Habits: A Master's Guide to Passive Progress

Habits this and habits that. Ya, ya, we get it. They're important. But there's a mathematical incentive to them that most of us are oblivious to.

And I think that's keeping us from having the right habits.

It's such common knowledge that we should have good habits but most of us don't really know why or how to get them.

We have little incentive to dig deeper because the word is so common that we trick ourselves into believing we know what it really means.

But then, after years of organized sports, we don't exercise regularly for…8 years (ehemm, 'sniff').

As I was learning how to create my ideal self I stumbled upon what would come to be my new MO.

Really understanding willpower and habits, and their relationship, is something I think everyone should take a hack at. Why?

I used to see those people that worked out everyday, did their tasks right away, and blah, blah–how the shit do they do that? It's like they're a different breed, cut from a different cloth, god-like. I don't have the work ethic for that.

Or so I thought.

Then, I learned how habits work.

I learned that habits don't really require willpower to be performed or maintained…just to be changed.

So, if you take anything from what follows, let it be this: we often overestimate the amount of willpower it will take to create or replace a habit.

(As always, skip to the Conclusion if you want.)

Don't like reading? Watch our free mini course on habits (32-minutes).

What are habits?

Here are some useful definitions. Habits are…

- behaviors that are repeated in stable contexts.
- automatic reactions to specific situations.
- "unthinking routines".
- "choice[s] that we deliberately make at some point, and then stop thinking about, but continue doing" (The Power of Habit, Charles Duhigg).

Simply, habits can be thought of as unconscious behaviors we exhibit when we're "on autopilot".

They're behaviors we've done so much in the past that they've become hardwired into our neural circuitry, making them the path of least resistance and thus our default behaviors.

For our purposes though, the most useful definition comes from the willpower-genius Roy F. Baumeister.

A habit is "[…] a lasting technique for conserving willpower" (Willpower, Roy F. Baumeister & John Tierney). Just a reminder: willpower ≈ willpower and we have a limited supply.

Here are some characteristics of habits. Habits...

- "can become remarkably fixed" (A Critical Review of Habit Learning and the Basal Ganglia, Carol A. Seger* and Brian J. Spiering, 2011)
- require no or very little willpower to be performed and/or maintained (Habits in Everyday Life: Thought, Emotion, and Action, Wendy Wood and Jeffrey M. Quinn, 2002)
- can be replaced (Rewire, Richard O'Connor)
- are there whether or not we consciously constructed them
- amount to a substantial portion or our day—supposedly about 40 percent of our behaviors (Habits—A Repeat Performance, David T. Neal, Wendy Wood, and Jeffrey M. Quinn, 2006)
- provide the highest potential ROI
- acquire momentum (Rewire, Richard O'Connor)
- lessen stress, which in turn improves self-control

Seeing as I have not earned a PhD, let's consult the professionals.

HEADS UP: this next section is a bit dry. But this type of stuff interests me and I'm sure there are more of you out there. If it doesn't interest you, no worries at all, feel free to skip to the next section.

Five features of habit learning

In A Critical Review of Habit Learning, the researchers Seger and Spiering identified five common features of habit learning.

They found that habits are: inflexible, slow or incremental, unconscious, automatic, and insensitive to reinforcer devaluation. So we'll go over each of these briefly as well as some additional characteristics that contribute to the importance of habits.

1. Inflexible (i.e. Fixed or Rigid): "constrained to act in accordance with past reinforcement history"
    - Importance: "[…] the rigid repetition of action […] can be initiated without intention and [the behavior] runs to completion with minimal conscious control".

2. Slow or Incremental: "Standard approaches from cognitive psychology involve examining learning curves for accuracy and reaction time, and potentially then habit learning can be thought to be complete when asymptote is achieved".
    - Importance: reaching the asymptote takes repetition. It's as if there's a built-in fail-safe that ensures bad habits can't be gained overnight. If we could gain habits too easily, then the bad habits would probably have killed us off, evolutionarily speaking.

3. Unconscious: "Unconsciousness […] [is] a subtype of non-declarative memory", which is basically implicit memory or procedural memory. Think "muscle-memory" with this.
    - Importance: consciousness requires a lot of ME and is thus limited. Unconsciousness doesn't, so this saves our ME.

