from far, and
0,5M for near.

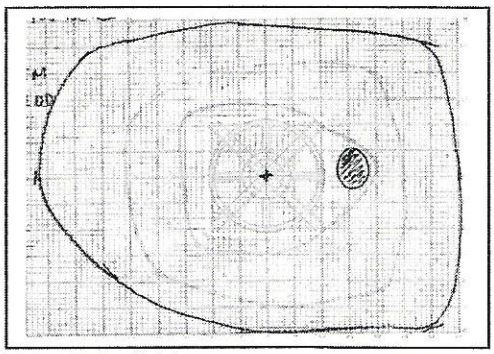


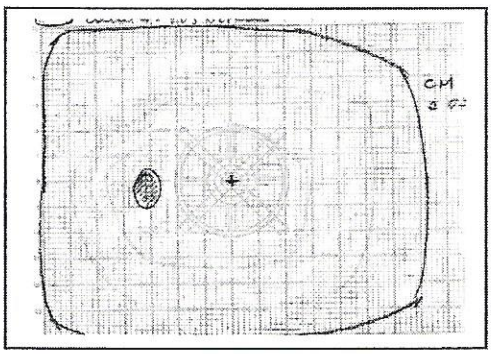
C.M., 39 yrs.
Inflexibility of accommodation,
eso reflex and astenopia
.
Retinoscopy:
OD: 0,00-0,50X180
OS: 0,00-0,50X180 .
Amplitude of accommodation:
OD: 2,25 OS: 3,50 .
VA from near:
2M with crossed diplopia.
VA from far: 20/20 AO
(both without correction).

Visual functional field: (C.M. 1 OD and OS)



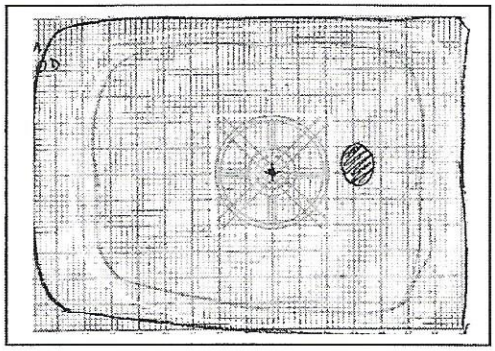
Visual functional field:
(C.M. 2 OD and OS)

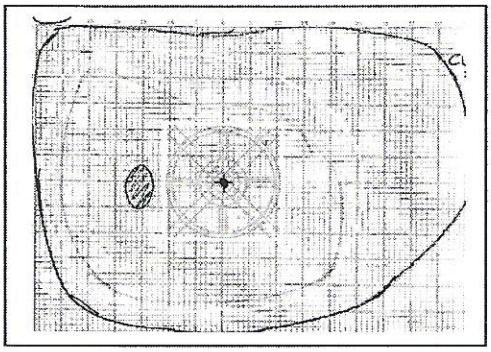




After ayurvedic treatment:
inflexibility of accommodation released, revealing a latent hypermetropia.
OD: +2,00-0,50X180
OS: +1,50-0,50X180
VA from far 20/20 .
VA from near: 0,5M.
Amplitude of accommodation: OD+6,00 OS +7,00.

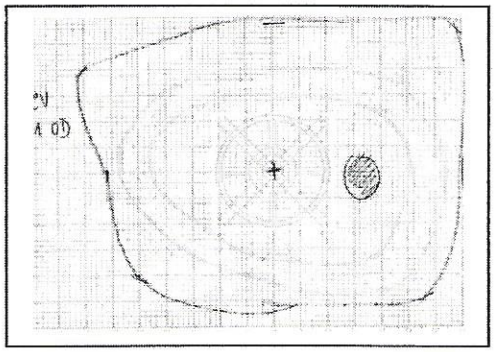
Final visual functional field:
(C.M. 3 OD and OS)

