

The Flow Cycle

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Abstract

When understood and accounted for, it is possible to regenerate, enhance, and repeat more often peak flow states of life experience. The experience of flow is universal and has been reported to occur across all classes, genders, ages, and cultures, and it can be experienced during many types of activities. Different people require different stimulation and different nutrition in order to restore, recover from, and enhance the experience of flow. Together, individuals can organize their lives around that experience which is the most internally rewarding, in a safe manner, through community-type societal structures. The potential to develop and use the flow state can be hindered by limiting beliefs and damaging situations. Alternatively, there are societal structures that are more likely to produce flow, and its restoration, within individuals. Flow is a cycle of which one of the phases of the cycle is also named flow (hence, the cycle is named after its active 'flow' phase). There are triggers that make

flow more likely, and there are dangers that make flow less likely and more dangerous. The flow cycle can be engaged for play, learning, work, or any meaningful human activity.

In community it is possible to experience flow throughout all phases of life.

Graphical Abstract

[Figure 5 on page 13](#)

1 What is the 'flow' cycle?

A.k.a., Flow experiences, autotelic experiences, the zone, a peak experience, deep embodiment, etc.

Among community we seek a lifestyle that increases the potential-actual 'flow' in our daily lives. We recognize that the people with the most flow in their lives score off the charts for life fulfillment and well-being. Hence, the Community represents an intentional and informed lifestyle, designed to sustainably increase the amount of flow in our lives. Herein, inquiry into flow represents discovery into how we become a fully integrated consciousness, alive and alert in these bodies and brains of ours. For a human being, flow follows focus, and is essentially a conscious multi-modality state of massively heightened focus and feeling. The term flow is a phenomenological description for how the state itself makes us feel. Life feels flowy and synchronous, where every a thought proceeds effortlessly from the last with high speed and precision. Together, humans can build a society that builds more flow into the lives of those humans.

CLARIFICATION: *Flow has different names depending upon the discipline in which flow is being spoken of, including: being in the zone, autotelic, peak experience, and engagement. Autotelic means to do an activity because the activity itself is enjoyable to the one doing it. The activity has a purpose, in itself, for the doer of the activity.*

Flow is fundamental for well-being and overall life satisfaction. People who score off the charts for life satisfaction are those that have the most flow in their lives. The experience of flow can be built and enabled; it can also be reduced and disabled. Flow is optimal performance, and a healthy flow cycle regenerates and builds greater performance. Experiencing flow regularly is essential in achieving happiness for those who know what flow is and/or have experience flow previously.

Autotelic means an end in itself, or the source of intrinsic motivation. Autotelic means self goal; having a purpose in itself; doing something because it is intrinsically desirable; doing something because of the satisfaction/fulfillment that it brings. Flow provides motivation (a potent neurochemical release), learning (the more neural chemical that show up during an experience the more likely it is to more likely to move from short to long-term holding; learning rates in flow increase hundreds of percent - flow can cut time to mastery), and creativity/integration (massive boost). Autotelic comes from two Greek roots, auto (self) and telos (goal). The primary goal of an autotelic activity is experience for its own sake, whereas an exotelic activity is motivated by an outside goal.

'Flow' states are defined, technically, as optimal states of consciousness where we feel our best and we perform

our best. In flow we become so focused on the task at hand that everything else experientially disappears. The experience of the state of flow maintains the following characteristics: action and awareness start to merge; our sense of self disappears completely; time dilates (sometimes it slows down and there is a freeze-frame like effect, and other times it speeds up such that hours pass in what seem like minutes); and throughout, all aspects of performance, both mental and physical increase rapidly. Most people in a flow state come to a point in time where they can no longer separate past from present from future, and they are plunged into what psychologists call the "elongated now" -- the merging of action and awareness. The flow state is a state of experiential "heightening" where individuals experience measurably higher awareness, creativity, learning, and productivity. In flow we can process complex multi-variate information faster and then act on that information more efficiently. Literally the state of flow surrounds creativity and research suggests that the state actually trains the brain to be more creative. Decisioning in the state is highly optimized. When you are in flow, every decision, every action leads seamlessly and fluidly from the last. Flow feels "flowy", it just kind of "rolls". In a sense, flow is the ultimate form of the strategy of "learning through doing". Flow is a dynamic that facilitates emergence into a "higher potential" and we can entrain our lifestyle to its cycle. Everyone is wired for high performance; it is hardwired into human biology and, the current understand of flow comes, in part, through evolutionary biology and consciousness science.

