

# ***BABO NEWS***

## ***For the Clinical Curriculum***

Newsletter of the

### **Baltimore Academy for Behavioral Optometry/OEP**

---

Volume VI, Issue 2

April 2003

---

#### **HIPAA**

In light of the HIPAA regulations that went into effect this month, BABO/OEP has prepared a privacy/confidentiality policy that is posted on the BABO web site. This is mainly to assure those of you who send patients' protected health information when requesting case consultations, how we will protect that information and kept it confidential. If you conduct case consultations with the Clinical Curriculum instructors, please go to the web site, [www.babousa.org](http://www.babousa.org), and print out the policy for your records. If you have any questions, please call either Theresa, 800 447 0370, or Bob Williams, 800 424 8070.

#### **FUN FACTS**

*By: Gary Etting, Paul Harris, Bob Hohendorf and Rob Lewis*

Someone asked the question, "If you had a fairly limited amount of money to spend on VT equipment, which 10 things would you purchase first?" This question was posed to the four instructors. Each of them submitted a list independent of each other. Here are the top VT equipment winners:

Items on all four instructor's lists:

Vectograms and holder, Prism and lens flippers, Chalkboard, Lowman walking rail

Items on three instructor's lists:

Overhead Projector to project vectogram slides, Tachistoscopic Instrument

Items on at least 2 instructor's lists:

Marsden Ball, Wayne saccadic fixator, Rotator with targets

For a complete list of equipment, please refer to your manual or the BABO web site, [www.babousa.org](http://www.babousa.org)

#### **New Course Offering**

BABO/OEP has added a new course to its course offerings: **How to Examine Children from Birth Through Age Three**. This new course will be held for the first time August 23-24, 2003, in Baltimore, Maryland. The instructor for this new course will be Glen T. Steele, OD, FCOVD. This course proves to be important in light of the recent developments across the country in children's vision. Someone asked if, "A real, live, crying bundle of humanity would be examined during this course." The answer is, "Yes." Dr. Steele will examine a 9-month old during the course, so you will have a real, live experience to augment the lecture. If you are interested in this course, please let Theresa know as soon as possible. Space is limited.

## Case Consults

When sending in cases for consultations with the Clinical Curriculum instructors, it would be helpful if you could include your email address, your phone number and hours when it is best to contact you. We take each consultation personally and want to make sure we have time to do your questions justice. Please remember to fax your patient data to 410 252 1719. Theresa will designate an instructor to work with you directly on your case. We all look forward to helping you through your cases and learning together.

### Mind Candy

*By: Rob Lewis, O.D.*

This is a bit of a departure. Most of the time we talk about lenses, VT, or office policy. Today I want to share a memory that continues to shape what I do...and it happened well before I even knew what an optometrist was.

I was a young student in my second year of college as an education major. I was planning on following in my parent's footsteps. My parents were both fine teachers who shared a life long love of learning with all their children; the children they taught at school and the two at home. I wanted to be like them—I guess I still do.

As a student, I spent many afternoons in the office of a professor named Carvel Wood. He seemed so experienced and wise. He encouraged me, listened to me, shared with me, and helped me understand. One day he was sharing a bit of his experience as a teacher when he told me that being a teacher was a great privilege.

Dr. Wood told me that as a teacher there would come at least one day when I would be the single most profound influence in a young person's life. As I considered that, a bit pleased to be considered worthy by my teacher, he continued..."and you'll never know which one."

He didn't explain—he didn't have to—that if I believed what he had just told me that I would have to do my very best every day for every child. Second best would never do.

I can't say that I have lived up to Dr. Wood's high standard, but I can say that remembering what he told me brings me closer. He wasn't the most profound influence in my life, but Dr. Wood has been very important. I hope I am in small part repaying the time and interest he shared in a young student through my own efforts on behalf of other students and patients who will in turn be able to share themselves.

### Special Book Price Available from OEP

OEP has just received from the printer a reformatted and edited book version of *Lens Power in Action*. They are making this new edition available, along with *Vision Training in Action*, to all BABO attendees who do not yet have the set of volumes for a special price of \$59.00. This is a savings of approximately \$25. If you do not have these wonderful resources, please call OEP directly and ask for the BABO special. You can reach OEP at 800 424 8070.

