

Pathways to Sleep II: How Do We “Manage” Sleep?

William Bergquist, Ph.D.

There is a paradox embedded in the question being asked in this essay: how do we “manage” sleep? We all know that the more we worry about sleep and try to manage sleep the more likely we are to remain awake. It is often when we are trying to stay awake while watching a movie or attending a symphony orchestra concert that we are likely to nod off. The Gods on Olympus are truly jokers when they set up the wiring circuit for our sleep machine. Forget about the C and S processes, there is the very unfortunate tendency for that #@\$&*\$%@\$ adenosine to demand attention right when the most interesting part of that TV show is about to unfold. And isn't it profoundly unfortunate that melatonin seems to fill my brain when I am trying to stay awake while listening to a Mahler symphony (or my pompous friend droning on about his trip to some European country).

There are biological, neurological and even psychological explanations for these paradoxical outcomes; however, I want to focus on what you do about these conditions and what these paradoxical outcomes tell us about the best pathways for sleep. While I will be “getting into the weeds” in the four essays that follow this one, I want to preview three important concepts that are played out in more detail in these four essays. The first of these concepts concerns the *sleep bridge* (I mentioned in the introductory essay) between the two (or more) segments of sleep that many of us (as we grow older) experience. The second concept centers on the need for us to work at four different levels when setting the stage for high quality sleep: no one “remedy” will work (despite what the TV commercials suggest). Third, when identified our own unique pathways, we need to take into account the views of experts in the field (knowing that their advice might often differ), the actual sleep-related experiences of the “common folk” (people like us), the accessibility of various pathways, and the cost associated with each pathway.

Monophasic vs. Biphasic Sleep

Let's begin with the concept of sleep phases. The common belief is that high quality sleep requires a full uninterrupted night of blissful unconsciousness that is never interrupted by wakefulness. Furthermore, in the “good old days” (that probably never really existed), we humans put in a day of hard physical labor, went to sleep without major worries (having harvested the back four acres or fed five hungry

children and a spouse), and prepared to fall asleep when the sun went down and leap up from bed fully refreshed when the sun rose in the morning. This wonderful circadian-based pattern of sleep was to take place every day. There were no trips to far-flung countries halfway around the world and no worries about the strategic plan that won't actually go into effect or be tested for another six months. Monophasic sleep reigned supreme!

We know that these ideal conditions for monophasic sleep are no longer available for many of us. Interrupted or delayed sleep is the cost of urban living, earning a salary by traveling 3000 miles, and eating on the fly. At best we can hope for a night of sleep that is only broken into two parts. Our bedside prayers are devoted to asking God or some other entity (including our own body) for a satisfactory night of sleep that is not delayed by several hours of wakefulness or a pattern of fragmentation and frequent wakefulness. The monophasic pattern of sleep hasn't been available to us for many years—unless we sedate ourselves with one or more of the sleep aids that I will identify in an essay on the fourth set of pathways to sleep. Unfortunately, many of these sleep aids are highly addictive, impact on other domains of health, and become (like most addictive drugs) less effective over time (as our body “adjusts” to them).

There is a second reason to challenge the veracity of monophasic sleep. As I mentioned in my introductory essay, it is not clear that our ancient ancestors sleep soundly throughout the night. Perhaps monophasic sleep only reigned in the life of our more recent ancestors who lived on farms, did physical labor, or assumed traditional separate gender roles which is a recent invention in many societies—and lived without the fear of being eaten by other animals or being attacked by a rival tribe. However, our adaptive biological coding (the stuff in our body that demands our attention whether we want to listen or not) is still pretty much set by our life on the dangerous African savannah. We did not sleep throughout the night if we stayed alive. Biphasic or semi-wakeful sleep might very well be built into each of us—and we can't avoid the biological demands inherent in this wiring.

How should we face this challenge of biphasic or semi-wakeful (or fragmented) sleep? Through this series of essays, I will be proposing that we embrace this challenge and make it into a positive, health-producing experience. I will be suggesting that there is nothing wrong with waking up in the middle of the night, doing something other than sleep for a brief period of time, and then going back to bed for a second (and even third) segment of sleep. The key is to make the additional segment(s) of sleep something to look forward to rather than dread. It is during the sleep bridge that this shift begins to take place. I will have much more to say about the sleep bridge in the next four essays.

