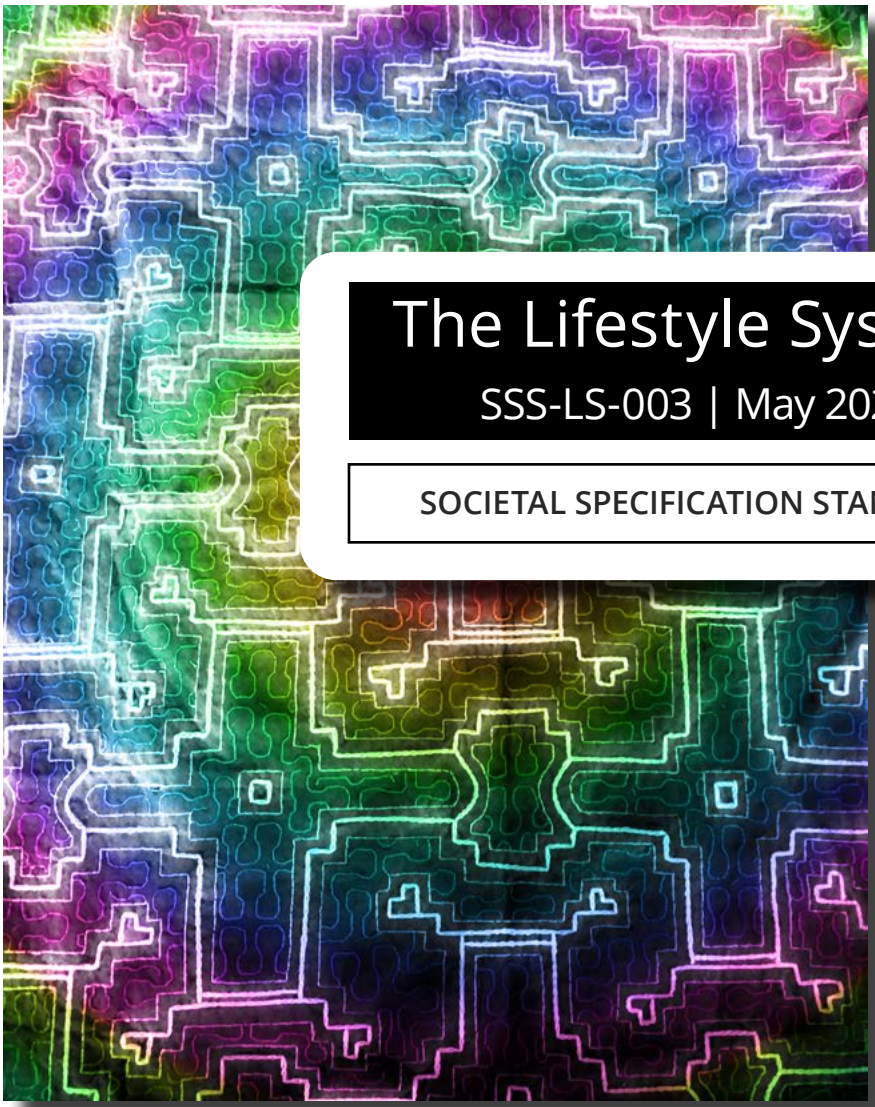
AURAVANA PROJECT

PROJECT FOR A COMMUNITY-TYPE SOCIETY



The Lifestyle System

SSS-LS-003 | May 2024

SOCIETAL SPECIFICATION STANDARD

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THE AURAVANA PROJECT

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THE LIFESTYLE SYSTEM

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GREETINGS

In an effort to provide the greatest possible clarity and value the Auravana Project has formatted the system for the proposed society (of the type, 'community') **into a series of standard publications. Each standard is both a component of the total, unified system, as well as intended to be a basis for deep reflective consideration of one's own community, or lack thereof. These formal standards are "living" in that they are continually edited and updated as new information becomes available; the society is not ever established, its design and situational operation exists in an emergent state, for it evolves, as we evolve, necessarily for our survival and flourishing.**

Together, the standards represent a replicable, scalable, and comprehensively "useful" model for the design of a society where all individual human requirements are mutually and optimally fulfilled.

The information contained within these standards represent a potential solution to the issues universally plaguing humankind, and could possibly bring about one of the greatest revolutions in living and learning in our modern time. Change on the scale that is needed can only be realized when people see and experience a better way. The purpose of the Auravana Project is to design, to create, and to sustain a more fulfilling life experience for everyone, by facilitating the realization of a better way of living.

Cooperation and learning are an integral part of what it means to be a conscious individual human. A community-type societal environment has been designed to nurture and support the understanding and experience of this valuable orientation.

The design for a community-type society provides an entirely different way of looking at the nature of life, learning, work, and human interaction. These societal standards seek to maintain an essential alignment with humankind's evolving understandings of itself, combining the world of which humans are a regenerative part, with, the optimal that can be realized for all of humanity, given what is known.

The general vision for this form of society is an urgent one considering the myriad of perceptible global societal crises. Together, we can create the next generation of regenerative and fulfilling living environments. Together, we can create a global societal-level community.

THE UNIFIED SOCIETAL SYSTEM: LIFESTYLE SPECIFICATION STANDARD

This publication is one of six representing the proposed standard operation of a type of society given the category name, 'community' (a community-type society). This document is a specification standard for a lifestyle system.

Every society is composed of a set of core systems. Different types of societies have different internal compositions of these systems. The composition of these systems determines the type of society. The type of society described by the Auravana Project societal standard is a, community-type society. The standard is a composition of sub-system standards. The Auravana societal standard may be used to construct and duplicate community at the global level.

For any given society, there are four primary societal sub-systems. Each of these sub-systems can be specified and standardized (described and explained); each sub-system is a standard within a whole societal specification standard. The first four primary standards of the six total standards are: a Social System; a Decision System; a Material System; and a Lifestyle System. Each standard is given the name of its information system. The fifth publication is a Project Plan, and the sixth is an Overview of the whole societal system. Together, these standards are used to classify information about society, identify current and potential configurations, and operate an actual configuration. Because of the size of some of these standards, they may be split into two or more publications.

Essential figures and tables related to this standard exist beyond what is shown in this document.

Figures and tables on the website are named according to their placement in the standard.

- Those figures that could not be accommodated here are readily accessible in their full size, and if applicable, in color, on the Auravana Project's website [auravana.org/standards/figures].
- Those tables that are too large to include in this document are referenced with each standard on the Auravana Project's website [auravana.org/standards].

Articles

Article Section Headings

Contents

List of figures

This is the list of figures within this document.
There are more figures associated with this standard than are identified in this document; those figures that could not fit are freely available through auravana.org, in full size, and if applicable, color.

List of tables

This is the list of tables within this document.
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Document Revision History

A.k.a., Version history, change log.

This document is updated as new information becomes available.
The following information is used to control and track modifications (transformations, changes) to this document.

VERSION	REVISION DATE	SUMMARY (DESCRIPTION)
003	May 2024	The structure of this document has not changed. The concept of "nurturing" has been added to list of life phases in the "Lifestyle System Overview" article. "The Flow Cycle" article has had significant additions and changes. The "Education Phase" article has had the concept of "ungrading" added. There have been minor changes and additions throughout the document. Many grammar and spelling corrections have been made throughout. The contribution and employment sections have had minor changes to them. Citations have been improved throughout and are now at APA 7th generation.

GENERATION ON	NAME	CONTACT DETAIL
May 2024	Travis A. Grant	trvsgrant@gmail.com

The Lifestyle System Overview

Travis A. Grant,

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Version Accepted: 30 March 2024

Acceptance Event: *Project coordinator acceptance*

Last Working Integration Point: *Project coordinator integration*

Keywords: lifestyle, life cycles, human life cycles, living cycles, societal living, daily societal life, human living patterns, human life rhythms, living habits, life habits, life way

Abstract

This publication is the Lifestyle System for a community-type society. A lifestyle system describes the common behavioral orientations and interests of individuals among society, while identifying the cycles to which they entrain and that make up the daily motion of their lives. A lifestyle is how individuals spend their time; it is their pattern of living in the world as expressed by their activities, interests, and fundamental understandings about work and play. In part, a lifestyle refers to the decided timing of activities in individuals' lives. This standard provides a reasoned reflection on the lifestyle of individuals in a community-type society. It logically derives and discursively argues for a life experience that all humanity has in common. Humans participate in communities of practice, we all have interests and needs, we all contribute through our participation, we all seek self-integration and self-development, we are all active sometimes and inactive at other times, we all discover and adapt through our experiences, we all have routine patterns of behavior, and we all entrain to a cycle(s). Herein, learning is something individuals do through life experience and something which influences life experience. What would your life be like in community where goods and services are coordinated to be accessible without the need for any form of exchange or coercion? What is an optimal way of living in the world? It is interesting to think about what a lifestyle might be like in a society oriented toward self-development and contribution, and not stratified by age and the power positioning of oneself over others.

Graphical Abstract

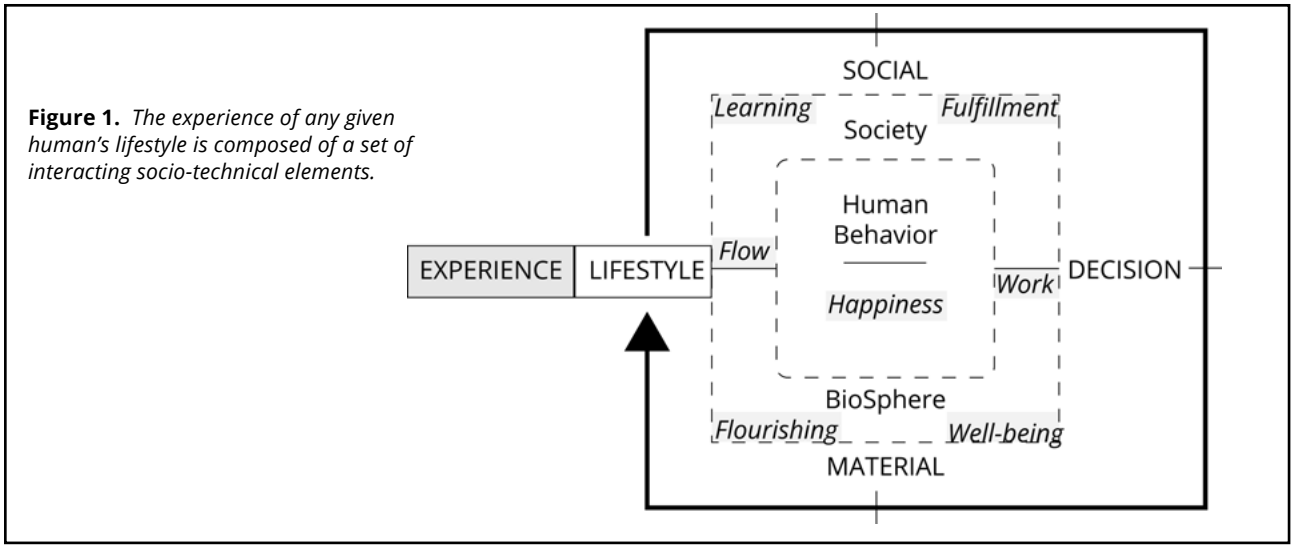

Figure 1. *The experience of any given human's lifestyle is composed of a set of interacting socio-technical elements.*

1 The lifestyle system standard

The Lifestyle System Specification Standard describes the common behavioral orientations and activities of individuals among community, while identifying the cycles to which they entrain that make up the daily motion of their lives. A 'lifestyle' is how we spend our time; it is our pattern of living in the world as expressed by our activities, interests, and understandings. This specification provides a reasoned reflection on our way of life, how we live our values, and the ways in which we express our world view. It logically derives and discursively argues for the life experience that we all have in common: we all participate in communities of practice, we all have interests and needs, we all contribute through our participation, we all seek self-integration and self-development, we are all active sometimes and inactive at other times, we all discover and adapt through our experiences, we all have routine patterns of behavior, and we all entrain to a cycle. Hence, this specification describes that cycling 'life space' in which we all experience our lives in a commonly fulfilling context. A life space is where all of the essential events and objects that compose a life experience are happening together. Herein, through accountable and restorative methods that facilitate the highest potential expressions of all involved, community, provides a potential for a more full life. It is important to note that this specification does not codify a lifestyle. Instead, it provides context for the lifestyle of individuals in community, including a description of how the lifestyle is possible, and why it is preferable over other possible lifestyles. Among community, we share a set of common behavioral and lifestyle characteristics that sustain to our fulfillment, our longevity, and the well-being of our ecology. Fundamentally, lifestyles are lived experiences.

The Lifestyle Standard is divided into four principal sections. The first section describes the flow cycle to which we entrain that facilitates the sustained expression of our highest potential. The second and third sections are dedicated to learning. Learning is an important part of a lifestyle oriented toward fulfillment and self-development. It is something we do through life experience, and something that influences life experience. The final section describes work in the context of human fulfillment.

Our community lifestyle is possible because of a comprehensive understanding of what is required in order to maintain optimal human well-being and sustained movement toward a higher potential dynamic of lived experience. Here, an information 'lifespace experience' is formed of tasks that are repeated to maintain the construction of a lifestyle. There are requirements for maintaining our 'lifespace experience' (we call these 'needs'), and there are 'decisional action mechanisms' that maintain the required constructions (we call these 'tasks' or 'task resolutions'). A simple illustration may be the relationship between nutrition, survival, and the behavior of eating: humans require nutrition through eating for the maintained construction (e.g., cellular repair and replication) of their bodies, which are complexes capable of performing more precise action-tasks, such as, the construction of 'fire'.

Of note, through advancements in scientific understanding and technology, our lifestyle reciprocally changes. This has been the trend of history.

Herein, a collection of habits is a daily routine. The current results in life are, in part, a natural byproduct of the lifestyle in place. Habits are patterns of repeated decisions.

> **INSIGHT:** *We are all basically collections of experiences.*

1.1 Phases of life in community

> *A.k.a., Ordered life phases, orderly life phases, socio-economic access-type phases.*

There are three phases of life for most people in community, all of which become oriented toward optimization through the conception of flow. In this model, contribution to the production of societal service system occurs after an education phase. Upon conclusion of the contribution phase, there is a leisure phase, where someone who has benefited others, now benefits, from others' labor.

The three (or, four) life phases (a.k.a., priorities) for humans in community are:

1. **NURTURING: The early post-birth and societal weaning phase** (childhood in community; maturation) - post-birth nurturing could be considered its own phase, a separate fourth phase where parents (and other adults) express love in the caring for their offspring. In community, every baby that is conceived is wanted and has a home -- community knows these conditions are important and community creates life-radi that are giving of the conditions. For a complex socio-technical society, the importance of nurturing the young in order to produce secure, sound, healthy and positively socialized- and self-directed adults remains paramount -- nurturing is crucial in producing a functional community-type human. Nurturing is the instinct to care for and facilitate the thriving of offspring. From a genetics view, nurturing is a genetically selfish trait to ensure genetic reproduction into the next generation (survival), and yet, from an observer's point-of-view nurturing appears to be unconditionally selfless behaviour (i.e., giving selflessly to another for their well-being; love). In particular, nurturing builds healthy and trustable members of society. Healthy humans can access their natural, nurturing, loving

instincts. Appropriate nurturing takes parents in combination with society (i.e., with community). Healthy nurturing facilitates the development of moral community behavior in the young; it reduces alienation and increases morality by having parents and society meet the full spectrum of young individual humans' needs. Researchers into child development have sought for decades to alert the global population to the fact that every human infant must have unconditional love; for without it, an infant's health and growth will be stunted. ('*Freedom*', 2023)

2. **EDUCATION: The education phase** (focused learning) - continuous learning, study, and apprenticeship at a young age - young people participating in continuous education. Youthful play, learning, and education; knowledge and skills development before contribution to community service. These individuals are growing and becoming educated in community and skilled at a service(s), eventually expected to enter service and then retire (or not) with full access to community services. This is a time to play, imagine, and become educated. Education is the instinctual priority to learn about the world.
3. **CONTRIBUTION: The contribution work-service phase** (contribution to community service, focused contribution) - adults participating in continuous contribution. Adults enter into service, and then after some calculated (duration), they retire from [contribution] service. Once retired, they enter the leisure phase of life, and yet may still continue to contribute. Those contributing have accountabilities on working groups and habitat teams. These individuals have chosen to perform necessary work tasks for the community. Dignified duty to give our ability to contribute to community -- in a sense, contribution is seen as dignified work and duty to complete it before we can fully devote ourselves to the higher exercise of our faculties and to the full spectrum of community opportunities. This is a time to do work diligently. Contribution is the instinctual priority to care for others and contribute to society.
4. **LEISURE: The liberation/retirement [leisure] phase** (retirement from contribution) - liberty to choose leisure entirely, or leisure and continued contribution as a phase of life. Leisure is play, the way education and contribution can be when those activities are enjoyed. Those in retirement are full community members with access to the whole spectrum of community services. Here there may be self-improvement, recreation, as well as continued contribution. This phase most often includes, but is not limited to: travel, social relaxation in the company of friends and family, cultivation of all manner of human abilities, the pursuit of recreation and further exploration, and the continued pursuit of contribution. A time for the leisurely and unperturbed appreciation of the good things of the world which they have helped to create. Every society capable of reproducing itself needs to support its non-working and less-working members. Leisure is the instinctual priority to explore and play as an adult. Leisure, as a phase of life, means not having an expected duty to work

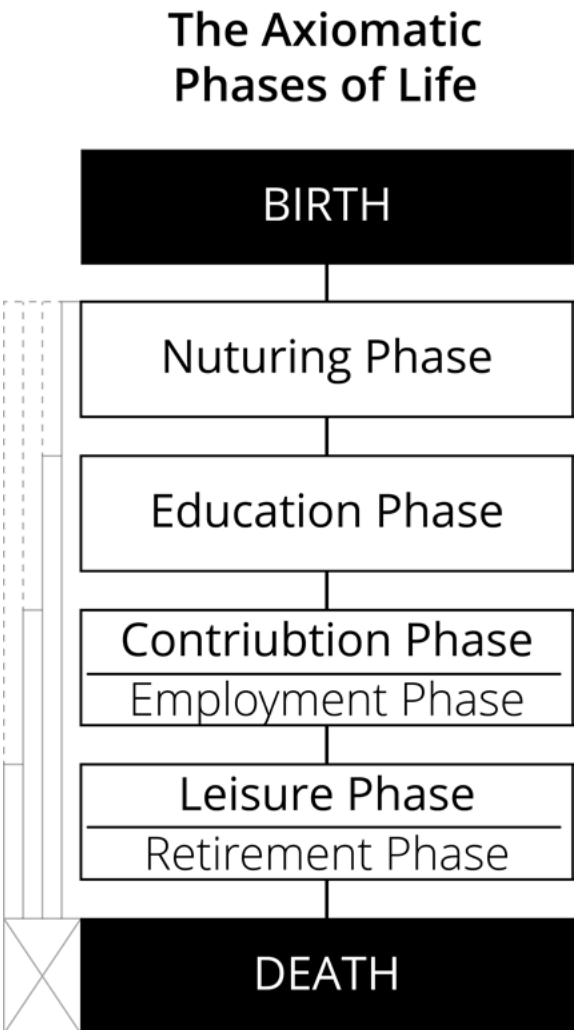

Figure 2. *There are four general phases of life in community: birth and nurturing; education; contribution (or, employment); and leisure (or, retirement). The three self-directed productive phases of life are: education, contribution and leisure.*

any more (and possibly, if society is so constructed, have access to leisure-only habitats). Of course, individuals in the other phases of life in community also experience leisure activities, such as video watching, sightseeing, sports, games, and other exploratory [habitat] support services. There is both a leisure phase to life (i.e., the leisure phase of the four phases of life), and a cyclical phase of leisure for those in the education and contribution phases of life (i.e., vacation and full-service dwelling facilities). In other words, there is both a leisure phase to life, and phase of leisure in life for the education and contribution phases of life (e.g., "hobbies"). In the education and contribution phases of life, leisure may be a weekly, monthly, or yearly cycle of activity (or daily, but less so in general than someone in the leisure phase of life). A leisure location is where contributors do all the dwelling and habitation work for the user, a "full-service amenity facility".

NOTE: *Likely, all life phases are necessary for all individuals.*

The optimization challenge is how to create more flow in people's lives throughout all three phases. Here, flow is effectively human potential optimization. It is relevant to note here that the "flow" is also conceived of as a cycle. It is a more rapid cycle that takes place at a shorter time period than the larger three life-cycle phases in community. A more unified societal system is more likely to be able to reduce the amount of contribution needed to sustain an optimally fulfilled global population to an existent minimum.

Note that some lifestyle habits (e.g., learning) may be continuous throughout all three phases; and, there may also be lifestyle habits that are most regularly practiced in one phase or another. Here, contribution is an outcome of education, and liberation is an outcome of contribution.

1.2 Lifestyles in community

Community represents one common and extended family. We recognize life as an internal and external journey, and so we have created an environment where living and learning have become one and the same. Curiosity flourishes as nature intended, and as self-directed individuals are supported in the pursuit of their interests and their highest potentials. Through common and accurate organization an environment of universal benefit and mutual fulfillment arises. Herein, individuals become continual benefactors of contribution in a community that facilitates their self-directed, flourishing-oriented lifestyle. In community, we enjoy a fulfilling lifestyle that simultaneously makes the world a better place for everyone. We control our destiny through our lifestyle choices. It's the things we do on a cyclical basis that determine our outcomes.

NOTE: *There is always individual influence in a social network where are individuals are interconnected by informational and spatial relationships.*

The Community, itself, represents an environment where individuals learn and share and grow from one another, while they pursue their interests with limited stress, meaningful desire, and empowering challenge. Community is the realization of an evolving individual potential among a larger unity of evolving potentials where we, together:

1. Expand awareness.
2. Experience more of our total self.
3. Express more of our total self.

Community is a lifestyle commitment to oneself and all earthlings. It is a commitment that one's participations and experiences are going to be types that maximize the best of humanity, including but not limited to: the fitness of body, human compassion and love (extensionality), human intellect, social interconnection and belonging, nutrition for the brain, mitochondria, and cells.

INSIGHT: *Our lifestyle is the manifestation of our outer life. Our consciousness is a manifestation of our inner life.*

1.3 What is a life-style?

INSIGHT: *It takes a community to live well; I shine more brightly amongst the brilliance of others.*

A lifestyle is the things “you” do on some regularly cyclical basis. A lifestyle is a lived experience in the world. A ‘lifestyle’ is a way of living in the world; it is the collection of activities we do for ourselves and others on a daily basis with the acknowledgement of an attitude and orientation to life. It is where someone lives, and the quality of life available to them. It is a component of the total information set that describes our routines and our reasoning for them. In other words, it is a description of the routine behaviors of our lives. A lifestyle is how we “spend” our time; it is our “pattern of living”. It is those things that we equate with living a life, at the present. Primarily, lifestyle involves behaviors that make sense to oneself and others at a given time and place. A lifestyle is a person’s pattern of living in the world as expressed by their activities, interests, and understandings. Our lifestyle is how we live our life; it is what happens on a daily basis, though there is more to it than just the characteristic of momentary presence. A lifestyle is also access to something that is emergent and generational, something that provides a potential of opportunities.

