

# Anticipation: Impacting Sleep and Dreams

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While preparing a forthcoming book on sleeping and dreaming, I read a recent book by Aric Prather (2022), a prominent sleep researcher and therapist. Early in his book Prather (2022, p. 4) offered the following observation:

Your body loves to anticipate your next action or need. It makes insulin in anticipation of a meal, and melatonin in anticipation of sleep. It knows to do these things because of cues in your routine and environment—cues that start the moment you open your eyes, and which accumulate through the day. If your routine is erratic, your body gets confused about what it needs to be doing and how it should be using its resources. No, you don't have to become an automaton doing the same thing every day, eating the same meals, etc.

I was immediately struck by this observation for I have recently written a book (Bergquist, 2026) and several essays (Bergquist, 2024a; Bergquist, 2024b; Bergquist, 2024c) in which I have explored the psychology of anticipation. Like Prather, I have concluded that anticipation plays an important role in the guidance of our daily life. As Prather (2022, p. 8) notes a little later in his book, anticipation may play a major role in guiding the onset of sleep. He writes about:

... the “landmarks” that occur through our day that give unconscious yet powerful signals to your brain about where exactly you are in your twenty-four-hour [circadian] cycle, which allows your body to optimize and prepare for what’s next, a process called *entrainment*.

Prather introduces the German word *zeitgeber* (“time-giver”) to reference the elements in our daily life that signal the state of our cycle. These *zeitgebers* not only signal where we are in our circadian cycle, they also have the power to change our internal timekeeping clock (circadian rhythm). Prather has more to say about these time-givers (Prather, 2022, p. 8): “These zeitgebers have the most power over us [during] Daylight or the waning of it. When we eat. When we exercise. Temperature. Even social interactions.”

It is at this point that Prather (2022, p. 8) specifically touches on what I have written about the psychology of anticipation: “These elements of your environment or routine become something your body not just responds to but *anticipates*. It does this to optimize, to maximize your biological efficiency.”

To provide the bridge between what Prather has introduced and what I have presented, I wish to provide a summary of my own study of anticipation, and my introduction of a term, *Polystasis*, that is built on the fundamental process of psychological anticipation.

## The Psychology of Anticipation and the Process of Polystasis

It all begins with the remarkable work done by Peter Sterling (2020) who challenges the model of homeostasis and introduces an alternative model called *Allostasis*. It is quite a challenge that Sterling offers, for Homeostasis has been the prominent perspective regarding dynamics operating in any system. Supposedly, we live in a world with a strong tendency for things to move back to some preferred state after being thrown out of kilter by some external event. Our blood pressure increases as we are determined to outrun the lion—be this lion real or

imagined (Sapolsky, 2004). Our blood pressure returns to its normal level after we have eluded the lion. The thermostat in our living room is set to return the temperature of this room to 70 degrees after it drops by several degrees when we open the window for several moments on a chilly winter day. After our master craftsman returns from sick leave, we will return to the regular rate at which our high-priced chairs are produced.

## **Homeostasis and Allostasis**

All well and good. However, we are finding that the world doesn't work this way. We live in a world of allostasis rather than homeostasis. Introduced by Peter Sterling (2020) about the physiological regulation of our body, Allostasis refers to an organism's capacity to anticipate upcoming environmental changes and demands. This anticipation leads to adjustment of the body's energy use based on these changes and these demands. Allostasis shifts one's attention away from homeostatic maintaining of a rigid internal set-point to the brain's ability and role in interpreting environmental meaning, anticipating environmental changes, and adjusting internal set-points.

Peter Sterling (2024) puts it this way:

Nearly all physiological and biochemical regulation is continuously and primarily managed by prediction, even the smallest changes when a thought flashes through the mind and predicts something that needs either raising or lowering various systems to adjust to the predicted demand. Corrective feedback is used secondarily when predictions fail. To me, this is the origin and purpose of the brain, to manage these predictions. When our body returns to "normal" from a deviation, normal is not due to a set point but to the brain's prediction that this is the most likely level of demand. How the brain does this across time scales from milliseconds to decades and spatial scales from nanometers to meters, is a huge mystery.

The interactions that occur between the brain and body are quick and fully integrated, making it difficult to distinguish between these two functions. The brain predicts and the body responds in a highly adaptive and constantly changing manner.

While Peter Sterling, as a neurobiologist, has focused on the body's use of neurotransmitters, hormones, and other signaling mechanisms, I have expanded his analysis by looking at the function of stasis in all human systems.