4. Automatic: this is a combination of the above three characteristics of habit learning with the following addition: "automatic processes do not require the limited capacity cognitive mechanisms involved in short-term memory and selective attention", which means "that automatic tasks should be able to be performed in a dual-task situation along with a demanding task that requires short-term memory and selective attention processes".
    - Importance: it allows us to multi-task (i.e. listen to an audiobook while running) and save our limited willpower for other tasks.

5. Insensitive to reinforcer devaluation: it's easier to test with animals as there are some practical fallbacks, "the subject's value for the reinforcer must be changed (typically via feeding to satiation)" and "the behavior must be tested under conditions of extinction".
   In other words, once a habit is formed, the devaluing of the reward through satiation does not predict behavior, which means that it is not required to motivate

the action, which means the behavior is a habit. More simply, we are no longer motivated by the reward, but instead "motivated", or compelled to act, by the cue. VERY SIMPLY PUT.

- Importance: we only can temporarily incentivize our automatic self with rewards until the behavior becomes a habit because, after the habit is gained, the cue will then be sufficient to cause our action.

This means we can use things that are "unhealthy" but that our automatic self responds to, like cookies, as rewards or reinforcers when training ourselves. Of course, we don't have to–and I always try to go for intrinsically rewarding behaviors like exercise and meditation first to avoid having to use an extrinsic reward–but the option remains available.

Why are habits important?

Habits help us behave as we intend to (if we've been deliberate in their creation)

Because habits are automatic and don't require our ME, even when we're spent or mentally drained, our habits stick. Even at our worst, our beneficial habits can keep us afloat.

Habits are stronger than intentions

"Habits are stronger than intentions" really means that they are stronger predictors of behavior. "The utility of intentions as predictors of behavior declined as habit strength increased. Intentions guided actions primarily when habits had not been formed" (Neal, Wood, Quinn, 2006).

So, when we are acting deliberately our intentions can predict our behavior. That covers that ~60 percent of behavior (supposedly). But the other ~40 percent is better determined by our habits and the strength of these habits. This is why quitting cigarettes is so hard and why the momentum of habits can be a friend or foe.

In other words, we are conscious and deliberate when we are not performing a habit. But if we are in habit-mode our intentions can go out the window.

Habits happen every day (#classic)

Habits go hand in hand with routine. It's the very fact that we perform these behaviors so often that they become habits in the first place. And, even though 40 percent is a ballpark figure, it doesn't much matter how much of our day is made up of habit, just that some of it is.

We can think about it like this: whether the amount of time spent in habit mode is 1 percent or 73, the fact is that some time is spent on autopilot.

And if we are on autopilot some of the time, that means we can turn it into passive progress. Habits = potential passive progress. If you want more on that idea, go to my article on The Economy of Behavior Control.

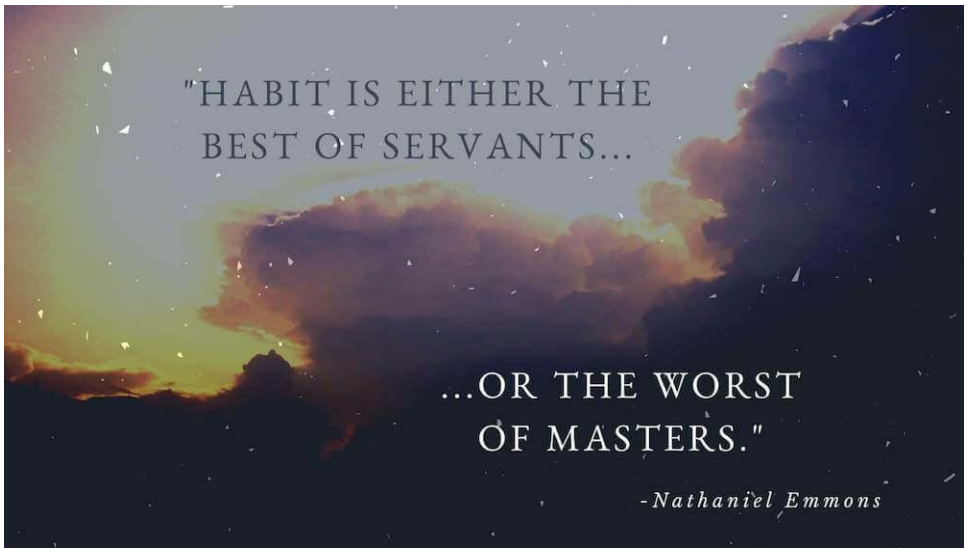
Quick thought

If you ate a cinnamon roll today instead of an apple it's not too big of a deal. But if you do that Monday through Friday for even a year, it becomes a big deal. It amounts to around 13 more pounds of fat or 69,000 more calories in that year. More sodium. More carbs. More bad.