## Consultation Corner

By: Bob Hohendorf, O.D.

Hi, AJT and I are back again.

HISTORY: AJT was scheduled to return on 11/06/02. He did not show up. Mother called later and reappointed for 11/26/02. They showed up ½ hour late for a forty-five- minute appointment. They were charged and reappointed for 12/03/02 (which they did keep and were also charged). The parents keep making this harder and harder for me to maintain a positive energetic role for this young man. This is where ethics, professionalism, and a drive to help others become an asset.

AJT is now a 9 years and 7 months old fourth grader in a regular classroom of a local public school. I apologize for January's case write up. The Monroe Visual III Test score of age 10 was omitted and I didn't catch it before it went to press.

Subjective distance visual acuity (board in school) is adequate without his glasses but better with his glasses (-0.25 Dioptor Sphere with a +1.00 add OU) He uses glasses primarily to read. Never for recess.

LVE 4 months

LIKE Math

DISLIKE Reading In general he kind of likes school.

WRITE GOOD!

### VISUAL ACUITY

DV NO Rx DV W RX NV NO Rx NV W Rx DV Pin  
OD \_\_\_\_\_ 20/20-1\_ 20/16\_\_\_\_ 20/16\_\_\_\_  
OS \_\_\_\_\_ 20/40-3\_ 20/16\_\_\_\_ 20/16\_\_\_\_  
OU 20/25\_\_ 20/20-1\_ 20/16\_\_\_\_ 20/16\_\_\_\_  
STRESS POINT RETINOSCOPY +0.75 Dioptor Sphere

## Analytical

### RETINOSCOPY

4 OD -0.50 -0.25 X 180

OS -0.50 -0.75 X 180

### SUBJECTIVE (Binoc Most+ Least-)

7 OD plano

OS -0.25 DS

OU 20/20

### SUBJECTIVE (Largest)

7A OD -0.25 DS

OS -1.00 DS

OU 20/20

DIST PHORIA 8 through Habitual (-0.25)

8 2 Exophoria

### CONTROL INDICATOR

Habitual -0.25 at far and +0.75 at near

## DISTANCE EQUILIBRIUM

9/10 X/23/10

11 X/12/2

## NEAR PHORIA

13B 10 Esophoria (+1.00 gradient 6/1 ratio)

## UNFUSED CROSS CYLINDER

14A OD +1.75 DS A G

OS +1.25 DS A G

## PHORIA With 14A

15A 8 Exophoria

## FUSED CROSS CYLINDER

14B OD +1.50

OS +1.00 A G

## PHORIA With 14B

15B 3 Exophoria

## NEAR EQUILIBRIUM

16 X/30/2

17 X/16/12

## PRA/NRA

21 +3.25 A G

20 -3.25 A G

## PERFORMANCE TESTING

### DEVELOPMENTAL EYE MOVEMENT TEST (DEM)

Vertical score 18<sup>th</sup> percentile for age 9

Horizontal score 17<sup>th</sup> percentile for age 9

Accuracy 70+ percentile for age 9 (zero errors)

Ratio 47<sup>th</sup> percentile for age 9

Comments 14-16 inch working distance

Eyes lead head movement (remember he is wearing a bifocal)

DIAGNOSIS: Automaticity problem

### MONROE VISUAL III

Score age 9

### WOLD SENTENCE COPY TEST

4 seconds below 4<sup>th</sup> grade norms, posture and mechanics good

### HABITUAL RX

OU -0.25 DS +1.00 add

## **ALTERNATIVES OF CARE:**

### **1. COMPENSATORY LENS ONLY OR NO TREATMENT**

Rx OD -0.25 DS

OS -0.75 DS

PROGNOSIS: Increasing anisometropic myopia

### **2. LENS TREATMENT ALTERNATIVE**

Rx OU -0.25 DS +1.00 Add

PROGNOSIS: Stable refractive condition

### **3. LENS TREATMENT WITH VISION THERAPY**

Rx OU plano DS with +0.75 Add

PROGNOSIS: Increased processing speed

Less myopia

Less Esophoria

Less necessity to use Rx for distance vision

The Patient and parents opted for continued home therapy and use of the habitual Rx.

