



COLLEGE  
OF  
SYNTONIC  
OPTOMETRY

# Journal

MARCH 1989

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College of Syntonic Optometry

## PRESIDENT'S LETTER

Dear Colleagues,

*Two great souls have passed. After sharing their knowledge, wisdom and love for so many years, Dr. Lowell Becraft and Dr. Robert Underberg have evolved to their next stage of life. Although their contributions were numerous, their love, smiles, laughter and general affection for humanity provided inspiration to all of us. We are grateful for the privilege of having had them in our lives.*

*Much has occurred since those wonderful days at Estes Park. Larry Simons has been diligently working on procuring all the necessities for our next meeting. At the time of writing we are finalizing our Conference Program. It promises to be enlightening.*

*Since our last meeting I have represented our concept at the Gesell Institute of Human Development, the Association for Humanistic Psychology's Annual Conference, and at numerous private group meetings. I have visited with interested parties at the National Institute for Mental Health in Bethesda, Maryland, and the Thomas Jefferson Medical School at Temple University in Philadelphia.*

*The field of Phototherapy is growing by leaps and bounds. A new "Medicine" is emerging, utilizing Light as its foundation.*

*I look forward to seeing all of you in 1989. May the New Year bring Health and Happiness to you all.*

Jack Liberman, O.D., Ph.D.

*P.S. I have recently moved to Colorado. My address is P.O. Box 4058, Aspen, Colorado, 81612. My office telephone is 303-925-5440.*

Jack

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# PHOTOTHERAPY

The use of light as a therapeutic tool, or phototherapy, is becoming increasingly prevalent but very likely it has not yet been exploited to its fullest potential. Undoubtedly, continued research in this field will uncover the efficacy of this non-invasive technology as an exclusive or adjunct form of treatment for a number of clinical entities. At this point it is obvious that visible light has pronounced effects, both direct and indirect, on the function of the human organism.

Direct effects include those interactions of photic energy with specific cellular components and/or chemical constituents of the body, e.g., the photoinduction of vitamin D synthesis in the skin. Indirect effects of light are those changes which occur after light is perceived by the retinas where it is transduced into an electrical message; this information induces metabolic events in neurons and can be further changed into neuromodulatory or neurohormonal factors which then influence organismal physiology. An example of the indirect effect of light is that which involves photoperiodic-induced alterations in the production and secretion of the pineal hormone melatonin.

Phototherapy is an exciting and diverse area of research with some of its applications having already been uncovered which are currently being utilized. Definition of the limits of use of phototherapy are far from complete and the future for this sub-discipline looks bright. (No pun intended.)



Russel J. Reiter, Ph.D.

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## THE SYNTONIC PRINCIPLE

“What is the Principle? It is just what the name implies: ‘syn’ (similar) and ‘tonos’ (rate or tone) (from Greek) when combined connotes a balanced integrated nervous system. It certainly does NOT mean the use of filtered light, nor does it mean “tuning” to a light frequency. Balance of the nervous system as it applies to the ocular function, and its associated or supportive functions is all that is sought for or intended by this technique in Optometry. Integration of the nervous system within physiological limits is not simple, yet the application of this principle will solve all of the optometric departures from normal that fall to the lot of the optometrist to handle.”

Dr. Riley Spitler  
*from the 1936 Year Book of Optometry*



*The guest lectures at the 1988 Colorado C.S.O. Conference featured*

## **“The Pineal Gland as an Intermediary Between the Environment and the Organism: light reception and transduction”**

*and*

## **“Light as a Drug: physiological consequences”**

*delivered by Russel J. Reiter, Ph.D.*

It has been said that no one in the world knows more about the pineal gland than Russel Reiter, a Professor in the Neuroendocrinology Division of the Department of Cellular and Structural Biology at the University of Texas. Condensing hours of his exciting information into a few lines does little justice to the speaker or his subject, but a few morsels of fascinating facts and interesting implications should whet the appetite for further knowledge of the applications of our powerful medium — visible light.

