

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. All applications for Waiver #2 **MUST** be postmarked no later than March 1, 2002. All training requirements under Waiver #2 **MUST** be completed by June 30, 2002. Applicants accepted for the examination under Waiver # 2 must have successfully completed the Part II examination by the end of 2005, notwithstanding 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. All applications for Waiver #1 under the current requirements (12 months, of which a minimum of 6 months shall be training under a Diplomate of the ABSM) **MUST** be postmarked no later than March 1, 2002. All training and clinical experience requirements under the current requirements for Waiver #1 (12 months) **MUST** be completed by June 30, 2002. Beginning with applications for the 2003-2004 examination cycle, this waiver will require 18 months of training and clinical experience, of which at least 6 months full-time (or equivalent part-time) must be training under a Diplomate of the ABSM.
3. **Waiver #1** will be eliminated beginning with the examination cycle of 2005-2006. All applications for Waiver #1 **MUST** be postmarked no later than March 1, 2004. All training requirements under Waiver #1 **MUST** be completed by June 30, 2004. Applicants accepted for the examination under Waiver # 1 must have successfully completed the Part II examination by the end of 2007, notwithstanding 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 with the Part I examination of 2005. At present, the only organization so recognized is the American Academy of Sleep Medicine (AASM). All applications under the regular or alternate tracks based on one year of training **NOT** accredited by an organization recognized for this purpose by the ABSM **MUST** be postmarked no later than March 1, 2004, and all training requirements **MUST** be completed by June 30, 2004.

Maintenance of Certification

Commencing with certificates issued in 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 maintenance of certification process.

Important Dates Regarding Changing Requirements

Deadline for postmark of applications accepted under waiver #2	March 1, 2002
Deadline for completion of clinical experience under waiver #2	June 30, 2002
Deadline for postmark of applications accepted under waiver #1 (current requirements) (current requirements - 12 months training and clinical experience)	March 1, 2002
Deadline for completion of training and clinical experience under waiver #1 (current requirements - 12 months training and clinical experience)	June 30, 2002
Deadline for postmark of applications accepted under waiver #1 (new requirements) (new requirements - 18 months training and clinical experience)	March 1, 2004
Deadline for completion of training and clinical experience under waiver #1 (new requirements - 18 months training and clinical experience)	June 30, 2004
Deadline for postmark of applications accepted under the regular or alternate tracks based on one year of training NOT accredited by an organization recognized for this purpose by the ABSM	March 1, 2004
Deadline for completion of training under the regular or alternate tracks based on one year of training NOT accredited by an organization recognized for this purpose by the ABSM	June 30, 2004
Commencing with applications accepted for the 2005-2006 examination cycle, completion of a sleep fellowship (regular or alternate track) accredited by an organization recognized for this purpose by the ABSM will be required by all candidates taking the ABSM examination.	

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President's Message

Dear SRS Members,

I have the pleasure here of focusing on positive news about SRS communications.

With this issue, Dr. Mark Opp completes his service as SRS Newsletter Editor. Mark has done an outstanding job of facilitating communication among SRS members and of bringing noteworthy items to our attention. Please join me in thanking Mark and in welcome Dr. Larry Sanford as incoming SRS Newsletter Editor. As in the past, Newsletter submission may be sent to Lance Brink or directly to Dr. Sanford. SRS Publications Chair, Dr. James Krueger will welcome your additional input and suggestions.

Readers who attended the Las Vegas meeting appreciated the vibrant scientific communication organized by the APSS Program Committee. The Las Vegas site hosted the largest APSS meeting to date. For the upcoming APSS meeting in Chicago (June 5-10, 2001) the number of abstract submissions has increased by 14% over the past year.

The journal *Sleep* also continues to grow in positive ways. Editor-in-Chief, Dr. Thomas Roth, recently has appointed incoming Associate Editors Dr. Helen Baghdoyan, Dr. Emmanuel Mignot, and Dr. Susan Redline. As of 1 December 2000, the *Sleep* review process has become electronic, speeding manuscript processing. Papers published in *Sleep* soon will be available as downloadable PDF files. It is my hope that previously published volumes of *Sleep* also will become available on the Web in PDF format. Dr. Roth reports an increase in submission of manuscripts on both human sleep and basic research. The financial basis of the journal is sound and there is enthusiastic support from advertisers and subscribers. Most important, the papers published in *Sleep* are of high

quality. The manuscript selection rate is <50% and the ISI impact factor is 2.76. The ISI Journal Citation Report lists *Sleep* in two categories: Clinical Neurology and Behavioral Science. *Sleep* is ranked in the top 17% of 170 journals listed under these two ISI categories. Please join me in conveying appreciation to the *Sleep* Editorial and Advertising Staff. With our continued support as subscribers, authors, and reviewers, we can anticipate sustained growth in the journal *Sleep*.

As 2000 draws to a close, I express thanks to Dr. Michael Twery for his past service as Acting Director of the National Center for Sleep Disorders Research (NCSDR). Effective January 16, 2001, Dr. Carl Hunt will become the new NCSDR Director. Dr. Hunt is a Pediatrician with a particular interest and expertise in sudden infant death syndrome.

With best wishes for the 2001 year.

Sincerely,

Ralph Lydic

SRS PROGRAM CALL FOR PROPOSALS

Club Hypnos Program

Proposals for the new Club Hypnos initiative of the Sleep Research Society (SRS) are being requested. **All proposals are due June 1, 2001** for the upcoming fiscal year of 2001-2002. Club Hypnos began as a social extension of the SRS within the Society for Neuroscience. These receptions were first organized by Adrian Morrison and then continued by Steve Henriksen. Club Hypnos meetings are essentially receptions with hosted food and a no-host bar for SRS members and potential new members.

This initiative is being extended to include other society meetings. The Club Hypnos initiative is an SRS promotional program to benefit our members who routinely attend meetings of other professional scientific societies and to solicit new members. Club Hypnos provides a "home away from home" for our members who attend other societal meetings, as well as a vehicle to recruit interested nonmembers to SRS. Club Hypnos events also spotlight the importance of sleep and sleep research at other societal meetings.