## **Polystasis and T.O.T.E.**

Not to distort Sterling's important description and analysis of the allostatic processes operating in the human body, I am introducing a new term: *Polystasis*. I have created this word to designate the multiple functions engaged by complex human systems in addressing the issue of stasis. As Peter Sterling has noted, it is not simply a matter of returning to an established baseline of functioning (stasis) when considering how actions get planned and taken in a human system.

Early in the history of the cognitive revolution and aligned with the field of cybernetics (feedback theory), three prominent researchers and scholars from different disciplines came together to formulate a model for describing human planning and behavior. George Miller, Eugene Galanter, and Karl Pribram (1960) prepared *Plans and the Structure of Behavior* that described the dynamic way in which we are guided by a reiterative process of acting, testing, modifying, and re-engaging our behavior. They presented a T.O.T.E. (test-operate-test-exit) process repeatedly engaged as we navigate our world.

As with T.O.T.E, Polystasis blends the concept of Statics (stabilizing structures) with that of Dynamics (adaptive processes). Operating in human systems, we are guided by certain core outcomes that do not readily

change (statics); however, we must also be open to modifying these guiding outcomes as our environment changes. As Sterling has proposed, the static notion of homeostasis is inaccurate—especially when applied in our challenging postmodern environment (Bergquist, 1993; Bergquist, 2026).

The model of Polystasis incorporates three processes.

## Appraisal

First, there is Appraisal. As Peter Sterling has noted, there is an ongoing need to monitor the environment in which we operate to determine if a new baseline (desired outcomes) is required. We informally or formally predict the probability that our current desired baseline of functioning can be achieved. Is it even desirable? At this point, I introduce a concept offered by another neuroscientist, Antonio Damasio (2005). Damasio proposed that a somatic template continually provides information regarding our bodily state. Perhaps, this template plays a central role in Sterling's Allostatic process. Similarly, there might be a set of psychosocial templates that we frequently reference when making polystatic predictions and adjustments. These templates offer a view of our psychological status and the status of our external world (especially our social relationships).

While the psychosocial template operates at a different level from the somatic template, they are closely intertwined. The psychosocial template might be infused with the somatic template. As Anthony Damasio (2018) has concluded, feelings (and the somatic state) play a major role in our cognitive processes and in the fundamentals of our consciousness. In many ways, we “feel” our thoughts, decisions, and actions. We anticipate our emotional reaction to what we think is about to happen. We act upon this affective data as much as we act upon our cognitively based anticipation of near-future occurrences. A psychosocial template and intense template-related feelings are likely to trigger our attention when something in the environment is changing.

Under these conditions, we must ask a fundamental discerning question: Is it a thought or emotion that is arising inside our Head and Heart, or is it an externally based condition? The psychosocial template is triggered when something a bit “different” occurs in our psyche or in the world where we dwell. The “new” template doesn't match the template that existed a few minutes before, or with some relatively stable baseline template we have built during our lifetime. It is a “deviant” template that draws our attention and impacts our polystatic process. Sometimes called a *Schema* (Bartlett, 1995; Piaget, 1923/2001), the more stable template concerns our view of how other people see us and how much control we have over external forces impinging on us. Michael Polanyi (2009) might propose that we lack full awareness of this template. We have only tacit (rather than explicit/conscious) knowledge of this psychosocial template—or the somatic template (Damasio, 2005).

Some of the most important appraisals occur when the environment is threatening. As Richard Lazarus noted many years ago (Lazarus and Folkman, 1984), threat appraisal is complex and involves a multistage process. It is based on a dynamic, feedback-laden process, much as the T.O.T.E. system relies on an ongoing testing of reality. Both Lazarus and the authors of T.O.T.E. are in the business of identifying the processes of anticipation and adjustment. Elsewhere, I have suggested that we establish three threat categories in our Amygdala (Bergquist, 2011). I derived these categories from the semantic differential of Charles Osgood (1957). Is this threatening entity not interested in our welfare. Is it bad (rather than good)? Is it strong (rather than weak and ineffective)? Is this threatening operating in an immediate active manner (rather than inactive or threatening at a temporal or special distance)? Our Amygdala is triggered, leading to an immediate change in our somatic template. This soon leads to a change in our psychosocial template as we better understand (correctly or incorrectly) the nature and scope of the threat. As Robert Sapolsky (2004) notes, we then engage fight, flight, or (more often) freeze in response to the real or imagined threat.

