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Are we hardwired for cycles?

- This is different from running around in circles, although that may be part of it!
- In *Fearless Change*, a useful metaphor for working toward any goal is—a journey.
- We recommend a "carry-on bag" of a handful of patterns: Test the Waters, Time for Reflection, Small Successes, Step by Step.
- This learning cycle repeats throughout.

Why is this a good approach?

- You see the next step more clearly after each step is completed.
- You learn about the goal. You adjust the goal.
- Your customer/user/other stakeholders also learn and adjust.
- Chaos does not go away. Change continues to impact the journey. Perfection is never reached.
- You can't plan all this in the beginning.

We sleep in cycles

- We've known for some time that sleep is divided into ~90-minute cycles
- Some track those cycles and schedule their sleep time as a multiple of 90minutes.

Sleep phases

- Light sleep, non-rapid eye movements (NREM), lowered body temperature, muscle relaxation, slowed heart rate.
- Completely asleep, NREM, further drop in body temperature and relaxation of the muscles. The immune system repairs damage.

Deeper sleep, NREM, metabolic levels are extremely low.

Delta or REM sleep, blood pressure rises, heart rate speeds up, respiration becomes erratic, brain activity increases, sleeper become paralyzed. Most restorative part of sleep. Most dreaming occurs.



Do we cycle in the daytime?

- Humans are not designed to be linear, but rather to pulse—to move between expenditure of energy and renewal of energy.
- When we establish that rhythm, we're most productive and most sustaining.
- "Manage Your Energy, Not Your Time," Tony Schwartz, HBR, October 2007

I worked in four 90-minute "sprints" a day. I didn't allow myself to be interrupted during those work periods. In between each work period, I fully disengaged for 20 to 30 minutes. By that I don't mean I surfed the Web or answered e-mail. Instead, I either had something to eat with my family, took a run, or spent time reading the newspaper.

I was vastly more efficient when I was working because I wasn't interrupted. And when I wasn't working, I was truly refueling. I wrote the book in 90 days working half the number of hours each day that I had for previous books. If you're in IT, your mental energy—your capacity for focus—is critical. In a world of information overload, we believe that only way to deal with it is to multitask. We've lost sight of the power of absorbed focus—doing one thing at a time.

If you switch attention from a primary task to a secondary one—from a program you're writing to an email that's just come in—the time it takes to complete the program increases by an average of 25%. Imagine the impact when many people now check email 50, 75, 100 times a day.

Our typical behavior

- If we are under pressure, we work longer and harder.
- Is this the personal equivalent to Brooks' Law at the project level?
- Athletes know the importance of a training schedule, never having two hard days in a row, allowing time for rest.
- Bike race from L.A. to D.C.

Promiscuous Pairing and Beginner's Mind: Embrace Inexperience Arlo Belshee

Proceedings Agile 2005 Conference, Denver, Colorado, July 2005

They experimented with pair durations: 1 hr, 90 min, 2 hrs, half-day, 1 day, 3 days

Optimum duration - 90 min - but longer pair durations had slightly higher mean velocities. Neuroscientists no longer believe that the brain necessarily diminishes with age. Neurons do not have to die as we get older—a number of regions of the brain important to functions such as motor behavior and memory can actually expand their complement of neurons as we age.

Your brain isn't just the product of negative and positive childhood experiences and genetic inheritance. It is profoundly affected by the way you live your life.

"Cognitive Fitness," Roderick Gilkey and Clint Kilts, HBR, November 2007

Sleep is needed for learning

- Rats in a maze
- Thomas Edison
- Poincaré

Memory consolidation - I

Two groups were taught a task.
One group then took a nap, the other group stayed awake. The "nap" group improved. After a night's sleep, both groups were at the same level.

Memory consolidation - II

One group was taught a task. During the 6-8 hrs after learning the first task, a second task was introduced. The next morning the group had not improved in either task.

Memory consolidation - III

Two groups were taught a task.
Both were taught a second task, but one group took a nap in the interim.
No improvement was noticed later in the day, but the next morning the "nap" group had improved at both tasks.

Expand your left-brain

- Take a break
- Play

- Do something different
- Read new kinds of articles and books
- Visit new places with a new agenda
- Do these kinds of things often

Take care of your eyes

- Blink: We blink less frequently when they stare at the screen.
- When reading text on paper, the head is normally tilted down.
- When staring at a screen, the head is erect and the eyes are open wider.
- Look into the distance, then close the eyes for a few seconds.

Find your own cycle

- **Focus without interruption for ~90 min**
- Change the channel—take a break for 15-20 min, expand your perspective, take a walk
- Repeat until the end of the workday
- J.B. Rainsberger, "Personal Planning," IEEE SW, Jan/Feb 2007

Buddhists call this "beginner's mind" a willingness to step back from prior knowledge and existing conventions

to start over and cultivate new options...

Zen Mind, Beginner's Mind, Shunryu Suzuki