BULLETIN

A PUBLICATION OF THE SLEEP RESEARCH SOCIETY, USA

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Changing Requirements

In light of its goal to encourage fellowship training in sleep medicine as the route to Board certification, the American Board of Sleep Medicine will adopt the following changes in the eligibility requirements:

1. Waiver #2, which is based on clinical experience in sleep medicine without formal training, will be eliminated beginning with the examination cycle of 2003-2004. Applicants accepted for the examination under Waiver # 2 must have successfully completed the Part II examination by the end of 2005, not withstanding any other regulations to the contrary.

2. Waiver #1, which is based on a combination of training and clinical experience in sleep medicine, will be changed beginning with the examination cycle of 2003-2004. Beginning at that time, this waiver will require a combination of at least 6 months training and 12 months clinical experience in sleep medicine.

3. Waiver #1 will be eliminated beginning with the examination cycle of 2005-2006. Applicants accepted for the examination under Waiver # 1 must have successfully completed the Part II examination by the end of 2007, not withstanding any other regulations to the contrary.

Successful completion of a sleep fellowship (regular or alternate track) accredited by an organization recognized for this purpose by the ABSM will be required by candidates taking the ABSM examination beginning in 2005. At present, the only organization so recognized is the American Academy of Sleep Medicine (AASM).

Recertification

Commencing with certificates issued in 2006, the examination cycle 2005-2006, the ABSM will issue a 10-year, time-limited certificate. Those who have received their certificate prior to this date will not be required to undergo a recertification process.

The results of this year's officer elections are as follows:

David F. Dinges, PhD - President Elect
Jodi Mindell, PhD - Membership Chair
Ronald Szymusiak, PhD - Program Chair for Trainees

Dr. Gerald Vogel has been awarded the SRS Distinguished Scientist Award and will be presenting during the Invited Lecturers session at the APSS 14th Annual Meeting. The title of his lecture is "REM sleep and Mental Illness".

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President's Message

Dear SRS Members:

The SRS has successfully weathered another winter and we are well on the way to springtime. (I write this while watching snow falling outside my window!) I could not be more optimistic about the SRS and the future of our field and our society. I would like to share with you a few of the new initiatives that the SRS executive committee has agreed to undertake in the coming months and for which task forces are currently working. As the task force reports are completed, we will certainly be looking for members to serve on standing committees that will put these initiatives into action. I urge you to put your name forward if you have the time and interest to help us succeed with these very exciting plans!

The SRS Junior Faculty Development Program (JFDP). As you know, the SRS has devoted many resources to trainees over the years. We now wish to augment our trainee programs with a program designed to give an extra push for junior sleep research faculty slots. The JFDP aims to provide support to North American academic institutions that designate a junior faculty position involving a commitment to Sleep Research for candidates with training in and an established commitment to sleep research. The support will come in the form of 3-year grants to the institution for support of the junior faculty slot. An SRS task force is working on the details of implementing this program by the 2000-2001 academic year.

Sleep Research Society Benevolent Trainee Development Fund. A taskforce has been formed to set up a benevolent fund for the SRS. Investment income from this fund will be earmarked to support SRS trainee programs.

Sleep Research Society Club Hypnos Expansion Program. Club Hypnos began as a social extension of the SRS within the Society for Neuroscience. We hope to expand Club Hypnos to benefit our members who routinely attend meetings of other professional scientific societies in which the sleep research community is small and not organized and to solicit new SRS members. Expect a Task Force report by the annual meeting.

Semicentennial Exploratory Taskforce for 2003 "SEC 2003." The SRS executive committee has made a commitment for a major program to commemorate the seminal discovery of REM sleep and its relation to dreaming, signaled by the publication of the Aserinsky and Kleitman paper in Science, 1953. An exploratory taskforce has been formed with a mandate to a draft outline of events to consider in celebration of the 1953 discovery of REM sleep by the annual meeting.

The SRS International Outreach Program is at the pre-task force stage. The hope is to provide assistance to sleep scientists who work in economically disadvantaged countries. Some goals under consideration for this program are to: 1. Establish an SRS membership category for sleep scientists working in economically disadvantaged countries. 2. Provide APSS meeting registration fee relief and travel stipends. 3. Assemble a network of SRS members to assist with language difficulties of such members submitting manuscripts to English-language journals. 4. Provide a clearinghouse for donations of equipment, books, and so forth to such members.

I hope you will all read about the wonderful opportunity that Katie Sharkey and I had to represent SRS at the AXXS meeting in December (see page 63 for Katie's report).

Finally, I urge you all to attend this year's APSS meeting. If you have not yet received your preliminary program and registration book, please go directly to the APSS web site (http://www.apss.org/). This promises to be a terrific meeting, and SRS has a plans to make it more memorable than ever. So get all your research staff and students up to date with their SRS membership (http://srssleep.org), and come one and all to Las Vegas.

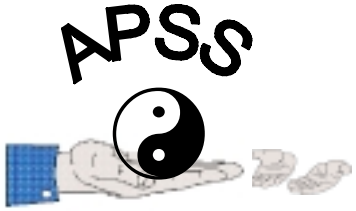
Until then, have a very happy and productive spring (or fall, for our southern hemisphere mates)!