Vision builders and visual imagery (for: Instructional sets, Visual motor Guidance, Pictures, Symbols and Words) were recommended as home activities.

## **COMMENTS:**

I am a little concerned about the Myopic Anisometropia. I stressed proper posture for reading, computer, and written work. I like the idea that the right eye minus was reduced from the previous visit. Now I would like to see the left eye follow and not go into an anisometropic adaptation.

His esophoria without plus lenses and his persistent problem with changing visual symbols to oral speech (automaticity on the DEM test) will also be monitored.

I am still fairly comfortable that he is in the process of change. The recoveries on the equilibrium findings show he is not embedded in any of these patterns yet which is a positive. He also doesn't appear to be regressing away from any of the expecteds in any areas. So, the odds are good, if he changes, it will be in a less adapted direction.

This will be the last issue devoted to AJT. I will keep you posted on any significant positive or negative changes. I hope you enjoyed this case series. I recommend you either pull out your back issues or download them from the BABO website to review them all at once. The ebb and flow of findings and the progression of findings are what real patients do.

Please email any of your observations to Theresa. We will try to find a meaningful way to publish any interesting threads you see in the case of AJT. In the next newsletter, we will start a new case. If you have an interesting one you want to share, let Theresa or me know. I'll help you communicate it.

# WORDS OF WISDOM FROM HARMON

*By: Paul Harris, OD*

As we have heard many times, “The past is prologue to the future.” Periodically it is helpful to go back to some of the sage wisdom of those that came before us to help us see into the future where we are going. In the following, we will take a look back into some seminal work done by Darell Boyd Harmon with excerpts from “Restrained Performance as a Contributing Cause of Visual Problems.” The full paper was prepared for presentation at the Southwestern Congress of Optometry, Fort Worth, Texas, on February 14, 1965. What follows are some quotes followed by comments:

“Heredity supplies the materials out of which the environment makes the man.” This statement is a quote of a paper he had delivered 30 years prior to this presentation in 1935, the first time Harmon addressed optometrists. It speaks to the relationship of nature and nurture and the degree of intertwining and interdependency between the two.

The 1935 statement goes on, “Within the limits of our genetic backgrounds, we ARE what we have SEEN, and FELT, and DONE. From my own observation of developing children, I would go along with this statement wholeheartedly if there were no “ANDS” between “SEEING – FEELING – DOING,” to suggest that these were separate operation. In the light of accumulated research showing this integrated operation, we need a new definition of VISION – or a new word concerning it – that will state emphatically that, “Seeing, feeling, and doing are but different aspects of one and the same process.” How often do we struggle with the limitations of the many ways the word “vision” has been defined and used? Harmon challenges us to see the simultaneity of multiply intertwined threads of actions that are all a part of VISION!

Moving to the time of 1965 and the presentation being given at the time Harmon states, “Meaningful vision is learned – and learned like every other learning – by doing – by the constructive use of bodily stress.” So often we have heard the phrases: “Vision is motor.” “Vision is learned.” and “The organism grows along the line of stress to reduce stress.” Here he talks to all of this as well as he addresses the positive side of stress. So much of the time stress is talked about as a negative. However, the positive aspects of “eustress” as coined by Hans Selye are overlooked. As we constructively use stress, particularly the stresses in the body as we perform purposeful movements, we develop new skills and abilities, or refine those that we already have.

“Eyes are actually a bilaterally matched pair of brightness meters, capable of triggering certain actions – real or symbolic – in relation to some brightness distribution or light pattern of significance in their field.” We have talked so often about there being a distribution of light on a retina that changes over time and trying to break free of the thoughts of there being these matched pair of upside-down pictures on the retinas that are reassembled in the mind somewhere. Here the two eyes are linked together as bilaterally matched brightness meters, which are capable of triggering certain actions. Certainly the person must have developed these “action sequences” first in order for them to be capable of being triggered. Patterns in the binocular distribution of light are actively sought by the person to help them in the deriving of meaning and directing of action as they go through solving the sequence of problems posed by life.

