

## THE BIG IDEAS

### Meet Your DMN

"Hi, default mode network!"

### The Four-Hour Workday

Yep. That should do it.

### Early Starts

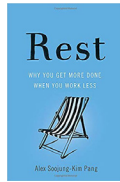
And rhythms.

### Walking + Exercise

Secret sauces.

### Play

It's ALL one big game.



## Rest

### Why You Get More Done When You Work Less

BY ALEX SOOJUNG-KIM PANG · BASIC BOOKS © 2016 · 320 PAGES

"I argue that we misunderstand the relationship between work and rest. Work and rest are not polar opposites. You cannot talk about rest without also talking about work. Writing about only one is like writing a romance and naming only one of the lovers. Rest is not work's adversary. Rest is work's partner. They complement and complete each other.

Further, you cannot work well without resting well. Some of history's most creative people, people whose achievements in art and science and literature are legendary, took rest very seriously. They found that in order to realize their ambitions, to do the kind of work they wanted to, they needed rest. The right kinds of rest would restore their energy while allowing their muse, that mysterious part of their minds that helps drive the creative process, to keep going.

So work and rest aren't opposites like black and white or good and evil; they're more like different points on life's wave. You can't have a crest without a trough. You can't have the highs without the lows. Neither can exist without the other."

~ Alex Soojung-Kim Pang from *Rest*

Alex Pang is the author of another book we featured called [The Distraction Addiction](#).

He's also the founder of the Restful Company. This book is his case for, as per the sub-title:

"*Why You Get More Done When You Work Less.*"

Alex brilliantly walks us through the science of why rest is an *unequivocally* essential part of doing truly great work. He integrates the latest findings in neuroscience with compelling and inspiring stories of historical exemplars who leveraged rest to achieve greatness. It's awesome.

And... Having said that, as I read the book, I had the thought that "Rest" might not be the best title for this book. I mean, I get it. Rest is essential, it's a compelling one-word title, etc.

But... What Alex is REALLY selling us on isn't just "Rest" or "Working Less" per se, it's creating RHYTHMS in our lives such that we integrate *both* intense work *and* equally powerful recovery—deliberately TRAINING our recovery like world-class athletes.

As such, I might have actually crossed out "Rest" on the cover and wrote "Rhythms."

Then I might've modified the sub-title as well. I changed that one to: "Why You Get Your Best Work Done When You Train Your Recovery." :) )

Work + Rest = Rhythms = Creative Genius <- THAT's where it's at.

We need to Optimize it all into one greater whole. And this book is a \*fantastic\* look at how to go about doing it that I highly recommend. (Get a copy [here](#).)

Of course, it's packed with Big Ideas and I'm excited to explore a handful of my favorites so let's jump straight in!

*"Only in recent history has 'working hard' signaled pride rather than shame."*

~ Nassim Nicholas Taleb

*"The greatest geniuses  
sometimes accomplish more  
when they work less."*

~ Attributed to Leonardo da Vinci in  
Giorgio Vasari's *The Lives of the Artists*

## MEET YOUR DEFAULT MODE NETWORK (OR DMN)

"These studies convinced ... neuroscientists that the resting brain isn't inactive. The brain automatically switches on a default mode network (DMN), a series of interconnected sections that activate as soon as people stop concentrating on external tasks, and shifts from outward-focused to inward-focused cognition. As they've explored it further, scientists have realized that the DMN and resting state are doing critical work on our behalf. ...

In other words, a set of activities that we're not conscious of (pretty much by definition), and which we didn't even know existed until the 1990s, turns out to be implicated in just about every significant cognitive and emotional activity. Intelligence? Check. Moral and emotional judgment? Check. Empathy? Check. Sanity? Check.

That's a lot of benefit for something we call 'rest.' And if your 'resting' brain is much more active than you realize, giving your brain the right kinds of 'rest' is critical to its development, health, and productivity."

Ever wonder what's going on with your brain when it's not "on"/working/focused on something?

Well, meet your default mode network. DMN for short.

And, know this: Your brain is doing a LOT when you are doing nothing. As in, way more than you can imagine. Which is why deliberately training our rest and developing the ability to flip the switch into a deeply restorative DMN state is so essential for our flourishing.

We talked about it briefly in our Notes on [Bored and Brilliant](#) plus [Lead Yourself First](#).

In that context, we talked about the importance of reducing the "inputs" we allow into our lives during our days—creating large quantum of time for solitude in which we engage in deep, meaningful work AND by making sure we reduce inputs during all those "non-working" chunks of time that so easily get swallowed up by the tsunami of smartphone stimuli.

Why is that important? Well, a lot of reasons but right at the top of the list is to make sure we're giving our DMN plenty of room to roam.