If you are interested in hosting a Club Hypnos event, please contact the national office for guidelines for submitting a proposal, as well as some tips on steps to take to set up such an event. If you have any additional questions, please contact Dr. Jodi Mindell, Membership Chair, at (610) 660-1806 or via email at: jmindell@sju.edu.

Section Initiatives

The SRS Board of Directors has established a new section initiative to encourage and support specialized conferences (either stand alone or add-a-day to other professional meetings). The purpose of this initiative is to promote the scholarly exchange of important new information and approaches to sleep research and to encourage increased interaction among SRS section members. The proposal must be approved and submitted by members of one of the four sections of SRS (basic sleep, sleep and behavior, sleep and circadian rhythms, and normal and pathological excessive daytime sleepiness). Matching funds, up to \$25,000, are available for each program. See the SRS web page (<http://www.srssleep.org/outline.html>) for the guidelines for proposals. Funds are to be used to support logistic expenses, trainee participation, or other expenses of the program not including honoraria or payments directly to individuals other than for travel expenses.

The deadline for conferences proposed for the 2001-2002 year is June 1, 2001.

Editor's Note

by Mark R. Opp, PhD

This issue of the SRS Bulletin is the last under my editorship. Dr. Peter Shiromani was the first editor of the Bulletin, and served in that capacity for three volumes. After editing three volumes myself, it seems like a good time to pass the torch. During my tenure as editor we instituted several new features, and using the foundation laid by Peter we have hopefully improved the Bulletin as an instrument for the SRS membership. I am sure the Bulletin will continue to improve and evolve under its next editor, Dr. Larry Sanford. I take this opportunity to thank several individuals that were a tremendous help to me. The addition of Mr. Lance Brink to the main office and his taking on the task of producing the Bulletin made the job of editor much, much easier. I also had the opportunity of working with two exceptional trainees; Dr. Tim Hays, and (soon to be Dr.) Monica Eiland. These two took on the task of developing and editing a trainee feature, now known as Student BITS. A final thanks goes to all individuals who took the time and effort to write and contribute pieces to the Bulletin. It is, after all, your publication. I wish Larry all the best in this endeavor, and I am sure the SRS Bulletin will prosper under his leadership.

CALL FOR NOMINATIONS – BOARD OF DIRECTOR OFFICES

This is a call for nominations for the following Sleep Research Society officers for 2001-2002. All nominees must be current members of the Sleep Research Society. The offices open for nomination include the President-Elect, Publications Chair, and Section Head for the sections on Circadian Rhythms. All officers become members of the Board of Directors of the Sleep Research Society, which usually meets by scheduled telephone conference monthly and in person at the annual scientific meeting (APSS). The term of office for the Publications Chair and Section Head is three years.

The position descriptions are outlined below:

President-Elect—The President-Elect shall assist in the performance of the President's duties, and in the absence of the President shall preside at meetings of the Corporation. The President-Elect shall be a member of the Executive Committee and Budget Committee. Upon expiration of the term of office of the President, the President-Elect shall assume the presidency of the Corporation. Following one year as President this position assumes the responsibilities of the Past-President. This officer is also a member of the Joint Operations Committee of the APSS during all three years of service.

Publications Chair—The Publications Chair shall have primary responsibility for corresponding with the editors of Sleep, the SRS Bulletin and all other publication activities sponsored by the Corporation. The Publications Chair shall serve as chair for the website committee, which is charged with overseeing management of the society's website.

Section Head, Circadian Rhythms—shall have primary responsibility for representing the interests of the members of the section of Circadian Rhythms. The Section Head shall serve as a member of the nominating committee for the Corporation and serve on the scientific program committee for the annual scientific meeting. As a member of the scientific program committee, the Section Head attends a number of additional telephone conference calls and face to face meetings of the program committee and solicits input to the sci-

entific program from members of the SRS circadian Rhythms section. The nominees for Section Head should be current members of the Circadian Rhythms section of the SRS.

Please send your nominations to your Section Head, as they serve as the Nomination Committee. The Sections Heads can be reached via email or written notice as indicated below.

All nominations are due by January 20, 2001.

Basic Sleep Section

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The Student BITS segment is an ongoing forum for issues pertaining to sleep and to the training and retention of sleep scientists, from a trainee's perspective. The function of sleep represents one of the most compelling questions of our time, or any time, and the answer could be found within our generation. How will we recognize that answer and all of its implications for brain function, once we have found it? How will we continue to attract and retain highly intelligent, well-trained, and motivated people into this endeavor?

All trainees, undergraduate, graduate, or postdoctoral, who are interested in submitting an article for Student BITS are invited to contact Monica Eiland, Assistant Editor, SRS Bulletin: Student BITS: email: *meiland@ucla.edu*; phone (818) 891-7711 ext 7380; fax: (818) 895-9575; regular mail: Neurobiology Research 151A3, Sepulveda Veterans Administration Medical Center, 16111 Plummer St., North Hills, CA 91343.

All You Ever Wanted to Know About Reviewing Articles But Were Afraid to Ask

The fateful day has arrived: you receive an email or letter asking you, a mere graduate student or postdoctoral researcher, to review an article. Or perhaps your advisor announces, or you decide, that it is time for you to begin to participate in this very important aspect of scientific life. Like many of the processes associated with attaining biological maturity, you may be at a loss as to how to handle this new challenge. Tom Roth, editor of the journal *Sleep*, the official journal of the American Sleep Disorders Association and the Sleep Research Society, offers some advice to keep in mind when reviewing an article:

What journals publish – Most journals publish primarily research reports. *Sleep* and numerous other journals also publish literature reviews. Some journals have also begun to develop “Research Hypotheses” sections not requiring original data.

Who publishes and who reads – In the case of *Sleep*, which has 3000 subscribers, approximately 100-200 people are responsible for producing the papers.

Your responsibilities as a reviewer – Since most people tend to believe what they read, the primary responsibility of the reviewer is to make sure that the work represents significant results and was conducted using appropriate research methods.

Abstract – As a digest of the paper, the abstract is very important. Since the abstract and title are what appears in Medline, readers often use this feature to determine whether they will read the paper or not. As such, the abstract should accurately reflect the rationale, significance, methods, and results of the paper.