What facilitates a higher potential of access to a fulfilling system? There is a simple saying, “When knowledge is accessible, then people will use it”. Similarly, “when time

is available, then people will play". In community, we use what is available on a routine basis to meet our needs, and this is organized for. Sometimes we are available to contribute and other times we are not. And, when we do engage with the community the system is designed to enrich all of our lives, incentivizing further contribution.

If we are "free", shouldn't all of our time be discretionary? And, with our discretionary time we would naturally want to volunteer and support the community in completing necessary and scheduled tasks in teams; for, it is these teams that give us all of our discretionary time. When our time is our own then we are likely to be more authentic, being authentic to ourselves and others: there will be times when we will be available and be applying effort to facilitate the community's existence; but, let us not let these activities alienate us from our truly connected selves. It is possible to view 'work' as task-based effort in the construction of a space that allows for the expansion of our experience into an information space of a higher potential [of creation]. In other words, we work at something because it is fulfilling. And, those things that facilitate all of our fulfillment, we work at those together.

One could say that a lifestyle in community looks like a cycle of experience that generates ever greater states of itself and those experiential dynamics are so enjoyed that they are sought after. Here, we become what we chose and what we are exposed to. We live lives that are fulfilled by [self-]organizing for our fulfillment. What we do on a daily basis depends upon what we desire to do on a daily basis. And, we realize that what we do on a daily basis influences our desires. And, what we do on a daily basis impacts not only ourselves, but others on an iterative and generational basis. Hence, in community we think about what behaviors, systems, and thinking patterns might facilitate access to an intentionally fulfilling lifestyle.

When we have access, we don't need employment. Employment is giving your time and efforts over to someone else for their profit-based benefit. The employment-based lifestyle is a rigged system. Herein, there are benefiters, and then, there are those who are rewarded and awarded for benefiting the benefiters. The idea of employment as working for an owner in the market in order to remain a consumer in the market creates a specific pattern of lifestyle.

In order to facilitate an understanding of a community-type lifestyle the following questions may be asked:

1. What would a lifestyle designed for our fulfillment look like?
2. What does it mean to have a life based on the "style" that fulfillment brings?
3. What is a healthy lifestyle?
4. What would a lifestyle unconstrained by financial affordances look like? What if a high access lifestyle wasn't a "luxury"?
5. What would the lifestyle of a population that synergized its efforts look like?
6. What does it mean to have a life based upon being

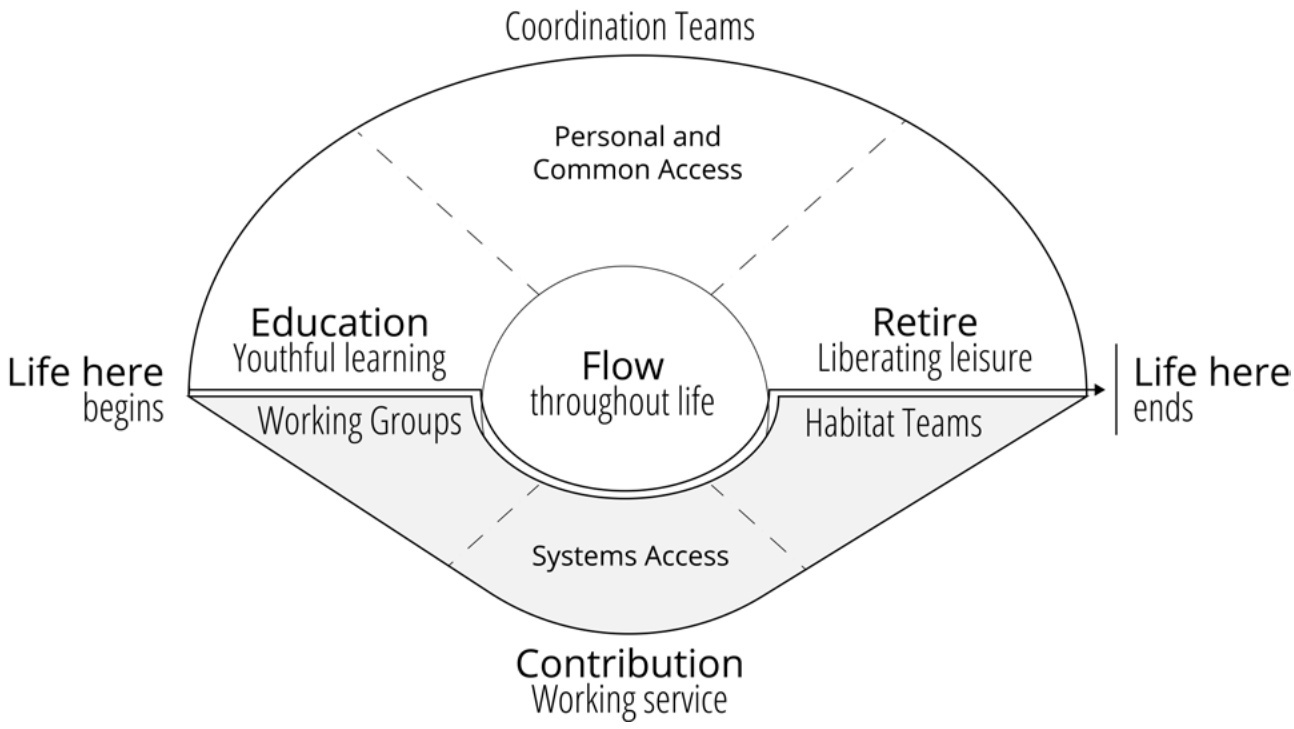

Figure 3. *The three phases of life in a community-type society are: education, contribution, and retirement.*

in a state of "flow"?
7. What does intrinsic motivation look like at a coordinated societal level?
8. What is a lifestyle that we want to live and share with others?
9. What does a lifestyle constructed through a recognition of emergence look like?
10. What does a learning community look like at the scale of a society?
11. How can we create a community at scale to facilitate our accessing of our higher cognitive, physical, and emotional potential?
12. If you won the lottery would you still do the "work" you do now? Do you only believe in work up until the time you no longer need to do it to earn money? What if money was taken out of the equation for your fulfillment, as well as your opportunity to learn, create, share, and explore?
13. How do we construct/accumulate a set of conditions ideal to our health, happiness, and longevity?
14. What does a lifestyle of access abundance look like?

Philosophically speaking, a lifestyle is a patterned derivative of a set of former conceptions. In philosophy, 'ontology' is that which is said to exist and is a view on the nature of reality. In other words, 'ontology' is the study of the ultimate nature of existence where existence is defined as that which consciousness is conscious of. Therein, an 'ideology' is a system of ideas that [recycle] the way people conceptualize the world. And, a 'lifestyle' is those ideas put into practice and describing the routine behaviors of our lives.

> **QUESTION:** *What is the life experience of an individual's typical, cyclical time period (e.g., day, week)?*

Online references (cited in document)

- *'Freedom' - Chapter 8 The Greatest, Most Heroic Story Ever Told*. The World Transformation Movement. Accessed: 23 January 2023. https://www.humancondition.com/freedom-terminal-alienation-destroys-our-ability-to-nurture/

The Flow Cycle

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Version Accepted: 30 March 2024

Acceptance Event: *Project coordinator acceptance*

Last Working Integration Point: *Project coordinator integration*

Keywords: flow, flow state, flow cycle, flow triggers, autotelic, optimal experience, the zone, optimal well-being, optimal engagement, deep embodiment, high achievement, peak performance, peak experience, happiness

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 6 on page 15

1 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. Flow is a peak state where we both feel our best and perform our best; it feels like "the best feeling ever". 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. The experience of flow makes life feel flowy and synchronous, where every thought proceeds effortlessly from the last with high speed and precision (Read: thought acceleration). Together, humans can build a society that builds a deeper and more frequent experience of flow. Flow is one of the most desirable states a human can experience.

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. Autotelic comes from two Greek roots, auto (self) and telos (goal). (Kea, 2008, p21)*

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.

Mihaly Csikszentmihalyi (2008), who named the psychological concept of “flow”, summarizes flow as a state where: “You know that what you need to do is possible to do, even though difficult, and sense of time disappears. You forget yourself. You feel part of something larger.

Flow is conscious immersion in self-directed effort. If you can access the flow state your task precision and thinking 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. The experience of flow lets someone know that they are mastering (or, have mastered) some skill. From an evolutionary perspective, knowing when one is good at skills is important. Flow conveys a feeling of mastery and greater sense of control. In this way, is a peak transformational state.

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* by Steven Kotler (2014) 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.

Flow has many benefits beyond those mentioned above, including but not limited to:

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. Flow improves and speeds up complex problem-solving (i.e., flow improves thinking).
4. Flow improves body coordination and body movement precision.
5. Flow induces deep insight and creativity.
6. Flow facilitates near perfect decisioning.
7. 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):

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

INSIGHT: *Flow exists in the intersection of what you love and what you are good at.*

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

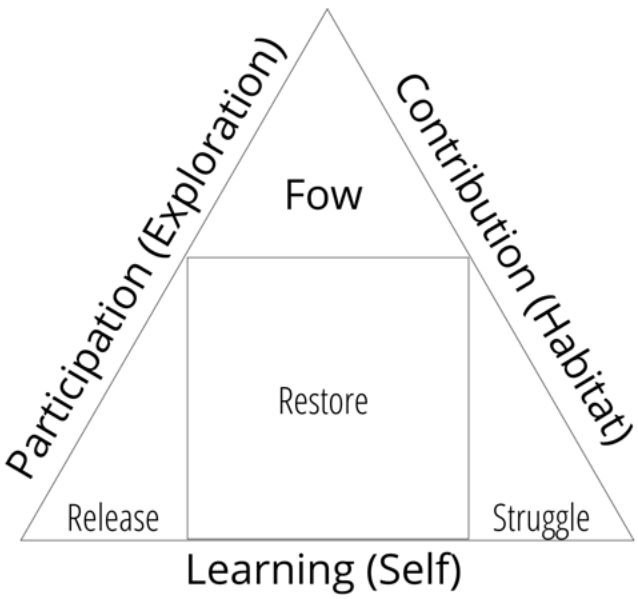

Figure 4. *The integration of the flow cycle into a lifestyle of participation, contribution, and self-directed development.*

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 (high focus) - Completely involved in what we are doing - focused, concentrated. "Absorption" as a narrowing of awareness down to the activity itself.
2. Thought acceleration - where the speed of ones thoughts (and mental processing) is seriously increased [way] beyond baseline.
3. A sense of control - of being in control of oneself and one's environment.
4. A sense of ecstasy - of being outside everyday reality and feeling pleasure in doing the activity.
5. Greater inner clarity - knowing what needs to be done, and how well we are doing.
6. A sense of knowing - knowing that the activity is doable though difficult - that our potential is adequate to the task.
7. 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.
8. Temporal distortion (tachypsychia) - distorted sense of time (i.e., time dilation); one's subjective experience of time is altered, and time is distorted such that it appears to either slows down or speed up.
9. Intrinsic motivation - that which produces flow becomes its own reward. The activity is intrinsically rewarding, so action becomes effortless.
10. Competence - the more competent someone becomes at an activity, the deeper the possible flow state when participating in that activity.

In order to experience flow states, a person needs to experience/feel certain conditions. By fulfilling these basic conditions, a person is more likely to experience flow states. These conditions include, but may not be limited to:

1. Absorption - narrowing of awareness down to the activity itself.
2. Challenge - experience challenge.
3. Clear goals - feel/have purpose.
4. Competence - feel competent.
5. Control - feel/have control.
6. Concentration - experience no distractions.
7. Empowering emotions - feel empowered.
8. Loss of the feeling of self-consciousness - the merging of action and awareness.

Conversely, the greatest inhibitors of flow include:

1. Fear - a base feeling of being in a dangerous situation that could be harmful to the self.
2. The primitive survival responses:
   A. Freezing - wherein the body freezes to escape detection from a predator.
   B. Fleeing - often follows the freezing state, and is a primitive response to run away from a predator.
   C. Fighting - wherein the body becomes violent in order to deal with perceived predation, which often occurs after freezing and fleeing haven't resolved the situation.

1.3 Peak performance science

A.k.a., Peak experience science, human potential science, etc.

The current information sets that compose the field of scientific inquiry into flow include, but are not limited to:

1. Consciousness science.
2. Psychological science.
3. Physiological science.
4. Pharmacological science.
5. Neurological science.
6. Human performance science.
7. Computational science.
8. Technological and bio-technological development.

1.3.1 Neuroscience

At the level of neuroscience, flow can be broken down into three distinct body processes, each of which compose and influence flow (both the state and the cycle):

1. Neuroanatomy - is a specific branch within neuroscience that deals with brain anatomy.
2. Neuroelectricity - is measured through brain waves with an electroencephalogram (EEG) and functional magnetic resonance imagery (fMRI) technologies. These technologies measure the electrical activity of the brain. Neuroelectric rhythms are also known as brainwaves. The primary electrical brainwave states are:
   A. Delta (1 Hz to 3.9 Hz).
   B. Theta (4 Hz and 7.9 Hz).
   C. Alpha (8 Hz and 13.9 Hz).
   D. Beta (14 Hz and 30 Hz).

E. Gamma (Above 30 Hz).

3. Neurochemistry - is concerned with the chemical composition and metabolism of nerve tissue. Neurochemistry relates to the "information molecules" that the body creates and releases to transmit information, which are usually excitatory (turn something on) or inhibitory (suppress something else). These neurochemical information modulators are also known as neurotransmitters, neuromodulators, and neuro-peptides. Technically, all neuro-chemicals are neuro-modulators and also peptides. In the literature, the terms neuro-peptides and neuro-transmitters classify two different categories of neuro-chemicals; and neuropeptides are a type of neurotransmitter. Neuropeptides are larger molecules, while neurotransmitters are smaller molecules. Neuropeptides are slow-acting (producing prolonged action), while neutotransmitters are fast-acting (producing short-term responses). Both neuro-peptides and neuro-transmitters are polypeptide derivatives.

   NOTE: *As of the early 21st century, there are now over 100 known neuropeptides and probably many more yet to be identified from the over 1000 predicted peptides encoded by the genome.*

Neuro-transmitters are the feedback system for reinforcement performance, learning and discovery. During the state of flow, the brain produces and the body utilizes at least the following neuro-transmission neurochemicals (a.k.a., neurotransmitters):

A. Dopamine.
B. Norepinephrine.
C. Endorphins.
D. Anandamide.
E. Seratonin.

1.4 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, struggle)** - 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 (intensification)** - 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** (a.k.a., the thought acceleration phase, "the deep now") - into the flow stage where new connections are made and performance is optimized; where thought seriously accelerates. This is the stage of abundant creativity and optimal performance 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. Herein, human actions can become extremely precise and optimally performed and coordinated.

   The neurochemicals that are released during flow heighten our attention, which we may use to focus our intention. With flow, there is natural[ly enhanced] focus. Flow makes focus highly efficient and highly effective. 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. Similarly, actions can flow from one to the next, creating highly precise and coordinated motions. In flow there is a massive amplification of learning, memory, and performance; wherein, work toward a goal feels almost automatic and effortless.

   During the state of flow the brain releases five potent performance enhancing reward [neuro-peptide] chemicals that drive focus into the now and reduce the signal to noise ratio in the brain so that pattern recognition is enhanced. Dopamine is one of the neurochemicals that is released during the state of flow. Dopamine is the neuro-peptide feedback system for the anticipation of reward, and the acquisition of a reward itself. 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 (restore)** - 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.

2 Enabling flow

A.k.a., Flow triggers, flow pre-conditions, enabling flow states, facilitating flow.

The brain can be trained to go into flow, and an environment can be organized to make flow more likely. Flow states have triggers (i.e., pre-conditions, circumstances) that make flow more likely, and that lead to more flow. In other words, flow triggers are pre-conditions that bring on more of the state of flow. They are circumstances that speed entrance into the state. Essentially, all flow triggers are simply ways of driving attention into the 'now' in order to optimize performance. In "The Rise of Superman" Kotler (2014) describes a number of flow triggers (and the categories they fit within). The common triggering pre-conditions for flow are:

1. **Psychological flow triggers:** Facilitate an environment where positivity (and progress toward lower entropy) flourishes.
   A. **Intensely focused attention (i.e., deep singular focus, focused concentration)**: Producing flow requires long periods of uninterrupted concentration. Deep focus on a particular and intrinsically motivating task. Flow demands singular tasks (which may involve multiple subtasks) and solitude. A quiet and distraction-free workspace is essential. Flow takes time to build, and tiny distractions can "snap" someone out of a flow state.

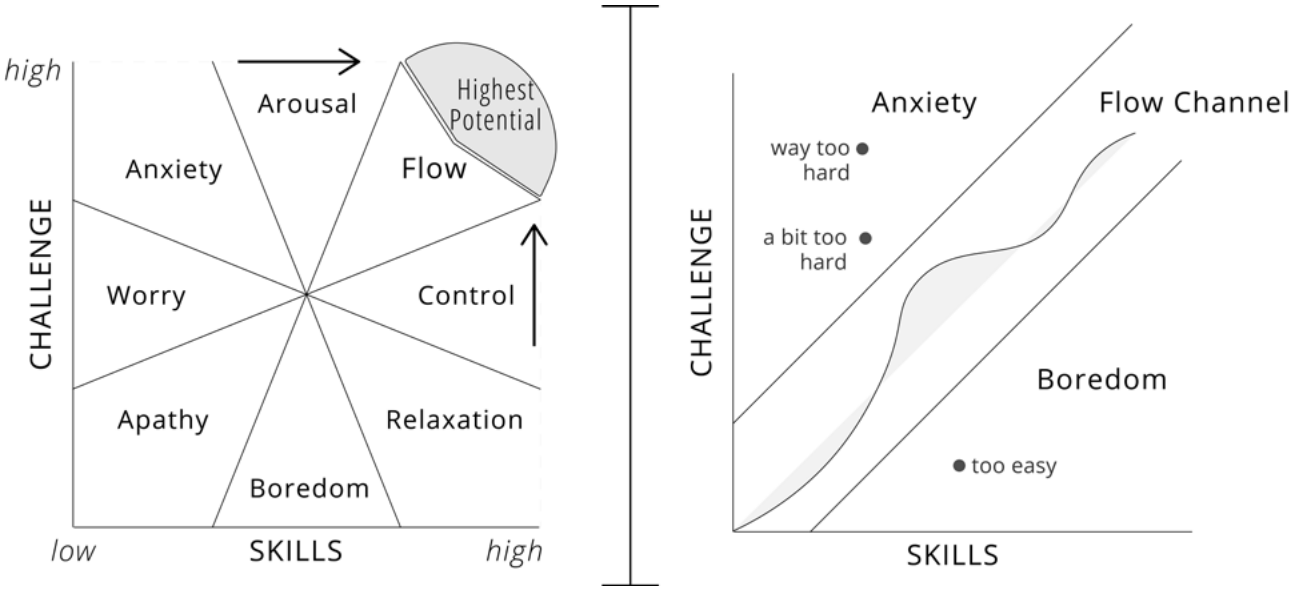

Figure 5. *Two graphs representing two different perspectives on the skills / challenge ratio and the "zone" in which flow is most likely to occur.*

B. **Clear goals**: Know what "you" are doing and why you are doing it. Someone has to have a clear understanding of what is required for a successful outcome and is working toward it. A goal/purpose directs attention. When goals are clear, the mind doesn't wonder what it has to do next, it already knows. Through the setting of a goal concentration tightens, motivation heightens, and extraneous information gets filtered out. Someone's focus can stay pinned to the present moment and the present action. Clarifying the reason behind what "you" are doing will keep "your" mind from wandering and from distraction. Clarity gives certainty, both in concern to what to do and where to focus. It is important to realize that sub-goals/sub-tasks may emerge naturally over time.

C. **Strong motivation**: To enter flow requires strong intrinsic motivation, which is likely to include curiosity, passion, and purpose. Both the product of the activity and the activity itself are the reward.
   1. **Desire to prove something, or prove someone wrong**: The desire to show how something is possible, or prove something wrong can be a strong source of motivation, and is strongly supporting of flow.

D. **Immediate feedback (unambiguous feedback)** - Receiving unambiguous and immediate feedback from the self and/or others is helpful. Feedback enables course correction in real time, allowing someone to push their boundaries and limitations beyond their ordinary experience, stretching, but not breaking. Note here that some activities do not have the ability to acquire immediate and unambiguous feedback from others. As a focusing mechanism, immediate feedback is something of an extension of clear goals. Clear goals tell us what we're doing; immediate feedback tells us how to do it better. Herein, feedback refers to a direct, in-the-moment coupling between cause and effect. If we know how to improve performance in real time, the mind doesn't go off in search of clues for betterment; we can keep ourselves fully present and fully focused and thus much more likely to be in flow. Tightening feedback loops enhances self-awareness of existing relationships.

E. **The challenge is appropriate to the skill (i.e., the challenge to skill ratio, risk to reward:** The activity undertake should be challenging and within someone's own perceived capability. It should also not be beneath one's current level of skill as this can breed boredom and apathy. Flow exists near (but not on) the mid-line between boredom and anxiety. The idea behind this trigger is that attention is most engaged (i.e., in the now), when there's a very specific relationship between the difficulty of a task and our ability to perform that task. If the task is too dull or easy, attention disengages (i.e., we stop paying attention), and action and awareness cannot merge. If the task is too hard, fear starts to spike and we begin looking for ways to extricate ourselves from the situation. Flow appears near the emotional midpoint between boredom and anxiety, in what scientists call the "flow channel"—the spot where the task is hard enough to make us stretch; not hard enough to make us snap. Essentially, the challenge needs to be slightly greater than the individual's present skills (or proficiencies). If someone can keep themselves in this state of dynamic tension then s/he will be most likely to drive attention into the now and maximize the amount of flow in his/her life. Here, risk can be generated by a learned or biophobic response triggered by a near and present danger (which can be both physical and psychological). Physical risks are not inert and cause physical harm. Psychological risks are inert and unable, unless accepted, to cause psychological harm; wherein, conditions make acceptance more/less likely. The defining difference between risk/peril and fear is the level of perceived threat and perceived control. During flow, experiencers have high actual control, and thus, a lowered perceived threat, regardless of whether there may or may not be any real threat.
   1. Flow is most often experienced mentally and physically, together, during activities with the following characteristics:
      i. Practicing a skill (education): Skill-learning is the training, development and acquisition, of skills. Practicing leads to the ability to do work.
         1. Doing a task with a skill (work): Perform tasks precisely with skill under pressure ("risk"). The ability to do work means that work can be done under risky conditions.
            a. Risking oneself (a challenge/failure condition while doing): Risk-taking is the courage to bring new ideas into the world and/or do a physical activity that involves some risk/peril.
   2. Engaging in these three categories of

experience (training, working, risking) facilitates the production of powerful neurochemical state-reactions that allows the brain to go deeper, into a full-flow (i.e., neurochemical dump) state.