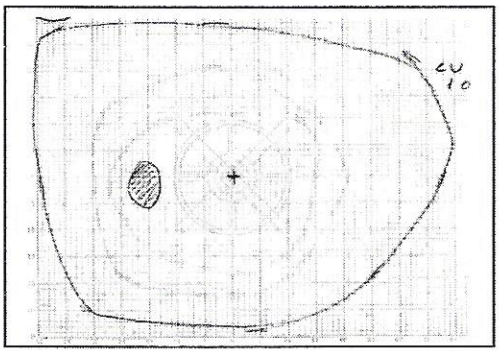




Vision education focused on relaxation techniques.
Syntonics: aw e ud.
Released astenopia.
Final Rx (subjetive)
OD: +1,25-0,50X180
OS: +1,00-0,50X180

C.V., 34 yrs.– hypermetropia, anisocoria, exo reflex. **Visual functional field: (C.V. 1 OD and OS)**
As a result: photophobia, astenopia, cervical tension, dizziness and sleepiness when reading.
OD: +1,00-1,25X180
OS: +1,75-3,00X10 .
Visual acuity:
far OD 20/20 OS 20/40 .
Near vision: 0,5M
(both without correction)

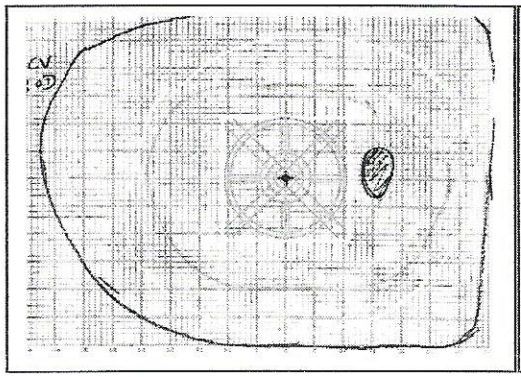


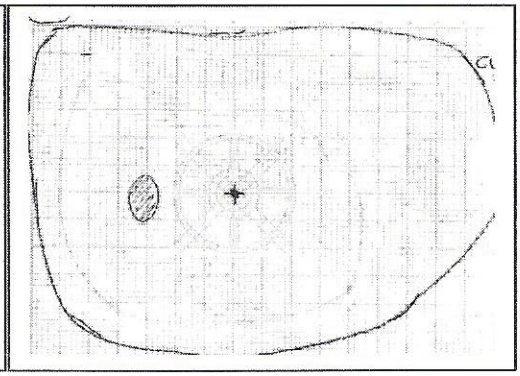


After ayurvedic treatment there were no differences in the optometric findings.
Astenopia's remission.

Syntonics: started ud and then changed to aw and uv. She showed discomfort and slight worsening on ud.

Visual functional field:
(C. V. 3 OD and OS)





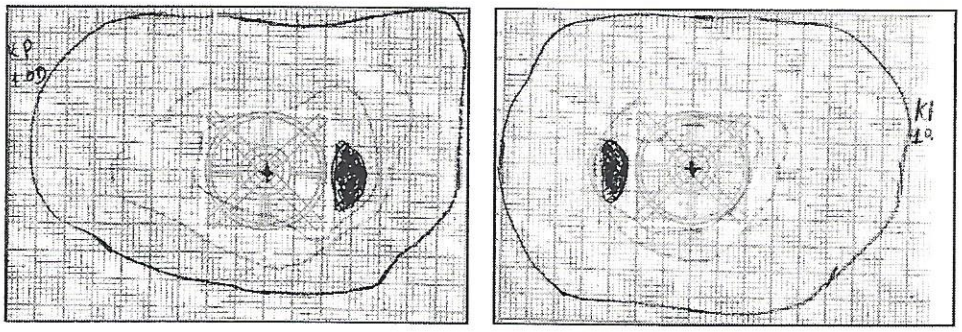
Final measurements:
OD: +0,50-0,75X180
OS: +1,00-2,50X10
VA from far(no correction):
OD 20/20 OS20/40.
VA from near: 0,5M.
No more anisocoria. She referred better general visual comfort, lowered dizziness, and improved quality of reading and attention.
She doesn't feel sleepy reading.

K. P., 52 yrs.

Presbyopia. Difficulty reading.
Astenopia, aw pupil, exo reflex.