Flow is conscious immersion in self-directed effort. If you can access the flow state your task precision will be better, you will solve problems faster, you will get more done, and you will make connections faster in your brain. In flow, everything just becomes easier. For children in particular, and also for adults, flow represents the merging of work and play. Play is an experience where the work (effort) itself is enjoyable and mistakes are not a [significant] problem (i.e., mistakes do not significantly impact the continuity of the playing, or the life and technology support systems when it comes to playing hard a exploration). Play is underestimated in early 21st century society as a prime motivator. Many animals engage in play, that is, activities that enhance learning of motor and sensory skills and social behaviors, but otherwise serve no immediate purpose.

The research shows that we are not only significantly more creative when in flow, more precise and efficient with our movements, but we learn significantly faster than normal while in flow. Hence, Martin Gladwell's famous 10,000 hours to mastery rule can be cut significant through the experience of flow.

Flow is also sometimes characterized by the term, 'deep embodiment'. 'Deep embodiment' means paying attention to all streams of sensory information at once. In flow we shut off the active chattering mind and detach from that which limits the unhindered flow of awareness

into creation. While in the state, the self-editing part of consciousness is not active, and there exists free association without filter.

While researching peak experiences the historic psychologist Abraham Maslow found that highly successful people were using massively heightened attention that produced altered states of consciousness that allowed them to do some of their best work. Essentially, Maslow was looking at flow and he found it as a commonality among all successful people. It should be noted here that depending upon the definition of the term 'peak experience' what is known scientifically about the flow state may not be its equivalent.

Anyone can use what science now understands of the flow state to create these experiences for themselves. The state will show up in anyone provided certain initial conditions are met.

In the book entitled, *The Rise of Superman: Decoding the Science of Ultimate Human Performance* (2014), Steven Kotler provides a relatively comprehensive description of what the flow state is and how to achieve it given what science presently knows. Therein, he describes that which is known about the cycle itself, those preconditions that facilitate flow, and provides a warning concerning engagement in the state. The following three sections are summaries of these three elements of flow.

Here are the three basics of flow:

1. Flow creates powerful intrinsic motivation -- by releasing the most addictive neurochemicals in our bodies. In other words, it is the source code of intrinsic motivation reinforced with the most potent neurochemical set we have access to.
2. Flow shortens the time it takes to learn something. Flow cuts the path to mastery (a.k.a., 10K hours) in half and accelerates performance measurably by hundreds of percentage points.
3. People with the most flow in their lives are the happiest people on earth.

1.1 Flow metaphysical disambiguation

The concept of flow has several metaphysical related concepts, some of which are related because they facilitate human organisms in entering the state of flow (for example, meditation):

- **Flow** - Concentration is centration of awareness to action. Concentrate desire into action.
- **Oneness** - Meditation is de-centration of awareness to stillness. Meditate stillness into consciousness.
- From the **stillness** of consciousness, motion is generated through mental concentration.

1.2 What does it feel like to be in a state

of flow?

"Flow shows up when we push ourselves to be our best."