2. **Creative flow trigger:** Facilitate an environment where creativity flourishes.
   A. **Pattern recognition (creativity):** When the brain links old information to new information, and arrives at an original idea; which, sets off a cascade of pleasurable neurochemicals. This is the creative-flow state. At a conceptual level,

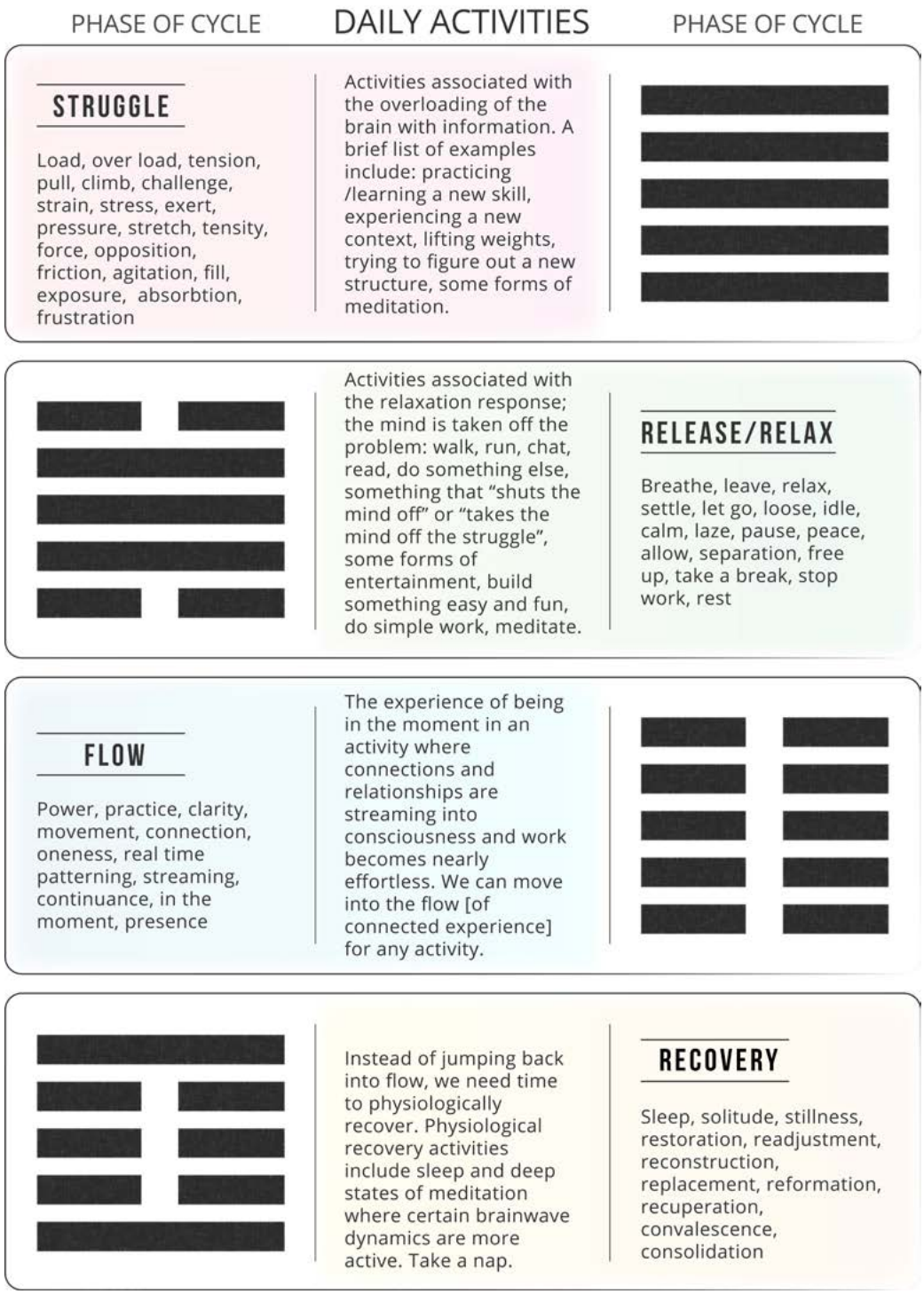

Figure 6. *Depiction of the flow cycle with four phases: struggle, release/relax, flow, and recovery.*

creativity is composed of pattern recognition and risk-taking. Pattern recognition is the brain's ability to link new ideas together.

B. **Novelty (new information):** Instead of tackling problems from familiar angles, go at them backwards and sideways and with style. Go out of "your" way to stretch your imagination. Massively up the amount of novelty in "your" life -- the research shows that new environments and experiences are often the jumping off point for new ideas (more opportunity for pattern recognition).

3. **Environmental flow triggers:**
   A. **Autonomy**: Individuals are more focused when they are in control.
   B. **High consequence (risk)**: The elevation of risk drives focus. As risk increases, two important neurochemicals are released from the brain that help us focus and perform better (i.e., they optimize focus and performance). Yet, in order to make progress, the risk needs to be perceived as a challenge [to be enjoyed] instead of a danger [to be recoiled from in fear]. There are mental (intellectual) risks, emotional risks, creative risks, social risks, as well as physical risks. Since survival is fundamental to any organism, the brain's first priority is to scour all incoming information for any sign of a threat and focus intently upon it. To reach flow one must be willing to take risks.
   C. **Rich environment (including novelty, complexity, unpredictability, and spontaneity)**: Flow can be triggered through a rich, sensory stimulating, and/or novel environment. A rich environment involves a combination of novelty, unpredictability, and complexity, all of which attract and hold our attention in much the same way as risk. Human brains are wired to pay extra attention to anything that they haven't encountered before. Novelty means both danger and opportunity. To our ancestors, a strange scent in the wind could be prey or predator, but either way survival required paying attention. Unpredictability means we don't know what happens next, thus we pay extra attention to what happens next. In other words, if we don't know what happens next, then we are likely to pay more attention to the next. When we are in a complex environment where there is a lot of salient information "coming at us at once", then our attention is more likely to be held upon the incoming sensory information. Spontaneous actions are well-known to trigger happiness and can also be a trigger of flow.
   D. **Deep embodiment:** Deep embodiment refers to the experience of total physical awareness where action and awareness merge. There are very few words for this experience other than the sensation of literally becoming a part of the flow of the surrounding world/environment. This state has often been linked to a feeling of oneness with your surroundings. We can experience deep embodiment by paying more attention to our sensory nerve inputs. Various types of meditation, agility training, video games, and awareness arts (e.g., martial arts) facilitate the development of a greater sensitivity to nerve stimulation.
4. **Physiological flow triggers:** Facilitate an environment where humans are physiologically healthy and in optimal physical form.
   A. **Physiological and neurophysiological health and optimization:** A healthy physiology, and particularly, neurochemistry (including flexibility in shifting into gamma brainwave states) can make the flow state more likely to experience, and also, more powerful when experienced.
   B. **Chemical supplements:** There are specific chemical supplements that can facilitate the onset and depth of the flow state, including but not limited to: caffeine, paraxanthine (metabolite of caffeine), tetrahydrocannabinol (THC), ketone di-ester (R)-1,3-butanediol (BH-BD) combined with ketone monoester d-β-hydroxybutyrate (beta-hydroxybutyrate, BHB), nootropic stacks, etc.
5. **Brainwave flow triggers:** Facilitate an optimal entrainment environment throughout the habitat (e.g., bio-cymatics, geo-cymatics, etc.).
   A. **Gamma brainwaves specific for the flow phase** (30hz and above) - are highly associated with being in the flow phase of the flow state.
      1. Meditation facilitates the production of gamma brainwave states. Long-term mediators have been shown to produce more gamma.
6. **Sociological flow triggers** (i.e., social flow triggers to experience group/shared flow): Facilitate an environment where education flourishes.
   A. Shared, clear goals.
   B. Serious concentration.
   C. Equal participation (and skill level).
   D. Sense of control.
   E. Shared risk.
   F. Familiarity and single-minded thinking.
   G. Good communication.
   H. Good listening.

I. Additive.

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, if we desire more flow.

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 dangerous 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?*

2.1 Flow enabling and disabling categories

A.k.a., Categories of human optimization.

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

1. **Physiological** quality and characteristics.
2. **Mindset and psychology** quality and characteristics.
3. **Social environmental** quality and characteristics.
4. **Physical environmental** quality and characteristics of the environment.
5. **Lifestyle**, as the things done daily (or, regularly).

2.2 Flow facilitating practices, technologies, and environments

A.k.a., Human optimization practices, biohacking, bio-hacking, personal growth, self-help, self-transformation.

Flow facilitating practices include the tools and techniques to produce more flow, well-being, and fulfillment in life. Flow is a complex psycho-neurological state that represents optimal conscious interface and co-control of the body interface with reality (full, or more complete immersion in real-/universal-world). Flow is a highly sought after and desirable state if handled well. The flow cycle has four phases, each of which can be optimized to produce more flow in our lives. Flow is one of life's highly enjoyable states of being. It is important to remember that humans have the ability to design the environment around them. In return, the environment can shape their life experience and increase the probability for flow.

There are a set of best practices, and even technologies that can assist the production and restoration of flow. More flow can be produced from the use of various technologies, many of which also facilitate (speed up and make more likely) human healing. Flow can be optimized through training and adaptive technologies. Here, the principle human optimization questions is: How do we change the body (internal environment) and external environment to change the signaling profile to optimize human performance and well-being?

When individuals feel their best, they perform their best. Universities and life-spaces ought to be environments that facilitate greater experiences of flow. Places where flow is integrated into everyday life. It is possible, particularly at university settings, given the freedom to access and use technologies and practices that facilitate the production, increased frequency, and most optimal restoration of flow in our lives on a whole student population (of campus) basis.

NOTE: *The general purpose of human optimization (a.k.a., "biohacking") is to use available technologies and natural principles*

to optimize biology to experience more health, well-being, and flow in life. Effectively, biohacking is changing the environment around "you" and inside "you" so "you" have more control over "your" biology. Biohacking is all about the optimization and self-control of [one's own] biological systems. "Biohacking is about finding shortcuts that will take you to an optimal state of energy and strength so that you can unlock the best version of yourself." (Asprey, 2023)

It is possible to cultivate more flow in life through a better understanding of natural principles and a better arrangement of life circumstances, materials, and technologies. There are technologies that will get people into flow states more quickly and help them recover more quickly afterward. There are specific configurations of the environment that allow for more flow in life. It is possible to optimize the stages of the flow cycle (and therein, flow) through the optimization of (i.e., optimizing the well-being of human beings requires optimization of):

1. **SLEEP - Optimization of flow by optimizing sleep (restoration phase of flow cycle):**
   A. An environment that optimizes for pre-sleep and sleep.
      1. Appropriate temperature and humidity.
      2. Appropriate bedding.
      3. Appropriate sensory environment (e.g., red light at night, no disturbing noises or motions, etc.).
2. **FOOD - Optimization of flow by optimizing of food:**
   A. Optimization of nutrient consumption over time in a complex feeling-state of [need-fulfillment] 'satiation'.
      1. Appropriate foods and water.
         i. Species appropriate diet - to live optimally, the optimal nutrition must be eaten.
         ii. Sufficient supplementation - to maintain a species appropriate diet, and/or to improve upon a species appropriate diet. Supplements may include, but are not limited to: collagen, minerals, micronutrients, etc.
         iii. Appropriate meal timing - to live optimally, nutrition must be eaten at (generally) the appropriate time(s) of day.
         iv. Optimization of water - to live optimally, the optimal water must be consumed. Relatively low deuterium water optimizes mitochondria. Water with appropriate electrolytes (a.k.a., minerals) optimizes conducting electrical impulses across cells, regulating fluid balance, and supporting various bodily functions. Electrolytes are minerals that, when dissolved in water, form electrically charged ions (i.e., elemental atoms that have one more or one less electron, resulting in a net [electron quantity] "charge".
   B. Optimization of mitochondria and bacteria (general).
   C. Optimization of blood sugar (and insulin) by monitoring blood sugar using a continuous glucose monitor.
3. **ENVIRONMENT - Optimization of flow by optimizing environmental exposures:** this includes giving the body positive exposures as well as not exposing the body to things that make it weaker.
   A. Optimization of chemical exposure.
      1. Appropriate peptides - are molecular strings of amino acids that act as signaling molecules and replace tissue.
      2. Reduced toxins - are molecules that harm human cellular functioning.
   B. Optimization of sunlight - sufficient daytime sun exposure and not over exposure (i.e., burning). Appropriate and sufficient light during the day is necessary for optimal daytime and sleep functioning. The sun represents the single largest energy input into the body, and it has for millions of years.
   C. Optimization of artificial light.
      1. Yellow, orange and red lights at night (except, in cases of emergency).
      2. Additional red, infra-red, and other frequencies of light applied to the whole body. These include, but are not limited to red light tables, red light squares, etc.
   D. General environmental optimizations may include:
      1. Optimization of the ambient environment (i.e., temperature, humidity, etc.).
      2. Optimization of the acoustic environment.
      3. Optimization of the visual environment.
      4. Optimization of the daily life-radius.
4. **ELECTROMAGNETICS - Optimization of flow by optimizing electromagnetic exposures:**
   A. Pulsed electromagnetic fields (PEMF).
   B. Earthing (a.k.a. grounding, touching the ground, touching an electrical conductor touching the ground).
   C. Electrical [muscle] stimulation (EMS).
5. **MEDITATION - Optimization of flow by optimizing meditation (release/relax phase)**: meditation is significantly necessary for optimizing human potential. In a sense, meditation is mental fitness. Meditation is inward conscious awareness un-/

focus -- as in, focusing awareness inward (toward the expansion of thoughts or toward the touch of material) and also unfocusing of awareness (on any ideal (thought) or material (object). Consciousness may process thoughts and move awareness through materiality. To meditate necessitates specific conditions and may be facilitated by various technologies:

A. **Brain entrainment sounds/tones (a.k.a., neural entrainment or brainwave entrainment; e.g., binaural beats, monaural beats isochronic tones, infra-liminal sounds, spatial angle modulation sound, tuning forks, instruments, etc.)** - is a process that involves the synchronization of neural oscillations (patterns of electrical activity) in the brain with external stimuli, such as rhythmic sounds, light pulses, or electromagnetic fields. The idea is that when the brain is exposed to repetitive and rhythmic sensory stimuli, it tends to synchronize its electrical activity with the frequency of that stimulus.
   1. **Light and sound machines** - these devices flash lights toward the eyes (closed or open) at various frequencies and may be combined with sounds at the same frequency. Light can also be flashed on various points on the face.
   2. **Neurofeedback training (and biofeedback training)** - eventually, able to transition between the different states through complete, fluid brain control. They can suspend themselves in a specific state (leveraging a specific brain wave). Neurofeedback is a technique that provides the user with a recognizable signal of the brainwave state that they are currently in. The user has control over the fedback signal by controlling their brainwave state (by keeping it stationary and/or moving it to a different brainwave state).

B. **Meditation techniques:** Specific types of meditation, for example, the following four basic/foundational meditations combined with some "breath awareness technique".
   1. **Breath awareness control** - maintain awareness of the breath (following a breath technique), with a focus on the breath only. If the mind wanders, imagine it being cleared like a whiteboard and then return to the awareness to the breath. This is an awareness technique; it is a breath awareness technique. Breath awareness may be mixed with other meditation methods, such as progressive relaxation (i.e., have an awareness of the breath while progressively relaxing all the various parts of the body). This is a technique for controlling the focus of awareness. Note that in normal everyday and most meditative breathing, the inhale and exhale ought to always be through the nose, and should not incorporate the mouth. During states of significant or unique physical experience (intense fitness), the breathing may incorporate the mouth. There are many forms of breath control. Breath awareness provides consciousness with control over breathing, whereupon over time, the breath technique becomes autonomous. Four common breath awareness-control techniques are:
      i. 3 inhale, 3 hold, 4 exhale, repeat (note: this is the most common and useful breath technique).
      ii. 3 inhale, 3 hold, 7 exhale, repeat.
      iii. 5 inhale, 5 hold, 5 exhale, repeat (a.k.a., triangle breath)
      iv. Rapid deep breathing (for some number of seconds) with a longer inhale, then exhale, with a breath hold for as long as possible (note: never do this under water, or with too much intensity while walking, because it is possible to become unconscious for a few moments while doing this).
   2. **Progressive relaxation** - move "your" awareness around "your" body and relax each part of "your" body, slowly, until the whole body is relaxed. Move through every macro and micro part of the mody (flowing awareness throughout the body, generally from heat to toe, and reverse. The tissues can be relaxed, the organs can be relaxed, the bones can be relaxed, the blood can be relaxed. As awareness is moved through the body relaxing every part of it down to the cellular level, the awareness may become white light, healing and regenerating as it is moved through by consciousness. Over time, a practitioner of this meditation may get to the point that s/he can put the body consciously to sleep, and/or begin to gain significant awareness and control over its nervous system.
   3. **Pore breathing (a.k.a., skin breathing, chi breathing, etc.)** - first imagine breathing air in and out through all "your" skin. Over time imagine the air turning into light, and breathing the light in and out of all the pores of the body. Then, over time, increase the vibration of the light that is breathed

in and out. This exercise may also be done by imagining vibrating “your” whole body slightly as “you” imagine the light vibrating, and also, separately, train by vibrating only “your” envisioned “energy” [light] body. Pore breathing may be done in sequence with a breath technique. Note that this technique can be applied to individual organs and brain regions (i.e., breathing light into these organs). This is a technique for gaining conscious control over the vibratory state.

4. **Thought streaming (a.k.a., zen no-mind meditation)** - focus on breathing while moving thoughts through “your” mind. As a thought comes up, imagine moving it out of “your” mind; eventually, get to the point where thoughts "steam" through the mind (arising, connected to another thought, then moving through and out of awareness. Do not become affixed or attached to any thought (or expand any thought) simply move thoughts through and out of "your" mind, after awareness of the thought has fully arisen. With concerted practice, eventually, no thoughts arise, not even that of breath. Through practice, this is one technique for discovering consciously patterns of contradiction/conflict during the day that were previously not perceived; in other words, this technique improves daily pattern recognition and during the meditation itself, patterns previously unrecognized may become thoughts that stream through the consciousness awareness[ing]. Additionally, this is a technique for releasing the focus of the self from this real-world physical body.
5. **Color streaming and attachment disconnecting** - color streaming involves imagining an egg of color (an "aura") around "your" body. Then move colors in PROYGBIV order (or reverse) order through the "auric energy field". Imagine pulling/pushing/moving red light from above the head to below the feet. Then go the opposite way with the next color (pink(P)>red(R)>orange(O)>yellow(Y),..., or reverse). Attachment disconnecting involves moving "your" focus of awareness around the physical area of the "auric energy field". Move it spirally (note: L / R direction doesn't matter) around the body. When a feeling of friction ("stuckness") is encountered, then in that area imagine a cable connecting from outside the aura in-to that area of friction. Imagine white light at the point of the friction as "you" disconnect the cable, and release it back to someone/something outside of "your" field. There is no need to focus on who/what it connects to. If a thought arises while disconnecting, allow it to arise, and then let it go. Attachment disconnection is a technique for releasing the focus of the self from this real-world physical body.
6. **PHYSICAL FITNESS - Optimization of flow by optimizing physical fitness:**
   A. **Physical exertion (functional movement):**
      1. Weight/resistance training.
      2. Interval-type training:
         i. High-intensive interval training (HIIT) - on off type training. For example, exert for 20 seconds, rest for 10 seconds, then repeat for 8 intervals.
         ii. Reduced exertion high-intensity interval training (REHIT).
         iii. Varying intensity interval training.
         iv. AI guided cycling
      3. Exercise with oxygen (EWOT) - breathing hyperoxic gas through a mask while exercising. An EWOT system uses an oxygen concentrator to fill up a bag with oxygen, which is breathed while exercising. There are two forms of EWOT.
         i. Pure EWOT - just breathing high oxygen air.
         ii. Contrast EWOT with low and high oxygen - breathing both high oxygen air and low oxygen air at separate intervals. A contrast EWOT system uses two bags; wherein, one bag is filled with oxygen and the other maintains the low oxygen air.
            1. Contrast EWOT may be combined with HIIT on an exercise bicycle. An example procedure of contrast EWOT combined with HIIT on an exercise bike is as follows:
               a. Peddle for 3-4 minute as a warm-up with high O_2.
               b. After the warm-up period, peddle at an appropriately comfortable speed with low O2 until body O2 saturation is between 85-80%. Note that people with better physical fitness will take a longer period of time to decrease their O2 saturation. Adjust the speed at which “you” are peddling so that the O_2 saturation is reduced to between 85-80% within about 4 minutes.
               c. Then, switch to high O_2 and peddle as fast as possible for 20-30seconds.
               d. Continue peddling gently with high O_2

for 30 to 60 seconds.
e. Switch to low O_2 and peddle gently until body O_2 saturation is between 85-80%.
f. Then, switch to high O_2 and peddle as fast as possible for 20-30seconds.
g. Repeat process for a total of 4 intervals of fast peddling, then peddle gently to finish with high O_2 for 3-4 minutes more.

4. Blood-flow restriction band training (a.k.a., pressure cuffs) - involves bands that are placed around the upper arms and legs and gently restrict blood flow while gentle exercises are done for less than 20 minutes.
5. Rebound (trampoline) training - jumping up and down on a trampoline.
6. Whole body vibration platform training - either just standing on a vibration platform or doing gentle exercises upon the vibration platform.

B. **Thermal extremes exposure:**
1. Cold immersion (i.e., ice baths, cold swim, cold plunge, cold showers).
2. Hot sauna (e.g., infrared sauna, dry sauna, etc.). Note that it is important to be cautious with wet saunas, as: they can be moldy; they are often cleaned with harsh chemicals linger after cleaning; and the water used will be inhaled, which if there isn't a quality water filter in the system, may be unsafe.

C. **Physiological recovery:**
1. Massage (in the form of an electric percussion massager, and/or family/friend).
2. Hyperbaric oxygen therapy - enter into a pressurized chamber and breathe pure oxygen. Studies show that hyperbaric oxygen therapy can increase the speed at which wounds heal (Lam, 2017), reduce inflammation (Thom, 2011), increase mitochondrial biogenesis (Suzuki, 2017), and improve VO_2 max (Hadanny et al., 2022).

Of note, if "you" want to see consistency with beneficial health practices, and particularly, human optimization technologies, then "you" need to:

1. Know that bio-hacking requires some degree of bio-tracking (i.e., bio-monitoring), such as blood work monitoring, heart rate monitoring, glucose and insuline monitoring, etc.
2. Have access to the technologies within your walkable life-radius. In the market-State, generally, that means "you" need access to the technologies in "your" home, because otherwise "you" will likely have to drive somewhere to rent/use the technologies, thus reducing the consistency with which they used. In community, that means you need access to the technologies within the local 15-20min walking life-radius of the local habitat, and have access to more frequently used technologies in your home.

