

Book Notes: When: The Scientific Secrets of Perfect Timing By Daniel Pink

Chapter One: The Hidden Patterns of Everyday Life

- Knowing general patterns of emotion and affect can be useful. In general, people feel increasingly happy throughout the morning, less happy in the afternoon, and happier in the evening.
 - People also feel increasingly warm towards others throughout the morning, less warm in the afternoon, and warmer again the evening. The same pattern exists for enjoying themselves.
- Cognitive abilities do not remain static over the course of the day, and daily fluctuations are more extreme than we realize, sometimes with the daily low point equivalent to the effect on performance of drinking the legal limit of alcohol.
- Adults tend to perform analytic tasks (those that do not require special creativity and have an answer that can be arrived at through logic) best in the morning and peak in the late morning or around noon. One reason is that early in the day our minds are more vigilant and can filter out distracting information.
 - Vigilance tends to plummet in the late afternoons, along with the ability to remain focused and constrain inhibitions.
- With insight problems, or those that require a creative solution, the best time tends to be the opposite of when you do your best thinking - e.g. if you are a morning person, you will do better on these types of problems in the afternoon. Insight problems require less vigilance and fewer inhibitions.
 - The inspiration paradox: Innovation and creativity are greatest when we are not at our best.
- You can determine your chronotype (your personal pattern of circadian rhythms that influence physiology and psychology) by thinking about when you wake up on a free day.
 - If it is around the same time as work days, you are likely a lark. If a little later, you are likely a “third bird.” If more than 90 minutes later, you are likely an owl.
- Early risers tend to be introverted, conscientious, agreeable, persistent, emotionally stable, and high in positive affect.
- Later risers tend to be more open and extroverted; they are also more neurotic, impulsive, sensation-seeking, and hedonistic. They are more likely to use nicotine, caffeine, and other drugs. They are more prone to eating disorders, diabetes, depression, and infidelity. They tend to get lower performance ratings. But they also tend to display greater creativity, show superior working memory, and post higher scores on intelligence tests. The problem is that most of the educational and working world is geared for larks or third birds.
- Larks tend to be better at analytic tasks later in the day and better at insight problems earlier in the day. So what matters is the *synchrony effect*: being in synch

with your natural cycle of vigilance and alertness. This concept even matters with ethics and cheating: e.g. night owls are more ethical at night than in the morning.

- Most people experience the day in terms of three stages: a peak, a trough, and a rebound when it comes to alertness. But about ¼ of people experience closer to reverse order: recovery, trough, peak. The key is to figure out your type, understand your task, and then select the appropriate time.
- Try the chronotype questionnaire at: <http://www.danpink.com/MCTQ>
- If you don't have control over your daily schedule, be aware that you are operating at a suboptimal time and correct by being extra vigilant. Spend your alert hours doing your most important work.
- Tips for a better morning:
 - Drink a glass of water when you wake up to rehydrate.
 - Don't drink caffeine immediately after you wake up, as it interferes with the production of cortisol and increases tolerance; drink your first cup 60-90 minutes after waking up, once cortisol production has peaked.
 - For an afternoon boost, drink coffee between 2-4pm, when cortisol dips again.
 - Try to get as much sunlight as you can in the morning to signal to stop producing sleep hormones and start producing alertness hormones.

Chapter Two: Afternoons and Coffee Spoons: The Power of Breaks, the Promise of Lunch, and the Case for A Modern Siesta