Sincerely,

Mary A. Carskadon

P.S. Required pre-APSS viewing in my lab is the Chevy Chase movie: Vegas Vacation. It's a cautionary tale, with many laughs.

Announcing the 2000 Trainee Symposium Series Sunday, June 18, 2000



Program Highlights:

- Keynote Speech by Emmanuel Mignot, M.D., Ph.D.
- Student Panel Discussion on Genetics and Sleep
- Workshops on academic skills & cutting-edge science!
- Meet-the-Mentor Luncheons
- Graduate School/Internship/Post-doc/Fellowship Fair
- Trainee Reception

See the registration form and full schedule in the APSS Preliminary Program

The Outstanding Faculty Who Have Volunteered to Participate:

Richard R. Bootzin, Ph.D.
Rosalind Cartwright, Ph.D.
Charmane Eastman, Ph.D.
Ronald Harper, Ph.D.
H. Craig Heller, Ph.D.
Rod J Hughes, Ph.D.
Jodi A. Mindell, Ph.D.
Charles M. Morin, Ph.D.
William Obermeyer, Ph.D.
Michael L. Perlis, Ph.D.
Thomas Roth, Ph.D.
Jerry Siegel, Ph.D.
Irene Tobler, Ph.D.
Mary A. Carskadon, Ph.D.
William C. Dement, M.D., Ph.D.
Dale M. Edgar, Ph.D.
Ernest Hartmann, M.D.
Jim Horne, Ph.D.
Charles Landry, Ph.D.
Margaret L. Moline, Ph.D.
Patricia J. Murphy, Ph.D.
Allan I. Pack, M.D., Ph.D.
David M. Rapoport, M.D.
Larry D. Sanford, Ph.D.
Edward J. Stepanski, Ph.D.

Trainee Day Registration Deadline: May 15, 2000

For more information, visit our website at:
http://www.srssleep.org/trainee/APSS.htm

Trainee Program Committee: Katherine M. Sharkey (Chair), Scott M. Doran, Ph.D., Philip Gehrman, Ana C. Krieger, M.D., Janna Morrison, Dante Picchioni, Daniel Taylor, M.A., RPSGT, Kenneth P. Wright, Jr., Ph.D. Michael L. Perlis, Ph.D. (Assistant Training Director), Dale M. Edgar, Ph.D. (SRS Program Chair for Trainees)

WHAT IS THE STATE OF GENDER PARITY AS WE BEGIN THE 21ST CENTURY?

by Katie Sharkey

Cloning...the Mars Lander…functional neuroimaging…gene therapy! It's a great time to be a scientist. We live in a time of enthusiastic support of our discipline, and the advancements that are being made in science and medicine are staggering. Yet for all the amazing breakthroughs, progress in equity for women scientists remains nearly at a standstill. It is true that the absolute numbers of women who enter science has been steadily increasing - for instance, between 1986 and 1996, there was an increase of approximately 64% in the number of women who earned bachelor's degrees in Chemistry or Biology and an increase of approximately 25% in the number of women who earned PhD degrees in these disciplines (1). Nevertheless, in spite of these advances, comparisons between women and men in similar career circumstances show that women continue to be less likely to progress in their scientific careers than men.

In a recent article in the New England Journal of Medicine, Dr. Lynn Nonnemaker reported the rates of academic advancement in all physicians who graduated from U.S. medical schools between 1979 and 1993. She found that although women were significantly more likely than men to pursue a career in academia, once women started their careers, they were less likely to be promoted. Of 4959 individuals promoted from assistant professor to associate professor, 1019 were women - 334 fewer (24.7%) than would be expected if promotion rates had been equal between women and men (2). Similarly, of 519 faculty members promoted from associate to full professor, 59 were women - 46 (43.8%) fewer than would be predicted. Although this study excluded faculty members with Ph.D. degrees (who might be more likely to progress through the academic ranks because of a stronger academic focus and fewer clinical responsibilities), the results are disheartening.

Perhaps even more discouraging is evidence of subtle bias and discrimination that prevents women from being the best scientists that they can be. At many universities, there are clear inequities in research space and institutional support between female and male faculty members, as well as an extreme under-representation of women involved in key decision-making about these resources. Nowhere are these inequities more famous than at the Massachusetts Institute of Technology, where Dr. Nancy Hopkins and all of the other tenured female faculty members in the School of Science (15 out of 212 total tenured faculty), investigated the distribution of this difficult-to-measure scientific capital. They found that the women scientists had about half as much research space as their male colleagues; salaries and university grant support were also lower for women than for men (3). With the help of Robert Birgineau, dean of the School of Science, MIT has begun to rectify these imbalances. Furthermore, they took a big step forward when they reported their history of gender bias publicly in March 1999. Still, this type of ambiguous discrimination is rampant in academia. It may be unintentional, but it is still destructive, and we must be vigilant to it and endeavor to close the gaps between resources allotted to male and female scientists.