I will be encouraging all of us (especially as we grow older) to anticipate the bridge between the two segments – and the second segment itself – with a positive attitude. Make the second segment different from the first. Take a different pathway to sleep for the second segment. Sleep in a new room or make your room colder (or warmer) during the second segment. Turn on (or turn off) music during segment two or use your jaw alignment appliance (or CPAP machine) during only one of the two segments. Go back to sleep with your spouse during the second segment or leave your spouse in order sleep in a different room (or even on the couch) embracing all of the sleep-aides during this second segment that your spouse hates.

And what if you must face the challenge of a third segment? Do the same thing: make it different in some important way from segments one and two. Become an architect or interior decorator of your sleep by designing each room (segment) in a different way and fill it with diverse elements of the pathways I will be identifying in this series of essays. Try out different designs—they don't have to be permanent. Become your own sleep researcher and test many of the pathways I will be identifying in these essays – and recognize that a pathway which works for you at the start of the night might not be most effective when engaged at 1am or 4am.

There is another way to conceive of biphasic sleep. The second segment (or the first segment for that matter) doesn't have to be contiguous with the other segments. This segment can be scheduled for another time during the day (in keeping with your circadian clock). This radical idea of a noncontiguous segment is something called a "nap"! Yes, that thing you did as a child during the school day or at home on the weekend (or when you were pre-school in age). It is OK to take a nap during the day. You don't have to be a child or an incontinent elder to earn the right to take a nap. As we all know, this noncontiguous practice is common in many societies – especially those near the equator or in other heat-challenged environments. This practice is called the afternoon *siesta*. Sadly, one of the "advances" offered by many Northern Europeans and Americans (USA and Canada) is unwarranted advice to colleagues from warmer and more humid climates. We discourage the biphasic siesta.

I have some better advice to offer: the afternoon siesta is a healthy practice that should never be taken off the list as a viable option in our planning for sleep. Walker (2017, p. 68) writes about this biphasic practice as it is engaged in some societies that closely resemble those of our ancient ancestors:

There is evidence for a mix of the two sleep patterns (monophasic and biphasic) determined by time of year. Pre-industrial tribes [our ancient ancestors], such as the Hadza in

northern Tanzania or the San of Namibia, sleep in a biphasic pattern in the hotter summer months, incorporating a thirty- to forty-minute nap at high noon. They then switch to a largely monophasic sleep pattern during the cooler winter months.

It should be noted that Walker fails to mention that this practice (as a siesta) is still being practiced in many societies—despite the discouragement offered by we Westerners. I wonder about the impact of climate change on these biphasic practices. As many parts of our world become hotter for many months of the year, should we reclaim the afternoon nap? Will we, in turn, begin to stay up later in the evening (enjoying the cooler weather of evening), knowing that part of our sleep will be engaged during the day? Will the practice of taking naps during the day that is now being embraced by some corporations (especially in Japan) become more common? Will special rooms for nap-taking become more common in Western Societies? Will many of us be returning to our childhood practice of nap-taking after lunch (but maybe now in a comfortable bed rather than lying on the floor or a thin pad in the school classroom)? We can await the answers to these questions . . .

The Four Components of Successful Sleep

In the old days of “hi fi” (am I dating myself?) the super sound was produced by assembling a set of electronic components (turntable, preamp, amp, etc.). The same is the case regarding production of the sleep. I would suggest that we successfully produce sleep when we take into account and assemble four components: (1) healthy daily habits, (2) preparation for sleep, (3) a sleep-enhancing bedroom environment and (4) sleep-inducing or sustaining ingredients. I will be making the case in the following three essays that the first three of these components are critical in producing high-quality sleep. There is no successful sleep without carefully attention to these three components and one or more of the pathways to sleep associated with each component. I will be more reticent about advocating for the fourth component. Sleep aides can certain be of short-term benefit, but as I have already noted and will note repeated in my essay on this fourth component, we need to be careful in choosing any of these component four pathways (especially those that are habit-forming).

While I will have much more to say about each component in the remaining essays, I want to offer a few introductory comments in this essay. To begin with, we should acknowledge that the first component is clearly the most important of the four. To return to my hi-fi analogy, a high-quality amplifier is needed before any high-quality sound is produced. Without a powerful , high-quality amplifier, the sound emanating from the speakers will be inadequate regardless of the money being paid for these speakers.

Similarly, without healthy life habits, the other three components only help us get some sleep – but not high-quality sleep. I will be identifying a variety of component one pathways. Some are quite obvious (for example, exercise); others are less obvious and often controversial (for example, consumption of certain foods). This first component is also closely related to a myriad of psychological issues—such as levels of anxiety (what wakes you up at 3am) and drug-addiction (ingestion of mind-altering drugs).