2.2.1 Sleep optimization techniques

> **NOTE:** *There are things that seem like "hacks", but they are actually not, they are just realigning our biology. For example, exposing "your" eyes to the sun in the morning and throughout the day, and not having lights on at night of a color other than red (or orange).*

Sleep, restoration, is one phase of the flow cycle. Sleep optimization is one the most important states of life, because a lack of sleep affects all aspects of one's life, affects recovery and performance. Note, someone who takes longer than approximately 10 minutes to fall asleep on any night has technically had insomnia for that night. What someone does during the day can significantly impact the quality/efficiency of sleep at night.

The following key terms relate to sleep science:

1. **Sleep onset latency** - the amount of time it takes to fall asleep; with approximately greater than 10 minutes being an event of "insomnia").
2. **Sleep pressure** - the feeling of needing/going to sleep.
3. **Sleep efficacy (a.k.a., sleep efficiency)** - how effective the period of sleep was in facilitating deep restoration of the body. Sleep efficacy gives an overall sense of how well someone slept. Sleep efficiency refers to the percentage of time a person sleeps, in relation to the amount of time a person spends in bed. Sleep efficacy can be measured, in part, by:
   A. Subjectively, through individual body feeling.
   B. Objectively, through monitoring of:
      1. The duration of time spent sleeping.
      2. The duration of time spent in each stage of sleep.
      3. Brain electromagnetics.
      4. Brain/body chemicals.
4. **The roll-over signal** - the feeling of needing to role over (and change the position of the head) to continue to fall asleep. The roll-over signal can feel like a pressure (leading up to a dull ache) that is corrected by rolling over and repositioning the head in relation to gravity.
5. **Glymphatic system** - the lymphatic system of the brain that cleans out waste from the brain. The head repositions itself in various ways to help clear out the glymphatic system most efficiently.

In most of the human population, the brain's lymphatic system (the glymphatic system) cleans most efficiently when the head is laying on its side (with one ear facing the ground and the other the sky). When the head is inappropriately positioned for lymph cycling, then a pressure arises to turn over, then dull ache will be felt, to "pressure" the consciousness to turn the head to position it better for waste clean-out (a.k.a., the roll-over effect).

6. **Brain energy** - the brain needs a source of energy/fuel to shift into sleep mode. Note here that the brain has a modality - it has two modes: an awake mode where consciousness has willed control over a body, and an asleep mode where consciousness is not observed to be present. One of the sleep techniques below (the carbohydrate technique) includes a source of nutrient energy to facilitate the brain's falling asleep.

The following may be done to optimize sleep at night (note that some of these sleep optimization techniques include daytime activities):

1. **Body-mind control:**
   A. While in bed at night, gaze upward toward the cranial region with closed eyelids, which may induce the generation of alpha brainwaves. Alpha brainwave patterns have the potential to enhance sleep pressure and promote the onset of sleep.
   B. While in bed at night, relax the various parts of the body to facilitate sleep pressure and on-set. In other words, deliberate meditation and mental relaxation of each part of the body while in bed at night can contribute to the facilitation of sleep pressure and the initiation of sleep.
2. **Atmospheric control:**
   A. Do not have fans blowing directly on the sleeper. Fans blowing directly on a sleeper are likely to negatively impact sleep quality.
   B. Set a good environmental temperature (cool) and appropriate humidity. A cooler ambient temperature sleeping environment may help with sleep-onset and sleep efficiency.
3. **Temperature control:**
   A. Hands and feet are thermal regulators, so "you" can keep them out of the blankets. If "your" feet or hands are too cold, of course, that can inhibit sleep.
   B. Cooling the head with an ice pack after lying down on a bed can facilitate sleep. In other words, lay down and place a paper towel covered ice-pack on the forehead. Then, remove it when sleep pressure is felt, or when it is no longer cold.
   C. Taking a warm shower before bed can support sleep. After the warm shower, the body will cool and the cooling may facilitate sleep onset.
   D. Conversely, take a cold shower at night in hot environments to cool the body when the environment isn't cold/cool enough to facilitate cooling of the body.
   E. Take a hot sauna in the evening to facilitate sleep at night.
   F. Take a short ice bath during the day to facilitate sleep at night.
4. **Bedding control:**
   A. A mattress that remains sufficiently cool and comfortably supportive throughout the night will facilitate sleep on-set and efficiency. Use a mattress that maintains a good temperature over sleep-time. Some mattresses will store body warmth and then radiate it back to the sleeper, which is undesirable.
   B. Poor bedding that aggravates pressure/pain points is likely to cause "tossing and turning", which is likely to fragment sleep.
5. **Light control:**
   A. Exposure of the eyes and skin to sunlight first thing in the morning will help set someone's circadian rhythm, along with a host of other benefits, that will facilitate sleep at night. The human body is intimately tied to light and dark cycles (of the sun).
   B. Exposure of the skin and eyes to sunlight throughout the day can facilitate sleep at night. Note that long durations of time spent in low lux (i.e., dark) indoor environments can harm optimal eye functioning.
   C. Red (orange and amber) lights and red glasses at night (to protect the eyes from other frequencies of light) can help the body fall asleep. Blue light, and other higher frequencies of light, including very bright light (even bright red light) are light frequencies likely to suppresses the body's production of melatonin, the hormone associated with the regulation of circadian rhythm and sleep on-set. Effectively, blue (and other) light can affect sleepiness in negative ways.
   D. A very dark (blacked-out) sleeping environment, where the sleeper cannot see their hand in front of their face, can facilitate sleep optimization (i.e., a pitch black sleeping bedroom may facilitate sleep optimization).
6. **Food control:**
   A. Having appropriate healthy blood sugar regulation throughout the day will facilitate optimal nightly sleeping.

B. Consuming the last meal of the day three or more hours before bed can facilitate the optimization of sleep. Lying down to sleep after eating can cause indigestion.
C. Taking a relaxed 10-20 minute walk after each meal of the day can aid digestion and healthy blood sugar regulation, and thereby aid sleep at night.
D. Raw honey before bed may facilitate sleep onset, sleep efficiency, and shorten sleep duration (over the course of one night). If the honey helps chronic insomnia, then part of the source of insomnia may be blood sugar related. Wearing a continuous blood glucose monitor is essential for determining whether someone's blood sugar regulation is disordered, and why (in the context of food inputs). As noted earlier, the brain requires an addition of energy to enter sleep mode. Carbohydrates before bed in the form of raw honey may also shorten the sleep duration. It may be possible for some people to shorten their sleep duration by having something like 1-2tbs honey after dinner (if they have reasonable blood sugar regulation to start with). Raw honey before bed, like melatonin, is something of a chemical "crutch". The honey should be raw. And, melatonin is often not appropriate for children.
E. Some people find they fall asleep most easily after eating a high carbohydrate meal right before bed. Again, this is because the carbohydrates provide energy for the brain to fall asleep. A high carbohydrate meal before bed may be considered a chemical "crutch".

7. **Supplements control:**
   A. Supplemental melatonin is a hormone that significantly facilitates the onset of sleep. Taking melatonin before bed, like honey, could be considered a chemical "crutch".
   B. Take some electrolytes mixed in a glass of water before bed, primarily in the form of 200mg to 1000mg of sodium with some potassium and some magnesium (or, fulvic and humic minerals). Electrolytes are probably not considerable as a chemical "crutch". Be careful with electrolytes; if you wake up in the morning with bags under your eyes, the salt/electrolytes consumed the day before may be causing kidney stress.
   C. Sufficient consumption of electrolytes during the day can facilitate sleep.
   D. There are specific peptides that can facilitate sleep. The most well known peptide for sleep is "deep sleep inducing peptide" (DISP).
8. **External weight control:**
   A. A weighted blanket that puts outside pressure on one's body can sometime help in falling asleep more quickly.
9. **Breath control (**Important: nasal breathing always, as normal breathing):
   A. Special breathing techniques to help sleep onset include, but are not limited to:
      1. Reduced volume breathing (a.k.a., Butenko breathing method) - breath in a slightly reduced volume of air while slowing the breath, so that "you" feel a light amount of "air hunger" (i.e., feel like you would like just a little more air, but don't give it to "yourself"). The purpose is to apply a gentle reduction to breathing.
      2. Relaxed slow breathing, with breath exhales slowly extending to some elongated and fixed exhale time. In other words, longer exhales than inhales.
   B. There are also breathing to remove fatigue and motion sickness:
      1. To reduce fatigue: one or two rapid inhales in, and then, slow exhale, repeat. (note: this is not a sleep-time practice).
      2. Ribcage expanding breathing.
      3. Deep belly-button breathing
      4. Slow ribcage and belly-button breathing with arms over the head (sitting or standing, with caution that the behavior will not cause someone to pass out and injure themselves).
10. **Lifestyle controls:**
   A. Massage and electrical stimulation, including family, percussion and electrification technologies:
      1. Body percussion tool devices produce a feeling of relaxation and may also help release serotonin, just similar to a regular human-to-human massage.
      2. Vagus-nerve electrical stimulators typically go around the neck and stimulate the vagus nerve on either side of the front of the lower throat.
      3. Electrical muscle contraction stimulators to externally electrically contract at a set frequency specific muscles of the body.
   B. Food composition: The type of food consumed throughout the day over time. Control the type of food over time.
   C. Meal timing: The timing of the last meal of the day can impact sleeping. Control when the last meal of the day is eaten. It is generally, on a day-to-day basis best not to eat three hours before sleep (note: this is also a form of "food-

timing control").

D. Exercise:
   1. Physical movement and exercise during the day can facilitate sleep. Several enjoyable walks per day, or one longer enjoyable walk per day is a good foundation for physical movement.
   2. Sleep pressure and deep sleep will be improved at night by walking at least 8000 steps outside during the course of the day.
   3. Intense exercising before sleep can impact sleep negatively. It is generally best on a day-to-day basis not to exercise directly before sleep.

E. Bedtime timing - It is generally best to go to bed "early", between on or two hours after the sun sets, and to use red lights at night to help induce sleep pressure (i.e., the feeling of being tired and ready for sleep). It is generally best to go to bed at the same time every (or, most) nights.

What if "I" wake in the middle of the night? If "you" wake in the middle of the night, then:

1. Do breathing exercises and progressive relaxation meditation until "you" feel sleep pressure again.
2. Take an electrolyte supplement and go back to bed.
3. Listen to an audiobook.
4. Read a book under red light.
5. Take a warm shower if the ambient temperature is cool.
6. Take a cool shower if the ambient temperature is hot.

Supplements and pharmaceuticals can impact sleeping:

- Be careful with supplements and pharmaceuticals at night, and during the day, because they too can significantly impact sleep onset and sleep quality in good or bad ways. Note that a supplement that may initially have a good effect may start to have a detrimental effect over the long-term (e.g., melatonin).

Of note, human performance can be compromised in the following general ways:

1. Body posture.
2. Psychological orientation to past, present, future.
3. Physical and biomedical composition.
4. Exposures to toxins and/or things that make the body weak.
5. Sleep quality.

3 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 potently 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. The flow state may be said to "catch your brains attention and hold it". 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. Further, during the experience of flow, depending upon the context, the experiencer may lack an awareness of bodily needs and/or ignore their needs in favor of the performance of flow.

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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The Education Phase

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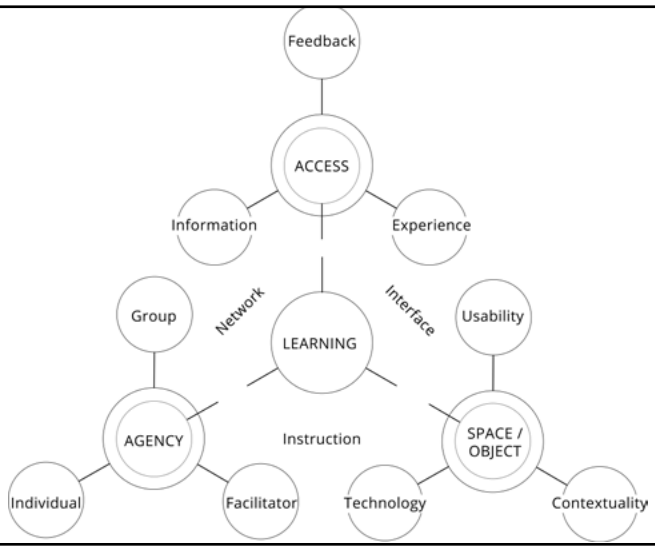
Abstract

Learning is a lifelong process that originates from within each individual and may be nurtured or hindered by an environment. Therein, education is the self-development of capability and knowledge. Together, a community may facilitate the lifelong learning of the whole population. Humans are capable of experiencing motivation from two sources, internal (with situational components) and external (with coercion-based components). A community-type society where all users are potential contributors enables experiential learning across the population. In a community-type society, learning occurs through facilitation, instead of teaching. It is the learner doing the learning for oneself that most benefits everyone. Learning can occur at the individual level, and it can be formalized in standards at the societal level. There are compositions of society that engage learning in ways that negate and harm individual self-direction and self-integration. Potential learning can be thwarted by aberrant conditions and conditioning. Fundamentally, humans learn and grow through experience.

Graphical Abstract

Figure 7. *A lifestyle coordinate for 'learning'. 'Discovery' is new 'access' (to information, to feedback, and to experiences). 'Intention' is 'agency' (as individual, group, and facilitation). 'Space' is "creation" or "material structuring" (as usability, contextuality, and technology).*



1 Learning

"There is no difference between living and learning. It is impossible and misleading and harmful to think of them as being separate."
- John Holt

Learning is a lifelong process that originates from within each individual and may be nurtured or hindered by an environment. Learning is natural and innate in us; it is an intricate and complex process for which we are all [neurologically] wired. Learning is [an ability] implicit to embodied consciousness. Practically speaking, learning is the product of the activity of learners and it is the result of living a rich and engaged life. Learning is an intrinsic and active process in which someone is interested and engaged. It is a self-directed process for it originates from within the individual (i.e., learning is the self-integrating and structuring of the contents of our own minds). As a self-directed process, learning can be interfered with and entirely dismantled by external forces (including other individuals and extrinsic processes). If the structure is the function, then in a physical sense, neuro-adaptation [of a conscious entity's nervous system] is learning. Individual animals, including individual humans, can learn and adapt. Fundamentally, learning is a growth process that happens inside someone and leads to changes in knowledge, skills, and motivations. These transformations occur based on someone's life experience and increase potential for well-being, life opportunities, improved performance, and future learning.

Learning is an individual, internal process that takes place in [at least] a person's brain as information is sought, integrated, and applied, and connections are made. For the process of learning to occur the learner must be able to classify his or her own interactions with an environment, which most often takes the form of changing its structure (i.e., by interacting with it). Hence, learning necessitates a relationship and a novel experience -- it requires some degree of action, interaction, and reaction. It could be said that learning is the state of active participation in a relationship. Fundamentally, if "you" don't do anything, "you" are not going to learn anything. Knowing what something is, is not the same as experiencing something for oneself. Seeing and experiencing makes everything seem obvious. Fundamentally, learning is up to "you" and when "you" make it up to "you" it makes a huge difference in "your" life and the lives of others in "your" social environment.

Individuals have the capacity to learn for themselves. To understand the true nature of the universe it must be experienced and explored first hand. Individuals come to know things through verification by their [conscious] experience [of existence], which may proceed a hypothetical inquiry. The answers to human existence come from human interactions with the universe.

Technically speaking, learning is the intentional processing of information in a structurally emergent access, integration, and memory 'space'. In other words, learning is the process of integrating newly accessible information [spaces]. Therein, discovery is new access, intention is agency, and life is structured creation.

Neurologically, learning is an adaptive process. The brain is adaptive; it is an adaptive learning machine. The brain re-wires its connections based upon experience (exposure) and the learning of new tasks. The umbrella term for this in neuroscience is 'neuroplasticity'. It is wise to remember not to lock into a conclusion too quickly; it is wise to keep some degree of neuronal plasticity so that one is always open to a new idea that might actually be a refinement of an old idea.

No-one can prove that any type of discipline helps a child grow and learn any faster than s/he would naturally, with lots of love and support and gentle guidance. Is it possible that the ubiquity of child-discipline methods, punitive, manipulative ways to train children in the ways of the world, have made humanity forget to question whether they are necessary at all.

Learning is not something imposed upon a person; it is something that happens naturally. Learners make subjects relevant to themselves; when someone else makes a subject relevant, then there is likely coercion present.

Learning is the process of taking every new experience and encounter as an opportunity for investigation and illumination. We learn by experiencing, remembering, and evaluating. Among the many processes that the concept of learning encompasses are: discovering; connecting; integrating; adapting; designing; constructing; and creating. Effectively, learning becomes about openly inquiring and actively integrating our experiences into a referential information set [so that we may more greatly focus our intent on that which is most meaningful]. Hence, it involves trust in the human capacity to be curious, to integrate, and to verify existence for oneself. Learning is thus experienced as the self-integration of mind, body and existence by consciousness; it is an emergent phenomenon and a self-organizing process. It could be said that learning is a dynamic function of consciousness in the awareness of a relationship with existence. Summarily, learners become (or "learn from") their experiences and they follow their passions while they self-organize and self-integrate.

INSIGHT: *Learning is about understanding and about relating the understanding to a part of ourselves. And therein, practicing in the betterment of self and/or other.*

The most important thing that promotes learning is your own motive interest in wanting to learn something. As long as "you" are interested that is really the only criteria to learning. Learning is a playful adventure. The opposite of play isn't work; it is depression. The world is a learner's playground where every connection (action, interaction, and reaction) is an opportunity for learning. Learners explore and experiment; they experience and partake; they engage and discover; they restore

and recover; they struggle (or "load") and process; they consolidate and make new connections. Note that when learning takes the form of the flow cycle, then it has different experiential and neurophysiological stages (struggle > release > flow > recover).

Learning is a universal consideration. If we have no reference point, no stable point from which to work from, then we cannot run effective experiments and optimize decisions, which is the basis for all learning and the organizing of fulfilling environments. An individual needs a point of reference from which to measure the departures, and then to come back and ask if those departures are adaptive to its purposes or not. Hence, if you don't learn, then you can't adapt. And, if you can't adapt, then [evolutionarily speaking] you won't survive.

When we experience the connections and can verify our experiences, then our lives become an authentic representation of reality. But, when we are given abstractions void of experience, and hence, verification, then our lives become an opinionated representation of reality. If you can't verify information then you can't learn.

A learner attunes his or her sensitivities to the world. Herein, learning a new feature of an environment allows someone to build a model. Once "you" have a model "you" can test it and identify exceptions which engages curiosity and facilitates going deeper (i.e., learning new features and building more / newer and more accurate models). Once we have a model in our minds, then we can start testing it. The way someone develops a grounded understanding is by going out in the world and playing with things; being "told" something is not its equivalent.

We learn through experience and the developing of our sensitivities to real patterns in an existence that can be identifiably experienced by our consciousness. Herein, curiosity brings fulfillment that we do not find by chasing achievement. Unless a child has specific and unique learning challenges, you essentially cannot stop them learning if they have access and exposure to materials and content (besides trauma). There is no substitute for passion.

Humans are naturally curious. In community we discover our interests and then master them to our desired potential. The only learning that ever counts is when the learner drives their own learning (i.e., has passion) and is fully responsible for their learning, and not forced by some authority. Responsibility means that "you" make your own decisions and are not protected from the consequences of your actions. In community, we facilitate an environment where we as individuals can make our own mistakes and learn from them. Learners ought not to be protected from failure since failure is feedback and represents an opportunity [and may provide incentive] for growth. Learners use feedback from an interactive environment to correct their own development and integration processing.

When individuals set their own learning outcomes and self-correct our measures, it frees them to explore higher order cognitive skill development. Instead of just memorizing individuals can begin thinking creatively and [re-]solving problems. And in doing so, they may feel like they are playing (as children) or in the state of flow (as adults). Learning is supposed to be enjoyable; and if it is not enjoyable for someone, then maybe there is a problem with the context within which others say someone is supposed to be learning. Play is an integration of learning and leisure; in contrast to contribution, which is labor and may hopefully be play, but which certainty must be done.

In general, play has four characteristics:

1. It is an activity that is self-directed and self chosen by the players. If it is imposed on them, or if there is an authority figure telling them how to do it, then it isn't play. Play is self initiated and self-directed. Play is not a forced activity. It's not play if anyone is not free to quit.
2. It is intrinsically motivated, in other words, it is being done for it's own sake; it is being done (at least in part) because it is enjoyable to do. Play is how you discover and pursue the things that you like to do.
3. Play always have rules, and guidelines. Technically, there is no such thing as unstructured play. Play is how people practice creating and following guidelines.

The primary purpose of play in mammals and humans is to practice the skills that are necessary for living a healthy and satisfying life as the species that every individual-self is, for survival and thriving together. Children play at those skills that are important to their survival, their behaviors and appetite are ecologically contextualized species specific skills. These observations show that children are, by nature, attuned to what it is that they need to learn in the society that they are growing up in if they want to succeed, eventually, as adults in that society. Here there is a recursively shared "generational" relationship. (Gray, 2023)

Studies clearly show that children (in education) are much happier and mentally healthier when "schooling" is out, rather than when school is in. There are several studies looking at the suicide rate when "school" is in session compared to the suicide rate for "school" aged children during the summer when school is off. Also, even during mid-term vacation (e.g., holidays and new years). The find is that the suicide rate declines greatly in the summer, and declines a little bit even during the mid-term "school" break; i.e., when "children" are not at "school". Some of the studies show that the suicide rate in the summer (i.e., a duration of vacation/leisure from "school") is less than half per month than it is during the "school" year. (Gray, 2023)

I the early 21st century, "school" has become very stressful. The pressure about testing, instead of

community knowledge and mentoring facilitation, harms the potential optimization of community. Parents in the early 21st century have become convinced that "school" performance is important, to become a functional member of society and to understand reality. Parents become homework monitors, whereupon "school" doesn't even end for the students (of "school"), when the school day ends. Many students feel that if they don't do well in "school" that they will be homeless, that their whole future depends on "school" performance, because after completion they are entering a "self"-trade for survival system. "School" (State and belief authority learning) takes up their time, so they have little time left to discover what they like to do, and to pursue those interests. It is not just the school pressure that is causing the problem, extracurricular activities, and adults' fears of allowing independent activity outdoors (because of real and irrational fears of dangers), and this has restricted children's fears to play and do things on their own. And yet, children thrive on independence; the require space, challenge, and knowledge, and skill development activities. The whole purpose of childhood is to become increasingly independent (through contribution and leisure phases), and part of that is the practice of independent play.

Of note, age mixed play is normal play, for kids. Traditionally, play was aged mixed play until the early 21st century where children are segregated in "school", neighborhood play is reduced or not at all present, and children are segregated in adult directed extracurricular activities. In mixed age play, the older children provide a "scaffolding" to bring the younger children up to a higher level.

Although play always has rules, the rules are always such that there is an opening of space for creativity and innovation within play. The rules don't specific exactly what you have to do, but instead specify the boundaries within which you are doing what you are doing. Hence, play is typically highly creative.