In December, 1999, Dr. Mary A. Carskadon and I represented the Sleep Research Society at the AXXS `99 Conference: Advancing Women's Contributions to Science through Professional Societies. Over 140 executive directors, presidents, committee chairs, and government officials represented their scientific societies at this meeting. Notable participants included Vivian Pinn, M.D, Director of the Office of Research on Women's Health, Ruth Kirschstein, M.D., Acting Director of NIH, and Randy Schekman, Ph.D., President of the American Society for Cell Biology and Chair, Dept. of Molecular and Cell Biology, UC-Berkeley. The goal of the workshop was to develop initiatives that would lead to progress in career opportunities for women scientists. Several exciting action plans came out of this workshop, and many are being implemented by attendees, including a "Best Practices" Web Site, an Expert Speaker List for the Media, and several mentoring programs.

Attending the conference provided us with the opportunity to reflect on where the Sleep Research Society stands vis a vis the progression of women in scientific careers. Women scientists have major leadership roles in the SRS, including the President (Dr. Carskadon) and the Program Chair for APSS (Ruth M. Benca, M.D., Ph.D.). Overall, 6 of 16 (37.5%) executive committee members are women. In addition, the keynote address at our major scientific meeting of 1999 was given by a woman scientist (Sonia Ancoli-Israel, Ph.D.) Many SRS members participate in the Women in Sleep and Rhythms Research (WiSRR) group throughout the year and at the annual meeting. On the other hand, the SRS poster at the AXXS meeting noted: "For the last 5 years, percentages of all women speakers at the annual scientific meeting for sessions that are not determined by blind review were low. Women are about 36% of SRS and 16.5% of AASM, yet the speaking presence of women ranges from 0% to 26%. Higher female representation occurs in the least "prestigious" venues. More women speakers are needed to achieve parity with men."

There are several possible action items which could be imple-

mented by the SRS to make further progress in advancing women's scientific careers:

· Appointment of an Ex-officio Executive Committee Member charged with ensuring that the Society makes opportunities in the SRS available to all members regardless of sex, age, or ethnicity.
· Establishment of a committee to draft a 5-year plan to ensure that the leadership of the SRS represents the society's demographics.
· Development of a one-on-one mentoring program linking a female trainee with a senior scientist for the annual meeting.
· Sponsorship of an MIT-type study of the resources available to male and female members of the SRS.

These are preliminary ideas, and there are surely other programs that could be implemented. Regardless of how we choose to tackle this problem, the SRS needs to recognize that equity for women scientists is critical to the mission of our society. To wit: if the women scientists in the SRS have inferior access to research space, seed money, and promotion opportunities, it means that more than 1/3 of our members are working under less-than-optimal conditions. Even subtle gender disparity interferes, and when the playing field is not level for women, it hurts everyone. Through persistent and deliberate actions, however, we may be able to improve the situation for our current members and for those who will come in the future.

(1) U.S. Department of Education, National Center for Education Statistics
(2) Nonnemaker, L. Women physicians in academic medicine: new insights from cohort studies. N Engl J Med 2000; 342: 399-405.
(3) Zernike, K. MIT women win a fight against bias: in rare move, school admits discrimination. Boston Globe, 21 March 1999.

WHY WOMEN'S PROBLEMS AREN'T JUST WOMEN'S PROBLEMS ANYMORE (and maybe they never were)

by Monica M. Eiland

As Katie Sharkey describes in the preceding article, there is clearly a strong gender disparity in the retention and scientific success of women. When I initially sought an author for this column, I envisioned a column focussed on concerns unique to women in science: discrimination, family issues, and the role of gender-specific behavior in success. I was surprised to find that most women in the early stages of their careers did not want to discuss the issue publicly for various reasons, not least of which was their rejection of the notion that they were fundamentally different than their male counterparts. As one of them said to me, "the longer I do this, the more I think these things are not solely women's issues. I can't think of anything I've experienced that a man in my position wouldn't also have experienced. I think it has to do with your basic personality, rather than your gender." I came to suspect that the mass exodus and continued marginalization of women in science is merely a symptom of a larger problem.

Almost any discussion of women's difficulties in gaining advancement comes quickly to the role of personality in achieving success in science. Obviously, aggression is important at the bench, when nature proves jealous of her secrets. It is also critical for advancement, when one is asking for resources or defending them. The ability to be assertive in confrontations and to command others' attention was of great concern to the female colleagues who talked to me. Even among men, some are more aggressive than others, and it stands to reason that those men may lose ground as well. Perhaps aggression bespeaks a greater aggression in rooting out the scientific truth; however, the aggression and "ego strength" of the messenger also seem like poor tests of scientific truth. If both men and women who are the most prone to constant questioning of their own data, the most concerned about quality versus quantity, and the most likely to cooperate with others, are also the most likely to leave, then scientific quality will ultimately suffer. Whether or not this personality type is well-suited for leadership is a different issue than whether it is well-suited for scientific work.

Debates about so-called women's issues also seem inevitably to turn into discussions of priorities: how one defines success, what one is willing to do in order to be successful, and whether or not science has any obligation to make allowances for family life. Though the perception, even by women, is that women tend to prioritize family over career, family issues are no longer the sole province of women. The transient lifestyle of science, the low pay, the problems of maintaining relationships, the difficulties of the two-career family, and the market for long-term jobs are all issues of concern to both women and men. For women time pressure is particularly acute, since reproductive and professional clocks are running simultaneously. Those women who do establish marriages and have children usually find themselves with primary responsibility for both child care and managing the household, activities that require time, creativity, and energy. For the men of science, passing on these responsibilities to the women in their lives has in the past left these resources free for science, which they in turn used to support their families. However, as men take an increasing interest in being involved with their children's lives, and as a second income becomes more important in supporting a family, this factor has begun to affect men's decisions about whether or not to stay in science, and what level of science they can do.

