

The Foundational Guide To  
**NEUROHACKING**



**NEUROHACKER**  
COLLECTIVE

## “What Is **Neurohacking**?”

In the last 25 years, “neurohacking” has emerged into the fringes of common language. The term was used as early as 1993 when *Wired* journalist Gareth Branwyn described neurohackers as “... do it yourself brain-tinkerers who have decided to take matters into their own hands.” Since then, the exact definition of the term has reached a clearer coalescence; neurohacking is the art and science of upgrading the mind, brain, and body, for more optimal conscious experiences and capacities. While the term “neurohacking” may be young, many cultures have long emphasized the optimization of conscious experience. Ancient practices, such as yoga and meditation, can serve great utility in the neurohacking repertoire. The same can be said for emphases within wellness and biohacking movements that have popularized over the last 40

years. The emergence of high-quality quantified self devices, low cost genome sequencing, direct to consumer lab assessments, and bioinformatics, are all elevating personalized wellbeing and performance optimization to an inspiring new reality.

And our current era is unique in the history of neurohacking. We are on an exponential curve of computing power and information. We’ve been trying to understand how to most beautifully and powerfully live for all of written history, but only now are our tools and educations becoming complete enough to yield satisfying outcomes. Just as indoor plumbing and electricity revolutionized the standards for modern lifestyle, the standards for our conscious experience are shifting into a new normal.





While neurohacking can be of enormous benefit to our lives, the ad hoc use of cutting edge devices and ancient wellness practices, with no overarching strategy or education on how they interrelate, can create a great waste of time and money along with undesirable results. Just as biohacking and fitness culture have meaningfully expanded general education on body-care in recent decades, this guide aims to highlight some introductory steps relative to cognitive and emotional wellbeing. First, it's important to understand neurohacking through the lens of social responsibility. This movement is not only about each individual getting more joy and beauty out of their life. It is also about the obvious compounding result of citizens engaging their decisions, and each other, from a place of greater capacity and joy.

Lack of fulfillment in your own life can limit your capacity to adequately care for your loved ones and your community. [Neurohacker Collective](#) is an emergent group of freethinkers in realms such as neuroscience, ethics, AI, and complex systems sciences. We are looking to find, vet, and curate the best resources in the world for human optimization. While some of our publications deep-dive into these issues with greater technicality, the purpose of this guide is to be an accessible introductory education, providing a point of entry in understanding the nascent movement of neurohacking.

## What Is Neurohacking?

While neurohacking may one day offer states of experience that cannot yet be conceived, a very near-term goal of neurohacking is to extend the duration of flow states. We all sense it. They are those charmed moments in life where who we desire to be, has succeeded in rising to the surface of us. It is that rare day where our body, mind, environment, and relationship to those around us, all feel as if fully contented. And quite often, days like this occur despite very little labor in creating them.

This is critical to understand; the best part about neurohacking, is that the vast majority of methods can be done with relative ease. For neurohackers with the resource to experience the edge of what current technology allows, there are pricier methods available. This guide, however, emphasizes an integrative framework for understanding the related elements of cognitive wellness accessible to almost everyone, and how to optimize one's mind, brain, and body with strategy, so that our time on earth can consistently experience beauty and happiness, from which we can offer our greatest contribution in return.



# The Basics

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## **An Integral Model For Cognitive & Emotional Wellbeing**

Mind,  
Body,  
Relationships,  
and Environment



INTERIOR

EXTERIOR

# MIND CARE

# BODY CARE

🧠 ADVANCED (20%)

🧠 ADVANCED (20%)

🧠 FOUNDATIONAL (80%)

🧠 FOUNDATIONAL (80%)

🧠 FOUNDATIONAL (80%)

🧠 FOUNDATIONAL (80%)

LOVE OF LIFE

🧠 ADVANCED (20%)

🧠 ADVANCED (20%)