Humans are all natural born learners. The efforts of Sugata Mitra, Dr. Thomas Alan, Dr. Peter Gray, John McKnight, John Holt, Alfie Kohn, and John Taylor Gatto provide several examples of work and research in this area that convey some remarkable evidence about humanity's [obvious] abilities to learn without formal institutions and teaching methods.

If learning is a self-organizing practice, then it is a practice we are all pulled toward in order to be the love and the oneness that we awaken to through the intended emergence of organization by changing our structure to one of ever greater fulfillment.

Learning is the process of figuring out how to do something while you can't do it. You are likely not growing unless you are pushing yourself beyond the boundaries of what you are comfortable doing, and therein, messing up and failure (without injury) is the best indication that you are pushing yourself in the way you need to push yourself so that you can grow. Embracing failure as a key to learning is a necessary approach (i.e., "attitude"). Learning is a "fail forward" mindset. Sometimes, the biggest challenge is not the accomplishment that is achieved, but to go beyond one's initial limitations.

Learning may be described, in part, by the following characterization (the first letter of each forms the acronym, FREEDOM):

1. Flow.
2. Repetition.
3. Experimentation.
4. Engagement.
5. Doing.
6. Observing.
7. Motivation.

> *"Children do not need to be made to learn about the world, or shown how. They want to, and they know how."*
> *- John Holt*

1.1 Education

> *"'Education is a self-organizing system, where learning is an emergent phenomenon."*
> *–Sugata Mitra*

Learning is an iterative process. In other words, you get many chances (or experiences) to get it right [and to refine your precision]. Alternatively, education is an accumulative process. In other words, your experiences build upon one another [toward the development of greater wisdom, creativity, and automaticity]. Over time, the brain knits together a wealth of new circuits that eventually allow someone to execute a skill automatically, without consciously having to consider each action [in isolation]. True learning is intrinsically motivated, and the reward is knowledge and skill (education), self-discovery, loving connection, and ultimately, a fulfilled life experience within a fulfillment-oriented habitat service system to which learners are contributing. In the context of an upbrining of someone within society, learning becomes education. Education is creating an optimized environment to facilitate and foster [self-directed] learning, and present challenges that further enhances learners neuro-cognitive and psycho-physio development. In this sense, the purpose of education is to help individuals achieve their highest potentials - to become holistically development (emotional, physical, and social well-being). In this way, education is empowerment, access to learning resources and tutoring facilitators, and autonomy (let society give "you" the tools "you" need to maximize "your" own personal success in society and autonomy at learning). Importantly, within the context of society, part of education is creating [societal education specification] standards that include a set of core competencies that everyone needs to know about. In community, education standards are based on societal systems-science specifications (i.e., they are based upon society's current societal specification

standard).

> **IMPORTANT:** *Because know-how is a generationally emergent phenomena passed down [generationally] by education, without an education, it is impossible to achieve anything socio-technically complex. A community-type society requires a community-type standard[-ized] education system.*

In simple terms,

1. Learning is a life-long, self-directed process of growth and development of fitness, awareness, and skill. Learning is categorized as informal, because it occurs all the time.
2. Education is categorized as societal-formal, because it uses the resources of society to facilitate individuals' learning about society, about reality, and about contribution, in order to participate effectively throughout all phases of life in community. The result of education is someone who contributes effectively, and flourishes throughout all phases of their life. Some education ends in certification and some education does not.

A real education is intrinsically motivated and self-directed. Choice greatly improves motivation. Or, said another way, choice represents the motive opportunity for the expansion of oneself into ever greater folds of understanding, integration, and creation. Alternatively, when authority is present, punishments, rewards, guilt, and shame are often used as means to motivate action. A meaningful education is the freedom to explore and to learn through self-direction. A real education draws out the potential of the individual. A real education is being able to identify tools and have a tools inventory. And yet, what is a greater 'physical education' than understanding your own body's signals and integrating social signals so there is less conflict.

If success is the progressive realization of a worthy purpose, then education is the development of knowledge and skills to help us achieve that success. Herein, an education is a set of experiences that helps someone discover who s/he is and who s/he wants to be in the world. A good educational process is one that helps "you" think about information in a way that is connected to a sense of purpose and in a way that relates to what "you" want out of life. Hence, it is easy to help others make changes in their behavior if we can facilitate the acquisition of self-knowledge and a sense of life-directing purpose. We get the "lessons" that others feel are so important to "teach", automatically, when we have that conducive environment.

We are born curious, and given a supportive environment nearly all human beings will blossom (through their curiosity). Herein, learning that results from self-directed education is more profound, powerful, and rewarding to ourselves and others than what is seen within the education systems of early 21st century society, which use coercion to acquire compliance.

There are two different Latin roots of the English word "education." They are 'educare,' which essentially means to train or to mold, and 'educere,' meaning to "lead out" or "bring out" (from ex- "out" + ducere "to lead"). While the two meanings are different, they are both represented in the word "education" as it is applied throughout most of early 21st century society. Thus, there is an etymological basis for many of the debates about education today. The opposing views often use the same word to denote two very different concepts, which become even more separated when learning is viewed from the perspective of neuroscience and the individual.

The term 'educare' uses education to essentially mean the preservation and passing down of knowledge through the shaping of a population in the image of those with power (e.g., parents, leaders, teachers, and other "professionals"). Here, 'educare' may be used to mean the equivalent of "to pour in" and "to teach and to educate". The other view, 'educere', effectively sees education as a process of facilitating others as they "draw forth" toward a greater and more integrated understanding of themselves in an emergently discoverable world. The first view, nearly ubiquitous in early 21st century society, calls for rote memorization, compulsory attendance, grading, and being a "hard worker". The other requires questioning, thinking, and the facilitation of an environment where individuals have the space and opportunity to explore and verify for themselves. The first view sees education as the equivalent of indoctrination and the second as a process of drawing forth from within and bringing out one's own highest potential. The two concepts can be more clearly separated by asking the question, "What is the purpose of education?" Is it turning people into disciplined "professionals" and functional "citizens" through obedience and namelessness conditioning: is it 'educare'? Or, is it the process of self-organizing for one's own self-development within an environment that facilitates all aspects of self-development: is it 'educere'?

It should be noted that educere, "to lead out" or "bring forth", does in a way denote the molding and shaping of an individual by the usage therein of the root word "to lead" (Read: "ducere"). Someone who is being "led out" is essentially following. Hence, etymologically and semantically speaking, one could interpret 'educere' to mean something similar to 'educare'. But, when the concepts of 'learning' and 'authority' are coherently and meaningfully defined, then the concept of 'education' begins to separate quite dramatically from 'educare' as well as the pejorative (leading & following) interpretation of 'educere'. In community, we understand the necessity for the individual to take the "lead" in his or her own learning, which represents the only way we know of to truly become educated.

Education could be viewed as a spectrum: at the one end of the spectrum lies the accumulation and integration of information that has great hold on the

mind and allows for complexly creative thought for it was acquired through passionate inquiry; and at the other end is a disintegrated mind with little hold on understanding for it was rotely memorizing and temporarily accepting to pacify or please an external other. In fact, the very concept of 'education' begins to divide along this spectrum into something which is meaningful to the self on one end, and something (i.e., a product) that is useful to human managers on the other.

Education is powerful a concept in its encoding into a society, and it can be viewed from [at least] two divergent perspectives: it can be seen as the recycling of knowledge and culture through schooling; or, it can be viewed as facilitating the continuous emergence of understanding and creativity through self-directed learning.

To remove the concept of learning from the directed intention of a learner is to remove learning from education altogether, which is likely to generate dis-empowered individuals who have lost their curiosity and their will to search for integration about life.

Today, we know that learning is a lifelong ability that originates from within the individual. Alternatively, schooling is a finite process done to someone. Hence, a truly meaningful education is not intellectual management; that is the system of schooling. You aren't going to learn and evolve and adapt without taking in more accurate information and novel experiences through your own directions, and that, is education. In other words, at the one end of the spectrum is the notion of an actual education and at the other end is the notion of human management by something called "education". The later form of "education" may be more accurately known as schooling, which is a process with a divergent purpose from the former.

Therein, education is the understanding of concepts and their logical integration into the building of highly complex structures. Education should bring about the integration of life's complexities, which can be demonstrated and verified by us. Without integration life becomes a series of conflicts and sorrows. Education involves the evolution of our thinking and the weaving of new paths to well-being, happiness, and fulfillment. Pragmatically, education is the development of an information network of connections and association that may be referenced for decisions and actions.

Today, the facts can be looked up; hence, it is important to understand deep principles and the particulars of inquiry. Today, a useful education is knowing how to inquire, where to inquire, what to inquire [of], and why you are inquiring. In an information system, the most useful skills are information discovery (i.e., finding and searching) as well as information analysis and synthesis (i.e., processing for integration, application, and communication). The quicker these things can be done, the more efficiently users will deal with the world by themselves. In other words, the more truly educated someone is the more easily they will cooperate for mutual benefit and the more quickly they will solve complex real world problems for everyone's fulfillment.

The schooled thinker might ask, "How are people going to be educated [if not through school]?" Firstly, the question assumes that people are becoming educated in school now. Regardless, it is not the right question to ask. It is very much like asking, how are babies going to learn how to walk and talk if we don't attach this mechanical structure to them that moves their limbs in the way it knows they ought to. We learn to walk, it's self-motivated and doesn't require manipulation. If a government were to establish compulsory evaluation of babies to determine whether they were walking on schedule, everyone would reason that as absurd. We understand that healthy babies walk eventually, and that it would be futile and frustrating to attempt to speed up that process.

There is a critical period for learning language, but other than that there is no critical period for anything. There is no scientific basis for the schedule of "learning" taught in school, besides the learning of language(s). Language has something encoded (intrinsic) within it that humans must be exposed to when they are young. Language has coded within it something analogous to the underlying structure of memory; because, language is dependent on memory.

It seems as if those in early 21st century society look upon education as something that is external, something that needs to be imposed, in the way you make a gingerbread man by putting the cookie cutter onto the dough. The question presupposes that education is something that needs to be imposed from outside. In fact, the question imposes upon itself. The very premise of the question is to be rejected for it assumes upon itself (i.e., the question is fallacious). It assumes that school is the golden standard for education. Because the automatic assumption in the question is, if people don't go to school, how are they going to learn – school is the only place where people can learn. We have an entire society of people who are indoctrinated into believing that school is the golden means; that it is the only opportunity we have for learning and becoming fully functioning and participating adult human beings. We have become accustomed to the idea that education is something that has to be done to people; potentially even that humans are born flawed and that they have to be fixed by putting (or pouring) information into them like filling a jar with beans, which a trained and "professional" bean pourer can do all day. You can take a child and fill them with all sorts of dates and facts and skills, some of which they may have an intrinsic interest in learning and may be useful, and many others of which are not. But, this is not learning. Learning is something that a human being does naturally from the moment they are born.

To a learner [who has not been schooled] it sounds quite strange when asked, "At what age should I teach my child this subject or this skill? Or, at what age should our policy dictate, and teachers enforce, knowing this subject or this skill?" Someone who recognizes what learning actually is might respond with, "I don't know; at

what age should your child wear a size 5 shoe? And, if s/he is not ready for it, should you force him/her into wearing it anyway."

They, the "schoolers", usually then express concern that children will not learn what "they need to" if they have a choice. To which any learner would have a hard time not laughing out loud at. People just simply do not resist information that is truly valuable to them, unless for the sake of rebelling against some coercive authority. It would be self-destructive to do so; it would be unnatural. And, healthy and non-traumatized kids are not naturally self-destructive.

It is also an erroneous assessment to say that school is the only environment that can cultivate the acquisition of self-discipline in the mind of an individual. To make such a claim would be underestimating the potential of the individual learner among a community of learners.

Five general principles of education are:

1. Cultivate the self. Come to understand who we are and why we are the way we are.
2. Cultivate and explore volition. Become authentic[ally driven] versus someone who simply follows [instructions].
3. Create from a place of need, passion, and preference.
4. Verify existence. Through experience and verification we become capable of maintaining the intentional alignment of our creations.
5. Challenge oneself. Learning and growth require tension and challenge. It is wise to discover and to place oneself in new contexts of information which may present an initial tension, but through integration there is growth and self-development.

If the process of education is lifelong learning, then we are resilient in community. But, if the product of "education" is an obedient worker (a potential employee), then there is not the resiliency of community. And, these two different ways of perceiving the individual will result in two entirely different social and economic environments. A lifelong learner does not "aspire" to become just one [professional] thing.

Specialization tends to give a person tunnel vision and a narrow perspective about the actual interrelationships of all physical phenomena. Today it is often difficult for someone schooled in one field to communicate in depth with members of different professions. Among community we encourage each other to view the world in a more holistic manner. Rather than educating toward specialization for a slot in a soon to be obsolete FF market in which most people hate their jobs anyway, a holistic perception is valued and emphasized [in the design of our information systems]. In community, learning flourishes absent the use of grades and compulsory testing.

If neuroscience is correct and we are all natural learners, then it doesn't make sense to force anyone to learn anything just because "you" or someone else thinks they are important. We now know scientifically that this behavior tends to extinguish the natural desire [and ability] to learn. The more you [are] school[ed] the more the other paradigm becomes self-fulfilling. In other words, the more someone is schooled the more likely it is that someone will lose their interest and ability to learn spontaneously and need to be forced and externally motivated more and more. Hence, the choice for a community becomes obvious. Oddly enough, a lot of people think they understand what is being discussed here, but they do not because of all the training and conditioning they have gone though. They say things like, "well, if there isn't some force then someone is going to miss something", which is an indication that they don't actually understand.

If education is about more than access to educational resources and involves the purchase of a ticket to a job, then we need to ask not only how such an education might be delivered, but what the values and purposes of such an education might actually be.

Notice here that in early 21st century society the product of a schooled education (i.e., an education done to someone through schooling) is employment or ownership in the market (or, unemployment and poverty equivalence). Teachers, themselves, are employees in a market turning out other employees. Herein, we begin to see the emergence of the industrial schooling model where "education" becomes a matter of policy as the design of a socio-economically engineered separation of society. In the real world, education is a lifelong investment in oneself, which is also an investment [in trust] in others; conversely, schooling is a lifelong investment in the current status quo (as in, the State and the market).

We are all natural born learners; hence, school is an aberration. In reality, we don't need a special place with a special set of people and a special policy to do that which is natural. There are natural learning experiences in this world (i.e., not schooling), and a society ought to facilitate them, cultivate them, and integrate them in a continuous and synergistic manner for everyone's benefit. Neither learning nor memory occur in isolation. Herein, we ask, "What is the greatest context of our understanding, and how might this be changing as we change our attitude and re-orient toward a direction of greatest fulfillment?"

The more time you spend being educated [by others] the less time you spend living. In truth, learning is life and life is an open investigation. The less you investigate the more likely you are to become investigated.

Notice the difference in meaning: instruction is meant to engage you and learning is your engagement with something. Learning is akin to an investigation by you and instruction is an investigation of you by an authority [who defines your socio-economic access]. A "great school" represents the latter and real life represents the former. Nothing is quite as simple as "they" instructing "you"

[in school and through the industrial media]. Similarly, when there are "lessons" we are likely to become bored and our willful integration fractured; conversely, when there are real problems and intentional relevancy there is the potential for engagement.

You see, school shapes the outlook of individuals for what education should be; it shapes the meaning of fulfillment and the purpose of our lives. It re-purposes our intent. Practically speaking, schooling and learning are opposites. A student might say, "I go to this place from 8-3 where this thing called learning is said to occur; then, when I am not learning, I do stuff I like which is odd because that is when I appear to learn best and when I am truly engaged with my environment." Learning is not a finite process done to you. Instead, teaching is an imposition and learning is not.

Schooling implies that when someone becomes "of school age" that they somehow learn in a different way to the way they were learning previous to "school age". The undiscussed assumption in early 21st century society is that young humans who have been learning with great vigor and delight and self-direction have suddenly reached an age where their brain has apparently changed drastically and they are no longer capable of learning in that delightful way. Now, they learn by way of teachers, experts, authorities and others with degrees, certifications, accreditations, and voted power. Suddenly, someone else knows better what that [young] person is supposed to learn at that moment. Suddenly the R's of reading, writing, and arithmetic come in as though they are separate from life … which they are not. At this time, the individual is [often] forced and scared into learning what other people think s/he ought to be learning. It goes downhill from there, because the individual loses interest, because s/he is not learning what s/he wants to learn, and possibly, because s/he doesn't want [necessarily] to learn what s/he is being forced to learn. It is an unfortunate situation that often results in the individual losing interest in learning in general. And then, when the individual doesn't want to sit still and be dumped on with content the individual is labelled as someone who has a learning deficiency (and is possibly medicated).

Learning is not equivalent to the closed system of schooling to maintain the State, nation, or any other statically recycled institution (Read: an organization that is not open to evolving its structure based upon new and more accurate information).

When education is free then there is likely learning, and when education is compulsory then there is likely schooling. School does not afford natural learning processes. Learning involves discovery in place of debunkery. Learning necessitates study instead of assumption. It requires directional participation (i.e., self-direction) and not extrinsic separation (i.e., extrinsic punishment and rewards). Learning becomes play instead of dictation. Learning is fulfilling and not indoctrinating. Summarily, schooling is unnecessary for learning and harmful to an intrinsic education.

There exist many paths to the acquisition of the same piece of understandable knowledge or skilled movement. At the present, it is impossible to build a one-path technological learning solution that fits the needs, wants and preferences of all learners, although this is to a large degree what schooling environments are like. Real complexity and practical experience are a requirement for "real learning" (i.e., learning about that which exists in reality). Learning about the real world requires a dynamic process involving a complexity of interactions because the real world, itself, is a complex set of interactive and dynamic relationships.

There are no classrooms or paid teachers in nature; everywhere is a classroom and every experience is a "teacher" (or "opportunity for learning").

The dichotomy between school and no-school is an illusion when intrinsic motivation and human fulfillment are introduced. Intrinsic motivation is evident when people engage in an activity for its own sake, without some obvious external incentive present. We must entrain to natural rhythms ourselves; no authority figure can do this for us.

Learning is a natural process; schooling is not. Learning and schooling are opposites. Learning and living are synonymous – learning is the process of fully living. Through living we learn. Through schooling we learn to be that which is not whom we could be.

As a society, we do not have to channel learning into some sort of framework that resembles what we have in school: learning is an instinct; it is an instinct that can be conditioned out of us. Learning is not necessarily the absence of a routine or schedule; it is the absence of an authority figure directing the process by which we engage with our world.

Here, we return the focus of attention to the individual experience. We have been slaves to ideology transmitted hierarchically and based on a tremendously alienating instrumentality. What we need to do is to "decompress", to release the traumas from authority that haunt our dreams, and to re-connect with our self-esteem and self-empowerment.

In community learners [have the opportunity if and when they so desire] to interact with the world at large, gaining experience with everyday activities and situations. In community, learners draw from worldwide resources as they help one another pursue interests and goals. In truth, it is schooled children who are being sheltered. Students in the schooling system spend a good part of their days set apart from society, sheltered in schools, information typically provided by one textbook per course of study, in a singular environment that doesn't represent the real world, which they become ever more separated from. So, when we speak of physical spaces, schooled children seem more sheltered than learners among a community of learners. The consequences of being sheltered reach beyond physical location. In some cases, maybe many cases, the conventional school lifestyle shelters students from exploring and learning how to get along in the world-at-large.

It takes a special kind of system to make learning boring. Most government education exists to rob the youth of a love of learning, to rob them of a love of reading, to rob them of a love of thinking, and to rob them of experiencing things that are outside of the accepted scope [of history and the cultural ideology of the time].

> **QUESTIONS:** *What facilitates inert behavior versus exploratory behavior? What generates passivity vs. curiosity behavior? How ridiculous it is to force people to do what comes naturally.*

1.1.1 Education as a phase of life

A.k.a., The phase of life known as education.

In community, there are many different things that are important to everyone, and one of the most important is to have neighbours (i.e., other people living around in the habitat) who are intelligent and companionable persons and with whom it is intuitively easy to live in harmony with. Therefore, one of the most important things people in community can do for one another is to ensure that all are educated. Ensuring neighbours are educated ensures one's own well-being. To educate some and leave others without, as well as to educate via extrinsic methods, creates strong feelings of disconnection among individuals and produces socio-economic class inequality within society. What could be more inhumane than the force of education on someone who is intrinsically designed to learn. In community, education is a life and exploratory requirement facilitate universal, intrinsic enjoyment of learning. Education allows one to contribute, to live a refined socio-technical life, to self-develop, and to explore life's potentials.

> **IMPORTANT:** *In concern to education, it is clear there is an interest in the coming generation in having educated parents and an educated habitat population.*

In community, there are three main grounds on which the educational system rests:

1. Access to the completest education a society can provide. Must include an account of self-direction (demand), intrinsic motives. The behaviors of everyone has an influence throughout all of society. Others desire access to and the safe enjoyment of the society
2. The common understanding that education is a human need for one's own and all others' experience of an explored higher potential life. Individuals desire access and enjoyment of society.
3. The common understanding that the unborn desire an environment of intelligent and educated individuals to sustain a high-quality upbringing where they too can have the highest quality of flourishing.

1.1.2 Societal education

Socio-economics affects everyone's life. Maybe, "you" as an operator of a vehicle, unlike a mechanic, does not need to understand all the inner workings of the vehicle; but, "you" as an operator of the vehicle, "you" need to know which way the car will move when "you" turn the steering wheel. Similarly, "you" as a common user of the habitat service system, and community services in general, unlike a specialized InterSystem Team member, don't need to understand all the inner workings of the particular service sub-system "you" are accessing; but, "you" as a user of the socio-economic system, "you" need to know how decisions "you" take are going to impact the [societal] system as a whole. Metaphorically, a socio-economic system does have a steering wheel (navigational model) and pedals (work), it is just that in the early 21st century, most people don't know how to use them and/or don't see their unification and optimizability yet. In this way, education can have several interrelated functions:

1. To develop one's interests (in society).
2. To develop one's ability to contribute (to society).
3. To develop one's ability to use (the services of society).

Among the many purposes for education (for the self and for society as a whole) are:

1. Neuro-cognitive development (thinking and problem solving).
2. Novelty access.
3. Passion and flow development.
4. Communications and visualizations development.
5. Language development.
6. Reading, writing, math.
7. Basic and complex literacy and competence (reading, writing, rhetoric).
8. Emotional and social intelligence development.
9. Systems science intelligence development.
10. Philosophy and abstract reasoning.
11. Societal morality.
12. Physical fitness, and appropriate eating.
13. Civic education (citizenship studies, history, money systems, political systems, etc.), legal systems.
14. Societal standards education (community standards).
15. Life skills (cooking, cleaning, paying bill, fixing things around the house, etc.).
16. Contribution skills.