If, on the other hand, I make choosing the apple habitual instead, that's more potassium, fiber, vitamin C, and so on. More good.

This leads me to the non-neutrality of habits. They are either working for us or against us.

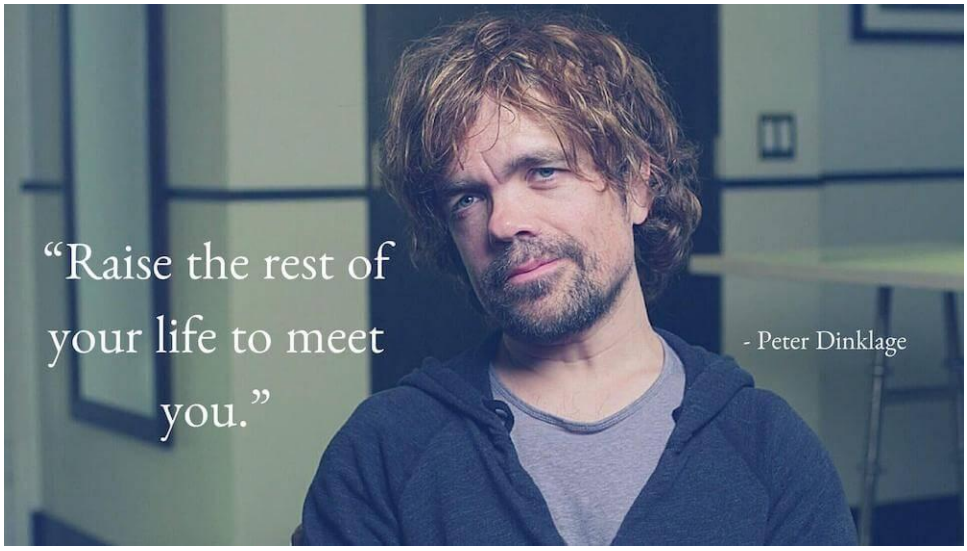
Habits are not neutral



As with the apple vs. cinnamon roll battle, you can imagine plenty of healthy vs. nonhealthy habits: exercise vs. sedentary, books vs. TV, anticrastination vs. procrastination, organized/cluttered, open-minded/close-minded, patient/impatient, and so on and so on.

Due to the either/or-ness of behavior, a "neutral" habit is effectively a bad habit because it is taking up space in our habitual arsenal that could otherwise be used for a good habit. This is opportunity-cost 101.

Habits are our default



Habits happen automatically. So, if we want to reach our goals, then we have to ensure that our lazy, default “decisions” are working for us, pushing us towards our goals.

We have to raise our default to match our desire.

Habits are what we do rain or shine because the availability of our willpower does not determine whether or not we perform them. In other words, our habits are behaviors we can perform even if there is no reward directly motivating us (reinforcer devaluation insensitivity if you skipped that section earlier).

It’s common understanding that the more self-control we have, the more likely we are to live the life we intend to, right? But, what about when we don’t have good self-control? What if we didn’t get enough sleep last night and don’t have enough glucose in our brains (willpower) to tap into our higher cognition for too long?

In other words, what if our willpower supply is drained?

Habits are the answer.

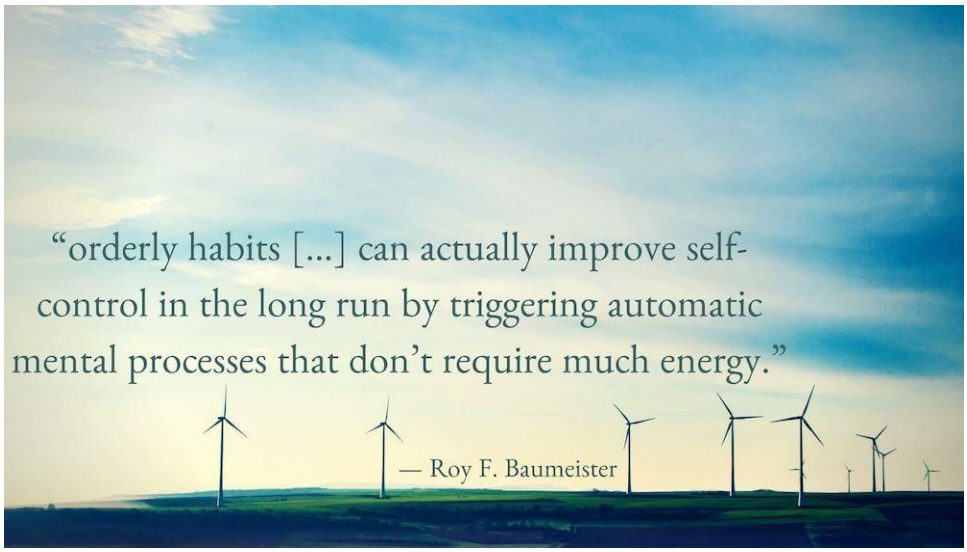
Habits don’t rely on willpower as their fuel, they rely on repetition. So, because of the very fact that habits occur, regardless of a willpower shortage, we ought to strive to make them aligned with our ideals. They are reliable.