# RELATIONSHIPS

# ENVIRONMENT

INTERIOR

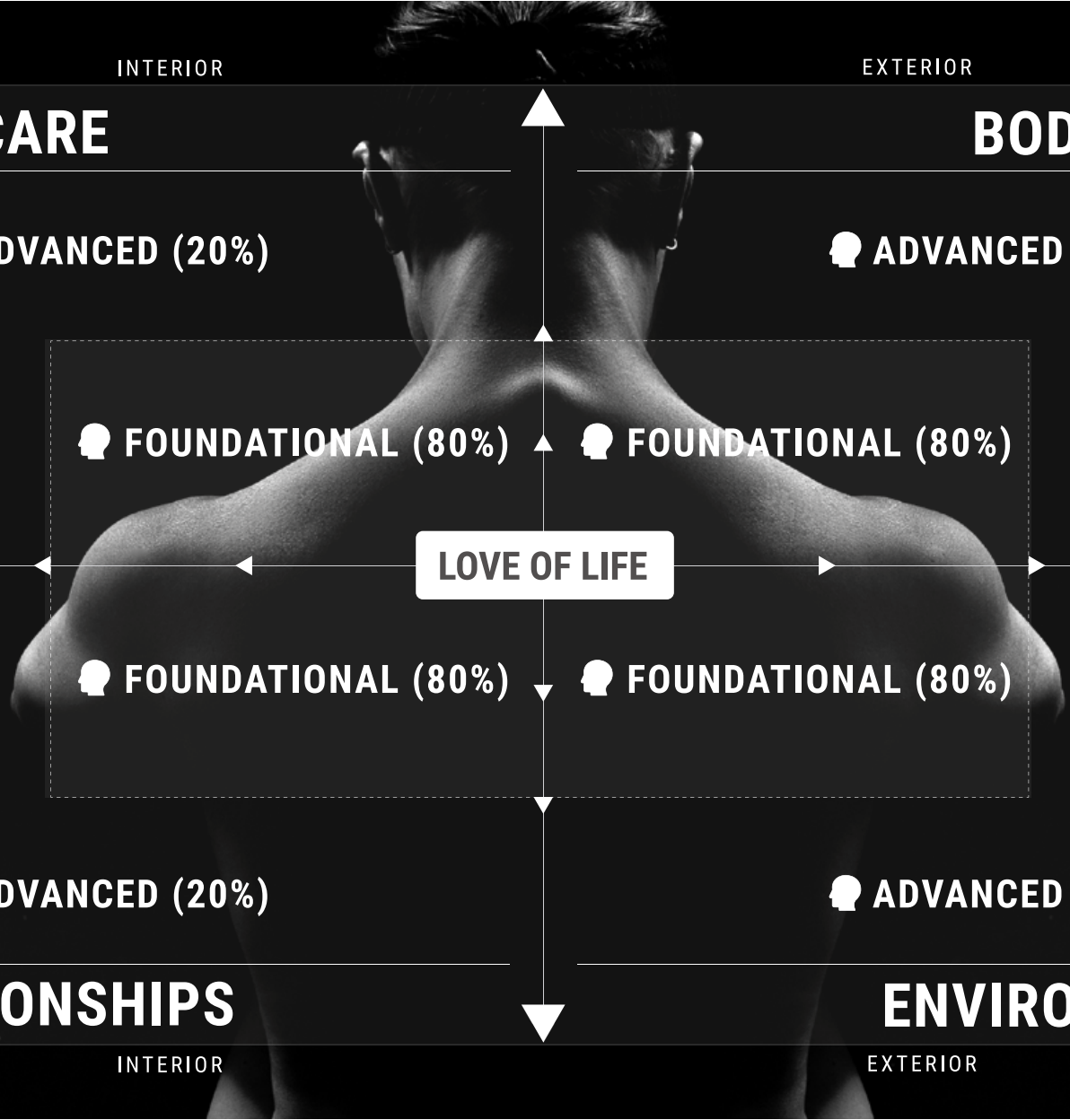
EXTERIOR

INDIVIDUAL

INDIVIDUAL

COLLECTIVE

COLLECTIVE



Let's take a closer look at the integral model displayed on the prior page. You may first notice that cognitive and emotional wellbeing are displayed as four quadrants of focus: Body, Mind, Relationships, and Environment. Credit here should be given to philosophers Jurgen Habermas and Ken Wilber for founding much of the framework and principles underlying our guide's strategy. The shaded portion of each quadrant you see are for techniques that are foundational to upgrading your mental wellbeing and constitute roughly 80% of wellbeing influence in that quadrant. We will populate those techniques in the final illustration on the next page. Additionally, the next page will include techniques listed in the unshaded portion of each quadrant titled "Advanced", which constitute roughly 20% of wellbeing influence. You will also notice on the next page's illustration that the foundational techniques do not require much money or extreme effort to actualize. This is to illustrate an important point; the vast majority of what informs the quality of physical and mental wellbeing are things on which almost everyone can act. This is evidenced

by the earth's Blue Zones. A Blue Zone is an area of the world in which the human population lives unusually long lifespans. Commonalities of Blue Zone populations include traits such as large amounts of foot travel, largely plant based diets, plentiful sleep, and tight-knit community (which lends itself to considerate behavior, or one may argue vice versa).