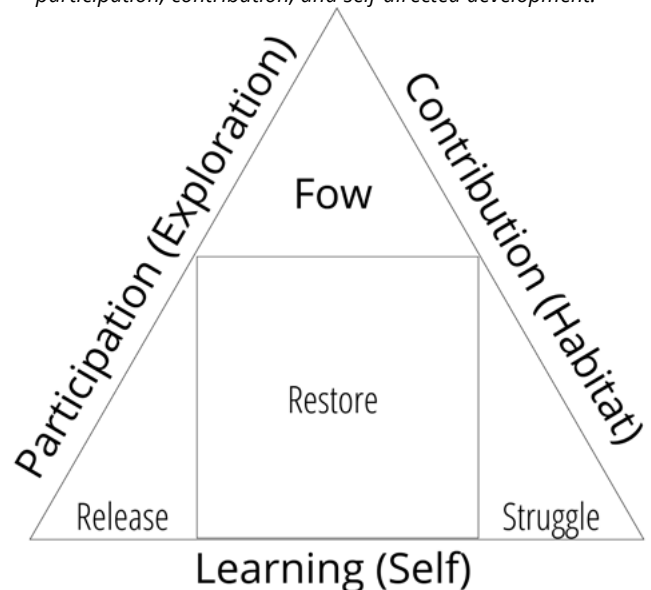
- Steven Kotler

Flow feels like a quickening of the body and/or mind. The process requires wisdom so that one doesn't lose conscious coherence in the seat of the mind, where it all comes together as a point. It takes time, patience, and practice to build up this capacity, and when it comes to quickening (flow) it is like doing something at an excellent or expert level. The world slows down as "you" speed up.

The following are some of the most common characteristics for consciousness experiencing a flow state:

1. A sense of absorption - Completely involved in what we are doing - focused, concentrated. 'Absorption' as a narrowing of awareness down to the activity itself.
2. A sense of ecstasy - of being outside everyday reality.
3. Greater inner clarity - knowing what needs to be done, and how well we are doing.
4. A sense of knowing - knowing that the activity is doable though difficult - that our potential is adequate to the task.
5. A sense of serenity - no worries about oneself, and a feeling of growing beyond the boundaries of the ego as we feel part of something larger. A loss of the feeling of self-consciousness: the merging of action and awareness.
6. Temporal distortion - distorted sense of time (i.e.,

Figure 3. The integration of the flow cycle into a lifestyle of participation, contribution, and self-directed development.



time dilation); one's subjective experience of time is altered, and time either slows down or speeds up.

7. Intrinsic motivation - that which produces flow becomes its own reward. The activity is intrinsically rewarding, so action becomes effortless.
8. Competence - the more competent someone becomes at an activity, the deeper the possible flow state when participating in that activity.

1.3 Peak performance science

The current information sets that compose the states of consciousness and high performance include, at least:

1. Consciousness studies
2. Psychology
3. Pharmacology
4. Neurobiology
5. Technology

2 The 'flow cycle' model

"I can almost assure you that you will work through your frustrations yourself. And only by working through them yourself will you learn anything."

- Clark Aldrich

The flow cycle functions as a map for the experience of flow. The flow cycle is a four stage process, which may be used like a map to navigate the regeneration of the state of flow. It is important to recognize that not all stages of the flow cycle feel "flowy". This understanding is particularly important to remember when feeling uncomfortably out of the flow state.

Here, a named definition is given to each of the steps of the method so it can be used systematically. The stages of the flow state are:

1. **Struggling (the front end)** - a period of struggle where the individual overloads the brain with information. This is a "loading" phase where the self is loading the brain with information. Here, we are "pulling in" a great deal of information while persisting despite a degree of struggle with comprehension and integration (of the information). It would be somewhat inaccurate to refer to this part of the cycle as a state of "stress", and more accurate to refer to it as a dynamic of tension. Growth requires some degree of tension.
2. **Release** - once the mind is so overloaded such that it is at the threshold of frustration, then the self (i.e., you), removes the aware mind from the tasked problem so that subconscious processing may be allowed to occur. The experience of "dance"/relaxation. Here, it is best not to entertain oneself with television or movies. Flow involves the trading of the conscious mind for the subconscious mind; we are handing over information processing [duties] to the subconscious. The technical name for this is transient and temporary hypofrontality of the prefrontal cortex. And, this is done for a number of reasons: the conscious mind is very energy expensive, it is relatively slow; the subconscious is much faster and more energy efficient. Herein, we must remember that the brain is always trying to conserve energy.

This release period triggers the flow stage which is the third phase of the cycle. In the context of a problem, release period is a period when the individual takes their direct attention/effort off the problem (or, working toward accomplishing the problem). This is the mind "wandering" stage. This is also known as the incubation phase where

the sub-conscious mind has the time and space to process and sufficiently integrate what has occurred so far on the problem.