With repetition, as our habits get “burned into our circuitry”, they become easier and easier to do. Our default action is, by definition, the easiest for us to do.

That's why investing your ME is such a powerful idea: investing ME into repetition is to ensure that you don't have to use your ME for that behavior once it's a habit.

Habits save ME for when it's needed most.

Habits save your ME

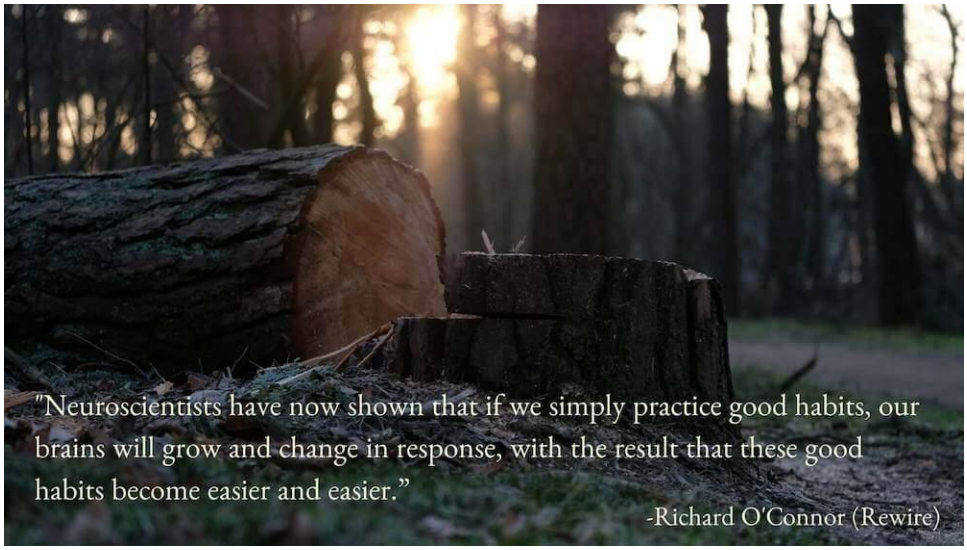


In a similar vein to the "Habits are stronger than intentions" section, we will perform our habits even when we are depleted, even when we are experiencing decision fatigue or ego depletion. This is why habits hold the power of being investments.

You buy behavior, but you invest in habits.

In other words, even at your worst, you will perform your habits (study exams aside). So, if we align our habits with our ideal self then, even at our worst, about 40 percent of our behavior will be pushing us towards our goals.