We sought to separate Foundational techniques from Advanced techniques using this 80%-20% display to highlight what is known as the Pareto Principle. Named after economist Vilfredo Pareto, the principle states that 20% of invested input is responsible for 80% of results obtained. Or to put another way, 80% of consequences stem from 20% of causes. This concept is underemphasized in today's consumer culture, in which we're often persuaded to spend great time, money, and effort on the latest technology, newest extreme fitness regimen, or most popular new diet fad. While some examples of these may improve wellbeing, there are more foundational focuses with which you should concern yourself

before graduating to those more advanced focuses. Another key concept to understand is balance. We separated each wellbeing focus into quadrants and then into the stated Foundational categories because you must achieve and maintain the foundations in all four quadrants before success in any quadrant becomes sustainable. For example, even if you heed all of our advice in both the Foundational and Advanced regions of the Relationships quadrant, if you neglect the information within the Foundational region of the Body quadrant, your relationship improvements will have no sustainability. All human beings have a finite amount of energy to exert towards their wellbeing. Exerting your energy in equal balance within the four quadrants' Foundational regions will slowly expand the net capacity of your overall energy and bandwidth. That will then allow those focuses in the Advanced regions to become even greater optimizations to your overall strategy.

INTERIOR

EXTERIOR

# MIND CARE

# BODY CARE

## ADVANCED (20%)

## ADVANCED (20%)

- Effective Psychotherapy
- Meditation/Mindfulness Training
- Coaching/Mindset Training

- Personalized/Functional Medicine
- Integrative Wellness Therapies
- Supplementation

INDIVIDUAL

INDIVIDUAL

## FOUNDATIONAL (80%)

## FOUNDATIONAL (80%)

- Gratitude
- Internal Reflection
- Journaling/Memorializing

- Sleep
- Nutrition
- Movement

LOVE OF LIFE

## FOUNDATIONAL (80%)

## FOUNDATIONAL (80%)

- Company You Keep
- Company You Give
- Time Without Company

- Sleep Tech
- Environmental Tech
- Time In Nature

COLLECTIVE

COLLECTIVE

## ADVANCED (20%)

## ADVANCED (20%)

- Communication Training
- Studying Human Behavior Sciences
- Attachment Theory Education