Introduction – What makes an Introduction acceptable or not acceptable? Three major concerns are:

- 1) *Is the scientific rationale for the study presented, and is it appropriately focussed?*
- 2) *Have the major, relevant papers been cited? Is this finding truly novel?*
- 3) *Do the cited articles really say what the author claims?*

Clarity is also an important concern in the introduction. The continual invention of new acronyms makes for difficult reading and is discouraged.

Methods – This boring but pivotal section must be detailed enough for other researchers to repeat the study. But what does that really mean? Much of the validity of the study may rest on accurate definition. For instance,

- 1) *The sample group must be defined.* Where did the sample group come from? What defines a healthy, normal volunteer? How representative is your sample of the general population? What selection criteria were used? Going through 8000 volunteers and selecting 20 using specific criteria may not yield generalizable results. In epidemiology, the single most important statistic is the “percent respondent;” below 40% is not very useful because it may not yield a representative sample. Unfortunately, response rates are declin-

ing, so the current approach is to locate non-responders and pay them to answer.

2) *What was actually being measured, versus what the authors think they measured* (e.g., delta power versus sleep drive)? In *Sleep*, 80% of the papers relate to humans. Often sleep apnea papers do not define how much time was spent in bed or why. Explaining that people were allowed to go to bed at “habitual bedtimes” does not specify whether the bedtime was determined by asking the participants what their habitual bedtime was, or simply by letting them go to bed whenever they wanted. EEG recording sites, scoring methods, and other factors that could affect the data outcome should be specified. A tradeoff exists between too much and not enough detail, and in making the decision, it helps to keep in mind which techniques are standard and which unique.

3) *Statistics*: The profusion of statistical methods has made reviewing very complicated. Many journals now send papers to statistical reviewers. If you don’t feel qualified to evaluate the statistics, say so – *Sleep* will try to get separate statistical review. Power analysis is a useful statistical tool for determining whether an experiment is capable of finding statistical significance if it is there. Power analysis takes into account the variability of a sample in calculating the necessary sample size to show a significant difference; if the variance of the sample measurements is too high, a population half the size of America could be required to show a significant difference – not a very practical study. Having large experimental groups is nice in that it can increase significance levels, but if you need a large group to show any difference, your effect may be very small.

4) *Controls* should cover all appropriate variables, and if they don’t, a reviewer’s comment that “The authors have no control group” is not sufficient. The reviewer should specify the variables not controlled for, and why they need to be controlled.

Results – What did the authors find? As a reviewer, you should concern yourself with two things:

1) *Be sure that no discussion has found its way into the results section (or results into the discussion)*, in other words, separating **WHAT** the authors found from what

it **MEANS**; and

2) *Did the authors present their results in the most efficient way?* Part of that efficiency involves the appropriate use of Figures, Tables and Text. *Figures* are best for showing interactions, for instance, between sleep deprivation and temperature. *Histograms* – that is, bar charts, are for data obtained in categories (ordinal, non-interval data), for which the spacing between the bars on the chart has no meaning. This includes data for which there are only two points – a line graph would be inappropriate in this case because the relationship must, by definition, always be linear. *Line graphs* are reserved for interval data. *Tables* are best for large data sets that prove unwieldy in the text. Data appearing in one of these locations should not be repeated in more than one place. The reviewer is also responsible for the *Captions*. A figure and its caption should always stand on their own – in other words, fully describe a piece of data without the text.

Discussion – There are two kinds of people who write papers: 1) Those who consider the discussion their reward for doing the experiment and 2) Those who don’t. Many discussions are too long. However, the author must supply “answers and speculations.” This includes the most likely explanation and alternatives. The reviewer’s responsibility is to ensure that these topics are covered fairly, are intellectually honest, and don’t go too far afield.

Rating the Paper – Three major concerns usually govern the rating of the paper:

1) *Scientific rigor* of the article, including the methods, experimental design, quality of the analysis, and validity of the conclusions;

2) *Importance of the finding*: It may be perfect, but is it significant? (50% of submissions are rejected by *Sleep*.);

3) *Appropriateness for the journal*: always a tough call, but many topics including genetics and multiple other methodologies are accepted by *Sleep*, which is a topic-bound journal.

To Accept or To Reject, that is the question: There are really four major recommendation types: Accept,

Reject, Major Revisions, and Minor Revisions. The bottom line is, does the paper have problems that would exclude it from being published, and if so, are they fixable or not? Sometimes the answer is clear. For instance, if the Methods are flawed or the paper is not scientifically sound for some other reason, this is not fixable, and you must Reject the paper. On the other hand, if some citations are left out, this constitutes a Minor Revision. Even a retrospective study which does not provide a definitive answer may be acceptable as long as the methods and controls are clear. For instance, a retrospective CPAP compliance study might be usable if the number of subjects who failed to appear for testing was recorded at the time of the study. The complexity of the decision to accept or reject the paper carries some pitfalls. For instance, if

the paper is very weak, and you recommend Major Revision, you then create a moral responsibility to take the paper if those revisions are done. If reviewers recommend rejection, the editorial board almost never overrules them; however, if revision is recommended, they may still vote to reject the paper.

Finally, Dr. Roth suggests that Trainees look for opportunities to review papers, either through their mentor or by contacting him at troth1@hfhs.org.

The Sages of Sleep

SOME ASPECTS OF EARLY SLEEP RESEARCH (1955 – 1975): PART 2

This is the second in a two part series recounting some historical highlights of modern sleep research

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Subsequent Developments

Historical analyses may take two forms. As, in the previous sections, the analysis may begin with an historical event and attempt to discover critical antecedent variables that contributed to that event. An alternative approach is to begin with a selected event and attempt to discover critical variables that contributed to the subsequent consequences stemming from the event. In the following sections we consider variables associated with the subsequent developments of our selected events.

The REM state and Dreams

It is not difficult to argue that the rapid development of this area of research was attributable to a single individual, William Dement. In 1955, Aserinski and Kleitman reported the presence of burst of eye move-

ments in sleep and speculations about their relations to dreaming (above). In that same year, Dement, with Kleitman, established the patterns of REM during sleep and the definitive relationship to dreams.^{9,10} In addition, between 1955 and 1960, Dement published papers demonstrating REM as a powerful experimental variable; REM in schizophrenics¹¹, REM in cats³, REM dream content (with Wolpert)¹², and the effects of REM sleep deprivation (published in the prestigious journal, Science)¹³.