Some might argue that scientific success goes preferentially to those without strong family or personal priorities. However, for those with no families and no desire for them, or whose spouses can and do stay home, there is still the necessity of working with capable colleagues. The high percentage of women in the biological sciences virtually guarantees having to work with women, or

with men who place a priority on family as well. The best science requires the best minds, and in the present labor market, can we really afford to ignore this segment of the labor pool?

Practical Suggestions

In order to succeed in science, one must first assure that he or she can stay in the field. For most people, the immediate reasons for leaving are often related to practical, day-to-day concerns. In recent years, the NIH has begun to implement family-friendly policies such as "re-entry" grants, the removal of payback clauses in predoctoral awards, and generous maternity leave. As trainees, I think we need to be fully aware of these options and use them to our full advantage.

However, we must also find ways to deal with the other aspects of grantsmanship and post-graduate life that can still create a very real impetus to leave science. Age limits on grants and awards work against those who take time off of science, or who come into science late because of family commitments. This factor could disproportionately affect women. In addition, many postdoctoral grants include clauses requiring repayment of the award if the awardee leaves science within two years thereafter. Such clauses may discourage people who anticipate having children, needing to leave science to support children, or needing to relocate with a spouse; these people may refuse postdoctoral opportunities rather than risk having to repay a huge sum of money later on. These clauses also exacerbate the feeling, by both women and men, that they are being exploited, since postdocs are expected to work very independently and are often trainees in name only. Finally, postdoctoral grant rules often enforce a culture of transience by requiring the student to begin again in a completely new lab. This strong discouragement against staying in place after grad school can work against women in particular because many are 30 or older before they finish their graduate degrees, and often have families - and two-career family complications - by that time. For those who do not have families, this transience can make it virtually impossible to enter or maintain lasting personal relationships.

No doubt these grant rules were carefully formulated to produce high scientific output. However, there is no guarantee that they will continue to reliably produce the perennial supply of cheap, high-quality labor, or serve to maintain a quality workforce. The Ivory Tower has expanded into a much more complex workplace that must compete for labor with corporate America. Future generations of bright, motivated, and marketable students may leave science for other fields, or not come at all.

As the men and women of the new generation of scientists, we can only control our own actions, however. Happiness and success in work and in life will depend on our own technical abilities in those areas and on our ability to secure support in achieving our goals. The development of valuable technical skills, a proven record of productivity, and the assertiveness to achieve them (and credit for them) are the core necessities of scientific life. Planning, organization, and effective time management were among the most critical skills to which other women have credited their success. As one woman I talked to said, "It is important to strike a balance in your work versus non-work life that makes sense for you. And to come to terms with your choices. . . You have to decide what's important to you, and what you are willing to do to get it. You have to KNOW these things, in your heart of hearts. Otherwise when conflicts arise you will be paralyzed with indecision and be in peril all the days of your life."

Science and family are building the future. If we can deal with the underlying causes of these disparities, both individually and as an institution, we can improve the lot of both enterprises. The brightest and the best should be encouraged to be a part of both.

My thanks go to the anonymous women who agreed to talk to me. The views expressed are not necessarily the views of the SRS.

Women in Sleep and Rhythms Research

The annual meeting of the Women in Sleep and Rhythms Research will be held on Tuesday, June 20th from 6:30-8:00 p.m. We are pleased to announce that WiSRR's invited speaker this year is Dr. Patricia J. DeCoursey. Dr. DeCoursey has a Ph.D. in Zoology and Biochemistry, and is a Carolina Distinguished Professor at the University of South Carolina, Columbia, SC. She is well known for her landmark research in biological rhythms and mammalian circadian physiology. Dr. DeCoursey was instrumental in organizing the Professional Women in the Biological Sciences, a national organization for women in science, and led that organization with much pleasure for about a decade. She recently noted that she has "found a real thirst for women to interact in solving the career challenges special to our gender."

We invite you to schedule in this special event at the 14th annual APSS meeting, as Dr. Patricia DeCoursey speaks from her wealth of experience about "The Rewards of a Scientific Career"

Hope to see you there!

Co-Chairs

Susan Labyak, PhD
Jodi Mindell, PhD
Amy Wolfson, PhD

The Sages of Sleep

In this issue of the SRS Bulletin we begin a new feature. The idea came from Milton Kramer who recently retired from his long-term Directorship of the Sleep Center at Bethesda-Oak Hospital in Cincinnati. He wrote to our President, Mary Carskadon, who passed the letter on to me, suggesting that since we are now experiencing the aging of our first generation of sleep researchers, we think about making some provision for them to pass on their accumulated wisdom, long view of things, warnings about how we are going astray, or whatever they choose to share.

This is what we have decided to do: to invite that may not consistently attend the APSS meetings to talk to us by way of a regular column in which they may reminisce, remonstrate, or just raise questions as Vern Johnson has done here. I thank him for going first, and for asking us to rethink why we are continuing to do things in the same old way when our research tells us Stage 1 sleep is not true sleep at all but a transitional state between waking and the real stuff (Stage 2). He even questions why we are staging sleep at all, a refreshing idea and one that comes from having some perspective.

