

Jayne Tubb



ON THE BORDER

Info & insights from the interface between energy healing & science

April 2011



Welcome to the April 2011 edition of 'On the Border'.

For those of you new to 'On the Border', this is Jayne's monthly Ezine newsletter about the latest information and insights into energy fields, healing and science. Each month I share with you some of the latest research and how it applies to healing, energy work & (daily) life. There's a Fascinating Facts section and also a 'Freebie' where you get something for nothing, gratis.

Day-Dreaming: What Happens in the Brain?

The recent discovery of a network in the brain dedicated to autobiographical mental imagery is helping researchers understand the many purposes that day-dreaming serves in our lives. They have called this web of neurons "the default network," because when we are not absorbed in more focused tasks, the network fires up. The default network appears to be essential to generating our sense of self, suggesting that daydreaming plays a crucial role in who we are and how we integrate the outside world into our inner lives.

MR. DAYDREAM

By Roger Hargreaves



Videos in the Mind's Eye



THE MIND'S EYE
AN INTRODUCTION TO PHILOSOPHY

Most people spend about 30 percent of their waking hours spacing out, drifting off, lost in thought. Yale University emeritus psychology professor Jerome Singer defines daydreaming as "watching your own mental videos." (He has a more complex definition too: "shifting attention away from some primary physical or mental task toward an unfolding sequence of private responses"). Singer divides daydreaming styles into two main categories: *positive-constructive*, which includes upbeat and imaginative thoughts, and *dysphoric*, which encompasses visions of failure or

punishment. Most people experience both kinds to a small or large degree.

Other scientists distinguish between everyday musings and extravagant fantasies. Michael Kane, a cognitive psychologist at the University of North Carolina, considers “mind wandering” to be “any thoughts that are unrelated to one’s task at hand.” In his view, mind wandering is a broad category that may include everything from pondering ingredients for a dinner recipe to saving the planet from alien invasion.



Most of the time when people fall into mind wandering, they are thinking about everyday concerns, such as recent encounters and items on their to-do list. More exotic daydreams in the style of James Thurber’s grandiose fictional fantasist Walter Mitty—such as Mitty’s dream of piloting an eight-engine hydroplane through a hurricane—are rare.

Daily routine concerns figured prominently in one study that rigorously measured how much time we spend mind wandering in daily life. In a 2009 study Kane asked 72 students to carry PalmPilots that beeped at random intervals eight times a day for a week. The subjects then recorded their thoughts at that moment on a questionnaire. About 30 percent of the beeps coincided with thoughts unrelated to the task at hand. Mind wandering increased with stress, boredom, sleepiness, or being in chaotic environments. Mind wandering decreased with enjoyable tasks. This could be because enjoyable activities tend to grab our attention.



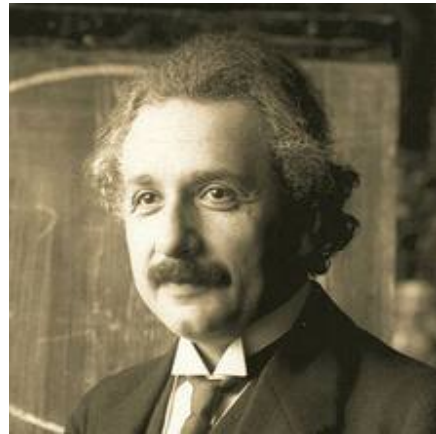
Intense focus on our problems may not always lead to immediate solutions. Instead, allowing the mind to float freely can enable us to access unconscious ideas hovering beneath the surface—a process that can lead to creative insight—as many of you will know. We may not even be aware that we are daydreaming. We have all had the experiencing of “reading” a book yet absorbing nothing—moving our eyes over

the words on a page as our attention wanders and the text turns into gobbledigook. Aimless rambling across the moors of our imagination may allow us to stumble on ideas and associations that we may never find if we consciously strive to seek them.

A Key to Creativity

Artists and scientists are well acquainted with such playful fantasizing.” Albert Einstein pictured himself running along a light wave—a reverie that led to his theory of special relativity. Filmmaker Tim Burton daydreamed his way to Hollywood success, spending his childhood holed up in his bedroom, creating posters for an imaginary horror film series. Orhan Pamuk, the Turkish

novelist who won the Nobel Prize in Literature in 2006, imagined “another world,” to which he retreated as a child, where he was “someone else, somewhere else ... in my grandmother’s sitting room, I’d pretend to be inside a submarine.