It is also apparent that Dement was an indefatigable personal emissary of the REM/dream research area. In the sleep deprivation “circus” that was undertaken by a disc jockey name Peter Tripp, Harold Williams, a central figure in sleep deprivation research wrote this excerpt:¹⁴

“Sometime early in the period of sleep deprivation a very attractive young fellow showed up who told us his name was William Dement. As I recall, he brought a couple of reports along to document his interest in sleep. We recognized his name and knew of his publishing about some obscure state that he called stage 1-REM...a state that he claimed had something to do with dreaming. We were aware, of course, that dreams were very brief, evenescent (sic) phenomena, and thought it quite unlikely that their presence could be

indexed by the EEG. We figured that he and Kleitman had mistakenly identified a period of wakefulness as dreaming. Moreover, Dement suggested that the transient psychotic phenomena that we expected to see in anyone deprived of sleep for longer than 100 hours, might really be due to REM deprivation. Despite our convictions that Dement and Kleitman were approaching a cul de sac we were happy to have him aboard. He brought his own EEG gear and performed an interesting set of studies after Tripp went to sleep.” Dement moved from the University of Chicago in 1960. After this, he published few papers on REM and dreams.

Fortunately the REM/dream relationship finding fell on fertile soil. In 1978, Arkin, Antrobus and Ellman, published The Mind in Sleep: Psychology and Physiology.¹⁵ Chapters five and six focused on the REM/dream relationship. A review of the references in these chapters found 240 papers published between 1955 and 1975. A further analysis reveals that the fertile soil of these papers was associated with five “centers of activity”: the New York area, the University of Chicago, National Institutes of Health, Cincinnati, and Edinburgh. Of the papers cited, almost 85% were published by these centers; Chicago (31%), New York (31%), Cincinnati (10%), NIH (7%), Edinburgh (5%), and Others (13%).

The New York area: This center of activity involved a number of institutions. Comprised almost exclusively of psychiatrists and psychologists, the programs involved, at least the following physical centers: City College of New York (Arthur Arkin, Steven Ellman, John Antrobus); Columbia University (Judy Antrobus), Montefiore Hospital (Fisher, Howard Roffwarg); Mount Sinai Hospital (Charles Fischer), Downstate Medical Center (Arthur Shapiro, Donald Goodenough, Hyman Witkin, Helen Lewis, Fred Baekland, Ismet Karacan). Additional “unlocated” publishers from this “center” were Harry Cohen, David Koulack and Harry Fiss. The four most prolific publishers in this group were Arkin, Antrobus, Fisher, and Goodenough. An important publication was the book by Witkin and Lewis, *The Experimental Study of Dreams*¹⁶ that described the REM/dream research program.

The University of Chicago: As noted, Dement, Kleitman and Aserinsky had left the University of Chicago by 1961. (Foulkes, 1999). However, a worthy successor was in place. Allan Rechtschaffen, trained

as a clinical psychologist, had been appointed an Instructor at the University of Chicago in the Department of Psychiatry in 1957. Here he joined psychiatrists Harry Trosman, Edward Wolpert and William Offenkrantz. He quickly became involved in the emerging research on REM and dreams in Kleitman’s laboratory. Beginning with a joint publication with Trosman in 1962, Rechtschaffen published more than 20 papers across a wide range of sleep research between 1955 and 1975. A number of these papers were about the REM/dream relationship.

Rechtschaffen was able to use Kleitman’s laboratory for research and training. He met Kleitman, who had essentially retired from research, only occasionally. Through Rechtschaffen’s efforts Kleitman’s former laboratory became a prolific research center and a training ground for future sleep researchers who published extensively on the REM/dream relationship. In rapid succession David Foulkes, Peter Hauri, Larry Monroe, Paul Verdone, and Johan Stoyva produced psychological dissertations and Gerald Vogel received training in this laboratory. Rechtschaffen and these researchers began to produce a long string of research papers, many were on the dream/REM relationship. To the Chicago group should be added Rosalind Cartwright, at the University of Illinois (Chicago), who acquired skills in this laboratory and who has long been a significant contributor in the REM/dream area. Foulkes was clearly the most prolific publisher in the area of the REM/dream relationship with some 20 paper in this period and his book *The Psychology of Sleep*¹⁷, which was focused on the REM sleep research. Cartwright also had a strong publication record in the area.

National Institutes of Health: The National Institutes of Health played a surprising role in the REM/dream relationship. The beginning was described by the key figure, Fred Snyder.¹⁸

“As late as 1958 REM research in this country was still confined to its source in Chicago. I happened to learn about it from David Hamburg, who had just come from there to organize a new program...at NIMH...Hamburg thought I might be able to contribute valuable information about less obvious emotional reactions by using the REM monitoring technique. . . (A) long standing fascination with brain and behavior relationships made me eager to comply,

despite considerable skepticism even about the REM periods...my collection of dreams grew steadily, so did several disconcerting impressions...These dreams stories did not seem especially revealing of hidden emotional reactions...(and) the process of REM appeared much more interesting...I began. . . searching for additional physiological dimensions. . . I became obsessed with the ambition to plot every possible peripheral physiological index over the nightly course. . . I might still be doggedly persisting in that labor of Tantalus if fate had not introduced my first collaborator, Allan Hobson (pp 98-98).”

With Hobson’s aid, the classical paper on physiological measures and the REM state was published.¹⁹ In addition to the recruitment of Hobson into sleep research, Snyder also interacted with REM explorers, Ernest Hartmann and Paul Verdone (above) at NIMH.

Both Hobson and Hartmann continued to make significant contribution to the area of dream research. Snyder, before he left the area of sleep research, published remarkable experimental and theoretical papers on the evolutionary aspects of REM, REM/dream relations, and dream characteristics.

Cincinnati: The Cincinnati group was comprised of four individuals: Bill Baldrige, Roy Whitman, Carolyn Winget, and Milton Kramer. Their publications began in the mid 1960s and Kramer continued to be central figure in the dream research area. This center was also the residence of two early sleep researchers: Tom Roth and John Trinder.