The second component (sleep preparation) is one that is often given the least attention – perhaps because its' pathways are often rather boring and not very attractive to those selling sleep-enhancing products. What is important for all of us to know, however, is that these boring pathways are often inexpensive, readily accessible and very important. These pathways include those that are always included on the sleep-enhancement lists: such as cessation of TV viewing one hour before entering the bedroom. Other pathways are obvious, but often not mentioned: such as going to the bathroom right before entering the bedroom.

There are a third set of pathways that are part of the old wives tales (and old husbands tales). Some of these tales are valid: the pathways described in these tales have proven to be helpful. For instances, sleep is readily induced by consuming some delicious turkey (it contains tryptophan) a few hours before bedtime. Remember the drowsy relative at last year's Thanksgiving dinner? How about "count your blessings instead of sheep"? There is some evidence that a moment of appreciation before settling down for sleep can be effective. The fourth set of component-two pathways are much less orthodox (and often controversial), such as eating a banana or drinking Kefir before entering the bedroom. And what about preparing a list of completed tasks during the day just ended or preparing a list of tasks to be completed during the coming day? Are these good ideas or just the sort of thing that keeps us awake! Maybe this advice is intended only from the achievement-driven alphas among us.

We enter the world of high-power commercialism as we turn to the third component. Recall the many commercials. "You can't get a good night sleep without an expensive, softness-controlled bed." "How can you find a great night sleep without my special pillows!" " I guarantee that you will get a better night sleep if you buy my breathable, very soft sheets." There are other component three pathways that are less marketable and a whole lot less expensive: such as preparing a bedroom that is cold, quiet, dark and/or filled with fresh, circulating air. Sleep-enhancing appliances might be the most important (and most controversial) way to improve our intake of air (and for the sake of our sleep-partner, reduce the occurrence of snoring). These are the expensive CPAP machines, the somewhat less expensive jaw-alignment appliances, and the least expensive use of nostril-expanding tape strips At an even more

fundamental (and very sensitive) level are those pathways that concern our relationship with a sleeping-partner: do we snuggle with someone we love and what about sex before sleep? I will be introducing a wide variety of third component pathways that range from machinery to orgasm . . .

Finally, what about the fourth component? As I have already noted, this fourth component contains some of the most controversial pathways, ranging from over-the-counter sleep aides to drugs requiring physician prescriptions (because they are potentially addictive). As we turn to this fourth component, I will be introducing several important issues. Are the effects of these drugs a result of actual biochemical changes or a result of psychological changes (specifically the “placebo” effect)? Does this drug accelerate the onset of sleep or does it instead extend the duration of uninterrupted sleep? Does this drug have an impact beyond just enhancing sleep—for instance does this drug influence our dreams, our processing of memories, or even our “activities” while supposedly asleep (such as sleep walking)? These are all interesting and important questions to be addressed in the consideration of benefits and costs associated with specific sleep aides.

The Four Criteria for Evaluating the Sleep Pathways

I will be identifying more than 70 pathways and this list is likely to grow as I prepare future editions of these Pathways to Sleep essays. How does one make decisions, given all of these optional pathways? It’s like the challenge of choosing toothpaste. There are at least ten different product lines, and each product line offers at least five different versions. Do I choose a whitening toothpaste or one that is geared particularly to prevention of tooth decay? And are my teeth sensitive? Do I need to worry about bad breath or restoring my enamel? There is a similar challenge facing us when we choose among pathways to sleep. Some of you might wish that I would make some choices for you or at least be more discriminating in choosing the pathways to include in these essays. Unfortunately (for those of you who want me to be more definitive), I am inclined to leave these choices up to you. I am asking you, once again, to become sleep researchers on behalf of your own personal achievement of sleep quality.

Fortunately, there is more to it than just offering you many choices. I am helping you make your personal choices (or at least narrowing the list of potential choices) by offering four sources of information (and criteria). First, I am providing you with the best *expert advice* I have received (or reviewed) from experts in the field of sleep. These experts might not always agree. I will let you know when there isn’t agreement and even suggest how the experts might be biased in their research strategy and/or their interpretation and reporting of results. Second, I am offering you *user-based judgments*

made by folks like you and me who are trying to get a good night sleep. I have sent the inventory to many people and asked for their personal rating of each pathway (or at least ones that they have personally tested). I will be inviting you to participate in this ongoing review and will be providing you with instructions at the end of this essay (and each of the following essays) as to how to get the full inventory from me and where to send your results (as a way of contributing to ongoing improvement of the results I am reporting).