OD: plano -0,25X90
OS: -0,25
VA: OD20/15+ OS 20/15+
VA near 1,6M
(both without correction)

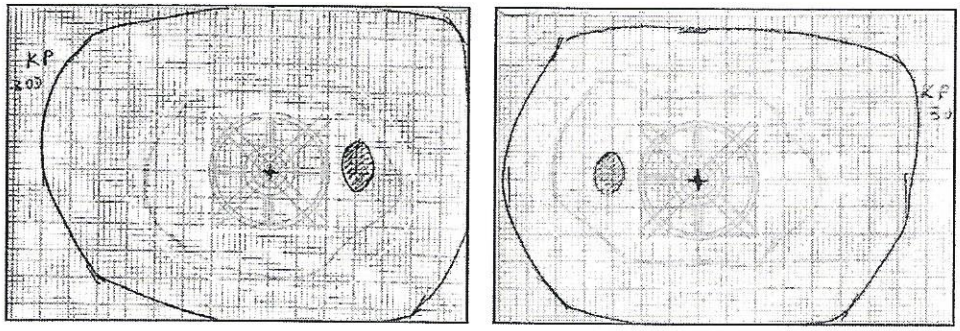
Visual functional field: (K.P. 1 OD and OS)



After ayurvedic treatment optometric findings were kept in the same level, although he referred a slight worsening of near vision.

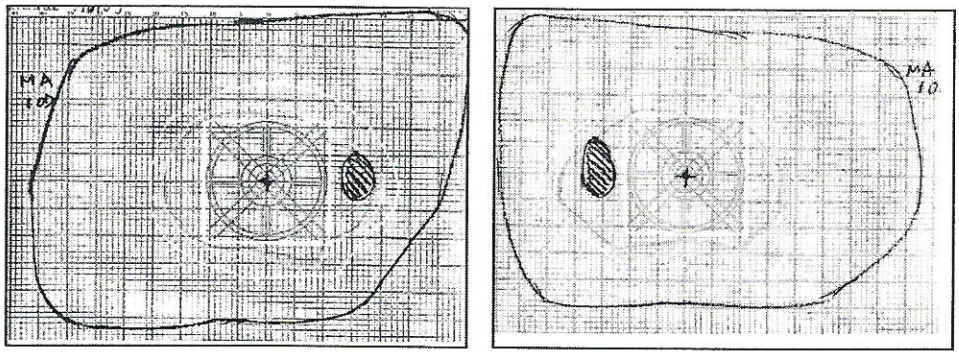
Final visual functional field:
(K.P. 3 OD and OS)

Syntonics: aw, ud. Vision education focused on convergence exercises.
Improved near vison to 0,8M no correction.



M. A., 58 yrs.
Presbyopia, blefaritis,
exo reflex from near, aw pupil.
Main complaint: discomfort due to blefaritis, difficulty reading.
Retinoscopy: OD +1,50-0,25X180
OS +1,50-0,25X180
VA from far: OD20/15- OS 20/15-
VA from near: 0,8M
(both without correction)
Subjective RX: +1,00-0,25X180
+1,00-0,25X180 ad 1,00

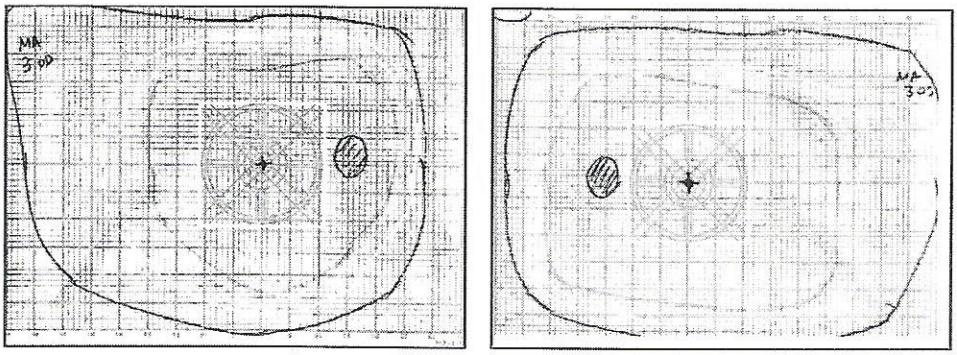
Visual functional field: (M.A. 1 OD and OS)



After ayurvedic treatment: worsening of blefaritis. Kept same optometric findings.