The pineal gland is an end organ of the visual system. It is equipped with rods and cones in some reptiles and with rhodopsin in birds. The mammalian gland responds to the absence or presence of visible light through the eyes transmitted by the sympathetic nervous system.

Melatonin, a hormone produced by the pineal gland, is distributed via the blood and cerebrospinal fluid throughout the body to all the organs, plasma and saliva. Secretion of melatonin increases as light decreases, peaking in the darkest hours and abating as dawn approaches. A bright light turned on in the middle of the night causes an immediate shut down of melatonin production. Pineal activity has been proven to be a light/dark phenomenon, rather than a sleep/wake occurrence. Thus, it is affected by seasons, and higher melatonin levels occur during the long dark nights of our winter. Greater variations are found at the earth's poles, regions of long periods of constant light and dark.

When melatonin is metabolized by the brain, a resultant by-product is known to affect imagination and hallucination. Mood swings and depressions are coincident with an excess of melatonin although other possible contributing factors are still being considered in studies.

Naturally, shift workers are particularly prone to irregular melatonin production. The occurrence of physiological imbalance coincides with fatigue and inefficiency. It can take as long as five days to re-establish normal melatonin balance after a week on the night shift. Crossing a number of time zones also invites erratic pineal activity. “Jet lag”, a troublesome and common experience, is being studied now as a valid condition related to melatonin imbalance.

Melatonin's influence on sexuality assures that reproduction cycles are regulated, providing for sexual activity timed to produce animal young during seasons most favourable to survival of each species.

Different colours of light affect the pineal gland differently. Its activity is most dramatically suppressed by blue light, (about 500 nm), leading to the suspicion that rhodopsin may be the chemical which “turns off” the gland. Thus, implications are readily seen for management of pineal function. Rather than applying conventional drug therapy to block melatonin production, light can generate the desired effect without inducing the side effects often related to drug usage.

Light treatment could be provided to regulate menstrual cycles and to block melatonin production in women whose high melatonin levels have deterred ovulation and conception.

Light could be used to decrease effects and incidence of certain tumours known to be caused by high melatonin levels. Studies are already showing that prolactin and estrogen dependent tumours are most effectively reduced by blue light.

Shiftworkers' mental and physical health could be enhanced by appropriate light applications.

Since Jet lag can be reduced by altering melatonin levels, the introduction of light treatment promises a non-invasive effective route to prevention or recovery.

Dr. Norman Rosenthal, our guest lecturer last May in Washington, has already established winter depression or Seasonal Affective Disorder as a valid condition, and Light as the treatment for its periodic occurrence.

Dr. Reiter took time out to provide a contribution to our Journal. His opinion of Phototherapy is on page 2.

\* \* \* \*

**Ed's note:** In his closing comments, Dr. Reiter emphasized the importance of recording clinical data completely and accurately.



# INTRODUCTION TO CAMPIMETRY

*Charles Butts, O.D., Ph.D.*

A study of the functional visual fields is the most sensitive and rewarding diagnostic tool we have to monitor progress of any vision training program. With a syntonics program in particular we expect to observe measurable changes in functional fields as treatment progresses.

The functional field study during therapy answers the fundamental question: IS OUR THERAPY WORKING? When the chart tells us "yes", it also tells us how much change we are seeing. When the chart tells us "no", it elicits the question "why?"

We then consider whether:

- a) the wrong frequency may be in use.
- b) the frequency may not be strong enough.

A Campimeter or the old type Goldman Perimeter can be used to assess both functional and physiological fields. (The flashing screeners in popular use are limited to assessment of physiological fields.)