Edinburgh: This was one-man “center” composed of Ian Oswald, who wrote and researched extensively on a range of sleep topics. One of his first students, Ralph Berger, was a major figure in the early days of REM research. Oswald, in addition to his active and wide ranging research program, published the earliest “general” or comprehensive book on sleep, *Sleep and Waking*.²⁰ It discussed REM and dream sleep extensively.

As noted, Dement moved from Chicago (with a two year interlude in New York) to develop a program at Stanford. Although the Stanford laboratory became a major program in sleep research, training, and sleep medicine, it did little to pursue the REM/dream area.

The Neurophysiology of REM

This discovery, like REM/dream discovery was particularly fortunate in its discoverer and early spokesman. Its discoverer, Jouvet, was a remarkably energetic, competent, and articulate scientist. In short order, between 1958 and 1960, Jouvet and Michel published nine papers on their findings and, in 1961, he presented his landmark summary of his findings before the first major symposium on the physiology of sleep.⁵ Furthermore, Jouvet’s laboratory at Lyon, became the research and training center on the central nervous system-REM relationships. It became a mecca for physiological researchers and attracted, at least, the following recognizable American researcher. Howard Roffwarg, Allan Rechtschaffen, Alan Hobson, and Adrian Morrison, as well as visitors from throughout the world.

As with the REM/dream findings this research also fell on fertile soil. Jouvet’s laboratory in Lyon continued as a major producer of research in this area. In addition, the laboratory at Pisa, lead by G. Moruzzi, had been engaged in neurophysiological research related to sleep and activation. For the next ten years, members of his laboratory published a brilliant set of papers related to the neurophysiology of REM.²¹ Dement, on his move to Stanford, in 1961, immediately turned his attention to the neurophysiological aspects of REM and began to publish a series of papers. Hobson, by now at Harvard, with Robert McCarley began his intensive examination of the sleep and REM mechanisms in 1965.

In 1969, the two major figures in REM research, Jouvet and Dement, presented summary papers at a symposium involving twenty-four of the leading sleep researchers. Jouvet asserted that the lesion experiments may be summarized as follows: 1) “NREM sleep represents an active phenomena...2) The cortex is necessary for the appearance of slow wave activity during NREM sleep...3) REM sleep is dependent on the pontine tegmentum...On the other hand, REM sleep may be selectively suppressed by lesions of the dorsolateral pontine tegmentum, where as NREM sleep is not impaired...”(p. 93).²² For the remainder of his talk, Jouvet, moved forward into his next phase of research; the search for the neurochemical mechanism underlying the REM and sleep processes.

In the same symposium, Dement noted, with the advent of the 1960s, that REM sleep had become the focus of exceptionally intense research interest. This research had explored a wide range of skeletal, autonomic, biochemical and neurophysiological measures, and had emphasized that the REM state was not a single state but was comprised of tonic and phasic aspects. Of particular interest had been the findings of the presence of the pontine-geniculate-occipital spikes (PGOs). In his review, Dement, concluded that "...we do not appear to be in any imminent danger of a final solution to the significance of the biological role of REM sleep (p. 245)".²³

In 1973, Dement again reviewed the status of REM research.²⁴ He concluded that the long series of REM deprivation experiments had provided few answers, that there was increasing evidence that REM and NREM were not completely independent states, and that we were unsure of the neural systems and neurotransmitter systems involved. In short, more research was needed.

Sleep Deprivation

The area of sleep deprivation appears to have followed its pre-1959 pattern of development of intermittent and independent bursts. The Walter Reed group continued publishing on sleep deprivation effects until 1965. At that time Hal Williams transferred from Walter Reed and the research program dispersed. Robert Wilkinson in England continued publishing one or two papers per year. Two authors, Malamud and Surwillo, published in 1960, a monograph asserting that sleep deprivation resulted in activation as well as deactivation. There were two "events" related to sleep deprivation. In 1960, with much fanfare and observed by a gathering of sleep researchers (Williams, Lubin, Dement and others), a disc jockey stayed awake in Times Square for two hundred hours.¹⁴ Subsequent reports suggested that this sleep deprivation had resulted in a psychotic like state.²⁵ Shortly thereafter a high school student, for his science project, stayed awake for 264 hours without dire consequences.²⁶

After 1965 the trend of independent bursts of sleep research continued. Between 1968 and 1972, there was a series of publications reporting the results of an extended battery of measures employed during the 205 hour sleep deprivation of four subjects.²⁷ This was the

effort of a team of researchers at UCLA. The team had the cooperation of the San Diego Naval Research program that had already begun a program in sleep deprivation research (Laverne Johnson, Artie Lubin, and Paul Naitoh).

There was a symposium, chaired by this author, on sleep deprivation in the 1970s.²⁸ The participants represented the thin line of continuation of total sleep deprivation: Lubin (Walter Reed and San Diego), Williams (Walter Reed), Webb (Florida), Wilkinson (Applied Psychology Laboratory, England), and Rubin (UCLA). The references listed by this symposium introduced no new researchers, references or directions except for growing body of research on partial sleep deprivation in the sleep laboratories at Florida and at San Diego.

As with the research on the REM/dream relationship and the neurophysiology of REM, this area was facilitated by centers of research. In the 1960s the sleep deprivation research was centered in the Walter Reed Army Research Laboratories directed by Hal Williams. In the late 1960s Naval Research Laboratories in San Diego, directed by Johnson, in collaboration with Lubin, Nitoh, and others, continued research in the sleep deprivation area. The University of Florida, Wilse Webb, began a program of extended total sleep deprivation using rats, in 1961.²⁹ He also initiated programs in selective stage sleep deprivation 1964 and partial sleep deprivation in 1965.³⁰ As noted above the UCLA program conducted one experiment on total deprivation and Robert Wilkinson continued publishing from the Applied Research Laboratory in Cambridge, England.