- Lighting
- Air & Water Quality
- Sleeping Conditions

# RELATIONSHIPS

# ENVIRONMENT

INTERIOR

EXTERIOR



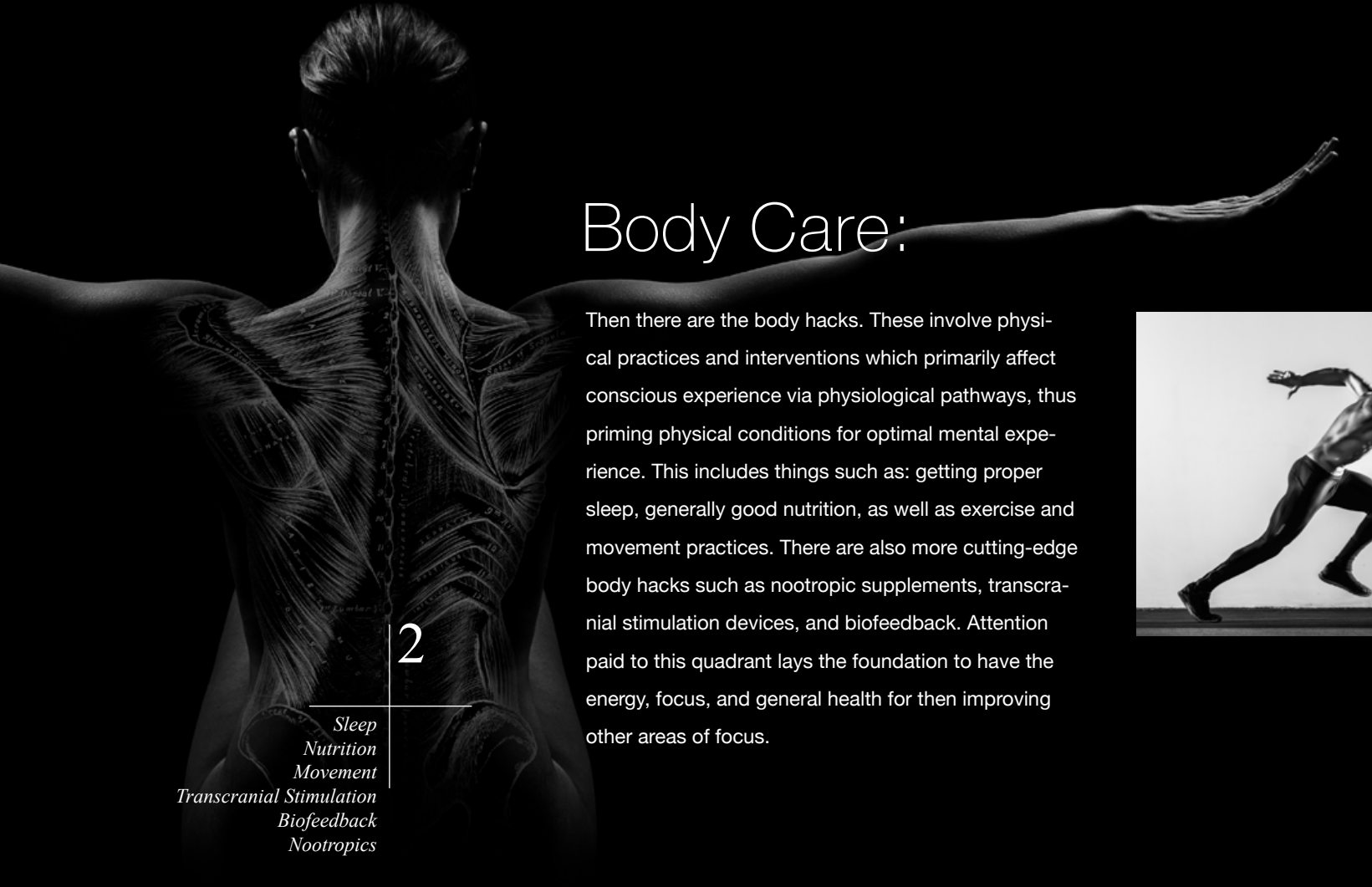
# Mind Care:

This quadrant includes all the ways you can upgrade your mental wellness through practices and interventions that consciously discipline the quality of your thinking itself. This includes things such as: meditation, gratitude practices, writing, playing a musical instrument, or for a less common example, neurolinguistic programming. Our sense of reality is operating within the subjective experience of self. Neurohacking the mind occurs through subjective channels, which can be assisted by any number of objective methods.



1

*Gratitude Practices*  
*Internal Reflection*  
*Creative Expression*  
*Cognitive Behavioral Therapy*  
*Neurolinguistic Programming*  
*Visualization*



# Body Care:

Then there are the body hacks. These involve physical practices and interventions which primarily affect conscious experience via physiological pathways, thus priming physical conditions for optimal mental experience. This includes things such as: getting proper sleep, generally good nutrition, as well as exercise and movement practices. There are also more cutting-edge body hacks such as nootropic supplements, transcranial stimulation devices, and biofeedback. Attention paid to this quadrant lays the foundation to have the energy, focus, and general health for then improving other areas of focus.



2

- Sleep*
- Nutrition*
- Movement*
- Transcranial Stimulation*
- Biofeedback*
- Nootropics*

# Relationships:

Humans are social primates. Our experiences and behaviors are affected by the company we keep more than by any other factor. From the microbiome cloud we share, which affects everything from our genetics to our immune system, to the mirror neuron effects that literally change our neural networks in order to find resonance with the people around us, we share literal inexorable links to the people in our lives. The aphorism that we are “the average of the five people we spend the most time with” is borne out of fundamental truths. If you are not consciously tending to the quality of your relationships, you are not yet seriously neurohacking.