The third and fourth criteria are where “the rubber hits the road.” These are criteria regarding feasibility: this might be the greatest pathway in the world but is too expensive or time consuming for me to use. The third criterion concerns *costs*: how much does this pathway cost? The cost might be based on what it takes to enter this pathway (for example, the cost of purchasing a CPAP machine) and/or what it takes to continue journeying on this pathway (such as the cost of monthly dues to be paid to a gym or health club).

The fourth criterion concerns *access*. How easy is it for me to enter this pathway and remain on this pathway? Do I need a prescription to obtain this drug? Do I have to be healthy in order to engage in this type of exercise? Perhaps of greatest importance is the barrier erected by that elusive (and invaluable) commodity called time. Do I have enough time in the day to enter this pathway? Do I only get more sleep in the evening by devoting precious time during the day in preparing to get this extended sleep? It is once again, something of a paradox: I need to *expend* time during the day in order to *expand* time when I am asleep at night.

I will suggest several ways in which time can be managed in a more effective way for us to get a good night of sleep. However, there will always be a trade-off—and this trade-off is particularly great for those of us living in the postmodern age of demanding work, unclear boundaries between home and workplace, and 21st Century complexity, uncertainty and turbulence. How can we sleep when everything around us is swirling in a state of chaos! Stay tuned. I have something to say about these conditions – as I have in other books I have written about our postmodern condition (e.g. Bergquist, 1993).

I wish to conclude this second essay by saying a bit about the Pathways to Sleep research project that serves as the foundation for this series of essays. I hope you will find the way in which I am proceeding with this research to be credible and that you will be able to make effective use of the findings I am reporting in these essays.

The Pathways to Sleep Project

The Pathways to Sleep Project is one of several now being engaged within the Research and Development division of The Professional School of Psychology (PSP) and its parent organization, the Institute for Professional Psychology Studies (IPPS). This division is called *The Edge of Knowledge*. As the name implies, this R&D unit is devoted to pushing boundaries regarding our current understanding of various elusive psychological (and non-psychological) issues. Other *Edge* projects focus on such elusive (but quite timely) topics as Personal and Societal Hope and The Psychology of Freedom, as well as several health-related issues (in addition to sleep), such as the management of trauma and the multiple tiers of effective health psychology services.

As you are now aware, The Pathways to Sleep project focuses on the identification and evaluation of more than 70 pathways to sleep—clustered around four components of high-quality sleep. The results of this project concern expert ratings, user ratings, typical costs and accessibility. As an ongoing project, there will be frequent updates and continuing collection of published and advertised information concerning these 70 plus pathways, as well as identification of additional pathways. We will continue to collect information on the user assessments of the pathways and invite you to be part of this investigation (see instructions for participation below). Hopefully, our Pathways to Sleep reports will be a bit like *Consumer Reports*. That means providing an unbiased, evidence-based, updated set of essays on ways to achieve high-quality sleep.

The Pathways to Sleep project doesn't stop here. While we hope that the results reported in this set of essays is of value to you (the reader), we want to take our work a bit further in being of real assistance to fellow sleepers. We are in the midst of preparing a *sleep coach* training and certification program that will be added to the suite of professional coach training and certification programs we currently offer at PSP and IPPS. The sleep coach training will be part of a broader initiative that prepares mature and accomplished professionals for health-based coaching (and more broadly for work in the emerging field of health psychology).

Preview

In each of the following four essays, I summarize findings from the Pathways to Sleep Inventory. This is a dynamic field of study with constantly changing perspectives and evaluations based on new evidence and research findings. As I have already noted, these four articles will themselves be frequently updated as we review more findings and as we continue to collect more information from our Pathways to Sleep Inventory. Welcome aboard!

[If you would like to receive and complete the full Pathways to Sleep Inventory please contact me and my associates at the following site: knowledge@psychology.edu. Provide a physical or email address where we can send the Inventory. When you have completed the inventory, we are requesting that you return it to us, either mailing it to the physical address we will provide or scanning it and sending it to knowledge@psychology.edu. We will then send or email you the latest edition of the Inventory and, with your permission, place you on an email list, so that you can continue to receive updated versions of the inventory.]

Reference

William Bergquist (1993) *The Postmodern Organization*. San Francisco, CA: Jossey-Bass.