While the Amygdala-based appraisal will trigger survival behavior, the deviance-based appraisal is likely to trigger further exploration and even a growing appreciation of that which is different. For instance, the unexpected soaring upward of a pitch in a musical composition may portray love and aspiration. Just as the plunging downward of a pitch might powerfully portray despair. Similarly, we are drawn to a painting that in some way “deviates” from what we would usually expect, much as a compelling photograph offers an unaccustomed viewpoint. Even humor often requires that we be caught off-guard by the final turn of the story.

I propose that we can expand on this understanding by introducing the dynamic appraisals operating in both the world of Allostasis and Somatic templates and the world of Polystasis and Psychosocial templates. These templates and dynamic appraisals best describe the source of ongoing moment-by-moment adjustments in human behavior. For instance, the motivational hierarchy offered by the humanist, Abraham Maslow (2014), provides us with a way to understand the general appraisal made by human beings. We carefully attend appraisals based on the relationship between one of our needs and the changing ability of the environment to potentially meet this need.

Henry Murray (1938/2007), another major humanistic psychologist, emphasizes this interplay between internal needs and the external “presses.” At the lowest motivational level, our environment is either supporting or threatening our basic survival. At Maslow’s highest motivational level, our environment is either aligned or not aligned with our self-actualization aspirations. At the immediate (proximal) level, our appraisals are dictated neither by the long-term (distal) search for fulfillment of a Maslow need, nor by the simplistic stimulus-response process offered by early behavioral psychologists (such as Clark Hull and B. F. Skinner). The model of immediate, proximal appraisal that I have proposed fits closely with that offered by Miller, Galanter, and Pribram. We are constantly altering our *Appraisal* (Test) of the current state based on information derived from our somatic and psychosocial templates.

### **Adjustment and Action**

We *Adjust* if the current baseline of desired functioning is no longer appropriate. As Sterling proposes, we identify a new level of functioning. An alternative (“allo”) stasis is based on predictions regarding the probability of success in achieving this baseline (stasis). Miller, Galanter, and Pribram propose that we are Operating (O) (Adjusting) when we establish a new stasis.

We *Act* on behalf of the new baseline of desired functioning. In keeping with Miller, Galanter, and Pribram, we again Test (appraise) to see if the adjusted level is still appropriate given ongoing environmental changes, internal physiological changes, and our experience of acting on behalf of the new stasis. T.O.T.E. and dynamic feedback systems are alive and well in the Polystatic world.

Under homeostasis, daily adjustments are made via what I would identify as first-order change (Argyris, 2001). They require first-order learning that is usually based on habitual ways of thinking. Such a model of stasis might effectively operate in a highly stable world. However, our world might be operating in a rugged and perhaps even moving (dancing) landscape that looks nothing like a flat, stable plain (Miller and Page, 2007). There is no return to a previous state. Rather as Sterling proposes, adjustments are made based on what we predict will be the next setting of this dancing environment. These adjustments require shifts in the interpretation of environmental meaning and anticipation of specific environmental challenges. These shifts, in turn, require second-order learning and second-order change (Argyris, 2001).

### **Polystasis Comes Alive**

All this exploration of polystatic processes may seem mechanistic and abstract (an occasional critique of Miller, Galanter, and Pribram’s T.O.T.E. model). However, Polystasis comes alive and is vital, especially when we

recognize that this recursive process moves quickly. It is often not amenable to the slow thinking described by Daniel Kahneman (Kahneman, 2011) nor to the reflective practice of Don Schön (1983).

Polystasis also comes alive when we apply it to real-life situations. For example, my blood pressure might not return to “normal” if I am anticipating other lions (real or imagined) (Sapolsky, 2004). A new “normal” is quite fluid—for I continue to appraise, adjust, and act (moving through the hostile environment of the Savannah). Polystatic processes are essential to my survival in this anxiety-ridden environment. Dynamic feedback based on T.O.T.E. is alive and well in this hostile environment. I am also alive and well—thanks to polystatic processes.

### **Thermostats and Body Temperature**

I next offer an example of Polystasis by returning to the classic homeostatic example of thermostatic regulation. First, in keeping with Maslow’s hierarchy of needs, I must live in a comfortable environment. I address this matter by adjusting the thermostat if I anticipate the window remains open to provide some ventilation. However, I can make an even more immediate adjustment. I can choose to put on or take off my sweater. I can change chairs. These actions enable me to sit further away from the window.

Even more immediately and intimately, my body will adjust based on what it predicts I will do to accommodate the temperature change. I know that the thermostat is a slow and often secondary Polystatic player. The homeostatic adjustments of the thermostat will often arrive late. These adjustments are not very effective when compared with the act of adding or removing the next layer of clothes or moving to another chair.