3

*Company You Keep*  
*Company You Give*  
*Time Without Company*  
*Communication Training*  
*Studying Human Behavior Sciences*  
*Attachment Theory Education*



# Environment:

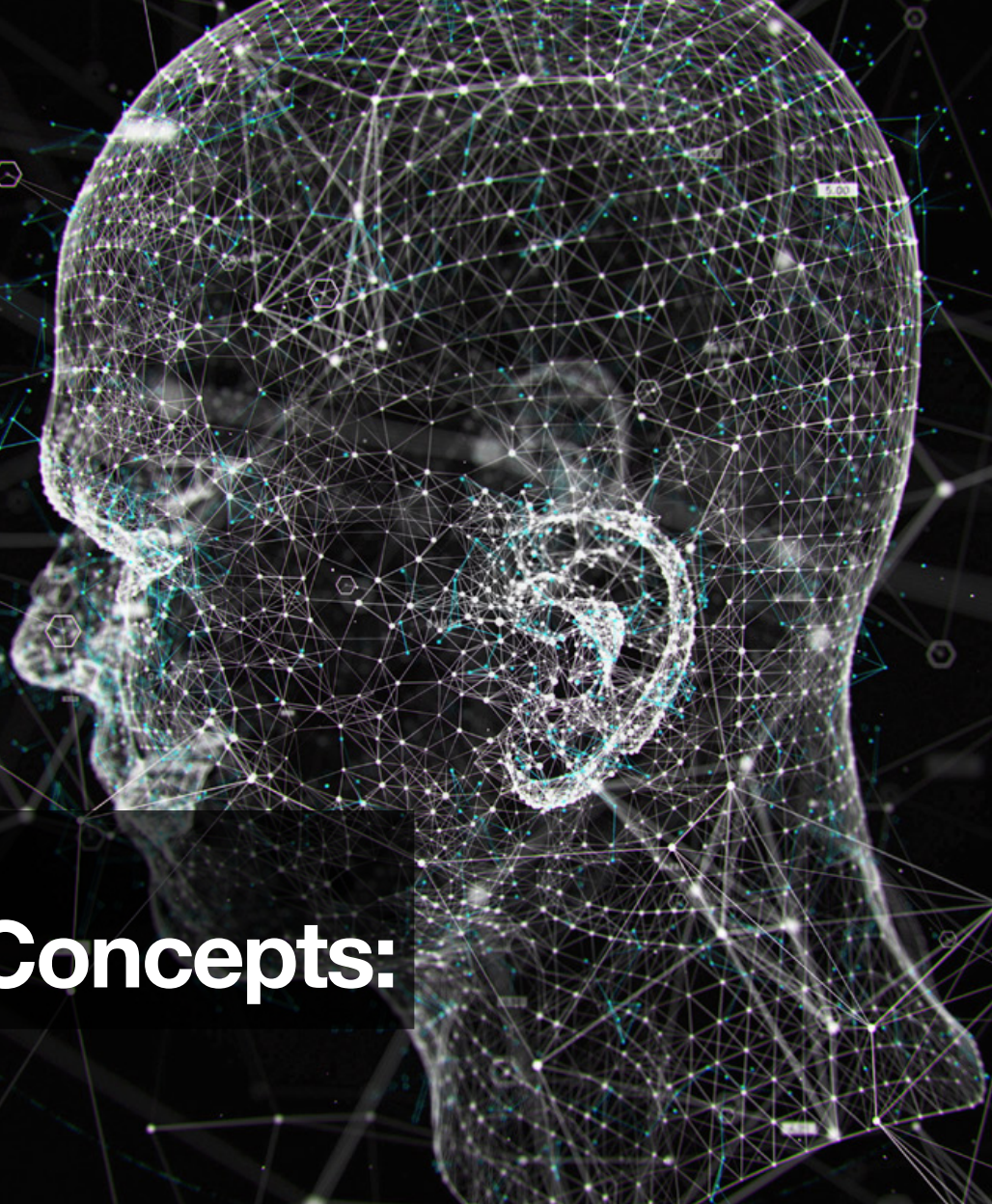
This quadrant accounts for all of the aspects in our daily experience beyond care of body, mind, and direct sentient relationships. These examples include: our air quality, our sleeping conditions, the lighting in our homes, our attention to the aesthetics of our home's interior design, and how commonly or uncommonly we engross ourselves in appealing landscapes and wilderness.

Technologies in this category include high quality natural bedding, water and air filters, full spectrum lighting, and both EMF and RF mitigation to name a few. Neurohacker Collective partner [Jason Silva talks here](#) about these very issues in addressing the subject of ontologic design. While taking care of body, mind, and relationships, you can backdrop the potential of that care with environments prioritizing relative safety and aesthetic beauty, so your immediate environment works to positively enhance other forms of care.