The Association for the Psychophysiological Study of Sleep

Of all the facilitating forces underlying sleep research in general and our selected topics in particular, the major event was the formation of a sleep research organization. The first meeting of sleep researchers was in Chicago on March 25, 1961. The meeting was convened by Al Rechtschaffen. His recall of this event was as follows:

"The history, as best as I can recall it, was as follows: In 1961 it occurred to me that activity in electrophysiological sleep and dream research was picking up but scattered throughout the country and maybe we should talk to each other. So I called up or wrote to everyone I knew about who was doing electrophysiological

sleep-dream research and arranged a two day meeting in Chicago. It was a great success so we decided to meet again in 1962. Sometime before the second meeting Bill Dement and I got together and decided to make it a permanent organization. . .³¹

Bill Dement recalls travelling from New York to Chicago (where he was, just prior to his move to Stanford). As he recalled “Perhaps, half the people at the meeting were Al’s students like Larry Monroe. I think Peter Hauri was there. I am pretty sure Hal Williams and Fred Snyder were there...the main purpose of the meeting from my point of view was to discuss how to score records...I was obsessed with quantifying total REM time...I brought my version of a definition and scoring manual for REM sleep...”.³² He also recalls, the presence of Art Shapiro, Harry Trossman and William Offenkrantz.

In 1980, Rechtschaffen prepared a brief history of the APSS for Rene Drucker Colin who was hosting the twentieth meeting in Mexico City. Here are excerpts from this history:

“Thirty six persons attended the first meeting. Among those attending and still active in sleep research today were Bill Dement, Charles Fisher, David Foulkes, Donald Goodenough, Nathaniel Kleitman, Allan Rechtschaffen, Howard Roffwarg, Montague Ullman, Paul Verdone, and Hal Williams.

The meeting was so successful in providing an opportunity for exchange of information, as well as for meeting other sleep researchers that the group decided to meet again the following year in Chicago. . .

Attendance at the second meeting was 51 persons, including the addition of such notables as Calvin Hall, Peter Hauri, Milton Kramer, Larry Monroe, Irwin Feinberg, Gerry Vogel, Wilse Webb, and Elliot Weitzman. Of special significance was the additions of participants from outside the United States, including Ralph Berger, Michel Jouvet, Ian Oswald and Inge Strauch. . .³³

By 1980, the letter notes that the organization had grown to approximately 360 with approximately one-third from countries outside the United States.

Through 1975 the meeting were held in the following

cities: 1961-Chicago; 1962-Chicago; 1963 Down State Medical Center (New York City); 1964-Washington DC (NIH); 1965-Palo Alto (Stanford); 1966-Gainesville, Fla (University of Florida); 1967-Santa Monica (Stanford); 1968-Denver (Colorado Medical School); 1971- Bruges; 1972- Lake Minnawaska (New York); 1973-San Diego (US Naval Research laboratory); 1974 – Jackson Hole Wyoming; 1974-Edinburgh; 1975-Cincinnati.

Many of the centers cited earlier are recognizable here as hosts listed in the parentheses. The Bruges and the Edinburgh meetings were first international meetings that were scheduled in four year intervals in recognition of the strong international character of the sleep research.

Epilogue

The convenience of selecting three events for analyses, of course, yields a restricted view. While research related to REM sleep dominated that early period, other areas were developing. In the area of the ontogeny of sleep Arthur Parmalee published a remarkable series of experiments on infants and Bob Feinberg had begun reporting on the aging of sleep. Fred Snyder and Truett Allison were exploring the phylogeny of sleep. In this period of rampant REM research, I had, jokingly, formed the Society for the Prevention of Cruelty to Stage Four (SPCSF) to explore its dynamics. I believe that Feinberg and I shared its limited membership for years. The biological rhythm “revolution”, which I have reviewed elsewhere,³⁴ was underway in Eliot Weitzman’s laboratory at Montefiore and in our laboratory in Florida. The area of Sleep Disorders had already begun to stir as research funds began to tighten in the 70s research findings on disorders began to emerge, and the opportunities for services became apparent.

It is also clear that the historical perspective presented here has been primarily focused on research in the United States. As a result, early contributions of such pioneers as Gastaut, Passouant, Koella, Mounier, Roth, Swartz, Dreyfuss-Brisac, Bloch, Parmeggiani, Lugaresi, Benoit, Strauch, and Ruckebush (and others my fading memories have missed) have not been included.

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FESTSCHRIFT CELEBRATION FOR DR. J. CHRISTIAN GILLIN

by Sonia Ancoli-Israel, Ph.D., Department of Psychiatry, UCSD and VASDHS

In late October, the Department of Psychiatry at the University of California San Diego held a two day conference honoring the work and achievements of Dr. J. Christian Gillin. Dr. Gillin has spent his career studying mood and sleep and fostering students in the field of sleep and sleep medicine. He is past-president of both the Sleep Research Society (SRS) and the Society for Light Treatment and Biological Rhythms (SLTBR), and is on the board of the American Academy of Sleep Medicine (AASM). This Festschrift was an opportunity to rejoice in friendships, scholarship, leadership by example and bonds that link people over years and miles, a time to let Dr. Gillin know what a tremendous impact he has had on the fields of sleep, mood disorders, and circadian rhythms.

The Festschrift, which was attended by over 180 people, was organized by Drs. Lewis Judd and Sonia Ancoli-Israel and was supported with unrestricted educational grants from Wyeth Ayerst Laboratories, the UCSD General Clinical Research Center, AASM, Bristol Myers Squibb, SRS, Ambulatory Monitoring, Lilly Pharmaceuticals and ResMed. All of the speakers were invited because they had some connection to Dr. Gillin. Many have known him since his days at NIMH or even before. Others have been his students. All have been impacted by his wisdom, his professionalism, his knowledge and his research. The talks will all be published in a special supplement of Neuropsychopharmacology, with Dr. Gillin as guest editor. Dr. Gillin was the first editor of Neuropsychopharmacology which makes this special issue particularly meaningful.

State-of-the art scientific presentations were given by Wally Mendelson, M.D. on "Unsaturated Fatty Acids and Sleep," Anna Wirz-Justice, Ph.D. on "Thermoregulation and Sleep," Ray Lam, M.D. on "Monoamine Depletion Studies in Seasonal Affective Disorder," Alex Borbely, M.D. on "Global and Local Aspects of Sleep," Peter Shiromani, Ph.D. on "Hypothalamic Regulation of Sleep," Giulio Tononi, M.D. on "Sleep Deprivation: A Molecular Perspective," Barbara Parry, M.D. on "Chronobiological Basis of Mood Disorders in



Dr. Gillin and his wife Fran at the Festschrift celebration held in his honor.