Remember here that the brain has to be filled with enough ideas to start pattern matching. One could say that flow doesn't begin until the brain reaches a threshold of novel sensory information (or ideas). So, if someone were having a difficult time entering the state of flow, then one solution might be to load the brain up with even more information. Simultaneously, if it is not "clicking" even while the brain is sufficiently loaded, then one must understand that pattern recognition is fundamental in the brain: it is what neurons do at a basic level.

It is relevant to note that mundane tasks allow the mind to daydream, which can facilitate future creativity. Hence, maybe there is meaning in the saying that a repetitive and mundane task, such as chopping wood or carrying water, may be good for us as a phased part of our life (when we desire a cycle that enhances our creativity and our flow).

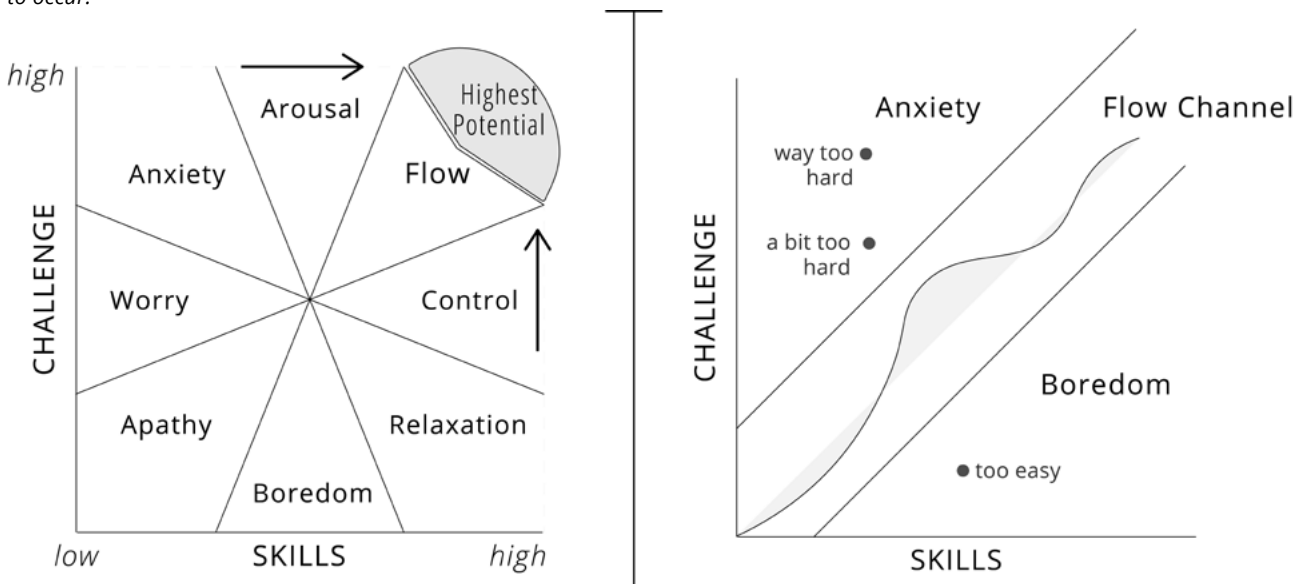
3. **Flow** ("the deep now") - into the flow stage where new connections are made. This is the stage of abundant creativity where attention is brought into the now and optimization of 'pattern recognition' is simultaneously occurring. 'Pattern recognition' is the ability to connect previously unconnected flows of information (i.e., to link ideas together in new ways). Here, creativity is often (though not always) recombinatory - the result of something

novel "bumping into" something old (i.e., a new experience connecting with an old thought) to create something new. And, for the novel thought to bump into the old idea there needs to exist pattern recognition.

The neurochemicals that are released during flow heighten our attention, which we may use to focus our intention. When focus is increased and we are paying more attention, then we are taking in more information, which essentially heightens our access to novel information. In other words, when we pay more attention to the totality of our world we have greater access to novelty, greater access to the "front-end" of the creative process. So, not only does someone in flow take in more ideas (or sensory signal information), but the brain is heightened in its ability to link these ideas together and to perform. When we are highly attentive and pattern recognition is "jacked up", then one idea can quickly lead to the next, and so on creating a novel synthesis and a heightened enjoyment of effort expenditure. In flow there is a massive amplification of learning and memory and work; wherein, effort toward a goal feels almost automatic and effortless.