Syntonics: vw e mv.
Blefaritis's remission.
After vision education: VA from near improved to 0,5M

Final visual functional field:
(M.A. 3 OD and OS)

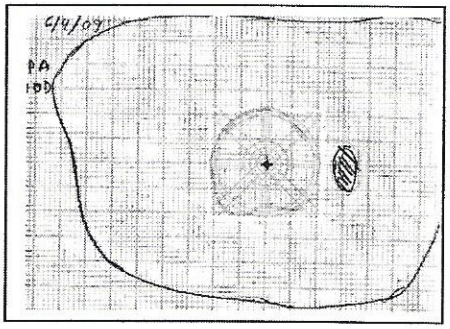
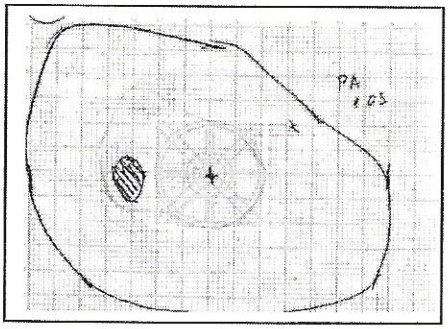
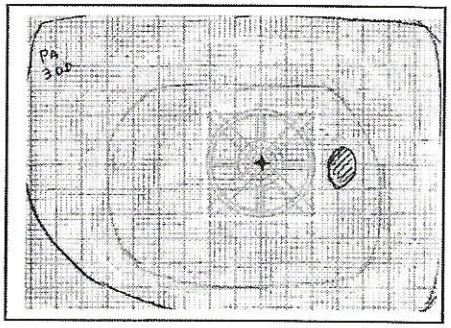
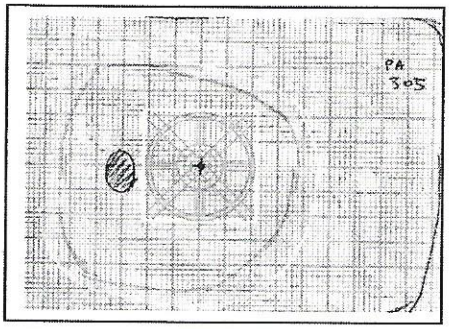


P. A., 58 yrs., Astigmatism, presbyopia and incipient cataracts OS.
Main complaint: difficulty reading.
OD: +0,75 -0,75X110
OS: +0,75 -2,00X80
VA from far:OD 20/20 OE 20/40
VA from near:
OD 1,6M OE 0,8M
(both without correction)

After ayurvedic treatment:
Total remission of cataracts.

Final visual functional field:
P.A. 3 OD and OS)
Syntonics: 15 sessions with uv
Retinoscopy: OD+1,00-1,00X90
OS+1,00-2,00X90
VA far: OD 20/20 +3 OS 20/30.
VA near: 0,8M AO.

Visual functional field: (P. A. 1 OD and OS)

What we have just related, enables us to affirm that vision is much more than the act of capturing the forms in the physical world. Vision is the exercise of a power. When we practice visual exercises, we deal not only with the eye but with the way we welcome what comes from outside, as this mixes with our inner state. However, visual education has its limits if it does not get to the root of the imbalance. The energetic balance provided by ayurvedic detoxication and by syntonic therapy broke with the structured emotional barriers, enabling and nourishing this inner vision.