Women," Michael Irwin, M.D. on "Neuroimmunology of Disordered Sleep," Emmanuel Mignot, M.D. on "Narcolepsy and Hypocretin/Orexin," Jerome Siegel, M.D. on "The Role of the Hypocretin System in Narcolepsy," Monte Buchsbaum, M.D. on "FDG-PET in Nighttime Sleep," Joseph Wu, M.D. on "PET Scan Studies of Sleep Deprivation" and Erich Seifritz, M.D. on "Pharmacological Probes of Human Sleep in Health and Depression."

Dr. Gillin's current and recent students, Sean Drummond, Ph.D., Camellia Clark, M.D., Bard Schnierow, M.D., Hans-Peter Landolt, Ph.D., Christi Patten, Ph.D. and Polly Moore, Ph.D., demonstrated the breadth of Dr. Gillin's research interests. Their topics ranged from fMRI studies of sleep deprivation to multi-channel recording of EEG to effects of phenelzine on sleep EEG and tryptophan depletion effects on sleep to role of sleep problems and tobacco use in depression in adolescents.

In addition to the scientific presentations, a dinner honoring Dr. Gillin and his family, Dr. Fran Gillin, (a prominent researcher in her own right), and their children, was held. Dr. Dan Buysse, representing the AASM, presented Dr. Gillin with a Lifetime Achievement Award in recognition of a life-long dedication to the advancement of sleep medicine. Dr. David Dinges, representing SRS, announced that the

SRS is establishing the J. Christian Gillin Faculty Development Award in his honor. Dr. Sonia Ancoli-Israel, representing SLTBR, presented Dr. Gillin with an achievement award recognizing his inspiration to our field and his scientific work in the advancement of the understanding of depression.

Person after person, from former roommates, research collaborators, students and old friends, came up to the podium to tell Dr. Gillin what he has meant in their lives. Each set of comments was very moving and by the end of the evening, there was hardly a dry eye in the house. The theme that kept repeating itself was what a “*mensch*” Dr. Gillin is. Over and over again people mentioned how Dr. Gillin is loved for his breadth of knowledge, his intelligence and his ability to make people feel at ease. Comments included, “We are all impressed not only by his science and inquisitive mind, but also by his fundamental decency, dignity, and positive approach to life. He has been a bona fide role model for many, probably more people than he realizes.” “Dr. Gillin taught me how to think as scientist as well as how to think as a good-natured human being. I learned what to be curious about, how to study curious matters, and how to share with others what I have found out.” “We are all infected with your enthusiasm and sense of mission for building a major integrative area of mental health research.” “You taught me a great deal about science and research. But more important, I learned a lot from observing the grace and gentleness with which you always conducted yourself.” “Dr. Gillin’s lesson to me was a simple one: Whatever you study, make sure it is hypothesis driven and relevant to a human disease. That lesson has guided my research, and one which I also tell my own students.”

Dr. Gillin has always been passionate about his family, his friends and his science. He has had a great impact on many people around the world, who are now teaching their own students and running their own laboratories. From generation-to-generation, this type of impact will continue for years and years to come.



Dr. Gillin and Dr. Ancoli-Israel take time out of the busy celebration to pose for a picture. The Festschrift celebration was held at the University of California San Diego.

CLUB HYPNOS AT SOCIETY FOR NEUROSCIENCE 2000

2000

This last November's Club Hypnos reception at the Society for Neuroscience meeting in New Orleans marked the sixth time this SRS-sponsored event has been held. The first Club Hypnos meeting was organized by Dr. Adrian Morrison and held at the 1995 Society for Neuroscience meeting in San Diego. Dr. Morrison's goals for this social were to publicize opportunities in sleep research and attract students to the field. At the 1997 meeting in New Orleans Dr. Morrison invited a representative from the National Center for Sleep Disorders Research (NCSDR) to discuss the center. It was also at this meeting that Dr. Morrison began working with Dr. Michael Twery of the National Heart, Lung and Blood Institute and NCSDR so that their Neuroscience in Sleep and Circadian Biology Symposium is held immediately after and in a adjacent room to Club Hypnos. This cooperation has resulted in increased publicity and visibility for the SRS.

In 1998 Dr. Morrison was unable to host Club Hypnos at the Society for Neuroscience meeting in Los Angeles and requested that I take over. Over the time I have hosted it, I have seen the numbers of attendees increase. The goal of providing a "home away from home" for our members has been realized and the continuity in holding the meeting every year as well as working with the NCSDR has helped to attract potential members to the SRS.

For 2000 the SRS Executive Committee instituted a formalized application procedure for Club Hypnos so that it may become a fixture at other professional scientific society meetings. Although available funds may vary from year to year depending on the financial status of the SRS, \$7,500 was allocated for this year with the maximum of \$2,500 for each event. In August 2000 I submitted a proposal to the SRS Membership Committee to continue Club Hypnos at the upcoming Society for Neuroscience meeting and it was approved. I am pleased to report that there were 100-150 visitors to Club Hypnos in New Orleans and since all the SRS

membership brochures I brought were picked up, I am hoping that our central office will soon report that some new members were recruited. No other Club Hypnos proposals were received for the year 2000 so in closing I would like to encourage all of you to think about the other scientific meetings you attend and consider if a Club Hypnos social would enhance your meeting experience. As many of you know, the Society for Neuroscience annual meeting is huge and often overwhelming. Through hosting Club Hypnos I have a gained a renewed interest and enthusiasm for this meeting and believe that by providing this SRS "home away from home" we are promoting the field of sleep research.

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2001 SLEEP AND CHRONOBIOLOGY SUMMER BEHAVIORAL RESEARCH APPRENTICESHIP

Applications are now being accepted for the 2001 Sleep and Chronobiology Summer Behavioral Research Apprenticeship at the EP Bradley Hospital Sleep and Chronobiology Research Laboratory in Providence, RI. The application deadline is 19 February 2001. The program is primarily intended for undergraduate students; however, applications from predoctoral students are welcome. Please tell your students about the program. They will find more information and an application form at the following web location:

http://www.brown.edu/Courses/Cpub/cpubsh/Mary_Carskadon-PY0106_s01/cptop.html

The dates of the apprenticeship are 29 May through 24 August 2001.