1.1.3 Autodidact

> **APHORISM:** *Know well what moves you forward and what holds you back.*

The term 'autodidact' means "self-taught". Generally,

the term is applied to someone compelled to learn for himself/herself what s/he needed to know in life. In this sense, it indicates passionate motivation for learning which, in truth, is the only necessary ingredient. However, the term is still something of a misnomer. Firstly, it applies the concept of "teaching". Yet, it may possibly be the only appropriate application of the verb "teach", for an autodidact is essentially someone who teaches oneself. Secondly, the term "auto" could imply that learning happens in isolation, which is almost never correct. Learning generally occurs in the context of a social and larger ecological environment. It does, however, accurately imply that learning is [in part] a meta-self-cognitive process. Also, the term might be useful in facilitating a shift in someone's perception of learning away from something someone gets given to something someone selectively takes (Read: chooses). Two possible synonyms for the term 'autodidact' are 'self-education' and 'self-development'. In truth, we can (including children) "teach" ourselves complex knowledge.

> **APHORISM:** *It is wise to recognize that it is from the nature of existence that anything is discovered and learned.*

1.1.4 Unlearning

> *"To obtain knowledge, add things every day; and to obtain wisdom, subtract things every day."*
> *- Confucius*

Unlearning involves the releasing of behavioral patterns and sets of information (i.e., "knowledge") that are no longer serving one's highest fulfillment or the most accurate expression of their own information space in relationship to an existent commonly discoverable existence. Here, we learn how to evolve beyond our established biases and understandings, which may have served well as protection for some time. As we enter a more technologically thought responsive environment it is important for us to effectively and efficiently integrate new information in alignment with our highest fulfillment.

Unlearning is akin to the revision of an error. We can error correct ourselves (i.e., our information space), when we care to. The notion of an unlearning strategy may be applied as a metaphor for both the scientific method and the Trivium Method. In essence, the scientific method is a process for challenging the reality of the connections we form between different entities; thus, we are always working toward a greater comprehension and ability to act in our world.

> *"If scientific/technical knowledge is doubling every 7 years that means that everything we know today will represent only 25% of future knowledge in just 14 years. Before we can take advantage of this new knowledge, it will require a great many (and very intelligent) people to unlearn what they spent much of their life learning."*
> *- Jack Uldrich*

1.1.5 Challenge

A.k.a., Hormesis, stress, tension.

Sometimes growth requires a struggle, just like lifting heavy weights in order to build and sustain muscle. The general term for this is 'hormesis' - stress that leads to adaptation and benefit. Without tension there is little growth. In a certain sense, the "hurt" that someone feels when lifting weights is due to a very positive process. In learning there is a similar feeling, but it feels like "failure". Laying down new neural pathways is metabolically expensive, and so it requires conscious effort, which can feel challenging. Overcoming the "pain" of failure is fulfilling and leads to competence (and mastery), and when the environment is conducive, more flow. Mentors and guides can be useful here to reduce and prevent injury, and to improve efficiency.

Sometimes the best thing someone can do for/to themselves is tone back the comfort, not all the time, but sometimes.

There are different subcategories of stress. Stress, itself, could be considered a neutral concept. Then, there is eustress (good stress) and distress (bad stress). The body and mind try to adapt to stressful situations. If the stress become to great or the person dosn't adapt, then, at first, the body goes through alarm, then resistance, then exhaustion, and then, diseases of the autonomic nervous syndrome.

To advance significantly, cultivators (a.k.a., learners), including both self-cultivation (service-to-self) and social-contribution (service-to-others) know that they must challenge themselves and train (or, practice) their skills. Therein, things become much easier to learn when they have practical use.

> **INSIGHT:** *Individuals need challenges, and if they don't have challenges, there is a problem.*

1.2 The learning community

> **INSIGHT:** *When we know and trust that our community doesn't judge, then we will get more from our community.*

A great learning environment is one in which the learners have the opportunity to tune into and become attentive to their own needs [as learners]. It is an environment that facilitates self-directed education, which is ultimately the only educational environment worth having. Wherein, a self-directed education is the only "degree" worth having. Among community, we create an environment where natural learning can flourish and we learn from experience, asking questions, following interests, exploring existence, and being. In a sense, the Community [itself] represents the [organized] act of learning.

When a society is structured right, then learning becomes effortless and inevitable. Hence, community represents the deliberate design of an environment where learning means the freedom of choice to learn, and therein, the state of flow becomes effortless and inevitable to access. At the scale of community, education becomes the structuring of an environment to bring out and facilitate the highest potential [creative] expression of the individual. A voluntary system is a system that is itself "invested" in individual's self-development and life-long learning process – a user-centric system. In a community-type society where self-direction is a component of fulfillment, the social population is most interested in who this person "student" is choosing to be through time, and how may it be guided and facilitated to the ultimate mutual fulfillment of all of us. All individuals may recognize that it is desire and choice that make real education happen.

A community of learners requires a particular structure. Although we are born learners (i.e., it is an innate characteristic to all human beings), the instinct to strive, develop, and grow can be quickly derailed by the kind of structures a human encounters early in life (and by uninformed and irresponsible social interactions throughout life). For example, take the issue of praise (as operant conditioning): those praised for being "smart" learn that intelligence is a fixed, innate, effortless gift, and they often fail to reach their full potential. If a society chooses a culture of praise, then it is much wiser to praise effort rather than outcome. Effort is salient to life-long learning and the exceeding of initial expectations. Such are the findings of social psychologist Carol Dweck who has conducted extensive research into the "fixed mindset" versus the "growth mindset." In one study, young students take a simple non-verbal test. Later, those praised for being "smart" or achieving a "good score" showed less confidence and enjoyment than those praised for "trying hard". And, the effect was immediate: students praised for effort performed better on the next test. The performance of those praised for intelligence declined, and they even lied about their high scores later. Another study of older students had similar findings.

Effectively speaking, praise is a form of feedback and the structure / type of feedback someone receives can help or hinder their progress. If a culture chooses to praise, then there are certain principles to which it would be wise to adhere. These principles make it is less likely for praise to reduce performance and long-term pursuit of the individual being praised, which may be the consequence of the misapplication of praise: praise effort; do not over praise; be clear and concise; do not praise by comparison; and, be cautious of sarcastic praise. (Mueller, 1998)

One might not think that the positive things one says to others can be as destructive as negative labels. But, there are times when this is true. Rewards and praise can quickly condition others to seek approval such that they end up doing things to impress, instead of doing things for themselves. We must use discernment and examine experiences critically if we are to maintain the commonly possible experience of fulfillment.

Fundamentally, not all structures will facilitate the continuation and sustainment of lifelong learning. A community that neither acknowledges the value of learning, or worse, structures itself against its continuation is unlikely to sustain a fulfillment orientation and a meaningful direction of development. A learning-oriented community is respectful of the individual, and is a natural extension of a supportive social network of relationships. One of the continuing goals of a learning community is to facilitate an environment where learners are more [scientifically] likely to become or remain intrinsically interested and curious about life, which is a curiosity of ours. In a highly 'thought responsive' (i.e., an environment that responds more quickly to thought) social environment we need congruent community support to maintain our focus along lines that facilitate our life development [as we rapidly iterate our consciousness].

If we are to cultivate any culture it ought to be one of intense curiosity and inquiry. In an effort to facilitate self-directed experience the community maintains structures that allow people the time and space to reach their desired level of mastery and enjoyment. A community can provide resources and maintain structural environments that facilitate learning, which may include challenges and other opportunities.

A learning community is a "nutrient rich" environment. As such, it ought to facilitate a foundation of self-directed explorative education for its next generation where passion and an abundance of opportunity represent a system for learning. Necessarily, in community, we create environments where failure is recognized as an opportunity. After all, failure is the greatest of all "teachers" (i.e., failure is the only real "teacher"). One of the greatest scientists of the 20th century once said that the secret of his repeated breakthroughs was that he had made more mistakes than anyone else. Individuals with their self-esteem intact will always find ways to benefit from their failures as well as their successes. Herein, success means achieving a temporary goal that someone set for oneself.

A learning community works when we are committed to doing absolutely everything we can to provide a healthy, interesting, and nourishing environment for each other, though particularly, for the young. And, in that environment a young person will not be able to help, but learn. In community we are responsible for our own education and we caretake an environment responsive to our interests. We provide the conditions that allow us to educate ourselves. We learn from others of all age groups quite naturally.

A fulfillment-oriented community is emergently designed by individuals who are self-sufficient in their living and effortful in their learning. A truly educated population needs no external controllers.

When the adults in a society are continuously learning

and acquiring new knowledge, understanding, and skills, the younger generation sees this as a good example of a lifelong learner and a value orientation toward self-development becomes commonplace.

In community, we learn that which we are eager to learn, we pursue that which we have a curiosity in, and we apply effort toward that which we desire. Here, we learn that which we desire to learn on our own initiative. We are free to choose our own materials, mentors, facilitators, and environments. The only learning that ever counts in life happens when the learner has thrown himself into the subject on his own without coaxing, bribing, or pressuring. The drive comes from the individual with the community responding to the individuals drive.

There are no required studies at any age, ever. Individuals learn of their own accord and discover that which they need in order to get where they want in life. Here, we experience the full meaning of responsibility from everyday experience. No one is thinking for you, and no one should be protecting you from the consequences of your actions. This is essential if we as individual among community want to be self-directed and the "masters of our own destinies". In community we learn according to our own needs and what is relevant to our lives. Herein, learning "works for us" (vs. for some authority) for it is authentic, it occurs in context, and it happens exactly when we are passionate and developmentally ready for it.

To fully understand a learner-oriented community one may go through a few of the principles that need to be "unlearned":

1. Unlearning the culture of blaming others, in order to be honest with our own mistakes.
2. Unlearning the school- and media-induced embarrassment of using our bodies to do real and authentic work (i.e., physical tasks).
3. Unlearning our modern and urban disconnect from nature.
4. Unlearning the deference, submission, control or oppression which defines institutional relationships.
5. Unlearning our own biases.
6. Unlearning the belief that we can't build a new system to make the old system obsolete.

All of this unlearning is important, if we are to recover our innate capacities to nurture healthy relationships with one another, and to give and receive with authenticity and integrity. Be cautious, generations of government school graduates are running early 21st century society.

> **INSIGHT:** *In community, there is no such thing as, "being behind on a subject".*

1.3 Facilitation

A.k.a., Tutoring, mentoring, etc.

There are many ways to help others learn, and one of the most effective ones is the facilitation of another's learning. The term facilitation has a liberatory connotation. Herein, facilitation refers to the process of being someone who shares in another learner's learning process by actually helping them. Additional descriptors of facilitation include assisting, freeing, aiding, guiding, and empowering learners in their learning process. Put simply, facilitation is the process of helping other human beings learn when they want or otherwise need help learning. Learning does not require mediation, although the process of education can be made easier through facilitation. Therein, the aim of a facilitated education should be to support the development of capable critical thinkers and doers who are thoughtful, productive, and responsible. Fundamentally, facilitation is the act of supporting, encouraging, and empowering learning.

> **INSIGHT:** *Sharing our own interests engages the interests of others.*

The very nature of facilitation is allowing another (Read: the learner) to determine what interests him/her to create or select his/her own "roadmap" for learning. There is more or less structure, relative to need. Sharing one's own interests engages the interests of others. With proficiency comes responsibility to encourage others who are less proficient to use systems safely; not impress others, but express what is possible. Bringing out the best in others is how we find the best in ourselves. It is necessary to give to one another the tools to structure information in meaningful ways so that anyone can do something fulfilling with it. Failure is never a problem when there is play.

Fundamentally, in a social environment, individuals have to help others to ultimately help themselves. Practically speaking, you can't help someone get up a hill without getting up the hill yourself. Facilitators share in the potential social impact of a learning experience. Among community, individual learning gets tied up with the learning of all others and a synergy occurs.

The definition of facilitate is "to make easy" or "ease a process". Literally, the word 'facilitate' means to make something, usually a process, easier or less difficult. Facilitators in the Community seek to make the learning process more efficient and effective while supporting each other in their progression toward a higher potential.

Generally, the three skills necessary for effective facilitation are: **attending**, **responding**, and **understanding**. Attending involves the development of a physical and psychological relationship where full attention is given to the learner. Responding refers to a showing of empathy, respect, genuineness, and concreteness for the learner and the learner's needs. The third skill, understanding, involves the communication

of a refined understanding [and possibly a reciprocating communication of understanding]. Taken together, these skills suggest ways facilitators can build a more meaningful and efficient learning environment.

Practically speaking, facilitation involves providing support, guidance, and direction. A facilitator is thus an entity (human or computer) who helps, guides, and supports the learner where necessary or requested. In some cases this direction and guidance may be as simple as providing answers to questions and clarifying confusion. Generally speaking, the specific responsibilities and tasks of a facilitator will vary depending upon the learner's needs and those learning activities the learner is involved in, and the degree of "experience" of the facilitator.

In other words, a facilitator helps another accomplish a goal. Facilitation is a relationship between someone with experience and someone who wants to learn.

Facilitation requires orchestration of a meaningful interaction for the learner. Effective facilitation is about the learner, not the facilitator. Although, in facilitating, the facilitator may be practicing what they have learned while maintaining a shared connection with another human being. Facilitation is learner-centered, and not self-sacrificing.

"You" have the potential to see your way out of any challenge. Facilitators are there to help and support you when you ask (possibly to be a "coach"), or when you may have put yourself at risk unknowingly, accidentally. Essentially, facilitators are responsive and helpful guides; they are more experienced learners. Mostly, a guide is a person who advises or shows the way to others; it is someone (or some systems) who directs or has [potential] influence on the course of action [of another].

In the context of the learning community as a whole it could be said that facilitation is the structuring of an environment to meet the needs of learners, while maintaining a safe environment for inexperienced learners, as well as fostering the creativity of all learners' self-expression.

In the facilitation of others' learning it is often said that the best kind of guidance is modeling (Read: showing an observer through example and by multiple sensory relationships). When an experience interfaces with more of our senses, then we are more likely to recall that experience later (i.e., our technical recall of information increases when more sensory content is connected). Something as seemingly innocuous as spanking provides a moral model of relationships [for a young person that may last throughout their entire life].

If facilitators create anything, they create nurturing and fulfilling environments wherein life, and our coherent relationship to it, becomes experience. A responsive facilitator is sensitive to the needs of the learner in the context of the learners request for facilitation.

Herein, the facilitated learner overcomes a temporary learning hurdle and the facilitator practices and reinforces (Read: lays down additional myelin) their learning.

Facilitation represents the power of helping others through a variety of strategies to realize that they have a much greater potential than they might have initially thought. Facilitation represents the potential of helping others to realize their internal confidence for themselves. And, the amazing thing is, as soon as we start feeling confident in our own abilities we naturally help each other [under the environmental condition of cooperation]. It's called "trust". The basic navigational attitude that underlies the foundation for a self-directed learning community is trust -- we trust the intelligence, competence, and innate organizational capabilities of each other.

In order to facilitate, a facilitator must be knowledgeable of the subject (or experienced in the practice) the learner is inquiring into or having difficulty with. Herein, facilitators use data to diagnose what the learner is having difficulty with.

Herein, one-to-one facilitation is a temporary interaction of one experienced learner to one inexperienced learner for the purpose of assisting the inexperienced learner in overcoming a short-term, temporary learning challenge. The facilitator may provide guidance, direction, feedback, and most importantly, concrete assistance to another learner who is in need. The learner who is being facilitated has come upon a difficult and/or challenging learning problem and is in need of and requesting assistance. In effect, the experienced learner is "facilitating" the inexperienced learner on a subject or problem with which they themselves have demonstrated experience.

A teacher is a pre-selected content transmitter regardless of the learner; whereas, a facilitator may transmit content if asked by the learner. A teacher controls the "learning" experience; whereas, a facilitator is a guide and recognizes that the learner directs their own experience. A facilitator is learner-centered and removes obstacles to learning; whereas, teachers are institution-centered and often put obstacles in the way of learning. Facilitators do not stand over you like authority figures. Facilitation is only "required" when the learner asks for it. Or, when an inexperienced learner may unknowingly be putting themselves in danger. For example, a young human needs facilitation prior to walking across a trafficked street, which they are unlikely to request – if someone doesn't look both ways before crossing there is a significantly increased likelihood of them getting hit by an automobile; any mistake at doing this puts your life at risk on every trafficked street.

In the context of formal knowledge or skill acquisition, to be a listed facilitator for a subject, an individual must have completed the module (or socially demonstrated acquisition of the information) that the learner is presently having difficulty with. Note that community learning modules are discussed later in this document. Here, inexperienced learners have an awareness of whom has previously or socially demonstrated that they are informed and possibly able to help. Whereupon, a learner may pick/schedule an open facilitator based

upon their own preferences and the feedback / reviews others have given about their facilitation.

Also, the system maintains an dynamic database of individuals who have openly selected for their names to be listed as someone interested in a topic for cooperative discovery/learning. Learning through discovery and equal peer relationships has the potential for increasing the rate of learning of all participants through a synergy of discovery. It is further relevant to note here that on the "cutting edge" of knowledge discovery there are not yet sufficient answers to questions, and so, self-directed and cooperative discovery will be the only way to find answers.

When learners work in an open, supportive and caring environment alongside each other day after day, even the most inexperienced, shyest learners become comfortable asking for help from other more knowledgeable learners.

Thanks to the Internet millions of people can have their say. This is, however, a double-edged sword. The opinions (Read: neither reasoned arguments nor evidence) of millions of individuals litter the Internet and create huge discord, confusion, and entrapment of time. When ideas and content are pooled, organized, and assessed for evidence and reasoned clarity, then the process of content acquisition (as a part of the learning process) becomes more efficient.

Those who refer to themselves as facilitators in schooling-oriented environments appear to have seized upon the sudden rise of the Internet and its abundance of material to transition from the role of "teacher as content provider" to "teacher as facilitator". For many people, facilitation is just another way of teaching. The teacher behaves in a different way, encouraging the class or group to contribute, but ultimately tells them what to "learn", how to "learn", and how it will be assessed. The type of facilitation that a teacher might provide in a schooling environment is not equivalent to facilitation among a learning community. Altogether, schooling ignores the personal nature of learning.

In the Community, facilitators exist to facilitate learning; they are there for the learners to answer questions, provide guidance, and convey/pull in resources. Here, a facilitator facilitates learning [and is respectful of the learner's direction and autonomy] rather than telling someone what to learn (teaching).

A facilitator who wants something from "you" is not someone "you" want as a facilitator. A facilitator's reward for facilitating is principally intrinsic — meaning s/he is getting just as much if not more out of the interrelationship as "you" are, because s/he is enjoying the process of helping another. The second reward is self-refining - the laying down of more myelin along a circuit by practicing what they already know.

Additionally, it is important for learners and facilitators alike to remember that removing symptoms of discomfort is not always the best action. Often, the symptoms are necessary. The symptoms are our feedback, and they help us learn and grow and recover. Take the human body for example: Inflammation is the body's attempt at self-protection; the aim being to remove harmful stimuli, including damaged cells, irritants, or pathogens - and begin the healing process. Inflammation is a symptom, and it is an essential part of the body's attempt to heal itself. Inflammation is also an indicator of injury that alerts us to take more care [with the location of injury].

The reality is that a learning environment fails its purpose when feedback is removed (i.e., when feedback becomes uncontrollable, or when there is "sheltering behavior"). In the real world if you touch a flame, you get burned. You experience physical pain that conditions you to avoid contact with flame in the future. Touching something which will burn is a great natural example of consequence, since the consequence is the same no matter how many times you experience it, and no matter how many people encounter it.

Social facilitation is the tendency for people to do better on simple tasks when in the presence of other people. This implies that whenever people are being watched by others, they will do well on things that they are already good at doing. (Strauss, 2001) Note that this type of facilitation should not be confused with facilitation of learning. Instead, this could be seen as social facilitation of performance.

> *The only source of knowledge is experience.*
> *[We must expand our experience to obtain the answers to questions we have about the universe and oneself.]*
> *- Albert Einstein*

1.3.1 Tutoring

A.k.a., Formal education facilitator.

Tutoring excels in providing targeted guidance, individualized attention, and a supportive learning environment. It often addresses specific learning gaps, reinforces concepts, and boosts confidence and can do on the fly assessments of knowledge and skills.

Tutoring has many benefits, including but not limited to:

1. Personalized learning and self-directed learning: Learner adaptive tasks, methods, materials, goals, and pacing to suit the learner.
2. One-on-one support: Specific user-centered support and guidance; individualized attention.
3. Supportive role: Facilitators in education and tutors act as supportive figures, guiding students through their learning journey. They help clarify concepts, answer questions, and offer guidance to enhance the student's understanding.
4. Skill enhancement: Appropriate content and timely feedback.
5. Dynamic assessment: Continuous assessment of knowledge and skills.

6. Building confidence: Providing unbiased encouragement, positive reinforcement, and constructive feedback.

1.3.2 Mentoring

A.k.a., Formal contribution facilitator, apprenticeship.

The mentor is the guide and the learner:

1. Follows the motions of the guide and through practice and understanding performs a skill well.
2. Arrives at the discovery on their own.

Human history has gone from a culture of discovery and mentoring to instruction and schooling. Historically, there was discovery and mentorship. In the early 21st century, primarily, there are classrooms for training and instructing.

A mentor is someone with established competency who offers support and guidance to another (or others) who are working on their own competency in that area. Generally, a mentor is someone who is currently practicing and has agreed to facilitate another (or others) in their own development of competence in that practice. A mentor is a guide, role model and advisor.

INSIGHT: *Upbringing can shape a persons future incentives and motivations.*

1.3.3 Tell-show-try-do (and sometimes, ask)

If a learner prefers, a facilitator can first describe and explain (or "tell") the learner about that which the learner is inquiring (i.e., orally answer the learner's question). Then the facilitator shows the learner in real life what it means / how it works or is done (maybe several times - depending on when the learner lets the facilitator know they have "got it"). After that, the facilitator watches the learner try it for themselves while providing immediate and/or subsequent feedback (and this can continue for some time, too). On particular occasions noted later in this document concerning technologies that could put the community at risk, the community will ask the learner to demonstrate that s/he knows a piece of knowledge or can perform a particular skill with some qualified degree of proficiency. In other words, in such cases the learner will show that s/he can perform the action in question oneself and/or duplicate the process and assist someone else in his or her learning of the objective.

1.3.4 Socratic (questioning) method of self-discover facilitation

Facilitation that involves a the socratic method of intrinsically motivated learning facilitation involves the facilitator asking questions to the learner, about a learner's initial question, in order to lead the learner in a way that the learner can achieve, self-discovery. Useful learning is intrinsically motivated and easily facilitated through self-directed project-supported curriculum and socratic questioning, whereas extrinsically motivated memorization is easily forgotten.

APHORISM: *When serious helped is asked a facilitator seriously helps.*

1.3.5 Education-facilitation campus

A.k.a., University.

A university could be seen as a physical place ("campus") where a number of people who are interested in learning gather and:

1. Have time and resources to learn.
2. Have a diversity of interests they are exploring, thus providing greater opportunity for growth.
3. Have a focus of interest on some specific discipline, including that of the discipline of society itself, societal sciences, the output of which is a "living" set of applicable, community-type, societal specification standards.
4. Have an interest to gather together to learn, hold compassion and focused critical thinking, and practice skills with others, to experiment and progress in self- and social-development.
5. Have a graduation phase into the contribution phase of life, where there is service for society by the educated, temporarily.
6. Have a facilitating and tutoring team mentor/ intelligence that guides and provides a personalized learning, skill development, and testing environment.