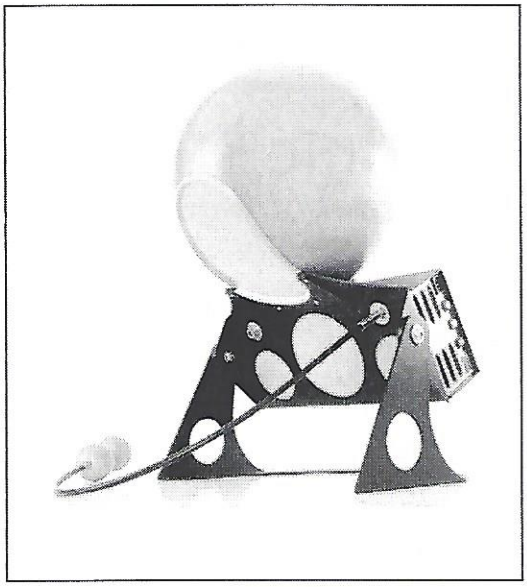
Monochrome Super Colours

by Karl Ryberg

Treatment with colour is definitely not a new invention. Ever since the dawn of humanity people have been using colour in various forms to treat the ailments of body and soul. The early methods clearly bordered on ritual magic and the variety of techniques was almost inexhaustible. But eventually it was discovered that coloured light was the most efficient medium for therapeutic use.

Despite its ancient reputation, colour therapy never really attained any widespread recognition. Traditional chromo-therapy was logically and systematically well presented but did not yield consistent results. This was mainly due to ignorance of one central factor – the colours and pigments used were not sufficiently pure.

Take the example of green which was considered beneficial for the eyes. Common green is actually a mixture of blue and yellow together giving rise to a familiar illusion. The same holds true for purple, orange, turquoise, lime, magenta and others. The eye may be fooled by this but the body cells will not accept it as a clear source of information. The use of an ill specified stimulus is not recommended in scientific practice.



It is quite possible to create a hue that is really green and nothing else. You have actually seen it – in peacock's feathers and beetle's wings and rainbow beams. These colours are sparkling in strength due to the fact that they are absolutely pure without any secondary additions. They are technically speaking, monochromatic or one coloured – a key property they have in common with laser light. Being exact carriers of information they have very pronounced therapeutic qualities. Herein lay the main advantages of modern colour treatments.

In Sweden we have now constructed powerful light projectors that can isolate any range of the visible colour spectrum with a high degree of resolution. The result is a stunningly beautiful light show which has the capacity to balance the organism on many interdependent levels.

Monochrome light responses are usually prompt and take place in a remarkably short time. Before the administration of the colour dose there may be time for a personal diagnosis and a visual navigation test. The client is then placed inside the white spherical dome and irradiated with a continuous range of monochromatic light. Through the use of the remote controls, each individual can freely choose the desired wavelengths. No two sessions are alike and the number of possible colour combinations is virtually unlimited.

The ganzfeld effect inside the spherical dome will make the proportions seem infinite. Removal of all visual clues creates a truly neutral cyberspace as a background for the super colours. Most planetariums are constructed on the same principle and you are actually placed inside a giant replica of your own eye.

Normally, only 10 minutes are spent inside the light dome. Thereafter, a few weeks should elapse for the body and mind to digest the optical information. Many clients will soon notice a marked improvement of their physical and emotional status. The treatment duration with monochromatic light is radically shorter than traditional therapy of white full spectrum light. Monochromatic colour stimulation provides an excellent antidote to the stress inducing pace of modern professional life. Many of our clients are highly creative individuals without any negative symptoms of strain or disease whatsoever. They seek the invigorating effects of pure monochromatic light to upgrade their mental and physical capacities. Irradiation with super specific light proves a most efficient method for advanced educational purposes and extraordinary personal achievements.

LASER LIGHT SIMULATION

Human bodies are normally transparent to light within two optical windows. X-rays with wavelengths 0, 1 - 1, 0 nm can easily pass through soft protein tissues and this is extensively used in medical diagnosis. Ordinary visible light with wavelengths 400 - 1000 nm can likewise enter and penetrate the body structures. But mammalian body cells cannot normally harvest and transform photonic energy like plants do.

Within our cells reside ancient proto-bacteria that can also act as photoreceptors. They are known as mitochondria and have the capacity to absorb light and convert it to electro-chemical energy. Evolution has made them cellular captives and symbionts but has also reduced their light absorbing capacity. Like spoiled pets they no longer accept normal white light as a convenient power source. Modern mitochondria require monochromatic light to initiate their photo-electric reactions.

Quinones and cytochromes within the mitochondrial membranes are the primary light acceptors. At thresholds of typically 0,2 W/m^2 they are activated and trigger whole cascades of subsequent reactions in the dark. Cells will eventually transform the additional optical energy into pH gradients and electrical membrane potentials. These energy sources can drive at least five vital processes: increased motility of cells and organelles, transport of nutrients, synthesis of ATP, bacteriophage activity, and the initiation of new cell cycles.