SRS AWARDS 2001

The SRS Awards committee is announcing the call for applications for the **SRS Young Investigator Award**.

SRS Young Investigator Award

This award recognizes an outstanding research effort by a new investigator in the field of sleep research. The basis for evaluation of candidates is a single publication in a refereed journal; the candidate should be the first author; and the article must be published or officially accepted for publication by the application deadline. On the application deadline, candidate must be 35 years old or younger or within 5 years of obtaining a terminal degree. Exceptions to the age rule will be considered for those applicants who feel that extenuating circumstances warrant such consideration. A letter detailing these considerations must be included with the application.

The award consists of a plaque and a travel honorarium that may be applied toward travel to the 2001 Annual APSS Meeting. The plaque will be presented at a ceremony at the Annual APSS Meeting. To apply, candidates must submit 5 copies of the paper, a single CV, documentation of age (a copy of a driver's license, birth certificate or passport) and, if appropriate, a letter outlining extenuating circumstances regarding the age criterion. If a paper is in press at the time of application, a copy of the written notification of the paper's acceptance for publication must also be included. Applicants should provide the name of a senior investigator who will provide a letter of recommendation. The senior investigator does not need to be an author on the paper or abstract, but should be familiar with the candidate's role on the research project. The candidate is responsible for ensuring that the letter of recommendation from the senior investigator arrives by the application deadline. Last, a candidate must be a member in good standing of the SRS or must include a completed application for membership and fee with the award application. Repeat applications from unsuccessful applicants from previous years are encouraged.

Candidates are welcome to apply for both the Young Investigator Award and the trainee travel fellowship, but in the event the candidate receives the Young Investigator Award, she/he will receive only this award.

The Committee is prepared to provide recognition for multiple awardees. In this way, several outstanding young sleep researchers can be recognized without restriction to just a single "winner." The number of awardees may vary from year to year, depending on the quality of the applications.

Deadline for receipt of Applications is Thursday, March 1, 2000.

Applications should be sent to:

**Sleep Research Society
6301 Bandel Road, Suite 101
Rochester, MN 55901**

Healthcare Recruiters International—Is recruiting for a major respiratory company and need a sleep diagnostics specialist interested in sales. They don't need to have a sales background. The position can be based in NY, CT or MA and the territory covered is NY, CT, MA, VT, NH, NJ and ME. There is 70% travel involved. The compensation is a base of 45-55K and commission of 30-35K potential. There are full medical benefits, company benefits and a car allowance of \$380.00, although a lot of the travel will be by flights. Candidates interested in more information can contact me via email julie.henstra@hcrnetwork.com or by phone at 602-494-9468 ext.12. Thank you, Julie Henstra VP Business Development

Harvard Postdoctoral Position available in the Microdialysis Division of the Laboratory of Neuroscience, a multidisciplinary lab studying the neural control of sleep & wakefulness in animal models. Technical approaches include: microdialysis/HPLC, polysomnographic recording, immunohistochemistry, stereotaxic surgery. NIH salary scale or better, depending on experience. Relevant experience preferred. Send: CV, brief description of research experience/interest, names of three references to: Robert Strecker & Robert McCarley, Harvard Medical School, Brockton VAMC (151C), 940 Belmont St., Brockton, MA 02301; email: robert_strecker@hms.harvard.edu fax: (508)895-0171

Polysomnography Technician Full and Part-time—Kaleida Health's Sleep Disorder Center of WNY Is growing in leaps and bounds!! We are now hiring full and part-time polysomnography technicians to join our staff. Credentials in EEG and/or Respiratory Therapy is required. Experience and/or Registry in polysomnography a plus but not necessary. Kaleida Health offers a competitive salary and attractive Benefits structure which includes System wide health care discounts. Kaleida Health is located in the Greater Niagara Region and is comprised of Five Hospital facilities and their ancillary sites. Send resume to:
Kaleida Health Corporate Employment 2900 Main Street, Buffalo NY 14214 or Fax to 716-862-6631

Postdoctoral Fellowship in Basic Sleep Research—Position is available on NIH-funded project to study single-cell activity in freely behaving mice. Studies focus on thalamic networks in the generation of rhythmic activity and pattern alterations accompanying changes in the sleep/wake cycle. Several models in mutant mice will be explored. Experience with recording single cell activity in freely moving animals is preferred. Send curriculum vitae, statement of interests, and names of three references to: Dr. G. A. Marks, Department of Psychiatry, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75390-9070, E-mail: gmarks@mednet.swmed.edu.

University of Wales Swansea, Department of Psychology, Professors/ Readers/ Senior Lecturers/ Lecturers—Applications invited from circadian rhythms, sleep loss, or nightmare

researchers

Applications are invited for a range of permanent posts in the Department of Psychology at Professorial, Readership, Senior Lectureship and/or Lectureship levels.

The successful candidates will reinforce the Department's current high research standing, and so will have a strong research record and/or be able to demonstrate clear research potential. Research and teaching in the Department are undertaken within the broad areas of applied cognitive, social, and biological psychology. The department conducts internationally esteemed work in circadian rhythms, sleep deprivation, and nightmare and dreaming research and has a chronobiology laboratory with 6 bedrooms and EEG.

Appointments at the senior levels will be made with the importance of academic and research leadership in mind, along with evidence of a clear ability to attract research grants. All successful applicants will present a coherent research plan and demonstrate strong teaching qualities.

Professors/Readers: Applications (10 copies which should be typed) together with the names and addresses of three referees should be forwarded as stated below.

Senior Lecturers/Lecturers: Further particulars and application forms (2 copies) must be obtained from the Personnel Department, University of Wales Swansea, Singleton Park, Swansea SA2 8PP, to which department they should be returned by **Friday 19 January 2001**.

For further information please contact Dr Mark Blagrove (m.t.blagrove@swansea.ac.uk), Professor Simon Folkard (s.folkard@swansea.ac.uk) or the Head of Department Professor David Osborne (d.j.osborne@swansea.ac.uk); Email: personnel.mailbox@swan.ac.uk; www: <http://www.swan.ac.uk/personnel>