Our first Sage of Sleep is Laverne C. Johnson Ph.D., who was for many years at the Naval Medical Neuropsychiatric Research Unit, U.S. Naval Hospital, San Diego, CA. While there he produced landmark work on the long term effects of poor sleep on the health and careers of almost 3,000 students at the naval academy. He is one of the twelve senior sleep researchers who produced the basic sleep scoring manual still in use and which we refer to simply as "Rechtschaffen and Kales." For those of you too young to have know him I am happy to introduce you to one of the Sages of Sleep: Vern Johnson.

Rosalind Cartwright

I had some ambivalence when Roz Cartwright called to ask if I would contribute this column. When she said that the column would be called the "Sages of Sleep" and not the "Aged of Sleep" I was more receptive. I'm not sure, however, how old one must be or what other qualifications are necessary to be called a sage. After careful consideration and in the spirit of Roz's instructions that the column should be informal and reflect some of my current thoughts, past memories and unresolved questions, I picked up my pencil and pad.

Two of the criteria for evaluating a scientist and his/her work are; one, do the findings make a significant and reliable contribution to the understanding of the area of interest or second, do the research findings stimulate further research.
One of my early contributions to sleep research certainly would be judged of high scientific merit if the second criterion is used. It would have to be judged less favorably if the first criterion is applied; i.e., significantly contributed to a better understanding of the mechanisms and function of sleep. In 1967, I was a member of a group of twelve sleep researchers, all of the others clearly merit the label "sages," who met in Santa Monica following a meeting of the Association for Psychophysiological Study of Sleep (the original APSS) at UCLA hosted by Tonly Kales and his laboratory staff. As I recall it was a good meeting with over 100 present. Our mission was to reexamine the categories for sleep staging established at the first sleep meeting in 1960 and to establish new standardized procedures for recording sleep and criteria for what we now know as the stages of sleep. Our work was published as the most frequently cited sleep publication; "Rechtschaffen and Kales: A Manual of Standardized Terminology, Techniques and Scoring System for Sleep Stages of Human Subjects" (1968).

It was in Santa Monica that I learned to appreciate how sleep, or in this case, the lack of sleep, can be used as a motivator. After midnight on the second or third day of our discussion, Al Rechtschaffen said we were not leaving the room until we decided whether slow wave sleep (SWS) should be split into stages 3 or 4 or be one stage (SWS). As fatigue grew, the lumpers (SWS) lost their zeal and the splitters added criteria for stages 3 and 4 to the manual. I was a lumper at the time, and I note with satisfaction that stages 3 and 4 are now often combined and called SWS.

The careful reader of Rechtschaffen and Kales will have noted that there is no statement as to when sleep begins. There is stage 1, stage 2, etc. This absence was a result of our failure to agree on when sleep begins. One group felt the drowsiness of stage 1 should be called Sleep while others felt that the physiological state of sleep began at the onset of stage 2. The appearance of the 12 to 14 Hz wave burst (sleep spindle) was viewed by this group as the unique EEG wave form delineating sleep from waking. Studies have shown that there is a significant increase in arousal threshold with onset of stage 2. Further stimuli will restore alpha when presented in stage 1 but a K Complex in stage 2. Stage 1 also has minimal recuperative value following sleep loss when compared to that for stage 2. Would it not be more consistent with the data to view stage 1 as a transition period between waking and sleeping? I was, and still am, intrigued by this ubiquitous NonREM sleep event, but our studies and those of others have not provided clear answers as to the behavioral significance or site of origin of Sleep Spindles. The allure of REM bursts was so strong that sleep spindles and K complexes were phasic events of sleep less studied. A reflection of the glamour of REM sleep is seen in the fact that 75 percent of sleep is called NonREM.

Our work at Santa Monica was quickly accepted and proved to be a reliable method for categorizing a night of sleep. Then followed a rush to determine the functions and correlates of these newly identified parts of sleep. It soon became apparent that some sleep researchers at the time suffered from one of two visual problems. Those with REM tunnel vision could only see REM sleep and those with slow wave myopia could not see beyond the first third of the night. Although not claiming 20-20 vision, our work did not suffer from either visual deficit. We looked at the effects of both REM and SWS deprivation on next day behavior. As the results began to accumulate, visual deficits began to diminish. Subjects deprived of REM or SWS tried to more quickly enter the deprived stage and there was a rebound of the deprived stage during recovery sleep. Yet, no clear consistent relationship to next day waking behavior was found regardless of the duration of REM or SWS deprivation.

In a 1973 article for the American Scientist (61, 326-338), I asked "Are Stages of Sleep related to waking behavior?" Based on the data available at that time, I answered "No." Regardless of the behavior that was studied, we always found that the total sleep time, and not the time in any stage, was the most important predictor of daytime behavior.

My colleagues and I worked with the computer sciences staff at McDonald Douglas, Long Beach, in 1970 to see if a computer could score a night of sleep. We published our results in an issue of the 1972 EEG Journal (32, 417-427) in which we successfully used a pattern recognition program of EEG, EOG for all night sleep stage scoring. At this time, we also began to use spectral analysis to measure "power" in various EEG frequency bands in sleep stages. While spectral analysis provided new descriptive data, it did not increase our ability to predict behavior.