In the 1970's, professor Endre Mester in Budapest found that low level laser therapy (LLLT) could heal a variety of tissue wounds and cellular damages. But in the 1980's, professor Tiina Karu in Moscow proved that the full coherence and polarization of a laser was biologically unnecessary. The one crucial factor for mitochondrial activation and cell repair was a monochromatic bandwidth of less than 15 nm. A structured influx of photons will excite the mitochondrial molecules and lead to increased cell reaction rates. Activation of DNA then furthers cellular mitosis and proliferation, resulting in tissue repair and wound healing.

Monochromatic light has many other effects on cells. It will normalize the redox potential, act as an antioxidant, reduce alpha and gamma radiation damage and awaken dormant cells. Imbalanced cells are more receptive and even repeated exposures will not create habituation since large doses of monochromatic light are not known in evolution.

The greatest benefits from monochromatic exposures occur within the brain. These fatty tissues are particularly transparent and very rich in mitochondria. The light stimulates regeneration of neuronal tissues and ramifications of inter-neural connections. An abundance of multiple connections between brain cells is the very basis of efficient thinking.

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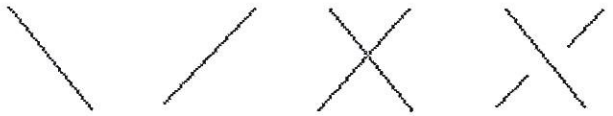
LETTERS

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,

I was recently carrying out vision therapy on a young man who had suffered a brain injury on the sports field following a collapse and oxygen starvation to the brain. This resulted in ambulatory problems and severe loss of vision.

Following a discussion with Stefan Collier, he recommended that I use Bagolini lenses in association with the Optomatters syntonic goggles (in this specific case omega upsilon D). His concept was to set the Bagolini lenses at 45° and 135° so that when the patient looks at a pen torch, if both eyes are "switched on", the patient will see 2 oblique streaks in the



form of a cross. If one eye is suppressed, a single line will be seen corresponding to the "fixing eye", while partial suppression will be indicated by a partial loss or gap in one line.

The pen torch is now moved in various directions, as one would normally use a Woolf wand, to develop eye movement control. The patient advises if either line disappears, allowing the therapist to know the extent of binocular status in the individual and, therefore, the areas to develop.

As we started incorporating this activity, we added an interesting variation that, I feel, may have some potential in treating scotomas. Following syntonic therapy, we use the Translid Binocular Integrator (TBI). The patient holds the TBI in front of themselves while they wear the syntonic goggle and Bagolinis. He/she is now looking at the two flashing lights; if no suppression is present, he will see two crosses, which will move further apart as the lights are moved towards the face and closer when moved away. This technique allows the therapist to direct a "therapeutic" flashing stimulus through a syntonic goggle into areas of "lost vision".

The TBI we use, which is the old, red one, has been discontinued for a number of years, but a modern version using LEDs is now available from Bernell.

Geoff Shayler BSc FCOptom

Dear Fellow Syntonists,

This year has been full of too much moving and a new, interesting kind of patient. Right before Thanksgiving, my husband and I bought a building with intent of relocating my practice. In January, we renovated an apartment in our old building and moved a new tenant in. Then we moved my office to the new building. Now, we are moving our home from the second floor in the old building to the first floor. All of the moves have involved renovations. How do you survive this and stay sane? Syntonics.

My frequencies are Mu Upsion Omega; immediately my shoulders relax and my breathing slows. I only do this for ten minutes and it makes a significant in my ability to stay centered and to answer those ten extra questions a that day moving requires. We need to take care of ourselves as we do our patients.

The father of of one of my patients, who successfully did vision therapy a year ago, has recently come to my attention. He had always seemed happy-go-lucky. When his son was in therapy, he indicated he returned from Iraq with Post Traumatic Stress Disorder. He didn't feel safe anywhere, which had manifested visually in a problem with convergence.