Habits gain momentum

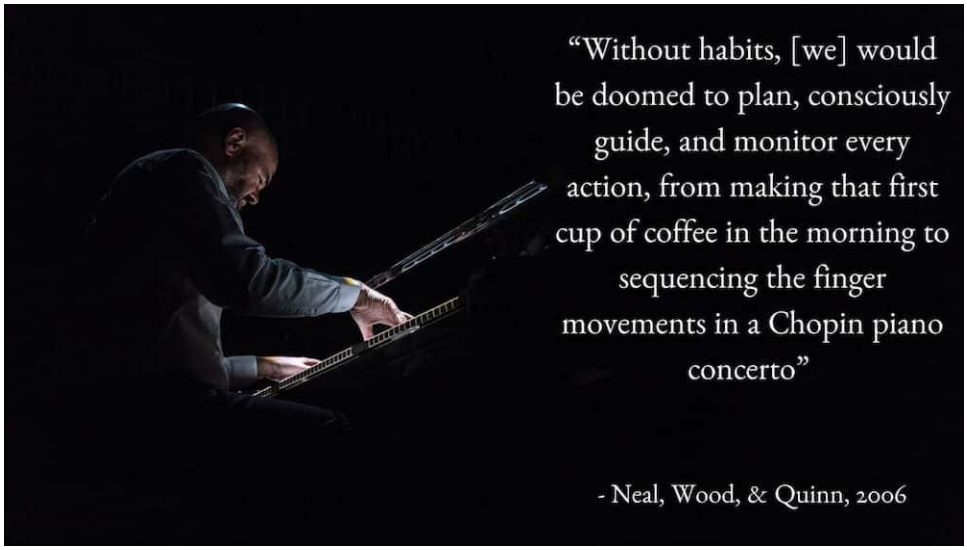


Probably the most widely known aphorism about the brain is “neurons that fire together, wire together”. This is where it all starts. So, each time we act in a certain way we are making it more likely we will act this way in the future.

This is why habits are such an efficient use of your ME: habits don’t use willpower to be performed or maintained and yet they become stronger. Instead, they rely on repetition. And repetition begets repetition.

But we have to be careful because this can backfire. The reason “old habits die hard” is due to the momentum of habits. We also don’t “get rid of” habits, we replace them…meaning we provide a path of less resistance than the previous habit that was sparked by that cue. We don’t erase the old path.

Why do we have habits?



The habit-to-nonhabit ratio

Why do we have the particular ratio of habit to nonhabit behavior that we do?

The current answer is that "Evolutionary selection has presumably tuned the exact amount of access the conscious mind has: too little, and the [unconscious self] has no direction; too much, and the [conscious self] gets bogged down solving problems in a slow, clunky, energy-inefficient manner" (Incognito, David Eagleman).

Although the reason for consciousness isn't exactly known, there are some useful ideas: "consciousness exists to control—and to distribute control over—the [automated systems]", "it sets the goals, and the rest of the system learns how to meet them" (Ibid.).

Psychologists Charles Carver and Michael Scheier claim that self-awareness, or consciousness, evolved because it helps self-regulation.

"Our ancestors lived in groups that rewarded members for living up to the common values, norms, and ideals. Therefore, people who could adjust their actions to meet those standards fared better than the ones who were oblivious to their own social faux pas. Changing personal behavior to meet standards requires willpower, but willpower without self-awareness is as useless as a cannon commanded by a blind man. That's why self-awareness evolved as an innate trait among our early ancestors on the savanna—and why it has kept developing recently in more treacherous social environs."

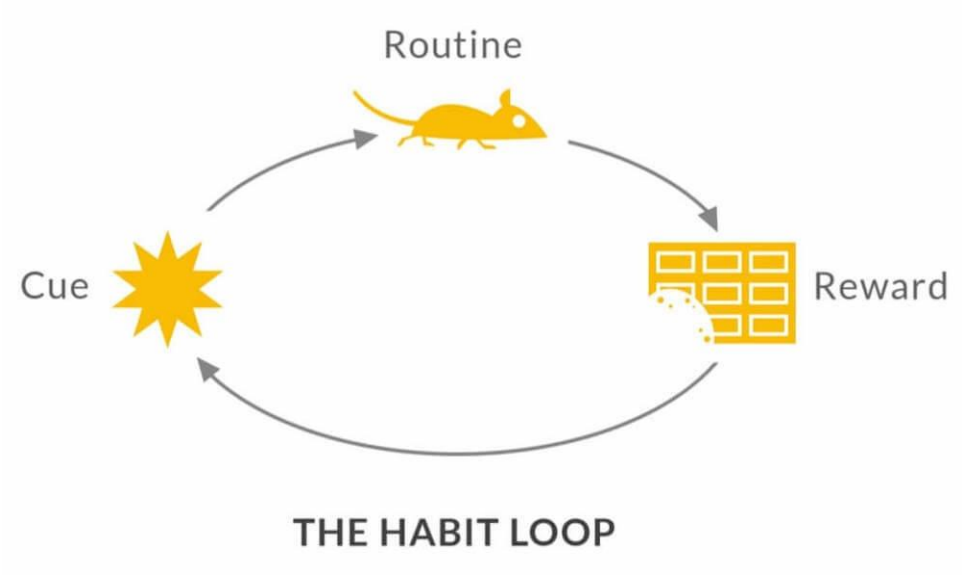
A current theory is that consciousness runs "on top" of our unconsciousness, which is always running. And "When the brain finds a task it needs to solve, it rewires its own

circuitry until it can accomplish the task with maximum efficiency". So "As long as the [automatic] subroutines are running smoothly, the CEO [deliberate self] can sleep" (Incognito, David Eagleman).