### **Production, Craftsmanship, and Stress**

What about our production of finely crafted chairs when our master craftsman is absent from work? There is the more distant (“distal”) solution. Just as we may have to change the thermostat in our home, a decision might be made to train someone else to build the high-priced chairs. We do this if we are uncertain about the long-term health condition of our master craftsman. However, our polystatic adjustments are much more immediate (proximal). They are based on immediate predictions regarding what is taking place on our production floor.

As the production manager, I immediately predict that something must change when my master craftsman calls in sick. I set new (temporary) standards and priorities regarding what we will produce today. We’ll increase production of the cheaper chairs. Predicting the future (distal planning) I will inform our marketing person that we need to push the sales of these cheaper chairs (at least for a short duration).

At an even more proximal level, my mind will be predicting that my body's stress level is about to increase. I will be activating the sympathetic level for a short duration until I get things “arranged” and “adjusted” for the coming production day. I will also spend some time reflecting on what is likely to be the longer-term health status of my senior craftsman. I can overthink and over-worry (inventing lions) or be realistic (assessing the presence of real lions).

How I approach this task of planning for my craftsman’s absence will have a major impact on how I manage my body and production staff. That which is essential (the financial viability of this company and the quality of the finished product) will provide important guidance and stability (statics) as adjustments are made and remade at all levels (dynamics) under the conditions of Polystasis.

### **Shifting Templates**

The key point is that the baseline itself is likely to repeatedly change when Polystasis is operating in a shifting (dancing) environment with changing somatic and psychosocial templates constantly at play. This change might

involve quantity (raising or lowering the baseline) or quality (shifting to a different baseline). We remain vigilant regarding real and imagined lions.

Our templates are fully available to us—even if we remain unaware of their powerful presence. We weigh the costs and benefits of changing environmental conditions (such as an open window in Winter). Our priorities are considered. Do we want fresh air, or do we want to reduce the cost of heating in our home? We determine that reduced costs are essential. As a result, we not only keep the window closed but also reduce the thermostat to 66 degrees and put on a sweater.

Our body (somatic template) predicts and anticipates this change. Adjustments are made that enable us to live in a cooler environment. The baseline has changed. A new level of homeostasis might be established with a change in the thermostat, but this is a secondary adjustment. Settings on the thermostat will (or may) remain in place until the Spring, while the clothes we wear and the windows that we open will make a bigger, more immediate difference. We can do a better job of meeting our goal of reducing heating costs by wearing a sweater or closing the window than by moving the thermostat up a notch.

We alter our ways of adjusting to (and buffering) the impact of shifting conditions (as noted by our deviant psychosocial template). Our craftsman reports in sick. We can do nothing and hope for the quick recovery of our craftsman. Perhaps we recommend that he visit a doctor or consume some chicken soup. We might wishfully anticipate his rapid recovery or the healing power of chicken soup. Our errant prediction, in this case, might put us in jeopardy of making wrong decisions and failing to adjust production schedules or change production priorities.

Alternatively (Peter Sterling's Allo), we can anticipate (predict) and plan immediate (proximal) changes in the schedule and priorities. We can anticipate a need to meet financial quotas by altering our promotion of chairs in a specific price range. We remain keenly aware of what is occurring on the production line (Test). We change our production plans if this is necessary (Operate), see if this alteration is working (Test), and then turn our attention away from the production live (Exit). We have scheduled a meeting with the head of marketing regarding potential changes in promotional priorities.

### **Self-Fulfilling prophecy**

One other feature in my psychology of anticipation is introduced. It is a process called *Self-fulfilling Prophecy* that was made famous in educational circles by the work of Robert Rosenthal (Rosenthal and Jacobson, 2003). As Rosenthal observed, teachers are likely to achieve their expectations of the students with whom they are working. If a student is "expected" to be brilliant (even if this is not a valid expectation) then they will perform better than if they are expected to be poor performers.

This same process has been applied by Argyris and Schön (1974) to the way, more generally, we interact with other people. The way in which we expect another person to react to our own behavior is likely to be "self-fulfilling". If we expect the other person to be defensive, then our own hesitant and guarded interaction with this "defensive" person is likely make them actually defensive, given how they interpret our behavior.

