

## Dreams are the brain's way of blowing off steam

by Mark Pavilons

Good night may you fall asleep in the arms of a dream, so beautiful, you'll cry when you awake.

- Michael Faudet

The Dalai Lama said dreams are the best meditation and our friend Shakespeare pointed out that To sleep: perchance to dream: ay, there's the rub.

Dreaming is something we all have in common and we all have stories to tell.

It's an outlet for our incredibly active and busy minds, a process that lets us blow off some steam each and every night.

Charles Fisher said that dreaming permits each and every one of us to be quietly and safely insane every night.

In recent weeks, I've been plagued by really vivid dreams. I remember them, and squeeze them for every ounce of sense and logic, yet I'm nowhere close to an explanation of my nocturnal scenarios.

In most of my dreams, I'm away somewhere at a cottage, strange house, hotel or convention centre. I'm often late for my flight or bus, and I'm scurrying to find everything to pack up. I often can't find anything to wear that fits. I like to hover and levitate like a superhuman in my dreams. Lately, I'm driving somewhere in a rush.

Recently, I recalled that I wanted to see just how real my dream was, while I was immersed in it. I remember saying to myself, touch the asphalt to see how real this is. I did, and yes, it felt like asphalt.

That put me no closer to finding the meaning of my nocturnal wanderings.

Unfortunately, some nights I end up sweating, wrapped up like a blanket burrito.

I blame the dog, who sprawls out next to me, pinching the covers.

I find it odd that despite the advances we've made in all fields of medicine and science, we have no clues on the importance and prevalence of dreams.

In ancient societies, dreams guided all manner of decisions and the Bible is filled with references to divine visions during sleep.

Sigmund Freud believed that dreams gave us access to our unconscious, repressed conflicts.

We have all seen our dogs asleep on the couch, twitching and muttering, undoubtedly chasing some squirrel in their dreams. It's weird, and funny at the same time. My wife has shaken me awake several times as I call out in my dreams, which materialize as a strained, girly man scream.

Modern scientists didn't realize the significance of REM (rapid eye movement) sleep until 1951. REM is the phase of nightly sleep when we do our most vivid dreaming and occurs in 90-minute cycles, lasting upwards of 20 minutes. Adults spend about 25 per cent of their nightly sleep cycles in REM sleep.

Researchers believe that theta brain wave sleep is part of memory consolidation in all mammals. The researchers at Douglas Mental Health University Institute

(McGill University) and the University of Bern used state-of-the art optogenetics to confirm a causal link between rapid eye movement (REM) sleep and memory formation.

In a statement, Sylvain Williams, co-author of this research and professor of psychiatry at McGill, said, "We chose to target neurons that regulate the activity of the hippocampus, a structure that is critical for memory formation during wakefulness and is known as the 'GPS system' of the brain ... We already knew that newly acquired information is stored into different types of memories, spatial or emotional, before being consolidated or integrated. How the brain performs this process has remained unclear until now. We were able to prove for the first time that REM sleep is indeed critical for normal spatial memory formation in mice."

What the heck do mice dream about?

The process of hammering and forging our daily experiences into long-term memory through REM sleep is how we learn to master any sport, art, musical instrument, surgery, etc. REM sleep is a fundamental part of mastery, some argue.

The time we spend dreaming during REM is probably the most creative state-of-mind we experience within any given 24-hour period. For example, Keith

Richards came up with the song "Satisfaction" in his sleep and recorded most of the song into a tape recorder by his bed.

The cerebrum and hippocampus play a role in cerebral long-term memory when you sleep. The cerebellum is also believed to play a key role in encoding procedural memories when we sleep.

There are thousands of anecdotes of creative greats having "eureka" moments when they dream. I think I've had one or two myself.

Often, we wake up and have no idea that we've dreamed, while other times, we can closely recall our dreams because they were so intense (vivid).

Dreaming might help the brain eliminate any unnecessary information or memories while processing and storing what's important. Some people feel more refreshed after having had slept and dreamed, even if they do not remember dreaming.

Some factors researchers believe contribute to vivid dreams include stress, anxiety, sleep disorders, medications, and perhaps illness.

For me, it's dentilely anxiety, with a dash of gloom and pinch of sadness, with a smidgen of empty wallet syndrome.

But my dreams aren't fatalistic or horrific, just a bit odd, like the dreamer himself!

Most of the time I'm awake just shaking my head at my weird antics. There have times, albeit few and far between, when I woke up laughing. That was the best feeling ever!

Our lives are much more complicated than Rover's, so our dreams can be quite puzzling and complex. Our brains are still a mystery in many ways and they harbour some really unusual things in those dark recesses.

Hit the pillow and dream deep, my friends. It's a fun journey exploring the unknown.