Why should daydreaming aid creativity? It may be in part because the waking brain is never really at rest. Floating in unfocused mental space serves an evolutionary purpose: when we are engaged with one task, mind wandering can trigger reminders of other, concurrent goals so that we do not lose sight of them. Some researchers believe that increasing the amount of imaginative daydreaming we do or replaying variants of the millions of events we store in our brains can be beneficial. A painful procedure in a doctor’s office, for example, can be made less distressing by visualisations of soothing scenes from childhood.

Yet to enhance creativity, it is important to pay attention to daydreams. This has been called “tuning out” or deliberate “off-task thinking.” In an as yet unpublished study, 122 undergraduates at the University of British Columbia were asked to read a children’s story and press a button each time they caught themselves tuning out. Researchers also periodically interrupted the students as they were reading and asked them if they were “zoning out” or drifting off without being aware of it. The study concluded that the people who regularly catch themselves—who notice when they’re doing it—seem to be the most creative.

The mind’s freedom to wander during a period of deliberate tuning out could also explain the flash of insight that may pop into a person’s head when he or she takes a break from an unsolved problem. It has been found that people who engaged in a mildly demanding task, such as reading, during a break from, say, a visual assignment, such as the hat-rack problem—in which participants have to construct a sturdy hat rack using two boards and a clamp—did better on that problem than those who did nothing at all. They also scored higher than those engaged in a highly demanding task—such as mentally rotating shapes—during the interval. Allowing our minds to ramble during a moderately challenging task, it seems, enables us to access ideas not easily available to our conscious minds or to combine these insights in original ways. Our ability to do so is now known to depend on the normal functioning of a dedicated day dreaming network deep in our brain.

The Mental Matrix of Fantasy

Like Facebook for the brain, the default network is a bustling web of memories and streaming movies, starring ourselves. When we daydream, we’re at the centre of the universe. This network was first described in 2001 by neurologist Marcus Raichle of Washington University. It consists of three main regions: the medial pre-frontal cortex, the posterior cingulate cortex and the parietal cortex. The medial prefrontal cortex helps us imagine ourselves and the thoughts and feelings of others; the posterior cingulate cortex draws

personal memories from the brain; and the parietal cortex has major connections with the hippocampus, which stores episodic memories—what we ate for breakfast, say—but not impersonal facts, such as the capital of Kyrgyzstan. The default mode network is critical to the establishment of a sense of self.



It was not until 2007, however, that cognitive psychologist Malia Fox Mason, discovered that the default network becomes more active when people engage in a boring verbal task, when they are more likely to mind wander. This default network lights up when people switch from an attention-demanding activity to drifting day-dreaming with no specific goal. In an experiment, participants were shown a string of four letters such as R H V X for one second, which was then replaced by an arrow pointing either left or right, to indicate whether the sequence should be read forwards or backwards. When one of the characters in the string appeared, subjects were asked to indicate its position (first, second, third or last, depending on the direction of the arrow). The more the participants practiced on each of the four original letter strings, the better they performed. They were then given a novel task, consisting of letter sequences they had not seen before. Activity in the default network went down during the novel version of the test. Subjects who day-dreamed more in everyday life—as determined by a questionnaire—also showed greater activity in the default network during the boring original task.

Mason did not directly measure mind wandering during the scans, however, so she could not determine exactly when subjects were “on task” and when they were daydreaming. But a subsequent study by a different research group in 2009 directly linked mind wandering with increased activity in the default network. These researchers scanned the brains of 15 students while they performed a simple task in which they were shown random numbers from zero to nine. Each was asked to push a button when he or she saw any number except three. In the seconds before making an error—a key sign that an individual’s attention had drifted—default network activity shot up. Periodically the investigators also interrupted the subjects and asked them if they had zoned out. Again, activity in the default network was higher in the seconds before the moment they were caught in the act. Notably, activity was strongest when people were unaware that they had lost their focus. The more complex your mind-wandering episode is, the more of your mind it will consume.

When the default is faulty

Defects in the default network may also impair our ability to daydream. A range of disorders—including schizophrenia and depression—have been linked to malfunctions in the default network in recent years. A 2007 study found that people with schizophrenia have deficits in the medial prefrontal

cortex, which is associated with self-reflection. In patients experiencing hallucinations, the medial prefrontal cortex dropped out of the network altogether. Although the patients were thinking, they could not be sure where the thoughts were coming from. People with schizophrenia daydream normally most of the time, but when they are ill they often complain that someone is reading their mind or that someone is putting thoughts in their head.