*Lighting*  
*Air Quality*  
*Sleeping Conditions*  
*High Quality Bedding*  
*E.M.F. Shield*  
*Restorative Travel*

4



Three Key  
**Neurohacking Concepts:**



## All Facets Of Cognitive Wellbeing Are Irreducible

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As you may have noticed, the analysis of the quadrants spoke to how activity in any one quadrant, effects other quadrants. The arrangement of neurohacks into quadrants is not to suggest a clean division between one quadrant and another. The quadrant model is a spatial tool in helping you consider general areas of focus, and to assess which form of attention may be lacking. When various aspects of a whole are irreducible, it means any alteration to one aspect or thing, will ultimately affect all remaining aspects or things that comprise the whole. So educated neurohacking requires a balanced, strategic use of your energy and time, to up-level all the various things that contribute to your daily experience in relative proportion to one another. Trying to be a neurohacker with this strategic sense of balance is critical.





## Neurohacker Has Many Expressions And Is Relevant To Everyone

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Don't let the word "neurohacking" intimidate you. It doesn't require a degree in computer science to take greater control of your everyday happiness and mental capacity. Notice that 80% of the space in our infographic is taken up by low to no cost practices and tools which are well researched, and common wisdom. While it is true that extreme poverty, which limits access to even basic safety and nutrition, limits neurohacking

capacity, it is also true that relatively healthy individuals living above extreme poverty can engage the majority of neurohacks as part of their life strategy. In addition, neurohacking is welcoming to a wide assortment of cultural expressions, and seeks to be lifestyle and technology agnostic. In this sense, neurohacking is not so much a culture, as it is a framework for experience-optimization applicable to nearly every walk of life.



## Understanding The Mind/Brain Interface

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Let's define the terms "mind" and "brain". Your brain is a physical organ that processes information to determine your behavior. Your mind is the subjective experience of yourself and reality. It's important to understand the relationship between the two is one of bidirectional influence. The dynamic interface between your physiology influencing your thoughts, and thoughts influencing your physiology, is called the mind/brain interface.





# 12 Foundational Neurohacks



## Gratitude:

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Based at the University of California, Berkeley, the Greater Good Science Center is dedicated to studying the neuroscience of wellbeing. Check out their [Expanding Gratitude Project](#), a multi-year initiative exploring the science and practice of gratitude. If you're unfamiliar with the idea of "self-directed neuroplasticity", the article [How to Trick your Brain for Happiness](#) is a good place to start. Psychologist Rick Hanson explains the dynamic relationship between the brain and mind. On the one hand, the brain affects the mind - chronic stress and the release of cortisol in the brain lead to negative emotion and impaired memory. But alternately, by creating positive mental states, like practicing gratitude, new synapses in the brain form and strengthen. The key insight is that the brain and mind are continually influencing each other. So by getting control over how we direct our attention, we can use the mind to change the brain, which in turn changes the mind for the better.





## Internal Reflection

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Downtime from a task-oriented mentality is needed to allow for meaningful internal reflection. Unfortunately, a byproduct of our productivity-oriented culture, is to de-prioritize downtime. University of Southern California neuroscience professor Dr. Mary Helen Immordino-Yang led a comprehensive survey of existing research on the brain “at rest” or in “default mode”, meaning brain activity when an individual is not actively engaging external tasks or duties. The findings published by the [Association For Psychological Science](#) , indicate brain activity during these states are correlated with socioemotional functioning, such as self-awareness and moral judgment, as well as aspects of learning and memory. Take that into account before treating lightly the time-demands of an environment you are considering , such as a job offer regularly requiring 12 hour workdays, or losing all potential free time to regimentation.

## Journaling/Memorializing:

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There are many applications to journaling or otherwise memorializing your thoughts and feelings, and one of those applications is capturing your goals in life during windows of clarity where you strongly sense what those goals should be. Setting clear goals is crucial to orchestrating an effective neurohacking plan. In fact, it turns out that merely setting goals, is a neurohack in and of itself, even prior to accomplishing them. [Research Gate](#) published a fascinating deep-dive into the power of goal-setting led by Dr. Elliott Berman of the University Of Oregon, in which the mere instituting of goals in one's life correlated with significant increases in motivation, planning aptitude, effective socialization (motivated by shared goals), and self-control. So while achievement of your goals may seem far away, realize that by merely clarifying them to yourself, you are already taking a key step in mental wellbeing.