As Alex tells us: *"Just as great athletes seem able to draw on reserves of energy that the rest of us cannot or are more effective at getting oxygen to tired brains and muscles, so too do the DMNs of creative people have stronger connections between areas associated with functional abilities like verbal acuity, visual skill, and memory, connections that allow their brains to keep working on problems when in the resting state."*

A big reason why creative exemplars have such great brains is because they prioritized REST. They weren't grinding away all day every day. (And then blowing their brains up with nonstop digital inputs the rest of the day!) In fact, they'd only work four hours/day. Which leads us to...

## THE FOUR-HOUR WORKDAY

"When you examine the lives of history's most creative figures, you are immediately confronted with a paradox: they organize their lives around their work, but not their days.

Figures as different as Charles Dickens, Henri Poincaré, and Ingmar Bergman, working in disparate fields in different times, all shared a passion for their work, a terrific ambition to succeed, and an almost superhuman capacity to focus. Yet when you look closely at their daily lives, they only spent a few hours a day doing what we would recognize as their most important work. The rest of the time, they were hiking mountains, taking naps, going on walks with friends, or just sitting and thinking. Their creativity and productivity, in other words, were not the results of endless hours of toil. Their towering creative achievements result from modest 'working' hours. ...

*"It is neither wealth nor splendor, but tranquility and occupation, which give happiness."*

~ Thomas Jefferson

If some of history's greatest figures didn't put in immensely long hours, maybe the key to unlocking the secret of their creativity lies in understanding not just how they labored but how they rested, and how the two relate."

Part I is called "Stimulating Creativity." Those are the first words from Chapter 1: "Four Hours."

Four hours? Yep. That's about how much some of history's greatest creators put into their most important work.

(Alex gives us a comprehensive, fascinating tour of the schedules and daily rhythms of some of history's most creative geniuses. In fact, it's kinda like a micro-version of [Daily Rituals](#) with a focus on just how much \*rest\* these great figures \*deliberately\* programmed into their lives!)

So... Want to stimulate your creativity? Work less. (Hah.)

Well, more accurately, work wisely.

In our upcoming series on endurance guru [Phil Maffetone](#)'s brilliant work, we talk about how to tap into your potential as an athlete. He has a very simple training equation (that he tells us all to put up somewhere such that we see it all day every day): **Training = Workout + Rest.**

Some people "undertrain." They need to get off the couch and get out there. But, he says, most people with some athletic ambition, *overtrain*. They work too hard. And, they don't rest enough.

So... Want to tap into your creative potential? Well, then... Our equation may go something like this: **Creativity = Work + Rest.** We need to Work hard AND Rest equally "hard."

Again, most of us aren't creative couch potatoes so the issue isn't "underworking." It's *overworking*. Therefore, to Optimize we need to deliberately constrain our work time, really go Deep during that limited, focused time and then train our recovery just as well.

As Jim Loehr says in all his books, we want to create really big "amplitudes": SUPER ON and then SUPER OFF. Making waves throughout our days. Nice, beautiful, oscillating rhythms. Which happens to be the subject of our next Idea.

P.S. Alex also walks us through [Anders Ericsson](#)'s research we discuss in our Notes on [Peak](#). He tells us: "But there was something else that Ericsson and his colleagues noted in their study, something that almost everyone has subsequently overlooked. 'Deliberate practice,' they observed, 'is an effortful activity that can be sustained only for a limited time each day.' Practice too little and you never become world-class. Practice too much, though, and you increase the odds of being struck down by injury, draining yourself mentally, or burning out. To succeed, students must 'avoid exhaustion' and 'limit practice to an amount from which they can completely recover on a daily or weekly basis.'

How do students marked for greatness make the most of limited practice time? The rhythm of their practice follows a distinctive pattern. They put in more hours per week in the practice room or playing field, but they don't do it by making each practice longer. Instead, they have more frequent, shorter sessions, each lasting about eighty to ninety minutes, with half-hour breaks in between.

Add these several practices up, and what do you get? About four hours a day. About the same amount of time Darwin spent every day doing his hardest work. Jefferson spent reading the law, Hardy and Littlewood spent doing math, Dickens and Koestler spent writing. Even ambitious students in one of the world's best schools, preparing for a notoriously competitive field, could handle only four hours of really focused, serious effort per day."

Four hours of deep, focused (!) work on the most important stuff.

Recover.

Repeat.