## CHARTING THE FIELDS:

- A. Make sure the patient is comfortable and properly centered in front of the eye piece. Adjustable chairs for both patient and doctor are advised.
- B. Make sure that the chart is properly illuminated.
- C. Procedure.
  1. **Establish Extent of the functional field:**
    - Use a 5 mm (1.5°) white dot as your object.
    - Place a small white cross at the centre of the chart, saying, "This is the cross you will look at all the time".
    - Draw attention to your object explaining that although he must always look at his cross, he will sometimes "see" your object at the same time. (e.g. "out of the corner of his eye").
    - "Look at the cross all the time, and tell me when you first "see" (are aware of) my dot moving."
    - Move your target from the peripheri toward the fixation cross fairly quickly. Mark responses.
    - A number of "runs" from various points throughout the peripheri should elicit a fairly consistent response at about the same radius from the cross. If not, you may need to demonstrate how the object can disappear and reappear. To do this put your object in the blind spot area saying, "My dot should be gone now". Make the patient practice keeping the object 'gone'. i.e. Have him practice maintaining central fixation while you move the object around within the blind spot.
    - When consistent reports establish the radius of the field, you may save time by starting the object about 10° outside that radius.
  2. **Assess Quality of the functional field.**
    - Work within the radius of the established functional field.
    - Move your object in a small up-and-down motion. As you approach the cross from all directions ask repeatedly,
      - a) "does the dot ever disappear?" (indicating scotoma)
      - b) "does the dot ever double?" (indicating fluid or detachment)
    - Inside the 10° radius use a .5° object.
  3. **Plot the 'Nerve Head' (Physiological Blind Spot).**
    - Move your object from the non-seeing area (inside the P.B.S.) to the seeing area.
    - If using a 1.5° dot say, "Tell me when you see my whole dot."
    - If using a .5° dot say, "Tell me when you first see my dot."
    - Mark the responses at the inside of the dot.
    - Measure the vertical and horizontal dimensions in mm's for your record. (Normal P.B.S. on campimetry charts is 17 mm x 25 mm).
  4. **Plot the Colour Fields.**
    - Colour fields are charted in the same manner as white fields with 1.5° colour targets.
    - Have the patient fixate the cross. Cover the cross with your coloured object, saying, "Tell me when you see the colour as it appears now. Keep watching your cross."
    - Start your object at the white field limit and move it toward the cross from all directions. Mark the point of patient response with the appropriate colour.
    - An alternative method is to have the patient hold a colour target covering his cross. Using an object of the same colour, approach his, saying "Watch only your own spot and tell me when my colour matches yours."
    - Plot Green, Red and Blue (in that order).



It is essential that doctors new to Syntonics do all field charting themselves. They then become familiar with the procedures and with the responses of patients. During therapy the doctor sees what is happening to the patient, and observes the response to treatment. One may wish to train a technician to plot fields, but this should be done only when a doctor is experienced enough to recognize field irregularities and to decide whether to personally re-measure the fields. In many cases the patient's responses, e.g. confident-vs-unsure; consistent-vs-inconsistent, etc., provide additional information to the doctor which a technician may not appreciate or report.

The foregoing procedures, once practised, are easily and quickly executed, requiring about five minutes for each eye. Optometrists who are well experienced may be able to offer suggestions for improving on this technique. I invite you to share such information by writing to the Journal Editor for future publications.

While using the "miracle workers" of Optometry (syntonic frequencies) we must not lose sight of other basic diagnostic/therapeutic tools. In addition to field study, the pen light test (the pupil's response to direct light) indicates the size of visual field. The simple string test provides a wealth of information about the nature of fusion and suppression under stress. Rotation fixation is an integral part of therapy and in addition, can provide both the patient and the doctor with information about the progress of treatment. (These will be discussed in detail in future.)

