SLTBR NEWSLETTER

Society for Light Treatment and Biological Rhythms

VOLUME 2, NUMBER 1 SEPTEMBER 1989

STATE OF THE SOCIETY

Since Michael Terman has asked me to be guest editor for this issue of the newsletter, I thought that I would take this opportunity to discuss the "State of the Society" in this editorial. By all accounts, our first meeting was a success. More than a hundred colleagues attended, almost twice as many as expected. The scientific quality of the presentations was on the whole very high, and a wide range of topics was covered from research groups around the world. The committee reports were timely and interesting, although there was clearly not enough time to address all of the issues of importance. Dan Kripke, Norm Rosenthal, Michael Terman and their co-workers deserve our thanks for a well-organized meeting. The main criticism of the meeting was the lack of more time for formal presentation of the posters.

Next year, the annual meeting will be a satellite to the annual meetings of the American Psychiatric Association (May 12-17) and the Society of Biological Psychiatry (May 9-13) in New York City. It will be held for two days on Sunday, May 13 and Monday, May 14. In addition to the present format of scientific papers and posters and committee reports, we will have a session devoted to "consensus building," in order to identify areas of broad agreement. Dr. Mary Blehar will chair this session. Different points of view on selected topics will be defined, followed by a formal discussion by an outside expert and an informal discussion. Also scheduled that week in Florida is the bi-annual meeting of the Society for Research on Biological Rhythms (May 9 - 13). Those interested in clinical aspects of biological rhythms should be able to attend relevant sessions and not miss the SLTBR meeting. Some SLTBR members may choose to attend the SRBR meeting and come to New York on Saturday or earlier for the Biological Psychiatry meeting (whose theme this year is Biological Rhythms). Other SLTBR members may wish to come to New York for the full Biological Psychiatry meeting and then attend the SLTBR meeting. Final planning will not be possible until the various programs are announced. Whereas some may regard these meetings as competing for our attendance, with careful planning many attendees will be able to attend sessions of interest at all four meetings. The SLTBR program committee will do its best to minimize overlap. In any event, next May promises a heavy dose of Biological Rhythms and Psychiatry.

There are currently more than 200 members in the SLTBR. In this early phase on the growth curve, we are nonetheless trying to function as if we had more members, with a quarterly newsletter, publications, etc. Consequently, members' dues would not be sufficient to meet our expenses were we to hire needed personnel to help with administrative and editorial functions. We are deeply indebted to Charmane Eastman, Dan Kripke, Bob Sack, Michael Terman, our committee chairpersons and others for donating valuable time and resources to the Society. With the expected increase in membership, we should become self-sufficient. Until then, we are exploring the possibility of starter grants. Also, the Newsletter will no longer be free to non-members, except in special circumstances. Therefore, non-member subscribers are advised that in order to continue receiving the Newsletter they should join the Society now *[see attached application form; applicants will have membership automatically extended through 1990]*.

Finally, I would like to say a word about current SLTBR policy on scientific and professional standards. Of course, we all agreed that the highest possible standards must be fostered. However, we are cognizant of substantial differences of opinion in many areas. Therefore, it is our current policy to accommodate the considerable diversity of members' backgrounds, goals and scientific perspectives. Consequently, it seems best at this stage of our society's development not to specifically endorse contributions to the Newsletter by our members. Signed articles represent the opinion of the writer and not necessarily that of the Society. Similarly, material sent out through purchase of our mailing list does not necessarily reflect SLTBR policy. As scientific controversies become resolved and our Society (and the field of light treatment) matures, we may want to re-assess this policy.

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THE DSM-IV DEBATE, CONT'D.
DRAFT REPORT TO APA TASK FORCE COMMITTEE SUBMITTED BY DUNNER

Dr. David Dunner has submitted the final draft of the report on Seasonal Affective Disorders for Task Force on Mood Disorders for DSM-IV. His recommendations included most of the changes recommended by Dr. Norman Rosenthal's survey of SLTBR members with the exception of subdivision of seasonal pattern into summer and winter type. This process is still open. Those interested in providing further data should send them to Dr. Dunner. These data will then be presented to the Task Force on Mood Disorders at their meeting in Washington, D.C., in early November.