This entire interaction can be identified as an example of anticipation and Polystasis in action. We anticipate how the other person will behavior, adjust our own behavior in alignment with this expectation, and then act. The other person will soon adjust their own perception of our intentions and our likely future behavior. They modify their anticipation regarding our future interactions with them and act in a manner that aligns with their anticipation. If they anticipate that we will continue to be hesitant and guarded ("hiding something") then they are likely to be hesitant, guarded and "defensive."

In essence, we anticipate, and then take actions that fulfill our anticipation. While we usually focus on the way anticipation and self-fulfilling prophecies operate in our waking life, Prather's introduction of anticipation into his narrative regarding sleep leads us to consider the way these dynamic, feedback-rich processes operate in the world of sleep—and even the world of dreams.

## Implications for Sleeping

We are now ready to pose the critical question: What are implications for the processes of sleep and dreaming given the anticipatory perspective offered both by Aric Prather and myself?

### Amenability

First, there is the matter of sleep being amendable to anticipation. As Prather (2022, pp. xiii-xiv) notes:

Sleep isn't something we *do* as much as it is something that happens to us. A lot of it is about letting go, getting out of our own way, and training our bodies to recognize the cues at night, and *throughout the day*, that tell it what it should be doing, and when. The decisions you make that shape your sleep don't start when you lie down at night. They start the minute you open your eyes in the morning.

If Prather is correct, then our sleep at night is influenced by our anticipations about sleep that linger with us throughout the day. We have been laboring all day in the garden and expect that we will get a good night of sleep given our exhausted physical state. Alternatively, we have been in stressful meetings all day and anticipate a restless night of sleep. Our anticipations “tell [our body] what it should be doing, and when” regarding the condition of sleep. The forementioned process of self-fulfilling prophecy comes into play at this point.

If we anticipate a restless night of sleep, then we are likely to start worrying about sleep while still awake and will go to bed in a state of apprehension, with a body that is rigid and prepared to “battle” the enemy (“wakefulness”). In preparation for this state of battle, our body activates the sympathetic system which, paradoxically, is the ally of wakefulness. It is virtually a lock that we will lose the war against wakefulness.

What about the post-gardening anticipation of sleep? We will look forward to our night of sleep and its ability to restore our exhausted body. We snuggle into bed both relaxed and relieved. Our body prepares for this anticipated night of repair by switching on the parasympathetic system. This system is a close ally of sleep. We will soon fall asleep, wake up the next morning, and prepare for another day in the garden or engaged in some other physical activity.

### Locus of Control

Prather brings in another important point regarding the implication of anticipation. He indirectly points to an important psychological principle called locus of control (Rotter, 1966). At certain times, we feel and believe that we have control over what is about to happen in our life. We anticipate that we are the captain of our ship. This is called an *Internal Locus of Control*. At other times, we feel and believe that things are “out of control.” What occurs in our life is either too powerful, too distant, or too unexpected for us to be at all influential. We anticipate that someone or something else is the captain of the ship—and we are a willing passenger or have been shanghaied as unwilling passengers. This sometime pleasant, but often unpleasant condition is called *External Locus of Control*.

Most of us are inclined to think that the occurrence and duration of sleep are out of control in our life. We anticipate that some external forces will determine if we have a good night of sleep. Many of the pathways to sleep that I have identified are external entities that produce high-quality sleep. Prather (2022, p. xv) pushes us in this regard. He emphasizes the internal control we have over our night of sleep: “There's a lot about our lives

and our health we can't control. But sleep is one of the areas where we can see a huge transformation with a few concrete changes”.

Furthermore, with the changes we can make in our night of sleep, Prather (2022, p. xv) believes that we are also controlling many other daytime functions:

It turns out that improving our sleep can lead to improvements in many other aspects of our life, including how we feel, what we eat, how we learn, and how we react to others during the day, things that are often harder for us to change on our own. When we sleep better we feel better, we're more creative and engaged, have more energy to exercise, and have a greater tendency to pile our plates with healthy foods and colorful fruits and veggies.

Prather moves to the “big picture,” indicating that a good night of sleep improves our whole life. According to Prather, successful sleep creates a foundation for health and well-being. This is a lofty claim; however, Prather’s claim is increasingly supported by research regarding the benefits of eight hours of sleep (e.g. Science News Today, 2025).

### **Anticipation and T.O.T.E.**

I wish to expand on the analysis that Prather has just offered by reintroducing the concepts of anticipation and T.O.T.E. When we can successfully anticipate what is about to occur and take action that is appropriate to this anticipation, then we are likely to feel and believe that we are “in control” (internal locus of control). Under such conditions, we are successfully engaged in the feedback-based process of text-operate-test-exit (T.O.T.E.) While our actions might not always be successful, we learn from what we have done and do a better job the second time—we test, operate and test again. It is as an ongoing learner that we believe in our control over the world in which we operate. It is when we don’t learn and keep making the same mistakes that we are likely to assume a belief and deeply feel that we no longer control our life or our destiny.