On the other hand, those who ruminate obsessively—rehashing past events, repetitively analysing their causes and consequences, or worrying about all the ways things could go wrong in the future—are well aware that their thoughts are their own, but they have intense difficulty turning them off. Scientists believe that rumination is not a form of daydreaming, because it imagines situations in the future that are not largely positive in tone. Nevertheless, in obsessive ruminators, who are at greater risk of depression, the same default network circuitry turns on that is activated when we daydream.



These ruminators—who may repeatedly scrutinise mistakes made, family issues or lovers' betrayals—have trouble switching off the default network when asked to focus mentally on a neutral image, such as a truckload of watermelons. They may spend hours going over some past incident, asking themselves how it could have happened and why they did not react differently and end up

feeling overwhelmed instead of searching for solutions. Experimental studies have shown that positive distraction—for example, exercise and social activities—can help ruminators reappraise their situation, as can techniques for cultivating mindfulness that teach individuals to pay precise attention to activities such as breathing or walking, rather than to thoughts.

Is Your Mind Wandering Out of Control?

How do you know when you have tipped over from useful and creative daydreaming into the netherworld of over-ruminating?

First, notice whether you are deriving any useful insights from your fantasies. Creative individuals report ideas that have occurred to them during daydreams.

Second, it is important to take stock of the content of your daydreams. To distinguish between beneficial and pathological imaginings, ask yourself if this is something useful, helpful, valuable, pleasant, or are you just rehashing the same old thoughts over and over again. And if daydreaming feels out of control, then even if it is pleasant it is probably not useful or valuable.

Whether or not mind wandering causes distress often depends on the context, Mind wandering is not inherently good or bad; it all depends on what the

goals of the person are at the time. It may be perfectly reasonable for a scientist to mentally check out in the midst of a repetitive experiment. A novelist who can pour her day-dreams onto paper and publish them is clearly putting them to good use. And fortunately, a lot of what we do in life doesn't require that much concentration!

References:

- ◆ The Secret Life of Walter Mitty. James Thurber in My World and Welcome to It. Harcourt Brace Jovanovich, 1937.
- ◆ The Inner World of Daydreaming. Jerome L. Singer. Harper and Row, 1975.
- ◆ Mind-Play: The Creative Uses of Fantasy: Using Mind Imagery to Relax, Overcome Fears and Bad Habits, Cope with Pain, Improve Your Decision-Making and Planning, Perfect Your Skill at Sports, and Enhance Your Sex Life. Jerome L. Singer and Ellen Switzer. Prentice-Hall, 1980.
- ◆ The Daydreamer. Reprint edition. Ian McEwan. Anchor, 2000.
- ◆ Maladaptive Daydreaming: A Qualitative Inquiry. Eli Somer in Journal of Contemporary Psychotherapy, Vol. 32, Nos. 2–3; Fall 2002.
- ◆ Rethinking Rumination. Susan Nolen-Hoeksema, Blair E. Wisco and Sonja Lyubomirsky in Perspectives on Psychological Science, Vol. 3, No. 5, pages 400–424; 2008.

Fascinating Facts

Did you know that.....

- A human being loses an average of 40 to 100 strands of hair a day.
- Every time you lick a stamp, you're consuming 1/10 of a calorie.
- A fetus acquires fingerprints at the age of three months.
- Every person has a unique tongue print.
- 98.6% DNAs of a monkey are exactly same as those of human beings.

April Freebie

In this section you get the chance to get something for nothing. Helemaal gratis. Always a pleasure!

For those of you who are into yoga – or who are maybe thinking of taking it up – then this is a link for you. At yogaglo.com you can do a free 2 week trial of all sorts of different yoga styles and classes from the comfort of your own home. If you decide to extend your subscription then for just \$18 per month it is money well spent.

Have a look at <http://www.yogaglo.com>

Contact Details

Email: jayne@jaynejubb.com

Website: www.jaynejubb.com

Telephone: 020-6206680, or from outside The Netherlands ++31 20 6206680.

Back Issues

If you have missed any of the previous issues, then the main articles and full

newsletter pdf links can be found at www.jaynejubbb.com/backissues.htm The Freebies each month are only valid for that month....

Subscription Management

On The Border is a monthly Ezine/Newsletter published the second Tuesday of each month. This Email was sent to you because you are on my mailing list and/or have subscribed directly to it. If you no longer wish to receive this then please unsubscribe by clicking either clicking on the link at the end of the original Newsletter Email, or send me directly an Email – and I'll unsubscribe you immediately.

If you have received this Ezine Newsletter from a friend because you are not on my list, but would like to be, then please send me an Email and I can get you signed up immediately.

My subscriber list is not made available to other companies or individuals. You are trusted and valued clients and I certainly will not abuse that trust!