The following is an excerpt from Dr. Dunner's final draft:

Dr. Wirz-Justice provided the task force with data regarding 31 patients with winter depression (Rosenthal et al., 1984 criteria) who were asked to reconstruct their depressive episodes over several years. Although 90% described summer hypomania, only 10% met criteria for hypomania based on a subsequent clinical interview. Furthermore, 18 patients were able to reconstruct their past episode, and only 6 of these met DSM-III-R criteria for seasonal pattern. Dr. Avery has also found that a high percentage of patients cannot adequately recall onset-offset time. The 60-day windows and the need for multiple depressive episodes (seasonal to nonseasonal ratio of 3:1 implies several-year duration of illness) in DSM-III-R seem to be quite limiting to the field. Although data to these points are sparse, it is recommended that criterion A be changed in DSM-IV to read:

"There has been a regular temporal relationship between the onset of depression and a particular time of year (such a usual appearance of depression in the fall)."

and that criterion B be changed to read:

"Full remission (or change from depression to mania or hypomania) shows a regular temporal relationship to a particular time of year (such as appearance of euthymia or hypomania in the spring)."

and that criterion C be changed to read:

"The relationships noted in A and B have occurred in 2 consecutive years."

and that criterion D be deleted.

A second question that arose is whether the terminology should be changed from "seasonal" to "winter" if seasonal pattern could be separated into a "summer depression type" and "winter depression type." As a corollary of this, some investigators have questioned whether seasonal belongs as a sub-categorization at all, since some patients may have their onset at a particular month but not necessarily winter, for example, the Wehr data that some patients have summer depression (the term "seasonal pattern" would be appropriate for such patients and the term "winter depression" would be inappropriate). Again, there is

a lack of data about the month of onset of these episodes and whether patients selected for studying seasonal depression are somehow biased toward onsets in the winter months. It is suggested that the field might evaluate patients with depression from the sub-categories comprising seasonal depression (i.e., bipolar-I, bipolar-II, and unipolar) and to determine months of onset from seasonal vs. non-seasonal cases. At this time, however, a change in terminology does not seem warranted.

A third area concerns the depression NOS seasonal pattern. It is unclear what symptoms a person must have to qualify for the diagnosis of depression NOS. Therefore, "depression NOS with a seasonal pattern" may reflect a number of individuals who are below threshold to be called ill but are somehow getting a diagnostic label because of symptom and energy change occurring in the winter. It is difficult to conceive of a person having a seasonal exacerbation of symptoms where the mood symptoms do not persist nearly every day for two weeks such that this person would not meet criteria for major depression. Furthermore, Rosenthal's original criteria seemed to have been based on patients who by and large had a defined illness meeting RDC criteria at least for depression. A worrisome thought is that by including individuals who have seasonal pattern associated with depression NOS non-ill individuals may be included in data related to seasonal pattern and somehow confuse a data set where other centers are defining their cases more stringently with patients who have a better-defined illness. It is recommended that the relationship of seasonal pattern to depression NOS be examined by determining the prevalence of such diagnosis at various centers and developing clinical case characteristics of such individuals to determine the problem in not meeting criteria for major depression.

Another problem is a relationship of seasonal pattern of SAD itself to other forms of atypical depression. Therefore, it is suggested that a useful endeavor for the field would be to take patients with recurrent depression and determine which ones meet criteria for seasonal pattern, which ones meet criteria for atypical depression and seasonal pattern and whether the response rate to antidepressants and light therapy is similar in the two groups.