Neurology (neuroanatomy, neurochemistry and neuroelectricity) while in flow: *During the state of flow the brain releases five potent performance enhancing reward chemicals that drive focus into the now and reduce the signal to noise ratio in the brain so that pattern recognition is enhanced. Dopamine*

Figure 4. Two graphs representing two different perspectives on the skills / challenge ratio and the "zone" in which flow is most likely to occur.



is one of the neurochemicals that is released during the state of flow. Dopamine is not about reward, it is about the anticipation of reward. Dopamine enhances cognitive pattern recognition and heightens focus (norepinephrine as another one of the neurochemicals does similarly). Effectively, dopamine lowers the “signal to noise” ratio providing more access to new and old ideas while improving pattern recognition (i.e., the linking of similar ideas together). In other words, dopamine allows the brain to see more patterns and make more connections between ideas. Anandamide is another neurochemical released during flow. It is known to increase lateral thinking (i.e., thinking “outside the box”), which is our ability to link tangentially and disparately related ideas together. Endorphins are released, which are powerful pain killers and powerful social bonding chemicals. Norepinephrine tightens focus so that the brain is capable of taking in more information per second while heightening access to novelty. And, Serotonin keeps the individual calm throughout the experience.

These neurochemicals exist [in part] to tag experiences. Hence, a quick shorthand for learning and memory: the more neurochemicals that show up during an experience the greater the chance that experience moves from short-term holding into long-term storage. In other words, neurochemicals are essentially a big “tag” (as “this is important, save for later) on an experience. Flow has a radical impact on learning. Researchers have found that the time it takes to get from novice to expert can be cut in half through the flow state.

4. **Consolidate and recovery** - this is a period of recovery which involves building back up the expended neurochemicals. When we think we are learning we are not really “learning”, which is to say that when we are “doing stuff” all we are really doing is collecting data. Most of our pattern consolidation and annexing of new skills is happening as we sleep. Memory consolidation occurs during the delta frequencies of deep sleep. Note, work that was done in a flow state should be double checked during this stage. This recovery phase is excellent for going back and edit ones work [possibly to see what was a good idea and what was a bad idea].

The neurochemicals that the brain expended during flow are expensive to produce; hence, the brain needs nutrition and a period of restoration in order to rebuild them. In the sense of “feeling and being” in this phase of the cycle one might say

that they are feeling “low”, possibly an extremely deep low depending upon how far one pushed themselves while in the flow phase. Practitioners of flow need to learn that they “need to” go through the recovery phase, which is a learning in itself. And, if you are stressed during recovery because you aren't feeling as great as you are used to, then you will hinder (or potentially block) that recovery. We know scientifically that cortisol blocks learning.

The brain is a pattern recognition machine; senses take in and process information, and the brain pattern integrates. Flow is letting this process happen naturally. Knowing that there is a cycle and having the emotional control to deal with it is the best thing you can do to start producing more flow in your life. We must recognize that we cannot live permanently in a state of flow; or, at least we do not yet know how to safely maintain the state indefinitely.