Technological advances and reduction in computer size and cost have made spectral analysis more feasible especially for research and computer sleep stage scoring. Computer scoring is an often used aid in categorizing a night of sleep, especially in sleep disorder centers. But is the percent of stages 2, 3, 4 or REM or other sleep stage characteristics of diagnostic value and useful in treatment and prognosis of the various sleep disorders? I would suspect that sleep stages are of less value than measures of sleep quality; i.e., sleep latency, total sleep time, number of arousals, movements, apnea episodes and the accompanying respiratory and pulmonary changes… If the clinician suspects REM-related problems or one of the parasomnias the presence of the disorder during REM or SWS would be confirmatory data, but would the time spent in REM or SWS change any treatment plans? Most clinicians probably use, as we did, a subjective rather than a quantitative approach to sleep stages. Perhaps it would be helpful if someone would write the review article "Are stages of Sleep related to Sleep Disorders."

It is obvious that the ability to reliably score sleep stages was a significant contribution to the study of sleep, but why was this contribution limited? Perhaps we forgot that the stages were man-made and based upon criteria that were most easily recorded at the time: EEG, EOG, EMG. Like the drunk who lost his wallet in the middle of the block but was looking for it at the corner because the light was there, we looked under the light of EEG, EOG, EMG. In hindsight, we should have paid more attention to the fact that the brain waves recorded on the scalp and the spectral power of these waves are the result of a complex mixture of activity from cortical and subcortical brain structures. We are recording the epiphenomena of sleep. Developing new scoring procedures based upon the same EEG, EOG, EMG variables would not advance our understanding of sleep. New criteria would only make comparison with the large existing body of important data difficult. We need to look for other, perhaps neurophysiological or neurochemical, indices of sleep that are more directly related to the function of sleep, whatever that function is.

Finally, with the addition of new hypnotics each year perhaps it is time for someone to update the Johnson and Chernik 1982 Psychopharmacology (72, 101-113) review article "Sedative Hypnotics and Human Performance." Our review conclusively indicated that while nearly all sedative hypnotics improved sleep none improved next day performance when compared to placebo. In most instances, especially at high dose levels, next day performance was impaired.

As I conclude this look backward, I am intrigued by the strong feelings and many questions I still have about sleep and sleep research. Sleep was an area of study that occupied much of my research career and resulted in much sleep loss. I was reassured by the finding from our sleep loss work that it was not necessary to make up the sleep lost minute for minute. It was very rewarding to be in at the beginning of a new area of study when an annual meeting of more than 50 participants was a great success and every one was on a first name basis. Clearly the finds reported at these early meetings stimulated a lot of interest in the period in which we spend a third of our lives, even though we do not as yet know what is the unique function of sleep. But something must be left for the "sages" of the future.

Laverne C. Johnson Ph.D.

SECTION ON CIRCADIAN RHYTHMS

by Robert Sack

At this year's annual meeting of the APSS, two of the invited speakers who have distinguished careers in circadian rhythm science, will be talking about their latest findings. Looking back to the roots of their work, I find it interesting that both Pat DeCoursey and Al Lewy got their work off the ground with important insights about light that were derived from close personal experience.

In Pat's case, the insight was an unexpected byproduct of her Ph. D. thesis project which was focused on the ability of flying squirrels to navigate quickly through the trees. Pat thought they might be using some sort of echolocation system, if they were indeed truly nocturnal. But first she had to show that they were not crepuscular (active at twilight). As a graduate student at the University of Wisconsin, Pat built some of the first activity wheels for circadian rhythm research, using parts from bicycles. These wheels had to be maintained and occasionally repaired, and although she could do a lot of work in the dark, the lights had to be on for some of the repair work. Her concern was to be able to do this repair work with a minimum of disruption to the circadian rhythms of her subjects. By keeping track of the activity rhythms before and after she turned on the lights, she mapped out a lawful relationship between light pulses and shifts in circadian rhythms over the whole 24-hour cycle.

By the way, Pat was also the first person to demonstrate long-term free-running rhythms. Some of her flying squirrels had an intrinsic period of 23.9 hours, so close to 24.0 that they had to be studied for months to prove that they were actually free-running (in the late 50s, when Pat did this work, some scientists doubted that there was such a thing as an endogenous circadian clock).

Pat's early interests were not limited to squirrels; she was the second person to go into Aschoff's temporal isolation unit. The first person was Aschoff himself, who felt that if it caused some great harm, he should be the first to get hurt. After five days, he had to leave because he could not stand the isolation, although he was completely unharmed. Pat, who was doing a post-doc with Aschoff, volunteered to do a longer stay, and was in temporal isolation for 30 days.

Pat eventually went back to squirrels; this time, the ones that live on the high desert in Oregon. Her current interest is how these creatures get along in the natural environment after their SCNs have been lesioned. Pat will speak on Tuesday, June 20 at 4:30 on "The Survival Value of Circadian Adaptation."