In summary, a conservative approach to changes from DSM-III-R to DSM-IV implies that such changes must be data-based. This creates a peculiar situation in that the addition of seasonal pattern to DSM-III-R was not a data based decision but apparently other criteria were employed. Thus, by asking for data to change something that was in itself not data based, we are putting the field into a bit of a "Catch 22" position. Nonetheless, it would seem reasonable that one committee decision to make changes in the absence of data might be no better than another committee's or individual's decision to create a diagnosis in the absence of data. Therefore, pointing to the field for appropriate input of data prior to making changes would seem to be a prudent approach.

SLTBR members who wish to correspond with Dr. Dunner should note his new address: *Univ. of Washington Medical Center, Outpatient Psychiatry, 4225 Roosevelt Way N.E., Suite 306, Seattle WA 98105. Tel 206/543-6768.*

David Avery, M.D. Dept. of Psychiatry, Harborview Medical Center, 325 Ninth Avenue, Seattle WA 98104. Tel 206/223-3425; fax 206/223-3289 attn 3425.

ANNUAL MEETING REVIEW
SAFETY STANDARDS AND GUIDELINES

Of primary concern to the speakers and their questioners during the work session on issues of safety in light therapy and research were details of ultraviolet (UV) light exposure: whether it is instrumental to the therapeutic effect, the types of UV radiation and relative risks attributable to them and steps that can be taken to minimize patients' exposure to high-energy damaging radiation. Speakers also discussed risks associated with thermal damage to the retina from intense visible light, but noted that intensities and durations used in current light therapy probably pose no significant risk for this type of damage.

The first speaker introduced by Dr. Morris Waxler, chair for this session, was Dr. Wes Marshall from the Army Environmental Hygiene Agency. Dr. Marshall began by reminding the audience to place the risk associated with light treatment radiant intensities and durations in an environmental context and noted that, as regards exposure to damaging levels of UV and near-UV light, no conventional treatment procedures in which he is familiar (i.e., 2500 lux, full-spectrum light for two-hour exposures), wherein almost all high energy radiation is absorbed by plastic screens in front of the light source, approach significant levels of risk. However, he added, as treatment intensity x duration factors increase, exposure may approach accepted risk standards of 1 mW/cm^2 for exposures greater than 1000 seconds. With brighter sources, such as 10,000 lux, "you're delivering that energy in a shorter period of time," and will get closer to exceeding the standard for risk, "but I still don't think you would exceed the standard if you had approximately the same levels of UV [as found in conventional units]."

Though the radiant intensities -- and resultant retinal irradiances -- from conventional therapy are far less intense than those found in nature, he warned of the potential for "directional effects" resulting from the fact that the patient receives light daily in a static orientation, causing one part of the retina to be exposed more acutely. He suggested alternating the position of the light box daily to prevent such potential effects.

Dr. Marshall was followed by Dr. George Brainard who began by describing the three bandwidths of UV light: UVA and the actinic bands UVB and UVC, the latter known to be cytotoxic and mutagenic. Dr. Brainard mentioned results of experiments by his group that found low dose, high energy light exposure to have effects on the photoperiodicity, neuroendocrine and circadian systems of rodents. Furthermore, his group found that wavelengths as low as 300 nm (within the blue near-UV range) are transmitted by the lens at "quite significant levels" up until age 30 and that after that age wavelengths as low as 350 nm are transmitted, causing him to wonder if this type of UVA radiation might be instrumental in the therapeutic effect. In responding to a question about the safety implications of this idea, Dr. Brainard said the results are preliminary and that speculations about the ramifications are premature.

The final speaker, Dr. Waxler, spoke mostly to issues of thermal and photochemical damage risk from visible light, but began reiterating the known risks of the various types of UV radiation. He stated that UVB plays a role in cataractogenesis, but that "the data are less clear" as to whether UVA poses a similar risk. However, even slight effects might be exacerbated in individuals prone to macular disease or those with a history of drugs (such as 8-Methoxypsoralen) which are photosensitizers to visible as well as UV light. Describing the natural protection from UV and blue light provided by absorption of these wavelengths within the aging cornea, Dr. Waxler suggested that those aphakic individuals who lack this natural protection, as well as those with a family history of senile macular disease or other retinal pathology, be excluded from light therapy.