*"This is how we've come to believe that world-class performance comes after 10,000 hours of practice. But that's wrong. It comes after 10,000 hours of deliberate practice, 12,500 hours of deliberate rest, and 30,000 hours of sleep."*

~ Alex Soojung-Kim Pang

## EARLY STARTS AND RHYTHMS

“An early start also opens space in your day for rest and allows you to establish a clean division between working and resting time. One should ‘either work all out or rest completely,’ Cambridge mathematician John Littlewood advised. Even for people whose minds naturally gravitate to their work, having clear boundaries between periods of work and rest allows them to get more from each. ‘It is too easy, when rather tired, to fritter a whole day away with the intention of working but never getting properly down to it,’ Littlewood said. ‘This is pure waste, nothing is done, and you have had no rest or relaxation.’ Virtually every prolific author and scientist would agree. A day that starts with work creates rest that can be enjoyed without guilt. When you start early, the rest you take is the rest you’ve earned.”

That’s from a chapter called “Morning Routine” that kicks off with a story about how [Scott Adams](#) starts his day. Every day. (Check out our Notes on [How to Fail at Almost Everything and Still Win Big](#) for more on how he’s programmed his “moist robot” as he puts it.)

He also profiles [Stephen King](#) and talks about his “basement guy” muse we chat about in our Notes on [On Writing](#). Get this: “*Scott Adams, the creator of Dilbert, works about four hours a day on the strip and other writing; as he points out, ‘My value is based on my best ideas in any given day, not the number of hours I work.’ Stephen King describes four to six hours of reading and writing as a ‘strenuous’ day.*”

So... The Big Idea from this chapter on morning routines? The creative geniuses Alex profiles tend to start their days early. They’ve created routines that match their best energy to their most important work and don’t allow unnecessary inputs to distract them.

AND...

They created rhythms in their lives in which they either “work all out” or “rest completely.”

How about you? How do you start YOUR days? Have you matched your best energy to your most important work? Baked in plenty of nice oscillations of intense ON and equally intense OFF?

In other words: How are your [Masterpiece Days](#)?

And, most importantly, how can you Optimize a little more today?

## WALKING + EXERCISE

“For many thinkers and doers, a walk is an essential part of their daily routine, a source of exercise and solitude. Thomas Jefferson advised his nephew to walk for mental relaxation and for physical endurance and added, ‘Never think of taking a book with you. The object of walking is to relax the mind [and] divert your attention by the objects surrounding you.’ Jefferson practiced what he preached, walking in the mornings before breakfast ‘to shake off sleep,’ taking five-mile tramps around Paris during his posting as ambassador, and, as president, reserving time during the afternoon for walking or riding.”

*“The supreme quality of great men is the power of resting. Anxiety, restlessness, fretting are marks of weakness.”*

~ J. R. Seeley

First, very important note: I literally got up in the middle of typing that passage to head out on my sunrise hike/trail run. (Hah.) ... Alright. I’m back. Ahhh...

That’s from a chapter called “Walk.”

Alex gives a \*phenomenal\* sales pitch for the power of walking, sharing the walking habits of a bunch of great modern and historical figures—from Steve Jobs and Mark Zuckerberg to Charles Dickens (who took 10 to 12 mile (!) walks; 18 miles (!!!) if he was troubled!) and Charles Darwin (who leased land from a neighbor so he could walk his “Thinking Path” every day).

Plus, fun facts: “*Ernő Rubik made the critical design breakthrough that yielded the Rubik’s Cube while walking along the River Danube.*”

*"Busy people need to cultivate forms of rest, he [Churchill] began, but are temperamentally unable to simply do nothing. 'It is not enough merely to switch off the lights which play upon the main and ordinary field of interest,' he argued. 'A new field of interest must be illuminated.' Fortunately, 'the tired parts of the mind can be rested and strengthened, not merely by rest, but by using other parts.'"*

~ Alex Soojung-Kim Pang

And: *"The uncertainty principle came to Werner Heisenberg during a late-night walk in Copenhagen in 1927. Heisenberg had been struggling with the fact that the equations he had developed could precisely predict the momentum of a particle but not its position. While walking in Fælled Park, he had an insight: what if there was no problem with the mathematics or the models? What if this uncertainty was actually a property of particles?"*

Of course, to be clear: Genius ideas didn't just randomly show up in these genius minds. They WORKED incredibly hard and had prepared their minds for the insight. And... They also RESTED their minds and flipped the switch on their default mode networks and voila!

### **Creativity = Work + Rest.**

Alex touched on the same theme in *The Distraction Addiction* in which he introduced us to the Latin phrase *Solvitur ambulando*: "It is solved by walking." [Check out our +1 on that.](#)

And, I love [Thomas Jefferson](#)'s wisdom. If he was alive today I am quite confident he'd still be an advocate of walking AND an *even bigger* advocate of making sure our walks were an opportunity to relax our minds.

So... Think of Jefferson the next time you head out on a walk (/run/whatever). Relax your mind. Never think of taking your smartphone (with all your audiobooks and podcasts and music and email and phone and...) with you! RELAX. YOUR. MIND. Genius DMN thoughts won't bubble up if you're constantly drowning in inputs, my friend.