Applied to the matter of sleep, we are likely to feel and believe that we have control in our life, when we prepare for and have a good night of sleep. We wake up with this strong belief in our mind, and this strong feeling in our heart and gut that we are captain of our ship. As Prather (2022, p. xv) suggests, “when we sleep better, we feel better, we’re more creative and engaged” and so forth. This positive outcome of a good night of sleep might be produced in part by this Internal Locus of Control that not only provides energy but also provides guidance regarding other conditions when we can be “in charge.”

### **Allostasis and Homeostatic Sleep**

I return to Aric Prather’s analysis of sleep dynamics. Prather (2022, p. 5) offers the widely accepted concept of the two primary biological mechanisms that enable us to sleep:

You have two main "drivers" of sleep: your homeostatic sleep drive and your circadian rhythm. These two natural, internal processes in your body work together (though they are independent) to keep you awake when you need to be awake, and asleep when you need to be asleep. They also need to be in sync for you to get great sleep. When they become dysregulated, you start to run into trouble.

He (Prather, 2022, p. 5) focuses first on the process of homeostasis:

Your homeostatic sleep drive is essentially "pressure" for sleep that builds up the longer you're awake. Picture a balloon. It's flat and empty the moment you open your eyes in the morning. As you go through your day, it gradually begins to inflate, filling up with sleepiness. When it's at this optimal amount—picture a perfectly inflated balloon—you feel the need for sleep. Your eyes get heavy, you

climb into bed, and drift off. When you take a nap, you're basically "letting some of the air" out of the balloon, or relieving some of that sleep pressure.

Prather's analysis is certainly useful as a way to describe our growing desire for sleep as the day wears on. However, what if we operate not on the basis homeostasis, but rather on the basis of Peter Sterling's Allostasis? This could mean that the balloon varies a bit in size, depending on what is happening in our body at any one point in time during the day. This being the case, then our desire to fall asleep will change from day-to-day (and even from hour-to-hour) depending on not just the level of the balloon's deflation, but also the size of the balloon.

Alternatively, Allostasis suggests that it is not just the status of the balloon that determines our level of sleepiness; it is also a matter of how our body interprets the status of the balloon. We might anticipate that the balloon has a major impact on our waking state, or that it has a minimal impact. If we are taking a drink with caffeine, then our body is likely to discount or over-ride the balloon. Conversely, after drinking a warm cup of cocoa, and having just sat down by the fire after several hours of snow skiing, then our body might anticipate the balloon having a big impact and complementing the fatigue and drowsiness that our immediately past activities and our present consumption of a sleep-inducing beverage, warm fire, and comfortable chair provide.

Perhaps we should be referring to Allostatic sleep . . .

## **Polystasis and Circadian Cycles**

We can push further. Aric Prather (2022, pp. 6-7) takes us to the second "driver" of sleep. This is our circadian cycle (or rhythm):

Your circadian rhythm is, most basically, your "master clock" that governs the rhythm of all your body's processes-including sleep and wakefulness. All of the cells in your body, all of your organs, including your brain, have rhythms. There's an ebb and flow of processes and activity throughout the course of a twenty-four-hour day. That master clock that controls all of this lives deep in an area of the brain called the suprachiasmatic nucleus, or SCN, which is found in the hypothalamus, a small but influential area of the brain that controls everything from the release of hormones, to thirst, to body temperature, and more. It also determines your "alertness rhythm" throughout the day. In general, our alertness tends to spike higher in the morning, dip in the afternoon, rebound slightly, and then wane slowly through the evening until we need to go to sleep.

Once again, we can expand on (and slightly alter) Prather's description of the circadian rhythm by reintroducing the psychology of anticipation and the Polystatic process. As we consider the many things we anticipate during the day, some will inevitably have to do with how we "feel." Some of how we "feel" (our somatic template) will be influenced by where we are on our circadian clock. We are at a high point when we have an abundance of energy (usually in the morning). Or are we finding it hard to keep our eyes open (usually in the afternoon).

While the clock is pretty resistant to modification, a fundamental question can be asked regarding the power of anticipation and Polystasis. Can we ever feel energized during a low point in our circadian clock, or de-energized during a high point in our clock? The obvious answer is "yes." We all know how to remain alert during a boring afternoon meeting (even if it is just to pinch ourselves). Furthermore, we all have been bored-to-death (or at least bored-to-sleep) by an encounter with someone who is telling us the same story for the fiftieth time.