“Interference, or stresses which are adverse, limit or misdirect our responses to purposeful segments of our task, with a resulting inaccuracy of ‘blurring’ of our visual perception. ... If these responses interfere with each other – we have ‘noise’ on our nervous ‘lines.’ Consequently, we do not, and cannot, ‘see’ or work at a visually-centered task with full meaning – and a visual maladaptation (or visual problem) results.” In the VT/Visual Dysfunctions (VT1) course, the Grossman Principles of

Effort speak to this signal-to-noise ratio condition. Tension in the body is one of these stresses, which leads to a breakdown in performance and over time will lead to changes in structure. When noise is present on the lines, it is harder to react to small and fine changes. Our just noticeable differences (JND's) for detection, for meaning, and for guiding and directing purposeful movement are all compromised.

Harmon quotes Huxley on the interrelationship between structure and function, "Only at conception does structure determine function – thereafter – and throughout all life – within the limits of genetically determined materials and broad patterns of capability – function determines structure." Harmon paraphrased this as, "Use alters form." So much of what we read in a broad array of literature keeps looking to link a gene or a small group of genes to a specific behavioral trait or constellation of traits. The search for the "attention" gene, or the "myopia" gene, or the "dyslexia" gene goes on. The dynamic interplay between use, function, and structure is only appreciated by a select handful. Here our heritage is so rich and we must never lose sight of the simplicity of the statement, nor the complexity of its ramifications.

Many of us use Lowman walking rails. Harmon mentions Lowman and Mills and their studies that relate skeletal alignment and binocularity. "Their research demonstrated that activities directed towards producing efficient skeletal alignment and good gravitational response tended to reduce esophorias, exophorias, hyperphorias, and other adverse factors of visual alignment." This demonstrates many of the points brought up in the discussion of the Skeffington Four Circles on the involvement of the whole person in the visual process and the relationships between posture, or in this dynamic posture, and vision. In fact, Harmon goes so far as to say, "Meaningful Vision is Performance." Vision is what we do and as optometrists we observe performance and work through the use of lenses or treatment to bring about better and more efficient performances.

"The more accurately and economically our gravitational reflexes can distribute our weight uniformly around a central vertical axis, and derive a universal of verticality, the more accurately and efficiently we can establish a 'foveal axis' and resulting accommodation with some localization in space." In this statement, Harmon opens up the involvement of reflexes, specifically postural reflexes and how they are used by the person. The internal "universal of verticality" is created by the person and should remain as close to being aligned with the gravitational force. The person does this by accurately and economically using the gravitational reflexes. In some persons this vertical reference point may wobble away from verticality, and thus functions as a basis for not accurately knowing where the person is, where parts are relative to other parts, or where objects are in space in reference to the person. The foveal axis, or from where we look at things, is referenced back to this percept of verticality and must be constantly updated. This all must occur in an efficient manner.

Now that we have a sense of how the person establishes a frame of reference from which to look, see, feel and do, Harmon goes on to clarify what we use our foveae for. "One of the major contributions of Grossfeld was to show that the primary function of the foveas is not acuity – but to give us a field or space center – or a reference benchmark, -- from and on which to structure the invariant forward and center axis to which we refer (through movement), the axis of gravity, the axis of tasks, and the various axis represented in steps of manipulation." Here Harmon is giving us insight into the steps we humans go through to build our representation of reality. A part of what foveas are used for is to act as a reference point to establish what is straight ahead. The tasks we do have their own axes of demands. Forest, in his work on astigmatism, spoke about mismatches between the axis of the demand and the axis of the relative head versus eye scan movements. Misalignments of these caused changes in structure in the refractive condition to be made asymmetrically.