### REMINDERS REGARDING FUNCTIONAL FIELDS.

- (1) It is possible to encounter a patient with normal fields who exhibits an enlarged blind spot. That person may present with all the signs and symptoms typical of small fields. Always check the blind spot when fields appear normal.
- (2) As treatment progresses and fields expand toward normal, a scotoma surrounding the blind spot (i.e. an enlarged blind spot) will often emerge and persist when fields are normal. Treatment is not complete until the blind spots as well as the fields are of normal size.
- (3) If, after a prescribed program of treatment (commonly twenty sessions), the fields and/or blind spot, although improved, remain abnormal, it is recommended that the patient be discharged for a period of four to six weeks. Then the fields and P.B.S. are re-charted. The result will indicate whether or not your therapy has activated a response of the "balance system". Often, progress will continue (usually more slowly) after the initiation of therapy, and you will then monitor the patient at intervals — e.g. four to six months. If the fields remain as they were or deteriorate, treatment is resumed. At this time a decision must be made whether to continue the same frequency or to use a "stronger" one. Usually the original (more gentle) stimulus is continued if: a) the fields have not deteriorated, and b) the field response throughout the first program was satisfactory and consistent. (If you have difficulty with such a decision, call me or one of the educators for assistance.)
- (4) Counselling the patient prior to beginning treatment is of the utmost importance. For instance, if the fields are 10° or smaller, you may safely predict (and prepare the patient for) more than one program of therapy. This must be made clear to the patient before starting treatment. When this condition is deeply imbedded (10° or smaller fields) the remediation process will be prolonged. Not only the visual system may be malfunctioning in these cases, but the physiological and emotional systems may have become involved. The longer the condition has existed and/or the more severe the condition appears, the greater is the probability of complicated involvement and the necessity for an extended remediation period.

### Rx FOR UNDERSTANDING THE SYNTONIC PRINCIPLE.

- 1) Be prepared for work and study.
- 2) Read Spittler's "The Syntonic Principle" every three months.
- 3) Memorize the "Balance Board".
- 4) Memorize the filters and what they do physiologically.
- 5) Work for approximately two years, by which time you will be seeing twenty or thirty patients per day in therapy. Only then will you begin to feel familiar with Syntonics and discover that "the more you know, the more you know you don't know".

\* \* \* \*

**Ed's note:** It might be said that Dr. Butts has given us the ABC's of Campimetry. Acquaintance with the Bulwarks of Comprehension, Correlation, Corroboration, Competence. He did not mention Patient Participation: the pleasure and satisfaction expressed by the patients as they too watch the changes on their field charts. (Most common patient comment: "Just looking at the light does all that?!") (Most difficult question to answer in ten words or less and pressed for time: "How does the light do all that?")

# CASE PRESENTATION

by Larry Wallace, O.D.

In view of Dr. Norman Rosenthal's lecture on Seasonal Affective Disorder at our Washington D.C. Conference (1987), a case treated with Syntonics is presented.

Elaine, age 37, was referred by a local Mental Health Counselor. She had been diagnosed as having winter S.A.D. The previous three winters she had been hospitalized because her depression was so severe that she became suicidal.

Elaine was examined in July (1986) with visual findings: unremarkable normal skills, normal acuity with her correction for myopia and astigmatism. Visual fields with 1/2° target were measured on a campimeter. See Table 1.

**TABLE 1**  
July 6/86

	WHITE	GREEN	RED	BLUE	BLIND SPOT
O.D.	70 x 55	25 x 25	45 x 30	15 x 15	WITHIN NORMAL LIMITS
O.S.	70 x 55	40 x 30	50 x 30	35 x 25	W.N.L.

Elaine was medicated with 6 mg trifilon and 150 mg elevil daily. It was recommended that she return in the fall for re-examination of fields. On September 10/86 she returned. See Table 2. Symptoms had increased with depression and fear increasing daily.

**TABLE 2**  
Sept. 10/86

	WHITE	GREEN	RED	BLUE	BLIND SPOT
O.D.	50 x 50	20 x 15	30 x 25	10 x 8	↑ 10%
O.S.	35 x 40	20 x 18	20 x 20	10 x 10	↑ 25%

Elaine was given 20 treatments of red ( $\alpha\delta$ ) for 10 minutes and yellow green ( $\gamma\delta$ ) for ten minutes. A moderate (10/s) flash was used with both colours. Upon completion of treatment fields were measured on December 10/86. See Table 3.

**TABLE 3**  
Dec. 10/86

	WHITE	GREEN	RED	BLUE	BLIND SPOT
O.D.	65 x 50	30 x 20	50 x 45	25 x 15	W.N.L.
O.S.	50 x 50	25 x 20	35 x 35	20 x 18	W.N.L.