Yes, we can influence our circadian clock. However, do our anticipations influence the clock. I propose that the answer to this question is also "Yes." We anticipate the boring meeting and set up our defenses against this

meeting (which means engaging our energy-draining sympathetic system). We engage in self-fulfilling prophecy during the meeting, when we reinforce our belief and feelings that this meeting is boring and a waste of time. We are setting ourselves up for low energy and drowsiness, given the time of day when the meeting is being held.

Conversely, it is mid-afternoon and naptime. Yet, we are about to attend a matinee performance of a favorite musical or afternoon football game. We are “hyped” up even before entering the theater or stadium. We couldn’t possibly “fall asleep” while the female lead is singing that lovely number or our quarterback is throwing that long pass to the streaking wide-out. All this anticipation and envisioning occur in anticipation of the event.

We can hear the music or “see” the quarterback pass even before the event begins. We anticipate an exciting event, and it self-fulfills as an event that triggers a “high” in us. We already know this is the case from studies done of another kind of energizing event. This is gambling. We now know that the “high” (mostly dopamine) is triggered not when one hits a jackpot on the slot machine. The “high” is triggered when one is entering the casino. It is the anticipation that yields dopamine, not the payoff. That is why an “addicted” gambler will get “high” even when continually losing at the card table.

Perhaps we should envision the circadian clock having a large knob on its front. We can twist the knob and readily (or at least under some conditions) change the time on our clock . . .

## **Polystasis, the Ideational Train and Dreaming**

We can also draw implications from the concept of anticipation and the model of Polystasis for our understanding and appreciation of the dreaming process. I wish to return to our peremptory ideational train, as a way to show how psychological anticipation and the Polystatic process might be relevant in seeking a deeper appreciation for dreaming as a central feature of unconscious life. As George Klein (1967) proposes, there may be thoughts, feelings and images that are connected to one another and energize one another to the extent that these thoughts, feelings and images influence our waking thoughts, feelings and images. He did studies in which very short exposures to specific images and words led to latter indications that these images and words influence what we see and what we retain. He proposed that there is a peremptory ideational process that carries the briefly exposed images and words on an unconscious journey that enables these images and words to be influential.

### **Brief Moments of Influence**

Might these images and words not only influence what we see and retain, but also what we anticipate. If we see a specific image or word for a brief moment (often identified as subliminal perception), then this image or word might lead us to anticipate the same or a similar image or word in the near future. Bringing back the model of self-fulfilling prophecy, we could even see “see” the image or word where it doesn’t even exist. We glimpse at a fleeting image and assume it is what we saw before. As we witnessed in the highly controversial studies done regarding subliminal perception (hidden persuaders), the briefly exposed image or word might even generate or precipitate specific feelings or an appetite for specific foods.

Taking this a step further, in portraying an unconscious ideational train that carries the views and word, we might find that daytime anticipations “hop on board” the ideational train when we are asleep. The anticipations can, in turn, “hop off the train” during the following day and influence what we see, feel and interpret during the day. While the original study of images displayed on a movie theater screen influencing decisions amount purchases soft drinks was found to be fraudulent, recent studies of the “priming” effect of subliminally presented images and words have been shown to be quite effective (Kahneman, 2011; Mathews, Cetnarski and Verschure, 2015)

Influence may also operate in the opposite direction. The content residing in our peremptory ideational train may influence our daytime anticipations. While attention is usually directed to the way so-called “day residue” (recent daytime experiences) influences the content of our dreams, we might find that our dreams can influence what we anticipate when awake. The ideational train might be the “carrier” of information (images, words, feelings) that provide the influence when we are awake. Just as the shifts in levels of arousal caused by the circadian cycle influence both our daytime and nighttime operations (we go through cycles both at night and during the day), so the anticipations we hold may reside in both waking and non-waking operations. If briefly projected images can influence subsequent behavior, then why can’t faintly recalled or subliminally retained dream content influence what we anticipate when awake.

### **Prophecy and Carom Shots**

Finally, we can once again bring in the self-fulfilling prophecy. Like a three-carom shot during a game of pool, a self-fulfilling prophecy may be bouncing around. A prophecy is formulated during a dream, resulting from a set of daytime anticipations. The resulting content of the dream influences (subconsciously) the actions of the following day. For instance, we might find that we have experienced a “string-of-good-luck” (or “string-of-bad-luck”) during the day.