Very simply put, we have habits because they are a very efficient use of willpower and we have consciousness to direct our actions.

How do habits work?

The Habit Loop



The Habit Loop is the most basic way for us to understand a very complex system. "Most habit learning tasks follow the same stimulus–response–reward/feedback task structure" (A Seger & Spiering, 2011).

But, of course, it's easier to remember the nonscientific version: Cue → Routine → Reward.

The Habit Loop is a process within our brains that goes like this:

"First, there is a cue, a trigger that tells your brain to go into automatic mode and which habit to use. Then there is the routine, which can be physical or mental or emotional. Finally, there is a reward, which helps your brain figure out if this particular loop is worth remembering for the future" (The Power of Habit, Charles Duhigg).

A breakdown

Cue

This is also referred to as the trigger or reminder. The cue can be emotional, physical, environmental, internal… it's whatever kicks our brains into a specific habit.

In terms of usefulness for gaining a habit: obvious, visual cues tend to be the most effective.

Routine

This is the habit, the automatic behavior that is set in motion by the cue.

Reward

In its most basic sense, this happens in the form of dopamine-release in your brain. There's a lot to know about dopamine, and a lot we still don't know.

We know that it's associated with both reward and motivation, pleasure and craving, and that it plays a large role in habit-formation and retention.

An example of the Habit Loop

Cue = your running shoes at the foot of your bed

Routine = stretch and run two miles

Reward = your favorite smoothie after

Note: The endorphins and other feel-good neurotransmitters and hormones released during the run are more positive-reinforcement. I'll write an article about positive-reinforcement specifically, but until then you can read Don't Shoot the Dog! by Karen Pryor.

An assessment

Awareness and understanding are more than half the battle. '"It seems ridiculously simple, but once you're aware of how your habit works, once you recognize the cues and rewards,

you're halfway to changing it," Nathan Azrin, one of the developers of habit reversal training, told me"' (The Power of Habit, Charles Duhigg).

"It seems like it should be more complex. The truth is, the brain can be reprogrammed. You just have to be deliberate about it" (Ibid). Knowing how it works makes it easier for us to change our habits and more likely that we'll do it.

The neurobiology of habits

Chunking

"This process—in which the brain converts a sequence of actions into an automatic routine—is known as "chunking," and it's at the root of how habits form. There are dozens—if not hundreds—of behavioral chunks that we rely on every day." –(Ibid).

Plasticity

"When you learn something new, it has a physical manifestation in the circuitry of the brain. In other words, we have a plastic brain that changes in response to our experience." –(Rewire, Richard O'Connor)

Simply put, we can change. Literally.

Neurons that fire together wire together

"Every time you do something, your brain makes a path between nerve cells. Every time you repeat that thing, you widen the path and make it a little easier next time. Neurons that fire together, wire together." -(Ibid.)

"The more we do something, the easier it gets because our brain physically changes to make it easier on itself. Remember, 'The mantra of the fast and efficient brain [is to] burn jobs into the circuitry.'" –(Incognito, David Eagleman)

"Burned into the circuitry"

"This trick of burning tasks into the circuitry is fundamental to how brains operate: they change the circuit board of their machinery to mold themselves to their mission." –(Ibid.)

As we repeat behaviors our brains create stronger neural pathways that allow for that behavior to be performed with less and less willpower. Think of it like a moving sidewalk…

Useful Analogy

The moving sidewalk (the ones at the airport)

The goal is to get from point A to B. Do you want to walk there and have to take different paths all the time? Or would you rather stand on a moving sidewalk that takes you where you want to go?