## Sleep:

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Everyone knows that sleep is important, but most of us haven't studied just how critical sleep is for happiness and cognitive function. Anyone who has experienced a work day following little to no sleep feels the dramatic decrease of focus and clarity regarding virtually all tasks. But why does our body encourage us to sleep in the first place? During REM sleep, most brain activity is quite similar to a state of someone while awake. Understanding why we sleep at all, has long been a point of scientific contention. But in recent years, research has shown that cerebrospinal fluid passes through channels in the brain during sleep which act to flush debris out of the brain such as beta-amyloid, a protein whose buildup is associated with Alzheimer's Disease, as well as many other toxins which contribute to neurodegenerative disease. Dr. Harvey B. Simon drew an additional corollary between adequate sleep and our ability to learn and remember in [Harvard Health Publications](#). A lifestyle which doesn't account for adequate sleep (7 to 8 hours for most people) is setting themselves up for serious cognitive impairments and hazards.



## Nutrition

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Even if someone takes a lot of high quality supplements, that will constitute just a few grams of specific nutrients per day. Whereas we take in multiple pounds of food and drink per day. This is why the term is “supplement”, as it is to add to or augment the primary nutrition you receive from food. Neurotransmitters like dopamine and serotonin, which control mood and thought, are made from amino acids found in proteins. The hormones that regulate total body function, are made from healthy fats and cholesterol, as is the structure of our brain itself. All the chemical

transformations that take place in our body and brain, are mediated by vitamins and minerals found in a healthy diet. Alternately, many processed foods contain chemicals that deplete key nutrients and can contribute to neuroinflammation and energy imbalances. If you want a high performance brain, you must give it high performance fuel. Neurohacker Collective’s nootropic product [Qualia](#) is meant to supplement, not replace, a diet that values brain health.



## Movement

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From an evolutionary point of view, all adaptiveness comes down to movement. It is fair to say that the primary purpose of our brain, is to inform movement. The end of movement is death. The more dynamically we move, the more alive we are, and the more adaptive and capable our body and brain are. Exercise is inversely correlated with every chronic disease known including Alzheimer's, dementia, depression, and anxiety. It's positively correlated with longevity, increased productivity, increased cognitive capacity, and better mood. From regulating hormones and neurotransmitters, to increasing neurogenesis, to positively modulating genetic expression, there is no medicine or groups of medicines that comes close to touching the physiologic and cognitive benefits of movement and exercise.





## Company You Keep:

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In the company you keep, one of the most foundational aspects of high value is trust. And note that the trustworthiness of our company can increase or decrease based on the psychological environment we create for others. Always try to create psychological environments that appreciates and respects honesty from others so the company you keep associates you with a place for their truth to thrive. In fact, there is notable research to suggest that employee happiness depends more on conditions which promote trust and honesty, than income. The importance of trust for your mental wellbeing amplifies further still with friends, family, and romantic partnerships. These relationships form the bedrock of your social identity and security. Factor these aspects of employment heavily when deciding on an employer, or on the people forming the largest exertions of your time and energy. We cannot maintain a healthy psychological state if the company most regularly in our lives routinely compromises our ethics or trust.







## Company You Give:

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When thinking of the company you give, it is important to realize that your behavior towards friends and loved ones which prioritizes help and generosity not only cultivates greater goodwill from others, but the also is an act of generosity towards your own cognitive health. [Multiple studies](#) have indicated that altruistic behavior (such as volunteering) has a strong correlation in the sense of meaning derived from life. This is to say that merely having a social life doesn't have the same qualitative sense of fulfillment as taking on aspects of giving in relationships around you. Giving is not just about benefitting the life of those you help. It is fundamentally linked to benefitting your own sense of wellbeing.

## Time Without Company:

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For many of us, the most challenging relationship in our life is not one which we have with others, but rather the one which we have with ourselves. We all know how easy it is to be unduly hard on ourselves. While some constructive criticism can help us grow, the majority of our self-negativity does the opposite, both psychologically and physically. Self criticism can cause the brain's amygdala, which assists in fight-or-flight response, to trigger an increase in blood pressure and a

release of cortisol. To be a true creator and innovator requires trusting your own imagination and sensibilities enough to follow them. It also requires doing things that others do not yet know how to do. The more difficult the accomplishment, the more likely many failures will come before eventual success. This means interpreting failure as learning, rather than defeat. Your love of what you want to create has to be a stronger force in you than any limiting ideas you might have about yourself.