By the end of the day, our anticipation of what will occur next is firmly established (“good” or “bad”) as an anticipatory bias in our prefrontal cortex and as a feeling in our amygdala. Several memories representing our good or bad luck might be stored in our hippocampus. We fall asleep with this bias, feeling and set of memories lingering in several neural locations (prefrontal cortex, amygdala and hippocampus). Might these elements coalesce in a dream? Might they also either initiate a new ideational train or become linked to (“hop on board”) and existing ideational train?

If these thoughts, feelings and memories are somehow portrayed in a dream, transported on an ideational train or, at the very least, linger in one’s waking brain, then anticipations formulated during the following waking day might be influenced by the prior-day anticipations of good or bad luck. The self-fulfilling prophecy can become self-sustaining. We actually witness or believe that we have witnessed a string of good luck or bad luck. An external locus of control soon takes hold.

We firmly believe that good fortune is raining down on us or that we have been cursed with bad fortune. In either case, we become dependent on external agency. We become aligned with either untethered and helpless optimism (good fortune) or helpless pessimism (bad fortune) (Seligman, 1991; Seligman, 1992). Neither outcome of self-fulfilling anticipation is desirable. We need to be careful about being caught up in the destructive process of externally oriented self-fulfilling anticipation whether optimistic or pessimistic. We need to anticipate the potential of destructive anticipation. . .

### **Complexity and Psychic Life**

The concepts of allostasis and Polystasis do not make our psychic life less complex. Neither do the concepts of anticipation and T.O.T.E. We are operating as a multi-tiered, always processing and adjusting organization. It is hard to imagine getting any sleep given all the balls we are bouncing off a pool table and the commotion being made by the ideational train when it chugs by our unconscious mind as we are trying to fall asleep. It is hard to imagine making any sense of our dreams when many sources from our daytime and our nighttime are making their contributions.

Aric Prather (2022, p. 92) suggests that things regarding this nighttime world are even more challenging:

When it comes to falling asleep at night, we have a lot working against us. We live in a busy culture. We value performance and productivity over health and well-being-often ignoring the fact that those two things are, in fact, deeply linked. We feel guilty for taking time to relax, and so we de-prioritize rest. We have an entrenched belief that our time awake should be "used" productively. We understand that sleep is essential for our health in the long term, yet we de-prioritize it in the short term, day after day. We expect that if we're tired enough, sleep will just happen. We expect to be able to think ourselves to sleep, or will ourselves to sleep.

Help! How do we survive all of this. It is a miracle that we can achieve any quality of sleep. And how can we ever dream when faced with all the challenges associated with just falling asleep.

Fortunately, nature comes just in time, to rescue us from sleepless nights. Aric Prather (2022, pp. 92-93) lets us know that we also have a lot working for us when we are lying in our bed, trying to fall asleep after a stressful day:

Powerful biological forces are at work twenty-four hours a day: circadian rhythm is pushing us toward sleep. Our homeostatic sleep drive, that sleep "pressure" that's been building up all day, is pressing on us.

And if we add in my proposal that we are operating with an allostatic sleep drive that adjusts for the changing conditions we face every day, then the potential for sleep is even greater. Prather (2022, p. 93) adds other factors that lead to a good night of sleep. Many of these are among the pathways to sleep I have identified:

All the various zeitgebers throughout the day, like when we eat or exercise, go to work and come home, are all being gathered up by our body, data points that assist with the dispensing of cortisol or melatonin and rising adenosine, the hormones that either keep us alert or lull us toward sleep. These are all happening, no matter what else we're doing. So a lot of the time, what we really need is to learn how to get out of our own way. And that means setting aside, and then ferociously protecting, the time it takes to transition from *awake* to *asleep*.

All of this suggests that while it is valuable to understand what is going on when we attempt to fall asleep and stay asleep, it is also useful, as Irving Berlin suggests in *Annie Get Your Gun*, to "do what comes naturally".

## Conclusions

Regarding both sleep and dreams, we should first and foremost appreciate the truly remarkable gift that we (and apparently many other mammals) have been given. This gift enables us to restore our body and mind when we fall asleep. Our sleeping brain enables us to rearrange and sort through the memories we have accumulated during the day.

In consort with our dreams, the state of sleep provides the setting for vital human functions, such as the creation of remarkable images and portraits of people. Our state of sleep also provides the neural foundation for dream-based narratives that teach us, entertain us and warn us of what we can anticipate in the life we lead when waking in the morning.

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