P.S. Alex has a whole chapter on the benefits of Exercise on creativity as well. Short story, as we know and talk about in [Spark](#) and [Movement 101](#), exercise is REALLY powerful.

Especially AEROBIC endurance exercise. *"Running seems to be particularly effective in stimulating neurogenesis."* Why? Well: *"Aerobic activity is beneficial in several ways. Exercise strengthens your cardiovascular system and improves your circulation, which means your body can deliver more blood to your brain when it's working. ... A firing neuron uses as much energy as a leg muscle cell during a marathon. Further, sustained aerobic exercise stimulates the body to generate more small blood vessels in the brain, and a better-developed cerebral vasculature can deliver blood to the brain faster and more effectively. A 2012 study found that episodic memory improves as maximal oxygen capacity increases. (Conversely, comparative studies of adults who do and don't exercise find that couch potatoes have lower scores on tests of executive function and processing speed and in middle age have faster rates of brain aging and memory decline.)"*

<- THAT'S SUPER COMPELLING!

Note: Although high-intensity workouts and strength training have benefits, we're not talking about hard-core ANAEROBIC exercise here. We're talking about AEROBIC training.

This is one of the reasons I'm so focused on upping my athletic game and spent a week reading five of Phil Maffetone's books on endurance training. Check those out for more on how to get your aerobic training on optimally!

btw: Alex points out all the world-class creative thinkers who were ALSO elite athletes. From Nobel Prize winners who run 2:49 Boston Marathons to other Nobel Prize winners who are elite mountain climbers. Super inspiring. Which actually perfectly leads us to the next Idea...

## **PLAY: IT'S ALL ONE BIG GAME!**

**"For creative and prolific people, seeing outside activities as expressions of the same interests that guide their professional lives builds a bridge between the worlds of work and rest and helps turn these activities into deep play. For Michelson and other creative figures, deep play didn't compete with work; it was a way to express the same fascination with nature, need to**

"I hope that . . . the ideal of the well-trained and vigorous body will be maintained neck by neck with that of the well-trained and vigorous mind, as the coequal halves of the higher education, for men and women alike."

~ William James

challenge ones' self, and passion for focus and concentration and problem-solving. Seeing them as connected helps turn what could be seen as a time-wasting distraction into an important, valuable part of their lives. It helps justify pursuing these activities even if they're time-consuming."

That's from a chapter called "Deep Play" in which we learn that "Deep play is a critical form of deliberate rest and an essential part of the lives of creative people."

As we discuss in our Notes on [Play](#) by [Stuart Brown](#), the best way to set up our lives is to make it ALL one big game. That's what some of the greatest creative geniuses have done. Their work IS play. AND... Very importantly: They deliberately invest a significant amount of time and energy into non-work endeavors that give them an opportunity to simultaneously totally check out of their primary work \*WHILE\* challenging themselves at the same high levels.

Done right, our Deep Play isn't a distraction. It's an integral part of our creativity equation. (In fact, Alex walks us through some research on super-elite scientists vs. average scientists. The average ones overworked and didn't prioritize rest and play as much as the elite scientists.)

This section gave me even more clarity and confidence to invest more of my energy into my Spartan Training. I can see even more powerfully how it's *such* a perfect way to turn off my brain while turning on my body (and thereby turning on my brain even MORE when I'm back at work! lol), WHILE having fun pursuing mastery in a completely unrelated domain.

Perhaps most fun, it all comes full circle as *paying* to race through an obstacle course is such a PERFECT metaphor for my underlying philosophical work with Optimize. ([OMMS!](#))

Back to Alex one more time. He tells us that deep play "provides a way to unify what might otherwise be disparate and scattered activities into a unified whole, a life that is greater than the sum of its parts."

All of which brings us back to you: How's YOUR play and how can you go even deeper?

Let's remember (and Optimize!) our new creativity equation: **Creativity = Work + Rest!**

B

**Brian Johnson,**  
Professional Optimizer

If you liked this Note,  
you'll probably like...

[The Distraction Addiction](#)

[The Power of Rest](#)

[Peak](#)

[The Power of Full Engagement](#)

[Daily Rituals](#)

[My Morning Routine](#)

[Spark](#)

[Play](#)

## About the Author of "Rest"

ALEX SOOJUNG-KIM PANG



Alex Soojung-Kim Pang is a researcher at the Institute for the Future, a Silicon Valley think tank. He was previously deputy editor of the *Encyclopaedia Britannica*.

## About the Author of This Note

BRIAN JOHNSON



Brian Johnson loves helping people optimize their lives so they can actualize their potential as he studies, embodies and teaches the fundamentals of optimal living—integrating ancient wisdom + modern science + practical tools. Learn more and optimize your life at [optimize.me](#).