Although Dr. Waxler echoed Wes Marshall by saying that the term "bright light" for current light therapy procedures is a misnomer -- when placed in an environmental context -- and that current procedures are not capable of approaching accepted standards for thermal risk *[for guidelines, Dr. Waxler recommended seeing Sliney DH & Wolbarsht ML (1980), Safety with Lasers and Other Optical Sources: A Comprehensive Handbook, Plenum, NY]*, he did see a potential risk of thermal damage to the retina from increased therapeutic intensities, warning that, as intensities rise above those currently used, it is incumbent upon the researcher to calculate spot size, pupil size, total joules and other factors bearing upon actual retinal irradiance in order to judge risk.

Prefacing by saying, "The study has not been done which would answer questions about natural recovery" from potential insult in light therapy, Dr. Waxler touched on speculation that damage to photoreceptors can occur from light in the green region of the spectrum, which may be the most active region for light therapy, as well as to the blue-cone system, which one group has reported is selectively damaged by blue light (this result awaits replication). He concluded by remarking ironically that the patient may be put at greatest risk by the light intensities involved in examination procedures, such as direct ophthalmoscopy, which are used to assess possible damage from light therapy.

The next issue of the Newsletter will continue the report on the work sessions of the Federal/Industrial Relations Committee, focussing on issues of proof of efficacy and avoidance of fraudulent claims.

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LETTER TO THE EDITOR

I very much enjoyed the critical editorial in the recent SLTBR Newsletter entitled, "Developing the Case for Efficacy," which was taken from a position statement given at the committee forum on federal/industrial relations at the recent SLTBR annual meeting. The contradictory nature of many tentative results on the effects of light therapy for SAD has hurt the field and only when rigorous studies are carried out, in the manner outlined in the SLTBR editorial, will this "hot" field really be considered a serious biomedical area of research and clinical practice by mainstream researchers and practitioners.

As you know, people rarely write an editor to compliment, but more usually write to complain. I am afraid that is why I am writing to you. What struck me about the newsletter was the total incongruity between the editorial on "Developing the Case for Efficacy" and the brief review of some papers presented at the SLTBR meeting by Dr. Karen Stewart, who found it "exciting" that additional seasonal syndromes and non-SAD applications of light treatment were presented at the meeting. Some of the papers reviewed by Dr. Stewart lacked the very rigor that the SLTBR position statement noted was necessary

if the field of light therapy was to become part of mainstream biomedical research. The paper on the effects of light therapy for detoxified alcoholics is a case in point. One has to conclude that *a)* the study was done without the proper control group (since both the dim light control group and the experimental group responded favorably), *b)* the effect was totally placebo since both groups responded the same way, or *c)* that the improvement was due to some other factor in the hospital environment that was not related to the light treatment. In any case, such a finding says nothing about the "efficacy" of light treatment, yet this finding contributed to the statement in the SLTBR Newsletter that "it is exciting that our field has expanded into new areas of inquiry. . . ." In fact, it is just such a report that will lead many investigators to conclude that this is not a serious area of scientific inquiry. When I think about how the study on the effects of light therapy for detoxified alcoholics would be viewed by investigators attempting to determine the efficacy of various drugs for human disease, I realize that as long as this type of work is viewed as "exciting" by people in the light therapy field, many investigators will pay little attention to what, as you suggested, is a "hot" area that needs to be proven.

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LETTER TO THE EDITOR

Although the Downing Technique has successfully been used with "SAD" individuals, it has primarily been used in non-seasonal conditions, with an 86% clinical success rate. Those who have experienced the Downing Technique have shown improvements in such areas as learning ability, concentration, memory, coordination, athletic performance, sleeping patterns, self-esteem, mood, peripheral vision and night vision. This technique has also been found to reduce stress, fatigue, headaches, computer strain, hyperactivity, depression, phobias, anxiety, addiction and photophobia.

The Downing Technique has objectively shown that it increases brain stimulation by increasing the amount of photocurrent reaching the visual cortex. This is evidenced by its ability to produce consistent and long-lasting changes in visual field size.