Al Lewy, was his own subject when he discovered that light suppresses melatonin in humans. Shortly after he developed the "gold standard" GCMS technique for measuring melatonin in human plasma at the NIMH in 1978, he traveled to visit his godfather, who had recently been appointed governor-general of Australia. Upon returning to Bethesda, Maryland after two weeks in Sydney, Al measured his plasma melatonin levels, intent on determining how long it would take for his circadian rhythms to adjust after traveling across all of those time zones. His morning melatonin levels should have been high, since morning in Bethesda is in the middle of the night in Sydney, and he knew that his melatonin rhythm should take several days to adjust. To his surprise, his melatonin levels were quite low. Thinking about possible explanations, it occurred to him that perhaps exposure to sunlight (very bright light) was suppressing his endogenous melatonin production.

This insight led to Al's 1980 paper in Science (Light suppresses melatonin secretion in humans. Science 210; 1276-9, 1980) which produced a paradigm shift in the field of human chronobiology. Prior to this study, the received wisdom (based on experiments using ordinary-intensity indoor light) was that human circadian rhythms were not affected by light. After Al's discovery, previous studies, which had failed to show effects of light in humans, had to be re-interpreted because the light intensity may have been too low. Al's study led directly to the identification of seasonal affective disorder and its treatment with bright light, and began the field of light treatment, including the use of bright light to shift human circadian rhythms.

In recent years, Al has turned his interests towards melatonin as a phase-shifting agent. He will speak on Monday, June 19 at 4:30 on "Using Bright Light and Melatonin to Shift Circadian Rhythms."

SECTION ON BASIC RESEARCH

by Chiara Cirelli

I would like to bring your attention to some of the new changes in the format of the next APSS meeting in Las Vegas. A major change that will impact all of us refers to the posters. The 2 main innovations are the following:

a) all the posters will be displayed for most of the meeting (from Monday to Wednesday), giving more opportunity for everybody to see them;

b) all the posters will be discussed during a dedicated poster viewing time either on Monday (half of the posters) or on Tuesday (second half of the posters), between 3:00 and 4:30 pm. During that time the authors will be asked to stand by their poster to discuss the results. This will be an informal discussion "in situ", with no slides and oral presentation. In addition, some posters have been selected by the APSS Program Committee to be further discussed in "Poster Discussions" and "Interactive Poster Discussions". These Discussions will be held on Wednesday, between 3:00 and 5:30 pm. The Poster Discussions will be organized as the Poster Symposia in previous years, e.g. with a 5 min formal slide presentation. Interactive Poster Discussions will be organized for 2 groups of posters, "Sleep Deprivation: physiological and behavioral effects" and "Clinical management issues in obstructive sleep apnea". In these interactive discussions, there will be no formal presentation with slides, and the authors and the viewers will stand by the posters and will "cruise" through them. The major challenge for the chair of these sessions (and for all the participants!) will be to organize a more global discussion based on the results of all the posters. In other words, instead of going through the results of each poster (this should have happened already on Monday and Tuesday), the goal will be to outline agreements and disagreements between the different posters, implications for future work, etc. Of course, this kind of format can only work if there are highly integrated groups of posters, and this year the Program Committee decided to try with two particular groups of posters, those dealing with sleep deprivation and clinical management of apnea.

In conclusion, there will be three different formats of poster presentation, stand-by discussion for all posters, and 2 poster discussions for some posters only. The reason is that the Program Committee felt we needed to improve the effectiveness of poster presentation. After the meeting in Las Vegas, it will be crucial to have your feedback on which format you think works the best, to try to further improve the quality and the effectiveness of the science presented at the meeting. If you have any other questions before the Meeting, please let me know at cirelli@nsi.edu.

SECTION ON SLEEP AND BEHAVIOR

by Richard Bootzin

As you all know, the preliminary program for the APSS meeting has now been distributed. It looks like another great program with many symposia, talks, discussion sections, and posters of likely interest to members of our section. This year, the program committee is experimenting with some new formats for discussing posters. Although posters will be up all week to be viewed, the poster discussion sessions will all be on Wednesday so that they do not compete with invited addresses and symposia. In one of the new formats, there will be a discussion of common themes and findings across a group of posters on sleep deprivation. Other poster discussions such as the one on the treatment of insomnia or the one on sleep and pediatric populations will follow the more typical format of a brief presentation of each poster, but even here there will be increased emphasis on discussion. Go to these sessions and let me know what you think of them. The program committee has received some feedback that the quality of the poster symposia has been uneven in the past. Thus, this year, there was a strong emphasis on selecting high quality posters for presentation or discussion and trying out some new formats.

On another matter, the SRS board has been encouraging sections to expand their activities. To this end, the Board approved an initiative in which sections will be able to put together a small conference, course, or workshop on focused topics at a host university or in conjunction with another professional association meeting. Matching funds from federal agencies, foundations, professional associations, or host universities would be required. The SRS Board has approved spending up to $25,000 on this program initiative for the first year. There is a taskforce, which includes members from all the sections, to develop the application procedures and guidelines. The procedures should be ready for Board discussion and approval sometime during the summer. It is not too early now, however, to start thinking about what events our section members might be interested in. If you have any ideas about events that it might be particularly good to develop, let me know.

SECTION ON SLEEPINESS

by Joyce Walsleben

This has been an active winter for the executive committee of the SRS. I want to share our activities with you.