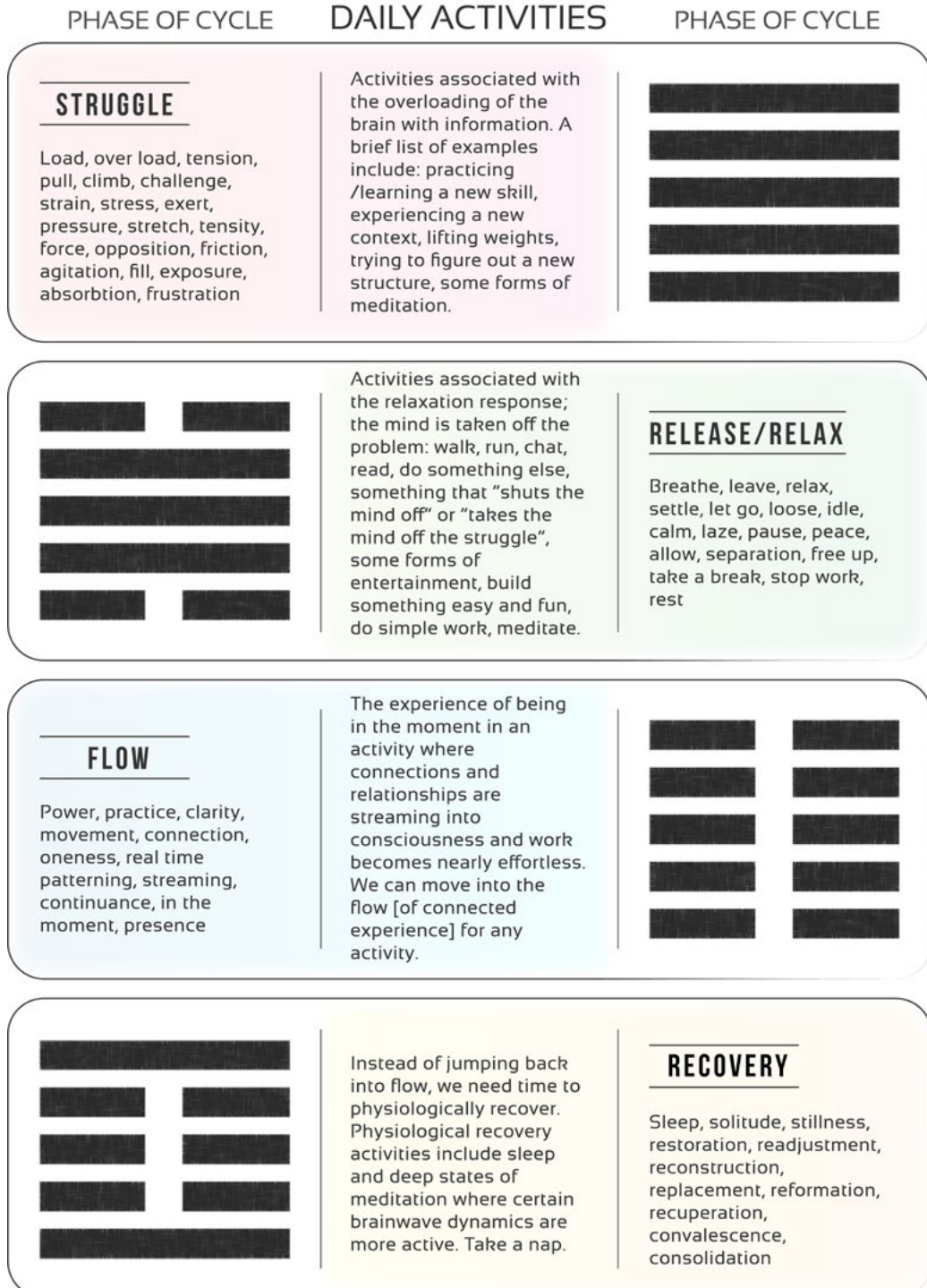
3 Flow triggers

NOTE: *Flow follows focus and passion drives focus.*

The brain can be trained to go into flow and an environment can be organized to make flow more likely. Flow triggers are pre-conditions that bring on more of

the state of flow. Essentially, all flow triggers are simply playing with ways of driving attention into the 'now' in order to optimize performance. In "The Rise of Superman" Kotler describes 17 flow triggers [and the categories they fit within] for an optimal state of consciousness. The categories of 'trigger' are: creative triggers, social triggers, environmental triggers, and physical triggers. And, within the categories Kotler defines the following

Figure 5. *Depiction of the flow cycle.*



17 triggers: 9 social triggers; 1 creative trigger; 3 environmental triggers; and 4 psychological triggers. The flow triggers are identified over several following pages.

Both passion and the risk of consequence drive focus into the now. Hence, we need to pay attention to the things we are passionate about, and we need to remain attentive to situations and experiences of high consequence.