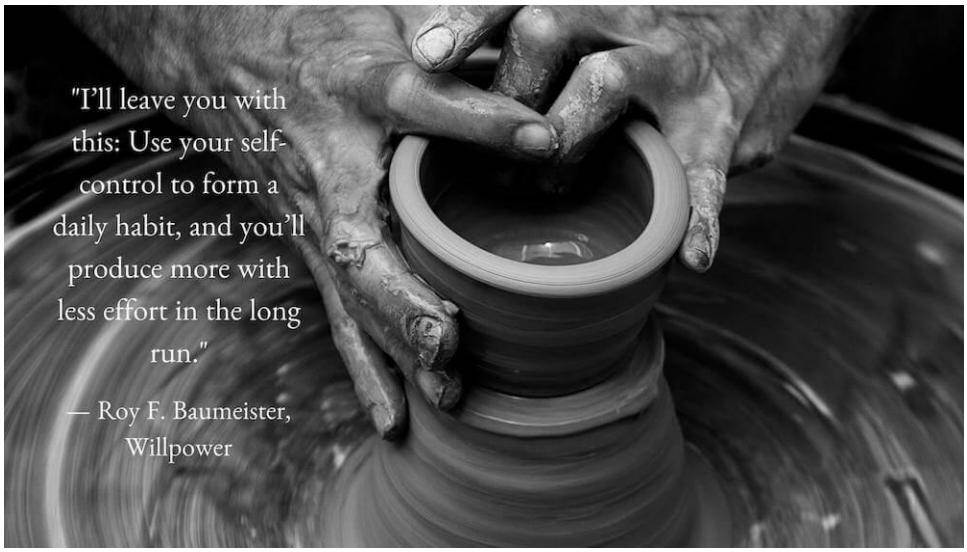
We all want the second option. So here's how it works:

Initially, we have to walk from point A to B, which requires physical energy. But something incredible happens, as we walk this path over and over the floor begins to move for us.

After much deliberate repetition, we've created a full-fledged moving sidewalk that connects points A and B. We can now get from A to B with only the amount of energy it takes to stand, breathe, and metabolize.

In the same way with behavior in general, the more we do it, the more automatic it becomes (neurons that fire together wire together). The more automatic it becomes, the less willpower it requires.

What a beautiful system.



Conclusion

Habits are the best way to conserve and invest willpower because they have a large impact on our lives over time.

They are unconscious and automatic behaviors that are rigid, slow to learn, and insensitive to reinforcer devaluation.

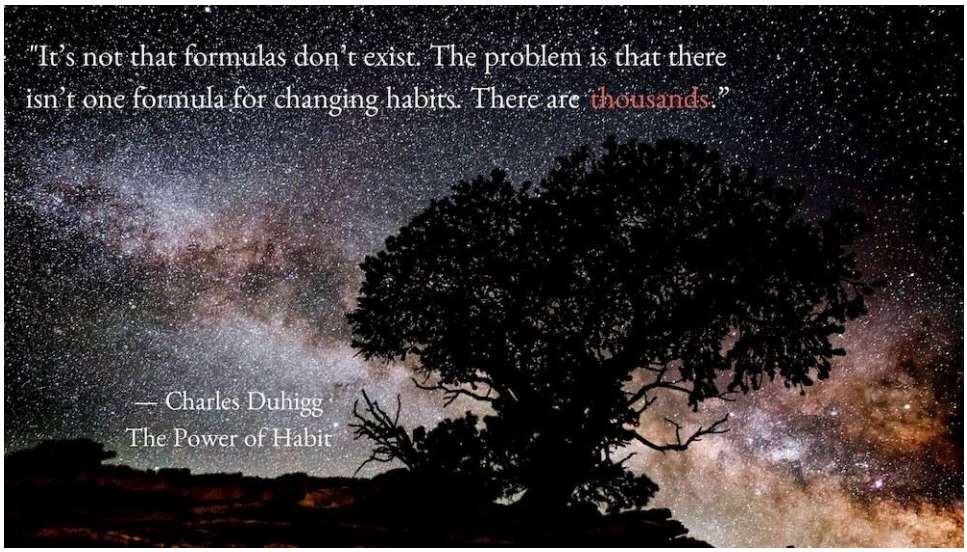
The Habit Loop is Cue, Routine, Reward. Ex. running shoes, run, smoothie.

Habits are incredibly energy-efficient and are burned into our neural circuitry, like a program.

Habits are key to the alignment of the conscious and unconscious selves.

Next step: pick one to gain, or replace, and hack it.

The exercise to gain a habit



I made an easy exercise to help you create your Habit Plan that I now fill out every time I am ready to gain a new habit. It is the most comprehensive planning I've seen and helps more than you can imagine.

But why just imagine?

Also, if you want to learn even more about habits, here's free access to our mini course on habits (32-minutes).