Oddly, his symptoms look and sound like a visual form field of ten degrees or slightly more. The tracking, the pupil and the exam findings are all down. His beginning field was forty degrees with slightly decreased colors in the right eye and a forty degree field in the left eye. The first color choice was Mu Upsion Mu. The first two weren't quite right and the field expanded to sixty degrees in very few sessions. The second set was Mu Delta Delta. Again, the first two weren't quite enough.

I am in the process of applying to the Veteran's system as a provider. Apparently, I have an "in" as one of my externships was in the Lebanon, VA Hospital and more so because my husband is a Vietnam vet.

Will keep you posted on both of the above.

Syntonically yours,

Betsy

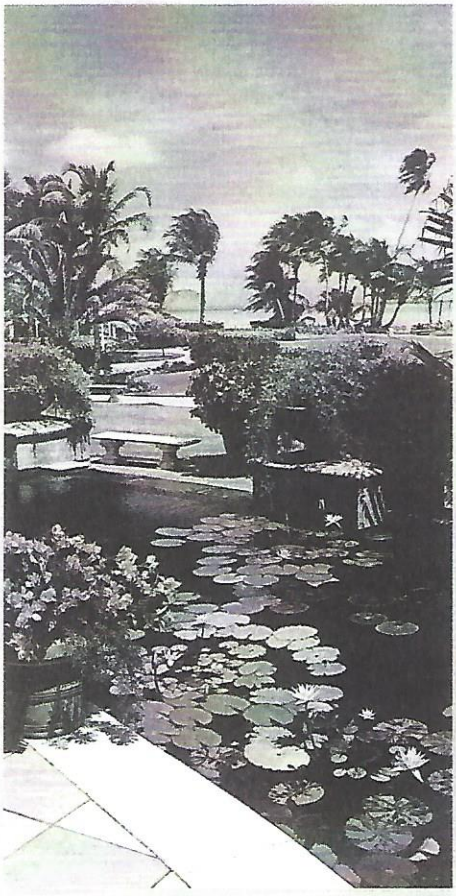
College of Optometrists in Vision Development

Prevention • Enhancement • Rehabilitation

40th Annual Meeting

October 12-16, 2010

Rio Mar Beach Resort & Spa
A Wyndham Grand Resort
Puerto Rico



Applied Concepts – Two Day Courses – October 12 & 13, 2010
Dr. Carl Hillier – Visual Information Processing
Dr. Robert Sanet – Visual Information Acquisition
Dr. W. C. Maples – COVD Fellowship/COVT Process
Dr. Nancy Torgerson – Learning Related Vision Problems
Dr. Jesus Espinosa-Galaviz – Conceptos Aplicados en Terapia de Visión (Spanish Language Course)

VT101 – Back by Popular Demand – Two Day Course
October 12 & 13, 2010
Linda Sanet, COVT

COVD General Education Speakers
October 13 thru October 16, 2010
Drs. Sue Barry, Eric Borsting, Michael Earley, Graham Erickson, and Paul Lederer

In addition ...
COVD/OEP Joint Practice Management Session, Vision Therapist Education Session, Clinical Discussion Forum, and Discussion Panel Session

Current Listing for Exhibitors attending 2010
AIT Industries; Bernell; College of Syntonic Optometry; Crystal Practice Management; Diopsys, Inc; Expansion Consultants, Inc; Fresnel Prism & Lens Co; Good-Lite; Gottlieb Vision Group; HTS, Inc; Infinite Mind EyeQ; Innova Systems, Inc; Lecoq Practice Development; M & S Technologies, Inc; NORA; OEP; Optego Vision, Inc; Paragon Vision Sciences; Perception Dynamics Institute; Three Rivers Optical, Wayne Engineering

For updates on the 40th COVD Annual Meeting see the COVD website at:

www.covd.org

PLEASE NOTE: All information listed is deemed reliable but not guaranteed; and is subject to change without prior notice.

College of Syntonic Optometry
78th Annual Conference on Light and Vision

Phoenix, Arizona, April 28-May 1, 2010

www.syntonicphototherapy.com

International Light Association 8th Annual Conference
Amsterdam, Netherlands
September 21-24, 2010

www.international-light-association.org

Syntonic Curriculum 1: June 5-6, 2010

Wyoming, MI