One of the easiest ways to drive attention into the now is the 'challenge / skills ratio' - when you approach a task, the challenge of the task should be slightly harder (or slightly exceed) the skills (or information) you bring to complete it (i.e., to bring to bear). Here, to find flow frequently, "you" want to constantly be putting yourself into situations where you are stretching, but not snapping. It is a slight gradient, but a gradient none-the-less. However, by doing this someone is essentially climbing the metaphorical ladder of escalating risk. As we push ourselves slightly farther day after day we eventually get to the edges of real physical boundaries and potential social consequences [in context]. As we seek greater challenge we encounter (or "run up against") capacity. Hence, one of the dangers of flow is this escalating ladder of risk. But, the risks we take do not have to be physical risk, we can also take emotional risks, creative risks, and social risks. The brain itself does not differentiate.

From a design perspective these triggers may be seen as the principles of designing an environment where the state of flow is likely to occur more often and regenerate more quickly.

Of note, there are three major contributors toward the conscious mind's instability to define an element or solves problem. The three contributors are: conflicting information (psychological confusion); sensory overload (too much going on); and, the intellectual stifling emotion of fear. These are contributors to our inability to solve problems and define elements of problems. Oddly enough, a degree of frustration, sensory overload, and risk are also conditions that facilitate a movement into the state of flow.

Humans practice/train in order to get better at knowledge, skills, and activities in general. The carrying out of an intrinsically enjoyable activity can be done in a state of flow (Read: optimal felt experience). Through practice of various skills greater mastery/competence is achieved at that particular skills, which leads more easily to a flow type experience for engagement in that activity. Entering flow while carrying out an activity also rapidly builds skills and ability with that activity. In other words, the developing of a skill will allow for a better flow-type experience with that skill, and experiencing flow while carrying out an activity will rapidly build competence/mastery with that skill (i.e., flow is the often sought out idea of "super-learning").

QUESTION: *What societal design will facilitate flow among a population?*

3.1 Flow enabling and disabling categories

The categories that can help or hinder (block) flow include:

- **Physiological** quality and characteristics.
- **Mindset and psychology** quality and characteristics.
- **Social environmental** quality and characteristics.
- **Physical environmental** quality and characteristics of the environment.
- **Lifestyle**, as the things done daily.

4 Flow dangers

"When you are looking for flow you are climbing the ladder of escalating risk [given what we know]."

- Steven Kotler

Flow is a little dangerous. We now understand to a reasonable degree the neurobiology of what is occurring when people enter flow states. One of the occurrences in the brain during a flow state is that of a large neurochemical release (or "dump"). This neurochemical dump (large release) allows for optimal performance and adaptation (i.e., learning). In a state of flow the brain releases five of the most potentially addictive [reward] neurochemicals it can produce. When these neurochemical flood into a brain it produces an extremely addictive (or "autotelic": an end in itself) experience. And, generally speaking, flow is the only time you get all five produced at the same time, all at once. Someone in flow is essentially getting a very potent and very addictive cocktail of neurochemicals, that enhances one's capabilities, and ultimately, ability to experience life. Once a person starts producing flow s/he will go extraordinarily far to get more of it. In other words, flow encodes and rewards the experiencer to do more of it.

When working with flow it is important to know what you are doing because you are essentially playing with very fundamental biology, and it can go wrong, disastrously so. These neurochemicals are not only addictive; they are also "expensive" for the brain to produce.

If you get a dump of these chemicals, and then that tap gets shut off because you don't know what you are doing, then it can be like coming off of hard drugs; there can be serious feelings of being down. The state may be said to "catch your brains attention and hold it".

Flow researchers state that, "flow is the source code of intrinsic motivation". In other words, once you start producing flow you are compelled to do more of it [and, there is at least a regenerating biochemical process that allows for it]. Fundamentally, humans are hard-wired to have access to the state of flow, they just need to know what they are doing, so that the cycle regenerates and individuals increases its future potential, as opposed to lowering it.

It is important for those who experience flow to give themselves time to recover; it is important to go through periods of restoration. It is important to expose oneself to intrinsically motivating challenges. It is important to create a structure where challenges do not become so chronic that work never stops, or cannot even start.

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