- For most people, productivity falls and mistakes increase between 2-4 pm. Take short breaks from working during this period to prevent habituation, help maintain focus, and reactivate commitment to a goal.
- Frequent short breaks are more effective than occasional ones. One study found that highest performers work for 52 minutes and break for 17 minutes.
- Move around during a break. Standing and walking around for 5 minutes can boost energy levels, sharpen focus, improve mood, and reduce feelings of afternoon fatigue.
- Social breaks can be more helpful than solo breaks. Talking with co-workers about something other than work is more effective at reducing stress and improving mood than cognitive breaks (e.g. answering email) or nutrition breaks (e.g. getting a snack).
- Outside breaks are better than inside. If you can't get outside, look out a window or sit near a plant for a few minutes.
- Fully detached breaks are better than breaks that involve technology.
- Eating lunch is more important than eating breakfast. Try to stay off the phone/computer and eat away from your workspace.
- Naps can improve cognitive performance and boost mental and physical health. Nappers tend to outperform non-nappers on their ability to retain information and solve complex problems. Napping boosts short-term memory and associative memory. Napping strengthens the immune system, and one study even found that anticipating a nap can reduce blood pressure.
- The ideal nap is between 10-20 minutes.

- Pink recommends the “nappuccino” - drink a cup of coffee, then set a timer on your phone for 25 minutes. It takes the average person 7 minutes to fall asleep, so the 25 minute timer is ideal.
- Habitual nappers tend to get more from their naps than infrequent nappers. If you have the flexibility to take a regular afternoon nap (ideally between 2-3pm), do it.
- Micro-breaks:
 - Follow the 20-20-20 rule: every 20 minutes, look at something 20 feet away for 20 seconds.
 - Get a smaller water bottle; when it runs out, walk over to refill it for a threefer: hydration, motion, and restoration.
 - Stand up for 60 seconds, shake your arms and legs, flex your muscles, rotate your core, and sit back down.
- Moving breaks:
 - Take a five-minute walk every hour.
 - Do office yoga by doing yoga poses at your desk: chair rolls, wrist releases, and forward folds.
 - Do push-ups: two a day for a week, then four a day for the next week, etc.
- Mental gear-shifting break:
 - Meditate (<http://marc.ucla.edu/mindful-meditations>) has guided meditations as short as 3 minutes.
 - Do controlled breathing for 45 seconds: take a deep breath, expanding your belly, pause, exhale slowly to the count of 5, repeat 4 times.
 - Lighten up - take a 5 minutes to listen to a comedy podcast or watch dog videos.

Chapter 3: Beginnings: Starting Right, Starting Again, and Starting Together

- Avoid a false start with a premortem. Assume it is the end of the project and ask yourself, “What went wrong?” Think of as many answers as possible to explain failure or missteps. Then anticipate potential problems and plan how to avoid them before you begin

Chapter 4: Midpoints: What Hanukkah Candles and Midlife Malaise Can Teach Us About Motivation

- We tend to hit a slump in the midpoint of a project or time period. Set interim goals to reignite motivation and break large tasks/projects into smaller steps. E.g. set a sub-goal in the middle and make that your focus, rather than the endpoint.
- Publicly commit to goals - tell someone else how and when you’ll get something done.
- If you are writing, stop a sentence halfway through to help you begin the next time you pick it up.
- Don’t break the chain - print out a calendar and mark off every day that you are working toward your goal. Having a physical reminder and not wanting to break the chain will motivate you to not skip days in the middle.
- Picture one person your work will help.
- Ask yourself how what you are doing benefit other people.

Chapter 5: Endings: Marathons, Chocolates, and the Power of Poignancy

- When you are ending your workday, take the final five minutes to bring the day to a fulfilling close. Recording what you have achieved can end the day more positively and may often show that you have completed more than you thought you had.
 - Take 2-3 minutes to write down what you accomplished since the morning.
 - Use the other 2-3 minutes to lay out your plan for the following day.
 - If you have an extra minute left, send someone - anyone - a thank you email.

Book Notes is a series compiled by Lisa Medoff, PhD, Stanford School of Medicine's Learning Specialist. These handouts are intended to provide at-a-glance suggestions and strategies relevant to the needs of medical students. If you find the handouts helpful, I encourage you to read the original books, as they will offer much more detailed information on the topic of interest.

Please contact lmedoff@stanford.edu if you have a suggestion for a book that should be added to the series and/or if you are a student at the School of Medicine who would like to discuss in person how to implement any of the suggestions listed above.