Dr. Janis Anderson's reference to the Downing Institute quoting Norman Rosenthal out of context is incorrect *[SLTBR Newsletter, Vol. 1, No. 4]*. Dr. Rosenthal has been aware of the Downing Technique since 1987. After reviewing case histories of the Downing Technique, Dr. Rosenthal did state his opinion that "the change in visual fields is of special interest to me because it represents an objective physiological change. . . ." Though this quote was accurate, it was used without his permission in early Downing Institute training literature and has since been removed from current literature at his request. In my personal discussions with Dr. Rosenthal, he has always listened with interest and open-mindedness to the possibility that the methods used in the Downing Technique might have value. At the same time, he has made it clear that they must be followed up with scientific research before they can be established as fact.

I do agree with Dr. Anderson on one point. Jill Ammon-Wexler did use incorrect terminology in the "preliminary report" of her independent study of the Downing technique used with DSM-III phobic disorders. The Downing Technique of Neurosensory development has never claimed to be color therapy or even light therapy. It is a method of enhancing the assimilation and transmission of photocurrent within the brain. I have also drawn this to the attention of Dr. Ammon-Wexler and this terminology will be eliminated from her final report. It does seem strange to me, however, that Dr. Anderson had so much to say about a simple mistake in terminology and nothing to say about Dr. Ammon-Wexler's findings that the Downing Technique was extremely successful in helping 20 clients with phobic disorders. The Downing Technique has been widely accepted in both the U.S. and in Europe with over ten research projects currently in process to test its efficacy.

I urge my fellow colleagues in SLTBR to be true scientists and remain open to the possibilities contained within new ideas. I invite you to investigate all techniques of light stimulation including the use of color and flashrate, and with applications extending beyond "SAD." I am personally willing to share my knowledge with any sincere colleague who wishes to explore these areas.

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EDITOR'S REPLY

The point/counterpoint of the two letters received this month illustrates a range of perspectives that should challenge SLTBR and stimulate our research toward firmer ground. At issue is the threshold at which investigators should make claims for clinical

effect. On the one hand, new and tentative findings are of obvious interest at this early stage of research effort on light treatment. On the other hand, a full accounting of procedures and results in the context of controlled clinical trials, published non-commercially and with peer review, is a basic step toward establishing credibility. As a matter of editorial policy, each Newsletter author speaks for himself or herself, not for the Society. Once an article has been invited, it is copy-edited, but substantive revision requested only if a point is difficult to understand. If the result appears as a potpourri, so be it: that's where we stand as a group. Henceforth, unsolicited manuscripts and letters to the editor will receive peer review; initially, members of the Board of Directors will serve as editorial board and primary reviewers, with other reviewers engaged depending on topics and submission rate.

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MANUFACTURERS AND SUPPLIERS OF LIGHTING FIXTURES

For our readers' information at the start of the SAD season, we list below Corporate Members of SLTBR who are suppliers of lighting apparatus. SLTBR does not currently evaluate or recommend specific apparatus, and there are additional suppliers who have not thus far joined us as members. Comparison shopping is strongly suggested. A wide variety of lighting fixtures is now available. Purchasers would be wise to give serious consideration to issues above and beyond cost. Where will the lights be used? Is the unit portable enough to meet scheduling needs? Evaluate the light source. What kind of lamps are provided? (Both full-spectrum and regular fluorescent light have been shown to be effective.) Is sufficient lux (intensity) emitted? (Treatment studies generally have used the 2500 to 10,000 lux range.) How much UV is emitted? *[See Brian Rafferty's article above.]* Are the lamps protected by a screen? Are they operated within electrical limits specified by the light-bulb manufacturer? Has the unit been adequately tested in clinical trials? Has safety of use been documented?