## Lighting:

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Light must be understood as a critical nutrient of our body and mind. Until the very recent past of our evolutionary history, we spent almost all of our time outdoors. We all know sunlight exposure effects tanning and vitamin D, but that is just the tip of the iceberg of the physiologic dynamics that result from our relationship to light. The cycles of light and dark control our circadian rhythms and the quality of our energy and sleep. The infrared spectrum of sunlight directly stimulates the mitochondria which produces the energy on which our body runs. Indoor lighting is generally shifted

towards the blue end of the spectrum and deficient in red and infrared, which causes deficits of mitochondrial frequencies and negative effects on sleep patterns. Seasonal affect disorder is the result of not getting enough light, causing depression severe enough to induce relocation for many. The three simplest steps one can take to improve their lightning are: avoid blue and bright light at night, get more sunlight, and learn about healthier interior lighting options.





## Air & Water Quality:

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In recent years, we have seen an increase in the public's concern for their water quality, which is a good trend. But while we only drink or bathe in water a few times a day, we are constantly immersed in air. And as most of us spend the great majority of our time inside our own home, the air quality environment of our home must be given great care, above and beyond the air quality of our city or region. We all know that prolonged exposure to low air quality can trigger diseases of the lungs, but did you know that poor air quality can also trigger neurological disease?

[The Hindawi Journal Of Toxicology](#) released a comprehensive study on the subject, finding that various forms of particulate and air toxins can trigger the neuroinflammation, oxidative stress injury, and mitochondrial dysfunction that are common condition sets for the development of many neurodegenerative diseases. You can upgrade the interior air quality of your home with steps as simple as opening windows, running air filters, and diligently responding to mold or other obvious air quality concerns. Air quality is one of the neurohacks which is all too often overlooked.



## Sleeping Conditions :

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Given the singular role of sleep in overall health and well-being, optimizing sleep quality is crucial. In addition to our bedtime routine, factors in our sleeping environment itself can radically affect the quality of our sleep. Blocking light in our sleep environment, minimizing disturbing sounds, having a white noise generator, and high quality bed and bedding not only affects the quality of one-third of your life, but more importantly, that period of time plays an enormous factor in the health and quality of the remaining two-thirds. Sleeping environment hacks are unique in how much of your life they affect without requiring any ongoing activity beyond setting up the correct conditions.



# Neurohacking Tools & Technologies:

The concept of neurohacking provides a lens through which many tools and technologies hold relevance.

Some of these tools and technologies affect mental wellbeing such as light therapies and bioelectrical interventions, while other tools and technologies physiologically assess you to provide better knowledge of which affective neurohacks would be of most benefit.

Examples of assessment tools and techniques include quantified self devices such as a sleep tracker, to a medical test such as a Walsh metabolic profile. In the

graphic link below, we have included an infographic that provides 16 general categories of neurohacking tools & technologies, along with many examples within each category. After learning of the foundational approaches to neurohacking, it is our hope that a mapping of tools and technologies that can assist you may provide for you a basic landscape of neurohacking resources and methodologies with which to optimize your conscious experience.

[View Graphic ▶](#)





We hope this guide gives you a realistic overview of some of the foundational categories of mental wellbeing. We understand that ideal habits for psychological and cognitive optimization, are easier said than done, but don't let the perfect be the enemy of the good. Begin your neurohacking empowerment by asking yourself what are the easiest improvements you can achieve across each of the quadrants presented. You will soon notice that a balanced improvement plan across all quadrants will spark a more energized and healthy mind and body to then have the bandwidth to handle more ambitious improvements in your daily habits.

For those interested in going deeper into optimizing these categories of life, explore our additional resources at [neurohacker.com](https://neurohacker.com). Our mission is to curate the best information and create the best tools for psychological and cognitive optimization across many of the categories we have outlined. We have begun our mission with our premium nootropic product [Qualia](#), and we are now developing additional wellbeing technologies and working with leaders in science and medicine to advance the field of mental wellbeing. We will soon be expanding our product lineup so we can offer as many cognitive care resources as possible. Your mindset influences your health, and your health influences your mindset. We hope this guide gave you an introductory foundation to empower your responsibility, and take greater command of this loop, so your life can achieve the full measure of its potential.