1.3.6 Scheduling education and schooling

A.k.a., Schooling work periods, schooled education work periods.

School "education" periods in the market-State are typically counted in:

1. School days of the week.
2. Home (non-school facility) work hours per week.
3. Classroom (school facility) presence and work hours.
4. Sessions work weeks per months
5. Semesters work months per year.

... with breaks in between.

Herein, there is typically an hourly work cycle counted in hour credits (Read: non-exchangeable sum-able personal token acquired per hour of participation and/ or performance) in course with classroom time and performance assessments on products. Typically, the university student in the market-State is supposed to complete a number of hours and/or deliverables, and

be physically present during a course of study (expected communications and actions periods of time) in order to pass a course of schooled instruction. School is typically operational during the same days of the week as employees (teachers and school administrators) are expected to be at work.

And yet, learning is not school-time only activity; learning is continuous and life-long. In this context, the idea of a "university" may arise as a place of, at least, focused social education. The more generalized idea of "school" is, a place for training citizens and future business participants (i.,e, employees and employer roles). Of course, a university is a place of focused education for doing similarly; it is a place for self-directed knowledge gathering, sharing, and thinking, a place for skills acquisition and project executions, mentoring production, and test qualifications.

In community, education is an intrinsically motivated activity that is structured by community-orienting societal specification standards, and facilitated by contributing habitat InterSystem team members who guide the development of future community contributors. Education is a contribution facilitated, community structured, and intrinsically-driven, life-phase activity set. In community, facilitators are contributors who structure and support the work and education of learners, who will become the future generation of contributors (and later, leisurers). Both in schools (in the market-State), and education centers (in community), facilitators come together with learners to learn, discover and develop personal knowledge, skill, and other potentials. The work of contributing facilitators is coordinated together with usage by learners (Read: community members in the education phase of their life) to produce appropriate education services [for the users] as part of the exploratory platform of the habitat service system.

1.4 Teaching

> *"To save man from the morass of propaganda, in my opinion, is one of the chief aims of education. Education must enable one to sift and weigh evidence, to discern the true from the false, the real from the unreal, and the facts from the fiction."*
>
> *- Martin Luther King*

Sugata Mitra speculates that education is a self-organizing system, with learning as its emergent and phenomenal outcome -- just let consciousness self-organize and wait until the learning happens. There is nothing else "you" can do. Facilitation is like gardening; the plants grow themselves. You plant the seeds, water and wait. One might then ask the question, "Can the young learn to read by themselves?" If the answer to this question is yes, and Sugata's speculation is correct, then "primary education" comes into question, for suddenly there is the realization that society doesn't need the role of a "teacher"; there are very few things needed besides the individual and access to a nutrient rich information environment.

What is TAUGHT and what is LEARNED can be two completely different things. For instance, parents think that they are TEACHING respect and obedience by spanking their kids. In reality, what the children LEARN is that the bigger and meaner you are, the more power you can wield. Effectively, teaching is just the presentation of information, and tutoring is a more individualized and interactive one-to-one presentation of information.

From the perspective of a learner there is no such thing as [the notion of] "teaching another". A "teacher" who thinks s/he is "teaching" is in fact not "teaching" [what s/he thinks s/he is "teaching"]. A learner might say to a school teacher, "You are not telling me anything; you are sharing and are allowing me to think. Don't set out to free the world if you have a cage in your head."

Teacher is the name for a profession in the market-State; it isn't an action anyone can take. Teaching isn't a thing you do to someone else. Rather, learning is something that you might, if you're lucky, get to assist with. When "you" are looking to help someone "you" might want to ask someone what help they actually need.

The reality is that those who call themselves "teachers" are in fact just other learners who have adopted and adapted to an unfortunate set of socio-economic circumstances. Learning is not the product of teaching. Learning is the product of the activity of learners.

Those who care too much about right answers can very easily slip into teacher mode and start instructing and commanding rather than just letting the conversation flow naturally. In community, we have to stop seeing ourselves as "teachers" (if we have started) because we are not. We are facilitators and co-explorers; we are co-learners.

Neuroscience shows that the brain is changed through active experimentation, not by teacher-centered pedagogy. The human brain physically forms new neural connections when someone looks at their mistakes – the brain will actually grow. In a sense, failing is just another word for growing if someone keeps learning.

Hence, teaching is not an action that exists. When a teacher thinks s/he is teaching, what s/he is in fact doing is, for example: verbally explaining; writing; visually demonstrating; drawing; dancing; or possibly even singing. But, s/he is not 'teaching'. A teacher who thinks s/he is teaching is actually reviewing for oneself something already known while presenting information into an environment and generally collecting a paycheck.

If someone were to walk up to "you" with a question about a linguistic punctuation issue they were having, and "you" knew the correct linguistic punctuation rules, then "you" might show them or write them out. If the inquirer didn't understand then "you" could draw a picture or give other examples. When "you" perceive that they have learned the thing they wanted to learn, then the action is completed (i.e., "you" have facilitated their understanding for which they likely showed

acknowledgement, and everyone can go back to what they were originally doing). They learned. "You" helped them learn (i.e., facilitated their learning). "You" were "the teacher", but "you" didn't do the work that resulted in learning. The learner did that in his/her own head. Anyone can put ideas in the air, but without another's active work no "teaching" can possibly take place. The term is not reflective of what we empirically know about that which we have identified as 'learning'.

So, if "teaching" means competently and compassionately facilitating learning, then teaching does exist, no? Here's the truth: teaching has no action to show for itself that is "teaching". You can't pour useful information into anyone else's ears or eyes against their will. We as individuals have the potential to direct the structuring of the contents of our own minds. You can learn, but we can't make you learn. And, if we try to make you "learn" through coercion and constriction, then we harm you; we harm your development toward your higher potential.

When someone is "teaching" someone else how to do something and the individual being "taught" is thinking of something else or is only paying attention because there is a threat or bribe being applied to them, then what is the "teacher" actually doing? A "teacher" who thinks they are teaching is actually playing with, and otherwise fooling, themselves.

"Teach" has inherently negatively objectifying connotations. The word "teach" is a verb which places the teacher in the active role (subject) and the student in the passive role (object). It implies through the grammatical structure of any statement made using the word that the "teacher" is doing the work and the "student" is merely acted upon. The "teacher" has planned and prepared something, and the "student" has arrived to accept it. Whereas the concept 'learn' makes the "student" the subject of the statement rather than the object. S/he is doing the work, not merely showing up and being the passive recipient of another's knowledge. And hence, there is no need for either the concept "teacher" or "student". They are unnecessary at best and divisional at worst.

To most school teachers, knowledge is regarded as a substance that can be poured into the students' minds. Thus, "education" is seen as the process by which knowledge is transferred into the learner's minds (and to constructivists, "education" involves prodding and assigning so that individuals construct "their own" knowledge). Wherein, "teaching" is the packaging of knowledge for efficient transfer (and to constructivists, it is the evaluating of the quality of the constructed knowledge). Individuals become regarded as 'empty vessels', and the range of knowledge and central experiences that they come with is hardly acknowledged. Effectively, school becomes a mass production factory. And the lifestyle that it creates is one devoid of fulfillment. Alternatively, in community, we nurture our own and each other's inherent potential; herein, we carefully think about the structures we place ourselves in and we create for each other.

The reconciliation of the teacher-student contradiction is learning [that there is neither a teacher nor a student among community]. True education must begin with the resolution of this contradiction. Education within the institution of schooling maintains and even stimulates the contradiction through the following attitudes and practices, which mirror oppressive society as a whole; wherein, an oppressive society generates and oppositional lifestyle:

> *The teacher teaches and the students are taught. The teacher assigns and the students construct. The teacher knows and the students know not. The teacher thinks and the students are thought about. The teacher chooses and the students adapt. The teacher talks and the students listen. The teacher disciplines and the students are disciplined. The teacher chooses and enforces, and the students comply. The teacher acts and the students have the illusion of acting through the action of the teacher. What does the teacher do? The teacher confuses the power of self-verification with his/her own "professional" authority, which s/he sets in opposition to the freedom of other human beings.*

Here, one might come to ask themselves whether one has been repeatedly sold the story of a "powerful and great teacher"? (Keller, 2013) To be sold "the power of the teacher" is to not realize that we are all learners; that we are [at least] self-directed and goal-oriented consciousness. We can self-organize and self-integrate without some external authority doing it for us. In practice, teaching disrupts the internal coherence of the intrinsically motivated individual, who may become worn down and psychologically crippled over time.

In understanding that we learn through experience we might come to realize that the ultimate "teacher" is our relationship to our environment. If the term "teaching" is to be used at all, then it is the process of self-reflection upon one's [past] experiences of and through an environment; it is not an entity. In other words, we can learn from that which has happened to us in life, and from it we move forward, letting the past guide and teach us. Therein, the environment and our responses to it are the actual opportunity creators for our learning.

Fundamentally, learners are not dependent upon "teachers"; though ironically, the "teachers" are dependent upon the students for their income.

In general, early 21st century society sticks individuals of all ages, though particularly the young, in classrooms where they have to sit, stand, and be quiet most days at the behest of an individual who has been told, typically speaking, that all individuals learn and think the same and should do so according to the ethics and principles and standards and procedures and paradigm of their institution. These people are enculturated to believe that this type of system is one of "progress", and that those who are opposed to it are to be codified as oppositional, and they must therefore be ostracised, shamed, and if

need be, drugged for their opposition.

If there is something called "classroom control" or "teacher control" in a society, then maybe individuals in that society need to go back and check their premises. For, if there are "learners" then there is neither "classroom" [control] nor "teacher" [control], and if there is either of these things, then there is not a [f]actual understanding of learning. "Classroom management" is a euphemism because a classroom is a group of static items: a room; desks, maybe a whiteboard and computers. The classroom manages itself. "Classroom management" is really human management.

A community is built on trusting relationships. The urge to control what others learn is still a form of the urge to control others.

All schools, by spectral degree, are based on the notion that all kids are lazy and need to be forced to do this thing called "learning". The emergent and experiential view is that we are all natural learners, which modern brain research does confirm. Worst of all, most school teachers in early 21st century society believe that "their kids/students" are dependent upon them for their education. Not only is this untrue, it is harmful to both the "teacher" and the "students" (i.e., it is harmful to all learners). It is wise to continuously ask ourselves whether we see each other as self-directed humans with desires and needs, or do we see each other as storied roles?

The teacher says,

> *"You ask me why and I tell you: Because I said so, because I am your mother, your father, because I am the teacher, the principal, the authority figure. So by definition because of this role you need to obey, you need to conform, you need to comply, you need to be obedient and do as you are told. You need to do what I think is best for you."*

The Milgram experiment(s) on obedience to authority conducted at Yale University by Stanley Milgram make an interesting note here. To summarize the experiment(s) briefly, "teachers" were asked to administer increasingly severe shocks to the "learner" (who were actors and were not actually shocked) when questions were answered incorrectly. At some point the actor would refuse to answer any more questions, and the teachers were told to ignore the silence and continue with the shocks. Teachers were instructed to treat silence as an incorrect answer and apply the next shock level to the student. Results from the experiment showed that sixty-five percent (65%) of the teachers were willing to progress to the maximum voltage (possible death). (Milgram, 1974) It is interesting to consider here that within the school-based classroom setting, teachers are the authority who punish students with increasingly bad (i.e., low) marks (i.e., grades) when they fail to comply or fail to know "correct" answers. In the Milgram experiment the teachers were given instructions by a greater authority; similarly, in the classroom, sometimes the teachers are the sole authority, but sometimes the higher authority is the State, school, or possibly local culture, which sets the curriculum, teaching methods, and punishments for non-compliance or wrong responses. Hence, schools re-enact this obedience experiment in a normalized manner on a daily. Of note, in the case of the Milgram experiment, in general, more shocks were given by the teachers when: (1) the higher authority figure was in close proximity; (2) teachers felt they could pass on responsibility to others; and (3) experiments took place under the auspices of a respected organization. (Milgram, 1974)

The person who has adopted the role of a teacher cannot make a mistake; with a façade of being perfect, the protector, the legitimate authority, the saviour, the hero … the great and powerful teacher. The role of an authority [nearly] always comes coupled with infallibility, which creates a dangerous environment for everyone, which doesn't necessitate tyranny, but it can certainly sow the seeds.

The understanding put forward herein is expected to be fairly foreign to traditional "educators" that are taught to select a pre-defined curriculum, pouring knowledge into individuals, and then subsequently testing them. In reality, many people don't want to let go of the word because it takes the focus off of them and their marketable profession. By using the word teach (teaching, teacher, etc.) they can give themselves a pat on the back (and continue to feel good about the pay-checks they collect) for all the learning someone else does. It gives them the sense that they are doing something good for another. In community, there are no teachers there are only those who share in the process by which we are all learning and growing.

Teachers want attentive students. Learners are free to come and go when they choose. Teachers would not appreciate people randomly coming and going from their class. Conversely, there is no expectation or coercive reinforcement for your presence in a free presentation environment.

School is often the experience of sponging up information which is jettisoned when it is not needed for tests anymore. School is not designed to facilitate self-directed learning; self-directed learning is fundamentally NOT the experience of schooling. No school board or governance committee is in a better position to determine a course of study for another human being than that human being is for himself/herself. Teachers are not necessarily the benevolent providers of wisdom we are told they are. Don't accept something as the truth just because it comes from someone you respect.

One technique for finding just the right level of challenge for each "student" is so simple that few of us think of it: let the learner choose their challenges, and facilitate a value-oriented environment where they choose challenges wisely.

Essentially, the above idiom implies that people who are able to do something well can do that thing for a living, while people who are not able to do anything that well make a living by teaching. In early 21st century society

there are many people in the market who are relegated to teaching because they didn't "make it" in their initially desired career field. However, the idiom is short-sighted, in part, because it doesn't recognize that teachers become victims of the system too. It is interesting to note that most people who end up teaching, even those to whom the idiom might apply, claim they did so because they want to "make a difference".

In a socially governed school the teachers might say, "You kids, don't bully and don't use force against each other; you kids, you follow these rules"; but, we school teachers are going to force other people to pay our salaries. In truth, regardless of what we think we are teaching, we teach what we are and how we behave. If you did not before, do you now see the process of enculturation replicating itself among our species?

Someone might then ask, "Isn't teaching the best way to learn? This is just common knowledge." No; and, it is unfortunate that it is considered "common knowledge". A common saying in early 21st century society is, "the best way to learn is to teach", but in community we are all learners, creators, and sharers wherein our shared creations and communicated learnings have the potential of facilitating the learning by others.

It is interesting to think about who wouldn't flourish in a loving, supportive, interesting, fun, nurturing, resource rich, and stimulating environment? In other words, every young person would flourish if the "parents" and "community" were morally aligned with fulfillment, so to say.

> *"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will spend its whole life believing that it is stupid."*
> *- Albert Einstein*

1.5 Qualification assessment

A measured assessment of knowledge and/or skill can be achieved by any of the following:

1. **Qualifying with consequences assessments (a.k.a., consequential assessment, consequential for future access)** - a qualifying life event that gives access to potential dangerous and societally impactful systems.
   A. **Summative (e.g., pass/fail exam*, education project contracts)** - demonstrates accountability by demonstration of a specific skill and/or knowledge over a specified period of time. Here, there is accounting for a specific demonstration of skill/knowledge. Assessing/evaluating (via observation) the ability of someone to complete a task per standard procedure. ***Note that the result of a summative exam may be called a "grade", which should be distinguished from additive event grading/scoring (directly below).***
      1. **Is pass/fail exam (demonstrated mastery of standards-based certification)** - If the exam is passed, then mastery is sufficiently observed to qualify. If the exam is passed, then there is evidence of being able to safely and appropriately do something. Someone who is certified to be able to practice a modality and/or use a tool must have passed a final specified exam (either knowledge-based or practical) information and/or be able to practice a skill on demand with some specified accuracy. The standard (in knowledge and/or skill) is the target.
         i. If the exam is passed, then access will be given (based on availability).
         ii. If the exam is failed, then access will not be given. The exam must be re-taken; or, in some cases, the entrant is forbidden from ever retaking the exam.
      2. **Is contract of accountabilities (demonstrated contract accountabilities)** - If the contract is fulfilled, then there is evidence of having done the work [to pass the course of study]. Is the course content mastered by evidence of contract completion. A contract of accountabilities/responsibilities is intrinsically linked with a course of study; whereas, a one-time pass/fail exam may not be.
         i. If the contract is not fulfilled, then the course of study is not passed, and consequentially, access will not be given. The exam must be re-taken; or, in some cases, the entrant is forbidden from ever retaking the exam. The completion of the contract is the target.
      3. **Significant questions about consequential assessments include, but are not limited to:**
         i. **Does the assessment where there is a passing grade/score (and a failing grade/score) only reflect knowledge and/or skill-ability?** Is the final determination of pass/fail only based on the demonstrated knowledge/skills of the learner? If no, then it is not a community method; because it includes arbitrary data that ought not be used for decisioning when it comes to qualifications with confidence.
         ii. **Is the assessment a gate to future human fulfillment?** Is an exam or education contract a gate to a future lack of fulfillment beyond contribution sector preference? If yes, then it is not a community method.
   B. **Additive of events (e.g., # of hours, formative events score, grading score, hours of university**

curriculum, etc.) - counting and or adding together the outcome of a series of events. Note here that grading fits under the category of additive, not summative. Qualification after operation for some number of accountable hours fits here also (e.g., piloting for some # of hours per year).

1. **Objective** - Observing continuous action over a set duration of time (e.g., counting the number of hours operating an airplane). Here, there is accounting for the number of hours an operator actually operates a system. For instance, to certify as a pilot, the learner must have x (or more) number of hours operating a specified aircraft.
2. **Arbitrary** - grading is assigning a score to someone during a course of study, which is summed up at the completion of a course of study and positions the student either on a pass/fail score scale (e.g., 90 and higher pass, below fail), or a "graded" score scale (e.g., A, B, C, D, F). In the market-State, because courses cost money, the exam becomes linked to taking the course. Hence, if an exam is failed, it is in the best interest of the business (university, certifying organization, State) to have the individual be forced to pay for the course a second time. Hours of university curriculum which then grants access to a test, (e.g., architecture, engineering, law) is an arbitrary measure of whether or not someone is prepared to take the test. Here, hours of university equates to hours of study, which is an arbitrary value, because someone can study for a long time and still not understand and another person can study for a short time and understand quickly. In the market-State someone's grade (point average, GPA) has consequences. Another arbitrary way of grading is having students and instructors determine the final grade together.

2. **Timely feedback assessments (a.k.a., training assessment, consequential/used for self-development)** - timely feedback with no significant consequences if not followed. Importantly, it is now known that feedback alone is key to student learning, improvement, and motivation. (Bulter et al., 1986)
   A. Simply, **coached feedback**. This is the feedback a trainer givers a learner as they practice some skill-set and/or knowledge-set with them. Mentors give useful advice as the learner practices.
   A. **Self-evaluation assessments**. Learners practice their knowledge and/or skills through a mock exam/assessment. The assessment is corrected and a facilitator gives feedback.

In community, qualifying exams are based on the content in open standards. In community, there are courses of study, and then there are exams for certification of safe access. The exams are pass or fail; their is sufficient knowledge and the system can be accessed safely, or there is not. Exams may be seen as separate from courses of study -- a course of study is an intrinsic drive, and an exam is an accountability measure. It is an accountability measure that a system can be "handled" correctly. A summative qualification assessment ensures society that someone may be held accountable for their InterSystem team contribution role and responsibilities. An entrant may not be permitted to even take an exam for access, for instance, because of: former dangerous acts with a technology, senility, or disability. Community focuses on a healthy learning process.

It is possible to link pass/fail assessment exams with a course of study in following ways:

1. **No linkage and no need for course of study:** The learner can just take the exam without participating in any formal course of study.
2. **No linkage and must take one course of study (and another if there are significant changes):** the learner must take the course once, whereupon they can take the exam as many times as they need in order to pass it (as long as the standard, and hence, course of study doesn't change significantly).
3. **Linkage to course of study:** The learner may only take the exam after taking the course of study. To retake the exam, the learner must re-take the course of study.

When a course of study has a pass/fail assessment at the end of it, then instead of conventional grading, it could have one of the following assessment profiles

1. **Education project contracts (a.k.a., labor-based contract assessment, specification-based contract grading, standards-based grading, mastery-based grading, etc.)** - a learner contracts at the start of a course to do a certain amount of work. The learner has specifications set in a contract for where they need to be by the end of the course of study, and as long as they make it by the end, then they receive the pass ("grade") specified in a contract. The learner agrees to a project and an amount of work that is to be completed by the end of the course (only by the end). At the end of the course, the amount of work is matched to the contract and the learner gets an

objective pass or fail as specified in the contract. What is being assessed here is the education work on the part of the learner in relation to the contracted statements of what would be done and is to be known by some deadline (i.e., course end date). This is effectively an education contract (also acts as preparation for later contribution contracts/ agreements).

A. **Standards-grading** - students do what they are contracted to do to meet a specific standard, with multiple opportunities to do so (students can re-submit without penalty).

1.5.1 Grading and ungrading

> *"... One of the best ways to destroy love for any of these activities would be through the use of grades, and the coercion and judgment they represent. Grades are a cudgel to bludgeon the unwilling into doing what they don't want to do, an important instrument in inculcating children into a lifelong subservience to whatever authority happens to be thrust over them."*
> *- Derrick Jensen*

The process of assigning a grade (arbitrary point value) to a student is called grading. A grade is an extrinsic reward and/or punishment. In school, teachers do the act of grading. Grades are the sum of a series of additive events that are said to "fully assess the student". In fact, grades are arbitrary point values, and in the market-State, they are the determining factor for someone's future access. Obviously, when grades become important, then the grade becomes the target. Learning becomes just a vehicle by which to earn a grade. Grades are only a way to ensure mass production of basic competency in a scarce environment. Grades are sub-optimal assessments. They create perverse incentives (e.g., to cheat and compete, and teaching to the test).