Ambulatory Monitoring, Inc., 731 Saw Mill River Road, Ardsley NY 10502.
Apollo Light Systems, 352 West 1060 South, Orem UT 84058.
Medic-Light, Inc., 34 Yacht Club Drive, Lake Hopatcong NJ 07849.
Spectrum Industries, East Woodstock CT 06244.
The Sunbox Company, 1132 Taft Street, Rockville MD 20850.

BULLETIN BOARD

Postdoctoral fellowships in NIMH-sponsored training programs at NYS Psychiatric Institute/Columbia University, Light Therapy Unit, for M.D.'s or Ph.D.'s with experience in psychiatry, chronobiology, clinical vision sciences, or clinical psychology. U.S. citizenship required. Foci: therapeutic methods and clinical trials (collaboration with Depression Evaluation Service), visual neuro/psychophysiology of SAD and light therapy (collaboration with Harkness Eye Institute), diagnosis and treatment of children with SAD (collaboration with Child Psychiatry). Contact *Michael Terman, Ph.D., NYS Psychiatric Institute, Box 50, 722 W. 168th St., New York NY 10032. Tel 212/960-5712; fax 212/960-2584.*

Guilford Publications has published a special issue of the *Journal of Biological Rhythms* (Vol. 4, No. 2) entitled *Biological Clocks and Environmental Time*, edited by Serge Daan and Eberhard Gwinner. The volume contains contributions from an international array of noted authorities. It explores, through a diversity of themes, the general functional approach to biological rhythms that have evolved in adaptation to the structure of environmental time. This special issue costs $25, but SLTBR members will receive a 10% discount at $22.50. Order from *Guilford Publications, 72 Spring St., New York NY 10012. Tel 212/431-9800.*

INSURANCE ENDORSEMENT PACKET NOW AVAILABLE

The Insurance Liaison Committee (Leslie L. Powers, M.D., Chair) has prepared an official letter from SLTBR for use as back-up for patients' requests for insurance reimbursement of light box purchases. The letter outlines the range of DSM-III-R diagnoses of depressive disorder that may carry the seasonal descriptor, and states in detail the Society's view that light therapy is the treatment of choice. It urges full reimbursement even when a patient's policy does not cover durable medical equipment, pointing to long-term cost benefits. Accompanying the letter are copies of the APA Task Force statement on treatment of SAD and three clinically-oriented reprints from the literature. Clinicians may wish to order copies for submission with their endorsed reimbursement forms, or for response to a provider when reimbursement is initially denied *[see order form attached].*

WELCOME TO NEW MEMBERS

Regular Members
Mark S. Bauer, Sue A. Binkley, Steven F. Glotzbach, John F. Greden, David B. Jarrett, Daniel J. Mullaney.

Associate Members
Byron C. Arndt, William Bailey, Allan D. Belden, Thea F. Benenson, Allen Berkel, David R. Daugherty, Billy M. Dinsmore, Alan Fisch, Norris Hansell, Janice L. Kimball, Peter D. Krones, Martha J. Link, William E. Lockridge, Gregory F. Oxenkrug, John J. Mooney, Rachel L. Morehouse, Ritchi Morris, Shawna M. Murray, Melody J. Ritter, Joan E. Schnell, Colin M. Shapiro, Joan Shapiro, Samuel R. Shattan, George F. Slade.

MEMBERSHIP INFORMATION

If you are considering applying for individual membership *[form attached]*, please note criteria:

Regular -- for researchers with Ph.D., M.D., or equivalent degree who are actively working in the field of bright light treatment or biological rhythms. Only regular members have voting privileges. The Board of Directors will vote on applications for regular membership.

Associate -- for any interested persons such as scientists in other fields, clinicians, patients.

Student -- for students pursuing an advanced degree (post-bachelors) and engaged in research related to bright light treatment or biological rhythms. Anyone holding an M.D., Ph.D. or comparable degree is not eligible for student membership (e.g., postdoctoral fellows, residents).

Corresponding -- for research colleagues working in countries from which dues cannot be transferred in US$ or SFr to our membership offices. Criteria are the same as for regular membership.

OUR THANKS TO . . .

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