

From: ***HOW? Generating new neural circuits for learning, behavior change, and decision making***

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excerpt

If you're like me, you think you have control over your thoughts, your actions, your responses; if you're like me, you're unaware that

- your brain restricts what you see, hear, feel, think, and notice, actually defining your world around you;
- you understand what someone says only as accurately as your brain translates it;
- your beliefs of right and wrong are chosen for you automatically by your circuitry regardless of the accuracy;
- all of your behaviors are Outputs from electro-chemical brain circuits.

Like all of us, you live in world regulated by your brain. As Eagleman says in *Incognito*:

“The function of...the brain is to generate behavior that is appropriate.” (pg 82)

So how can we trigger our brains to generate the behavior we want? Let's begin by understanding how your brain is organized.

BRAINS ARE ORGANIZED TO MAINTAIN BALANCE

Your world view, developed during the course of your life, determines and impedes your perceptions: everything you experience is based on your history. Sadly, what you do or sense is restricted to what you're already wired for, even if you don't like it. Sadly, you're restricted to automatically repeating your past behaviors and comparing new input against what you already think and believe.

Everything you say, think, hear, is prompted by your autonomic electro-chemical brain processes that respond to your commands in microseconds via heavily used circuits that gather millions of bits of data every second of your life to send to your organs and cells to keep you alive. Mechanical. Electro-chemical. Automatic. Out of conscious choice.

Unfortunately, given the vast amount of work to be done in microseconds, your brain takes the easiest route to translate incoming signals, simplifying its activities by automatically choosing frequently used combinations to respond to an incoming message. So when you signal “I’m going on a diet,” your brain finds the superhighway for ‘diet’ you’ve used before, giving you the same results you got last time you tried to lose weight, even if this time you eat different foods. Listen better? Be better organized? Ditto and ditto. Even when you want to change someone’s mind or consider offering someone information to help influence their decision, your great data will be resisted when people don’t have the circuits to do anything different.

As you’ll see, all incoming electro-chemical signals get translated by circuits you have in place, and your responses are limited accordingly. Your experiences, education, family, culture, (your mental models) form the foundation of your personality and assumptions, the criteria from which your brain acts, decides, and interprets.

Like most of us, you probably assume that you notice the important bits around you, that you accurately hear what’s being said and that you can accomplish whatever want to accomplish within reason. You would assume that, but you’d be wrong. You’re at the mercy of how/what your brain restricts, discards,

and ignores. This is an ongoing discussion throughout the book: how to reorient your brain circuitry to provide new outputs.

YOUR CHOICES ARE ELECTROCHEMICAL

To live your life, to move your body or make a decision, to think and understand all that is around you, some combination of 86 billion neurons spontaneously connect with some unknown billions of synapses generating quadrillions of brain cells to enact your behaviors, thoughts, and preferences. Chemical, electrical, biological, physiological and psychological wiring team up to execute choices

‘...every second of your life. Everything you experience is an electrochemical rendition...by comparing signals... from different sensory inputs... [from which your brain] makes its best guesses.’ [pg 50] There’s no single version of reality.” [pg 74] [Livewired, Eagleton]

In other words, when you look at a painting, or have a conversation, collaborate with a colleague, or unconsciously tell your brain to act – even just to move a finger – your responses are based on your brain making best guesses from its cumulative, available (subjective, habitual) possibilities already stored in your circuitry that carry your life story into action. Every minute of every day you’re being You.

It’s a miraculous process and it works really well most of the time – except when you need a choice different than what you’re wired for. Then your brain sabotages you.

Indeed, this multi-stage process your brain goes through is run by a truly demanding leader: your brain is bound and determined to keep you doing what you've always done and represents the You that has existed until now. It's quietly, unwittingly, pernicious: it just won't let you change. And when you attempts to change a habit, for example, fail, you think it's something you're doing wrong.

Your brain circuits do not offer you free choice. Indeed, they'll delete any Inputs – including not noticing what's around you, misinterpreting what's said – if they don't fit with your historic perceptions **because there's no wiring for them.** Your brain is organized to keep you secure, to maintain your unique identity and characteristics, your SOM.

But it's possible to wrest the control back and have choice. For this you'll need to understand the systems that enable you to be You.

YOUR SYSTEMS ORGANIZE YOU

A system is the central organizing element that allows your brain to accept, organize around, choose and send messages that conclude with an action. It – or they, as you have several subsystems - represent the values and norms that shape your world view and against which everything incoming (Input messages) is compared.

Definition of system

I define 'system' as a conglomeration of interdependent elements that agree to the same rules and values: anything that doesn't

match those values gets resisted, discarded, mistranslated, or rejected; anything that matches becomes part of the norm, without judgment, regardless of efficacy. Think of a neighborhood meeting where a newcomer shows up in a bathing suit: it doesn't match the norms and will be judged, regardless of the style.

Your mental models – your life history, education, ideas, norms, friends - provide the foundation of your Beliefs and values that comprise your system and interprets all incoming messages. Whatever you think, notice, hear, or do is prompted by your system. It's unconscious, automatic, and mechanical.

Systems are the glue that holds us together and define us. I am a system. You are a system. Your family is a system. The Post Office is a system. Your team is a system. Your system is what makes you You; your personality, your roles, the rules you live by, your political values, your history and education, what you read and from which you listen, behave, decide, think. I call this the System of Me (SOM). Companies are also systems with unique personalities and rules and values. Think IBM vs Google. Even the clothes the employees wear in these companies represent different rules and expectations.

We each contain several systems, developed during our lifetimes by a mixture of psychological factors that we each hold as core truths (Beliefs and norms), chemical factors that enable input messages to be carried to the appropriate body parts (biology), physiological factors that ultimately instruct behaviors from signals sent from a set of norms and rules via neuro circuitry.

Net net: all that you do, think, see, hear represents your SOM. Even your behaviors are **mere representations of the Beliefs and rules – elements - of your system.**

What's in your system?

Here are the foundational elements of your system, your SOM:

- Mental Models - norms, beliefs, values, assumptions, history, education, upbringing, experience, schooling, culture are the foundational filters for all incoming requests.
 - Mental models define your world view and hold your beliefs. They are your foundational filters.
 - Mental models are your primary comparators, referenced by incoming messages that they channel down the 'proper' brain circuitry where either action, learning, denial, misunderstanding, or resistance is initiated.
- Brain physiology and neuro circuitry - the trillions of neural pathways, synapses, axons, etc. that respond to incoming vibrations by sending signals to the most appropriate pathways to maintain congruence through action/thought/response.
- Brain chemicals – your brain employs neurochemistry (chemicals in your brains) that confirm or deny messages between your organs and your brain.
- Hierarchies – all subsystems occur in a “hierarchical multilevel mode that is present in all and reproduced in all sensory systems” (*Successful Aging* pg 11] that form the foundation of choice and assembled from the rules of your system.

These elements maintain, define, enact your Status Quo with every choice, every behavior, every thought, every minute of every day. To do anything different, to acquire new Outputs, they must be reconfigured.

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