Although visual field measurements did not return to the July levels, the patient was experiencing emotional stability. She claimed that it was the best winter she had experienced (for depression). She reported that both her psychiatrist and social worker found her depression less severe than in previous years. This was verified by telephone calls to the professionals.

Elaine was given full spectrum lenses and advised to spend an hour outside daily. She was requested to return during the following summer.

**SEQUEL:** When Elaine returned in September, 1987, her fields were still normal. She did not return in November, 1987, as recommended. In September, 1988, however, Elaine returned exhibiting constricted fields once more. A program of treatment was undertaken similar to that of 1986/87, and once again fields expanded.

## DISCUSSION

It is probable that syntonics offers a more efficient and powerful therapy for S.A.D. than the current full spectrum lights employed for three hours daily as recommended in the literature\*. It was reported also in the literature\* that patients using full spectrum therapy would regress if treatment was stopped. Our instrumentation and therapeutic application of specific light may offer an advancement in treating S.A.D. Further research and application with our patients is indicated, and would appear to show vast promise.

*\*Several sources (among many in Journals) are as follows:*

*Psychological Research: Oct. 1985*

*Archives of General Psychiatry: Vol. 43, Feb. 1986*

*(Letters to the Editor)*

*Biological Psychiatry: Vol. 21, 1986*



# THE H.R. SPITLER AWARD

In 1987 President Liberman appointed an ad hoc committee to recommend protocol for a special award which would recognize outstanding service related to the Syntonic Principle.

Establishment of the Award and the ad hoc committee's recommendations were approved by the Board and, following a presentation at the Annual General Meeting in May 1988, by the members at large. The committee was requested to continue as the Awards Committee for the ensuing year.

Nominations for recipients of the Award are solicited from the membership of the C.S.O. Selection of a recipient will rest with the Board and Executive Committee. For judging eligibility, the following basic criteria have been approved.

## Category A: for C.S.O. members.

- 1) Attainment of Fellowship status.
- 2) Membership (as a Fellow) in the C.S.O. for a minimum of five consecutive years.
- 3) Service rendered within the C.S.O., e.g., fulfillment of responsibilities of an elected or appointed position.
- 4) Support and promotion of Syntonic Optometry within the Optometric Community.
- 5) Advancement of the Syntonic Principle, e.g., research, writing, presenting, teaching or other endeavour.
- 6) Continuous application of Syntonics in Optometric practice.

## Category B: non-C.S.O. members.

- 1) Significant contribution to the scientific basis or understanding of the electro-magnetic foundation of life, health, and mitigation or modification of the human condition.
- 2) Significant contribution to professional use of the electro-magnetic spectrum in health care.
- 3) Significant contribution to public awareness and understanding of the impact of light and/or colour on human health and behaviour.
- 4) Specific service rendered to the Syntonic organization (C.S.O.)

The H.R. Spitler Award is intended as a special expression of highest esteem and honour. As such, it may be presented infrequently, and discretion should be observed when a nomination is made.

Nominations may be sent to the Award Committee's Acting Chairman, June Robertson, O.D.

Ste. 208, 1515 Rebecca Street  
Oakville, Ontario  
Canada. L6L 5G8.

# In Memoriam:

## LOWELL BECRAFT

1915 - 1988

Lowell Becraft was an 'original', one of Riley Spitler's students. He adopted and practised Syntonics with devotion and dedication in his early Gadsden Alabama practice and then in his Huntsville practice which he established in 1953. During World War II, Lowell, in the medical corps, plied the ocean in hospital ships. To know Lowell was to know an interesting and interested man, and to appreciate his keen, witty humour, his inventive mind, his passion for Optometry in general and Syntonics in particular. Whether sharing joys or sorrows, knowledge or fun, knowing Lowell was easy and comfortable.

*"To live in hearts we leave behind is not to die."*

Campbell — Hallowed Ground.

## ROBERT UNDERBERG

1926 - 1988

Robert's way was a quiet way. In that quiet way he had introduced Syntonic Optometry into his Fort Meyers vision therapy practice. In that quiet way he had attended his local optometry meetings and Syntonic Conferences, lending support simply by being there. His quiet wisdom and gentle presence will be missed.