“Asymmetric bilateral bodily development or functioning makes for asymmetric phorias through unbalanced or unequal bilateral feedback from the trunk through the neck to ocular-motor mechanisms.” In Kraskin’s “Lens Power in Action”, he talks about asymmetric phorias. The right and left phorias differ in how the measurements are taken. In one instance, the vertical disassociating prism is before the right eye and the “measuring” prism before the left eye. In the other instance, these are reversed. Asymmetries in these measurements give insights in the asymmetric use or development of the body, particularly in aniso’s. Particular emphasis is given by Harmon to the relationship between the head and neck, into which F.M. Alexander, the creator of the Alexander Method of body work, was so keen on helping people gain insight.

“Because of these same “trunk-neck-ocular” feedback relationships (in which the neck, in effect, acts as a transducer between eyes and trunk, and as such is the antagonist both for ocular-motor, and for trunk-motor functioning) the tonic states of the trunk and neck are reflected in the tonic states of the motor mechanisms of accommodation, convergence or both.” Harmon talks of the neck as serving as a transducer between the eyes and the trunk. This can be thought of as a reciprocating and continuous dialogue between the eyes and the trunk moving through the neck. A dynamic steady-state balance is present, although the total energy of activation can rise and fall. When we gain access into the person’s use of their mechanism of accommodation, both in terms of absolute position in space and in the dynamic movements with the system, we are gaining insight into this larger dynamical system. The same can be said for the insights we derive from our phorias and to so extent our equilibrium findings.

“Hypertonic, tense, statically-held trunks or necks result in excessive feedback and gain to ocular mechanisms, thereby transposing space towards the individual. On the other hand, hypotonic functioning of the neck or trunk, with reduced feedback and gain at the eyes, moves space away from the individual.” The shifts towards and away from self, that we measure, that change over time, and that are non linear, are a result of the overall tonic state of the individual. One can choose to look just at the spatial shifts but Harmon helps us begin to make the same links he sees between how the body is used, and measurements that we hold to be “optometric” or “visual”.

Finally, here is a comment on the role asymmetry plays in the initiation of purposeful movements. “Bilaterally structured, dynamic, oscillating mechanisms must establish and maintain a bilateral symmetry of function for each task in order to produce efficiently. To do this, they need one asymmetric or eccentric component in their structure or initial operation to instigate the arrest of hunt, and to start action towards the dynamic balance needed to perform. In the human organism, the off-balance triggering mechanism is a head tilt and turn, and an eccentric readiness position of the preferred eye.” This comes built into us in the form of the junction of where the skull sits on top of the spinal column. There is an asymmetry built into this so that in positions of “idle” just prior to initiating a purposeful movement, the head is tipped slightly one way or the other and one eye is ever so slightly further away from the object of regard. Kraskin elaborates on this extensively in his series, “Lens Power in Action.” “The preferred eye itself is rotated slightly upwards and outward with the follower eye tending to be positioned in the opposite direction.”

Harmon has left a tremendous legacy of information on which many of the principles and insights that are integral to the behavioral model of vision are built. An occasional trip back in time to review these can bring about new insights and a renewed vigor for the study of vision.

## **Equipment for Sale**

Jennifer Floyd has several used Computer Orthopters for sale. If you are interested in purchasing one, please give her a call, 318 251 9095.

## **Course Schedule For Remainder of 2003**

2003 May 1-5	The Art & Science of Optometric Care, A Behavioral Perspective (BVC), Grand Rapids, Michigan
2003 May 17-19	Sports Vision, Baltimore, Maryland
2003 June 7-8	The Essentials of Behavioral Vision Care, Baltimore, Maryland
2003 July 24-28	VT/Visual Dysfunctions (VT1), Grand Rapids, Michigan
2003 August 2-3	Autism, Baltimore, Maryland
2003 August 23-24	How to Examine Children from Birth Through Age Three, Baltimore, Maryland
2003 September 10-13	VT/Strabismus & Amblyopia (VT3), Baltimore, Maryland
2003 September 14-16	TBI/ABI, Baltimore, Maryland
2003 September 18-22	The Art & Science of Optometric Care, A Behavioral Perspective (BVC), Grand Rapids, Michigan
2003 November 13-17	VT/Visual Dysfunctions (VT1), Grand Rapids, Michigan
2003 December 5-8	VT/Learning Related Visual Problems (VT2), Baltimore, Maryland

Revised 10-18-2002