We have been hard at work on YOUR behalf preparing new, streamlined bylaws for better self-governance. We have also been planning meaningful financial budgets so YOUR organization can continue to meet YOUR needs and those of future scientists. We are committed to be sure all contingencies are represented.

The APSS program committee also instituted some exciting changes so science remains the focus of our annual meeting. We have added some new poster formats. First, posters will remain up throughout the meeting and have unopposed viewing time. Secondly, two thematic sessions have been added which will allow free and open discussion of ideas, perhaps within opposing views, perhaps just expanding views. Two mediators who will keep the action lively will lead these sessions. Come prepared to defend your work and perhaps find its place in a bigger picture. Pay attention to preparing your poster this year! They may be the new areas of action.

The program committee needs your feedback on these changes if they are to continue. We welcome further ideas, so stop us at the meeting, email or contact us with your ideas/comments.

The third area of discussion is that of nomination and election of officers. I was amazed to see that out of our large membership less than 40 people sent suggestions for nominations! Luckily, excellent people were suggested and have formed a dynamic slate. But, how many more wonderful people could have been suggested if we all participated?

Please take the 5 minutes necessary and VOTE at least. These officers will make decisions on your behalf for the next 1-3 years. It is important that YOU feel and are represented.

Don't waste the opportunity to give meaningful input to a new SRS on the move to change the future. The timing for change couldn't be better. And, remember service in your national organization is a valuable career-enhancing move. So, if asked to serve, please say yes. Represent yourself, your section and your specialty.

Keep those ideas coming:

e-mail: Joyce.Walsleben@med.nyu.edu

Members in the News

The Department of Neurology, University of Michigan has named their nine bed, state-of-the-art facility the Michael S. Aldrich Sleep Disorders Laboratory after its founding director. **Ronald D. Chervin, MD** has been appointed acting director. We applaud the department for naming the unit after our respected colleague, and congratulate Dr. Chervin on his appointment.

Dr. René Drucker-Colín has been named Cordinador de la Investigación Científica at Universidad Nacional Autónoma de México. The UNAM is the largest university in the Americas. Among his duties René will be in charge of all scientific development at the university. We congratulate Dr. Drucker-Colín on his appointment. The appointments of sleep researchers such as Professors Drucker-Colín, Borbély, Lavie, and Inoue to high administrative positions in their institutions provides our field with increased visibility, from which we all benefit.

Classifieds and Announcements

CLASSIFIEDS

Neurologist/Sleep Medicine - The Department of Neurology, Northwestern University Medical School is seeking a neurologist with expertise in sleep medicine. Applicants should be board eligible or certified in sleep medicine. Appointment will be to the full time faculty. Level of appointment and salary will be commensurate with experience. The start date is negotiable. Please send CV and names of three references to: Jack M. Rozental, M.D., Ph.D., Interim Chairman, Department of Neurology, 710 North Lake Shore Drive, Suite 1120, Chicago, IL 60611. To receive full consideration, applications should be received by May 31, 2000. Northwestern University is an Equal Opportunity/Affirmative Action Employer and encourages minorities and women to apply. Hiring is contingent upon eligibility to work in the United States and medical licensure in Illinois.

Licensed Polysomnographer- Licensed Polysomnographer wanted to manage a four-bed sleep lab in Northeast Texas. The lab has just recently expanded and the potential for future expansion is exceptionally good. It draws patients from a 100-mile radius of Paris. Located in a growing community approximately 90 miles northeast of Dallas offering low-cost living combined with good schools, a junior college, and an excellent environment for raising families or just living. Excellent pay and benefits are offered. If interested and qualified, contact Wallace Boyer, Administrator at (903) 784-7472.

ANNOUNCEMENTS

Asian Sleep Research Society

· ASRS Newsletter Number 4 can be reached at request, by addressing an e-mail to: ajean@post.tau.ac.il
· All material to be published in ASRS Newsletter Number 5 has to be addressed to the Editor -in-Chief: email: ajean@post.tau.ac.il
· The Third ASRS Congress is to be held in Bangkok, between Sunday December 3 and Thursday December 7, 2000. Information regarding the Congress can be obtained via email at: sinoue@I-mde.tmd.ac.jp or ajean@post.tau.ac.il

Thank you for your cooperation,
Prof. Jean Askenasy M.D., Ph.D.
Chairman of the Scientific Committee

Pre and Postdoctoral Fellowships Sleep Research

Northwestern University and University of Chicago

Pre- and postdoctoral positions available for interdisciplinary training in a wide range of scientific disciplines that are central to the future of sleep research. Positions are available through a multi-institutional NIH training grant awarded to Northwestern University and the University of Chicago. Trainees will be able to integrate cutting edge approaches and techniques in the areas of genetics, endocrinology, pharmacology, neurobiology, cognitive neuroscience, gerontology and chronobiology into their training in sleep research. Send curriculum vitae and names of three references to: Dr. Fred W. Turek, Director, Center for Circadian Biology & Medicine, Northwestern University, 2153 N. Campus Drive, Evanston, IL 60208-3520, USA, fturek@nwu.edu. Applicants must be eligible for NIH training support (U.S. citizen or permanent resident). An equal opportunity employer.

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