*"The fewer words, the better prayer"*

Martin Luther

## SUPPLIES and INSTRUMENTS

Formerly c/o Dr. J.O. Jenkins.

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## ?? QUESTIONS ??

Dr. Fritz Hollwich (Professor of Ophthalmology, University of Meunster, West Germany), stated that he is sure that a functional reduction in visual field size reduces the photostimulation through the energetic pathway and subsequently causes a loss in hormonal and metabolic function.

Question: Why does the body make compensation (reduced field) that hinders its well-being?

*This question was submitted by Dr. John Searfoss. Answers are solicited from you, the readers, and will be published in a future edition of the Journal.*

## !! ANSWERS !!

The previous Journal, (Page 7, February/88) posed three questions from Dr. Searfoss. To date; no discussions, no suggestions, no ideas, NO ANSWERS were submitted.

Editor's Question:

*Is this question column a waste of space?*



# CONVENTION CALIFORNIA / 89

May 19, 20, 21

**Murietta Hot Springs Resort and Health Spa**

39405 Murietta Hot Springs Road

Murietta California 92362

telephone (outside California): 800-322-4542

telephone (inside California): 800-458-4393

(A Board Meeting is called for the evening of May 18)

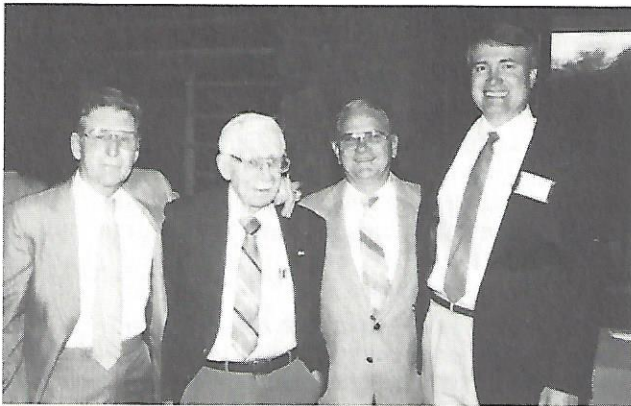
Convenor, Dr. Lawrence Simons

9701 W. Pico Blvd., Ste. 215

Los Angeles, California 90035

Office telephone: 213-207-5392

## CONVENTION CANDIDS — COLORADO / 88



### GOOD FRIENDS TOGETHER

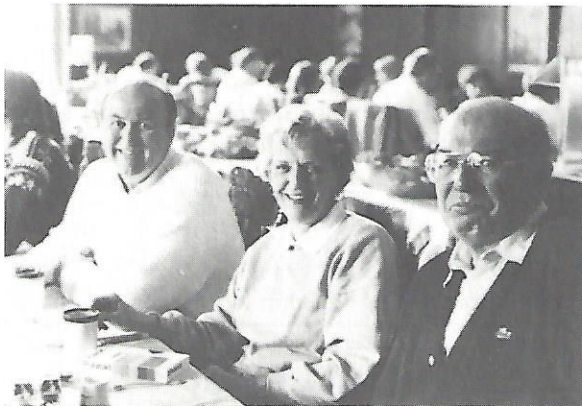
The late Dr. Lowell Becraft, Dr. "J.O." Jenkins, Dr. Charles Butts and Dr. John Searfoss.

Photo: John Searfoss

### Dr. John Searfoss Conducts CAMPIMETRY CLASS

Dr. Sandra Landis, Dr. Elliott Brainard  
and Dr. Ed Robock.

Photo: John Searfoss



### CONGENIAL COLORADO

Guest Lecturer, Dr. Russel Reiter;  
Dr. June and Dave Robertson

Photo: Sol Slobins

Your current **JOURNAL** has been published in Oakville, Ontario, Canada. This publication is intended to serve as a link in those bonds of Optometry and Syntony which unite us despite the distances separating us.

The direction this publication takes depends as much on you as it does on me. Contributions are not only welcome, but essential, (unless you favour a northern exposure).

June Robertson, Editor

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