> **INSIGHT:** *It is unfair to other members of community to have any complete for arbitrary point values (grades) and then have them complete for socio-economic access fulfillment (jobs).*

Research into learning sciences and education practice clearly finds that (Kohn et al., 2020):

1. **Grades do not promote deep and meaningful learning.** Students put less effort into courses that are graded. Grades are terrible motivators for doing sustained and deep learning. Learning requires mistakes, which grades punish. Punishment interferes with flow and deep learning. Grades conflate obedience with learning. Just doing what "you" are told by a teacher is not learning, though teachers often conflate obedience (doing a behavior "you" have been told to do) with learning. In market-State schooling, obedience and conformity are synonyms of excellence. Grades create a preference for easier tasks, and shallower thinking. Grades decrease the enjoyment of learning. They make learners more risk adverse, because they don't want to try out something new that could cause a failure. Because learners are then not pursuing tasks of sufficient challenge and motivation, they do not get into flow (as easily), and learning is severely stunted when not in flow. A grade signals the end of a learning process, interrupting flow.
   A. In a community-based education, instead of focusing on the extrinsic reward (i.e., the grade), learners can focus on learning and doing what is of greatest interest, effectively and efficiently.
2. **Grades do not motivate, except negatively.** Grades are based on fear, coercion and threat, of a "bad" grade. A grade is a threat of a future potential lack of fulfillment. Therein, grades harm intrinsic motivation and contribute to learner suffering.
   A. In community, learners learn for themselves, and not for the grade.
3. **Grades are not effective forms of feedback and do not provide an objective evaluation of knowledge and skill.** Grades do not appear to provide effective feedback that constructively informs students' future efforts. This is particularly true for tasks involving problem-solving and creativity. Even when grading comes in the form of written comments, it is unclear whether students even read such comments, much less understand and act on them. (Schinske, 2014) Teachers in the early 21st century wrongly believe that grades give valuable/useful feedback about performance. In fact, when "you" see a grade on an assignment or report card, it tends not to convey a lot of information about what a student actually has learned. Grades are not a good representation of [student] learning. Maybe a student already knew the material before taking the class that they got an A-grade in; then, they didn't learn anything. And, if a student came in and struggled to get a C, they may have learned a lot. Grades don't communicate clearly or consistently. Grades are not communicating to another person what a student has been evaluated on (e.g., whether it be effort, rightness, quality, attendance, participation, improvement, etc.). Because grading is a summary score of a set of formatively graded events, it is arbitrary; grading is arbitrary. For example, who decides and why any specific exams should make up some percentage of an overall grade, that quizzes make up some other made up, that

attendance makes up another part of the ratio, that participation makes up another, etc. The decision is arbitrary.

   A. In community, facilitators (mentors, coaches, etc.) are available for structured learning, for useful feedback, as clarifiers and for additional support. Feedback signals that the learning process is still ongoing.

4. **Grades (if there is a bell curve) promote competition** over cooperation. Here, students are ranked among one another (norm reference grading, curve grading). The teacher can change the score of what one student has earned based on the score another student earned ("adjustment") in order to get a bell-type curve. Bell-curve grading exists to rank students for purposes of awards and advancement of further study or career. Those students low on the bell curve do not get advancement, and there must always be some proportion of students who do not advance, because of the "curve". Effectively, grades create internal-student rivalry for advancement; increased competition among peers. Curved grading will alienate certain groups of intrinsically motivated/ talented learners. Grades become a zero-sum game with definite winners and losers.
5. **Grades contribute to learner suffering** and substantially increase anxiety, stress, depression and suicidality. In concern to grading, there are serious concerns about students' mental health. The number of college students with one or more mental health problems has doubled since 2013, according to a study by researchers at Boston University and elsewhere. Teenagers said that the pressure to get good grades was their biggest cause of stress, a 2019 survey by the Pew Research Center found. Grades make people think about a future potential loss of access inducing deep states of anxiety in people.
6. **Grades contribute to antagonistic interactions** - antagonistic interactions are more likely to occur between students and teachers, because of grading.

   A. In community, students are learners and teachers are facilitators.

If universities shift their focus (of key performance metrics) of learning away from grades and job hires, and to community [human-need] fulfillment, then universities would be able to tell whether they are graduating people with the skills that they say they are graduating them with.

INSIGHT: *Studying does not equal competence.*

When students are given grades in school, three things tend to happen, and this is the scientifically studied result:

1. Students become less excited about and interested in learning. The results of every study on the effects of grading and learning have found a negative effect.
2. When students are given grades, they tend to pick the easiest possible task when given a choice. This is not because they are lazy, but because they are rational. Of course, "I" would pick the shortest book [to read] because the point is to get a grade or point, so the easier thing "I" am doing the better the chance "I" have of reaching your goal (i.e., the authority's goal). Effectively, the goal is not intellectual risk taking, it is the opposite, it is risk avoidance. But then, you blame "me" for not being motivated or having enough grit (or something) to select the more complex task. To you, it is all about "me", as opposed to looking at the structure and the way it predictably elicits artificially limited behaviors. Fundamentally, the goal is not to learn, learning pulls in the opposite direction of the grade.
3. Students that are trying to work for a high grade in school tend to forget more quickly that which they were taught. They also tend to think in a more superficial fashion and with less depth, than students given the identical task in a grade-free environment.

Educational reform often involves the question of how to assess and grade: should we grade for effort or not, should we include zeros or not, as opposed to taking a step back and asking, why are we talking about how to grade when all the research, all the real life experience argues strenuously for the non-encoding of grades, and for more authentic forms of reporting that are not reduced to letters and numbers.

INSIGHT: *There should not be consequences to future fulfillment for trying out something new in the education context.*

Radical questions must be asked of ourselves and others -- "radical" comes from the Latin meaning "root"). Practically speaking, grades are only an assessment of how well a student has learned to play the school game. Generally speaking, the better someone's grades the more that someone has bought the lie, hook and sinker; the more s/he has conformed and obeyed.

In reality, grades are a problem. On the most general level, they're an explicit acknowledgment that what you're doing is insufficiently interesting or rewarding for you to do it on your own. In school, what does the grade, letter or number tell you? It tells you what the teacher or the institutional system happens to believe about

your ability to follow orders and memorize. From the institution's perspective grades are useful for comparing students, and from the student's perspective grades represent a form of competition.

Grading and subjective evaluations by authority figures in one form or another are inherent to school. Yet practically speaking, grades are unhelpful [to self-development] at best and damaging to the individual at worst.

Punishment with a failing grade is still punishment. What sort of tools does a teacher have when a child is simply not interested in what the teacher has to teach them or where the teacher wants to keep them? It comes down to coercion, one way or the other. Effectively, failure means being forced to repeat the lesson this year or next. In higher education it often means paying a second time for a repeat of the course, or losing a scholarship. And, if "you" are grading them for class participation, then that is the definition of a lack of safety. The kids are now contributing to impress you and get a grade (or evaluation), which is the opposite of doing it for authentic and intrinsic reasons.

To consciously integrate is the polar opposite of extrinsic motivation, as that which you are assigned to do. Creativity arises from self-integration and not from authoritarian conditioning. In community, we focus into the areas of life that we find the most interesting and exciting, and we see what grows out of that. It is unwise to sacrifice the identification of [your] consciousness to collective conditioning. Herein, emotional investment in your own conditioning is unhelpful.

Table 1. *Table showing teacher-centered versus learning-centered education.*

Teaching-based (teaching-centered, teacher centered)	Learning-based (learning-centered, learner centered)
Teacher	Facilitator, mentor
Uniformity	Flow, optimization
Compliance	Self-direction, opportunities
Points	Learning
Certification/qualification assessment exams	Certification/qualification assessment exams
Fear	Understanding, confidence
"Do I have to…?	"How do we …?"
Grades	Communication and appropriate feedback
Competition	Cooperation, teamwork

1.5.2 Certification (a.k.a., readiness benchmark)

A.k.a., Equitable assessment and qualification, societal social assurance, operation readiness, technician readiness benchmark, practitioner certification, practitioner readiness benchmark, level of understanding and practice, level of comprehension, measured level of knowledge and skill, measured level of awareness, evaluation, social evaluation, social certification accounting, grade, score, marked completion.

In any advanced socio-technical society, there is an access certification (a.k.a., coordinated control, "authority") gate for the usage of specific societal systems -- the usage of these systems requires individuals to become certified by passing an exam. To get through the metaphorical "gate" requires passing an exam. Pass or fail exams for certification (of access) inform society about the mastery of skills (techniques and/or tools) and knowledge, so that the rest of the people in society can trust that the certified individual can live with, and operate, specific societal systems safely. Society has standards with requirements for specific roles and specific socio-technical operations, to ensure the safety of the rest of society from the operator, and to ensure the safety of the operator themselves. In other words, to become an operator/accessor of specific societal systems, one must demonstrate their ability to use the system safely and appropriately. The certification conveys trust between the operator and society, and facilitators the operators trust in themselves to use the system appropriately.

Facilitators (of education/learning) in community look at themselves as guides, rather authorities, except during times of certification, because at that time, it is important to ensure the safety of community by ensuring complete trust of qualifications and abilities (e.g., a driver's exam). During exams, facilitators assume the role of evaluators of competence, to ensure the future safe and sensible operation of society (of the societal InterSystem Team, and of common and personal habitat access technologies and systems.

> **INSIGHT:** *The objectively best way to assess learners progress and help them meet their goals and achieve their highest potential is one-on-one tutoring and mentoring. And particularly, individual assessment during one-on-one tutoring and mentoring.*

In society, there are jobs (contribution work roles) that are potentially dangerous and pose a danger to oneself and others. Further, in concern to personal and common user access, there are accessible machines and activities (e.g., driving or flying) that pose a serious potential danger to oneself and others. In the market-State, a regulated job (a.k.a., regulated industry) and/or regulated civil activity (e.g., driving) is one where, in order to perform it, certification or accreditation is required by the State, or the work product (deliverable) needs to be inspected and approved by a State regulating body (food and drug agency, medical board, etc.). There is a similar certification system in community for contribution and usage of specific tools and technologies.

Half of the idea of "education" is about learning (acquiring information and skills), and the other half is about assessing learning (evaluation, for oneself, and for evidence of one's qualifications to the rest of society). Exams (a.k.a., assessments, certification events, tests, etc.) serve as a measure of knowledge and skill

(assessment of learning). Assessments are necessary for Assessment for safe and correct practice and usage of societal knowledge and technologies (e.g., driving a car, operating a machine, performing a medical procedure, etc.).

In time, certification may only be acquired at the end of a course of study. In other words, certification comes after the completion of education. In concern to societal accountability, certification always requires some form of assessment to ensure accountability that a certification acquiring individual has the knowledge and skills stated in the [education completion] certification.

1.6 Cheating

> **INSIGHT:** *Only systems of distrust incentivize (and even, encode) the idea of "cheating".*

Cheating at formal assessments is not acceptable. The questions are,

1. Under what conditions is cheating emerging?
2. How is cheating defined and how does it work?
3. Can cheating be defined outside of the context of a competitive game?
4. In a cooperative learning environment, what is cheating; what is its meaning?
5. In a community, what is cheating?
6. What incentivizes cheating?
7. Does cheating potentially put the lives and safety of others (and of habitat assets) at risk?
8. Is cheating the taking of someone else's work and passing it off as your own?
9. Is cheating the observation of the answers to a blinded assessment?
10. Why would individuals do that within a system where learning and participation does not come through the permission, approval, or judgment of an authority figure?
11. Is there less cheating when all assessment is during learning, and there is no final formal assessment?
12. When access and participation are open, then where is the term "cheating" applicable? Cheating occurs when individuals are pitted against each other for their survival, or perceived survival; and therein, "all becomes fair in love and war". In a cooperative human system there is no incentive to "cheat"; and, in a sense, there is no meaning to the concept.

There are those who might say that copyrights are important in protecting the "rights" of the creator, and the protection of things that do not belong to others, wherein the using of another's work [in competition] is "cheating". This perspective admits two things. Firstly, that the socio-economic system is a competitive game. And secondly, that there is some degree of monopolization and forced exclusion such that individual participants in the game cannot use ideas, objects, or items that they have possession of, but have not "created" themselves (because they don't "belong" to them). And also, there is often punishment for using another's work without permission. When there is monopolization or force or punishment in a competitive game for life need, then there is not "cheating", there is 'surviving'.

> **INSIGHT:** *It's not surprising that: no tests + no homework + no grades = no cheating; no coercion = no reason to cheat; no disparity in socio-economic access = no reason to cheat; intrinsic motivation = no reason cheating.*

School is a system of distrust, deception, trickery, fraud, and the swindling away of the natural desire to learn and the innate ability to integrate. Only a system of distrust would encode and incentivize the idea of "cheating" into its structural fabric and then punish its structurally incentivized behavior. Remember, the system is what it produces. In truth, there is no problem with "cheating"; the problem is with the system of schooling itself.

> **INSIGHT:** *Without constant extrinsic reward and punishment (grading), without incentivization for competition and advantage over others, and without unequal socio-economic access, cheating in all forms is significantly reduced. In community, there is no incentive to cheat [the system], because the system works well for "you".*

What is often called "cheating" in school is actually discussing, comparing, questioning, sharing, asking, and looking up the best answer possible [often to avoid punishment or maintain a reward]. It is ironic and sad that students that get caught are punished for the very skills they will need to do well in life. Therein, a lack of compliance with is not immoral. What is immoral is the coercive demand to do otherwise. One could go so far as to say that to follow the rules of a tyrannical system [of individual and social limitation] is immoral.

Consider that in many ways, the behavior in school called "cheating" is exactly the behavior society desires from people in a participatory and cooperative world. Think about it. What behaviors are called "cheating" in the school system? Generally, they involve asking others for help and copying answers. In the real world, these activities are called inquiring, helping, networking, working cooperatively, and sharing. In business, managers don't ask their employees to continuously reinvent the metaphorical "wheel" when they are working; instead, answers are shared and help is appreciated.

In early 21st century society, the taking of someone else's work and passing it off as one's own to an authority figure or to an entity in the market is generally known as "plagiarism", which is considered a form of "cheating". So, several questions arise. In order to more

greatly understand the concept of 'plagiarism' we might ask some questions in the context of what we know of learning:

1. What sort of system would require an authority to approve work you have done for your own supposed benefit?
2. What sort of social system would incentivize people to pass off another's work as their own? And, what sort of economic system would punish someone for passing off another's work as their own?
3. Why would a learner require the permission, approval, or judgment of an authority figure to continue their learning process?
4. Why would someone "cheat" if one were not in competition with others for reward or award or praise or grades or employment or resources?
5. Why would someone "cheat" [on an assessment that qualifies one to operate a technology that could put others' lives at risk] if one's survival and basic needs were covered and one had the freedom to pursue a subject or skill to mastery in a fulfillment-oriented value environment?
6. What sort of system predicates your survival on the work you do for others?
7. What exactly is the meaning of the concept of "cheating" in a society based on cooperation, sharing, transparency of operation, and the generation of abundance?

In the real world, "cheating" is a term without meaning. Once we begin to recognize the damage that school has done to us, then we can begin correcting our direction toward one of greater fulfillment for ourselves and for all others.

Often, the most successful "students" become robot-like, learning how to memorize and spit out information, but not too deeply analyze it and integrate it without contradiction. They fully accept and adopt the meaning of concepts with little to no relationship to the true nature of the reality around them (i.e., they become well indoctrinated).

Often, students with a strong loyalty to authority (i.e., a strong authoritarian "honor code") will turn other students in for cheating. These "honorable" people establish a culture of denunciation and "snitching". Denunciation (McElroy, 2013) is the act of accusing someone of wrongdoing and its inculcation into the minds of young people extends far beyond their school experience. In a political context, it means reporting a person to the State for investigation and possible punishment.

We are intelligent beings and can initiate and quantify our own "progress" (i.e., we have intelligence and can seek feedback; we can self-assess, which requires self-empowerment). And, if assessment can't be authentic, then the variable it is assessing likely shouldn't be assessed. When we have passion and care for the things we do then we are more likely to self-assess accurately. If the work is real, there will be a real audience. The real audience will be assessing the work by giving feedback in the form of viewing the work, sharing their appreciation for the work, and critiquing or otherwise commenting on it. If there is no real audience interested in doing that, then you're wasting your time. As a point of clarification, it is okay if the person doing the work is the only interested audience member. It is not okay if the only interested audience member is the teacher or some other authority figure.

> **INSIGHT:** *Ignorance (ignoring evidence of life and suffering) is a necessary ingredient for oppression.*

1.7 Homework

> *"Real wisdom is not the knowledge of everything, but the knowledge of which things in life are necessary, which are less necessary, and which are completely unnecessary to know."*
> *- Leo Tolstoy*

The industrial educational system is addicted to homework, which is tedious busywork from the perspective of an autodidact (i.e., a self-directed learner). How does killing the excitement around learning by making someone work what is essentially a second shift [with more academic assignments] help them to become someone interested in life-long learning with a wide variety of passions? Most people hate most homework even if they can manage to get it done successfully.

From a business perspective, homework meets the needs of the school perfectly:

1. It reduces the responsibility and accountability of the existing system, teachers and school processes.
2. It makes parents accountable to the school.
3. It keeps the student feeling guilty and dis-empowered.
4. It maintains the illusion that there is so much to teach and the school mission is so important that it is worth consuming all aspects of a child's life.

Homework helps the school system, not the learner. Homework is ironic considering the general situation that those who were already proficient have to do the homework anyway, and those who were struggling and are having difficulty doing it on their own are expected to do it on their own.

In fact, homework is more akin to robbery: it robs the "student" and their families of meaningful time; it robs individuals of self-paced experimentation and reflection time; it robs passion; and it robs individuals of the "right" and respect to decide what to do with his/her time away from school. What gives the institution of schooling and its associated authorities the right to dictate what a

person does when s/he is away from their control?

In terms of standardized test results, there is a distinction between high-school and before high-school for homework. At the high-school level, there is evidence of a modest correlation between standardized test scores and how much homework kids do; if, someone happens to think that test scores are a meaningful marker of intellectual proficiency, which they are not. But even then, that correlation tends to vanish with multiple controls. Below high-school the research clearly shows that there is no case to be made for homework of any kind.

> **INSIGHT:** *Develop a system that meets human needs for fulfillment, and there will be trust at all scales (from the education to the contribution).*

1.8 Plagiarism

Plagiarism is the false assumption of someone else's work. In community, there is little incentive to falsely assume someone else's "work" as one's own since there is no ownership of property, no market, and no economic encoding of the idea of authority.

Effectively, plagiarism is a culture bound form of intellectual ownership based upon a set of economic ethical principles. To be intellectually honest, one must acknowledge the existence of, and future emergence of, cultures that do not perceive the use of someone else's language, ideas, or thoughts, without reference, payment or exchange, as unethical. The idea of plagiarism presupposes that language, thoughts, ideas, and expressions are neither learned nor an intellectual accumulation, and can have a single concrete originator. In practical application, the ethical principles of plagiarism establish the intellectual ownership of thought, ideas and language. A community, however, recognizes these things as an intellectual accumulation that exists in the domain of the commons.

Many state blanketly, "Plagiarism is a form of cheating because it is stealing another person's ideas". In community, we value cooperation over competition, and cheating is not an encoded element of the community system. Herein, ideas and their application cannot be "owned",and therefore, cannot be "stolen". There are approximately 7 billion people on the planet at the time of this writing, and 1 billion have been added in the past ten years. It is unrealistic to think they all have unique thoughts all of the time, or to punish them if they share the thoughts of others without acknowledgement.

The encoding of the idea of "plagiarism", in any context, rewards those who are "first" to an idea or thought. Yet in truth, we have all stood on the shoulders of a community of creators to accomplish that which we have accomplished. To reward anyone who extends an idea beyond its historical composition with economic benefit over the economic benefit of others is highly likely to create a socially corrosive atmosphere.

If someone is assuming another's work as their own, then it is wise to ask, "What is the context? What structural element incentivizes this behavior? What is being gained through false pretence? And, what does it mean to "assume" or "represent" another's work as one's own?" In an educational system with established principles of plagiarism, students will necessarily modify the "work" of others in such a way as to avoid plagiarism and acquire the reward – a non-failing grade on a turned in paper. Grades, scores, marks, and tuition are the most rewarded elements of the modern schooling system. Our community's learning system has been designed so that cheating is not a factor (i.e., cheating as a means of advancement or acquiring rewards has been specifically designed out of the system). In a highly self-directed learning environment "cheating" and "plagiarism" become meaningless and unnecessary.

A common incentive for plagiarism in the market is the profit (i.e., bio-survival tickets) derived from the contracted acceptance of a book by a publisher. Other times, that which is called "plagiarism" is simply one person enjoy the published written work of another and desiring to share a similar, but slightly modified, version of the "original" piece of work. In other words, someone takes a piece of written work, creatively and playfully modifies the work, and then shares the new version.

Yet, in community, we understand the necessity for **c**iting sources and documenting new knowledge. Appropriate sourcing practices and transparency are important as they ensure that evidence-based information can be checked for accuracy, objectivity, currency, and coverage. The ability to identify fact from fiction and opinion is a necessary element for the existence and continuance of an emergent community. In concern to responsibility, it is the responsibility of each individual in our community to ensure that evidence-based information is appropriately sourced and cited, and herein, our technologies facilitate this. Notice here that there is a difference between evidence-based information and creative works of fiction. Among community it is unnecessary to cite or reference creative works/designs of fiction, and it is fundamentally desirable (and also, quite obvious) for everyone's fulfillment to document and cite evidence-based information. Besides being useful metadata, it is often irrelevant (to society at large, and the users of any given information) to cite the name of the individual who came up with some idea first.

> **INSIGHT:** *To some degree the idea of plagiarism leads to the division of language because individuals are forced to restate what another may have stated quite clearly and concisely in a different or new way.*

1.9 Learning as a lifestyle

> *"Education is not the learning of facts, but the training of the mind to think."*
> *- Albert Einstein*

In community, our interests and desires evolve based upon our experiences and the information we come into contact with. Herein, individuals progress from one experience to the next, dependent upon their evolving interests, curiosities, and goals. Essentially, we come to learn about ourselves and the world through investigation and discovery, wherein an emergent formal/structural learning environment stands in contrast to a planned or programmatic curriculum, as a lifestyle that intrinsically facilitates learning through self-direction as opposed to institutional force. In other words, the community provides the opportunity for structuring our learning so that we have a context of what we have learned in relation to what is possible to learn. However, it does not programmatically force an individual to learn [anything] within that structure. Instead, the structure is present and individuals may use it or not. If we choose to use it then we progress at our own emergent pace, and we may add to the structure freely wherever we desire. Practically speaking, in community we have the freedom to learn in a structured environment (or not) about a subject matter (or set of relationships) from other learners.

It is relevant to note here that education is both an exploratory and a life support prioritization, because it concerns the survival and flourishing of the current and future generations. Education involves the sharing of knowledge amongst learners who can use the education to survive and better their lives. The habitat service system team operation is often called the InterSystem Team, because it is recognized there exists an inter-system relationship amongst the primary habitat services.

The biological term 'selection' defines the process of physiological change that takes place within an organism when it selects new information that helps it more effectively adapt to its world. The most important element of a selective system, such as our brain, is that all new information must in some way attach itself to data that has been previously encoded into our neurological structures, either by our genetic program or by our previous encounters with the environment. In selective systems the individual-self has this constructive power, not some outside authority, such as a "teacher". It is the individual who is actually doing the matching (Read: pattern recognition), as his or her brain unconsciously selects new information that resonates with previously acquired knowledge for inclusion into long-term memory.

Learning is the conscious pursuit of self-growth and self-development. If someone is relying on others to tell him or her what s/he has learned, then it is likely that s/he is not learning much. Former market-State efforts to develop effective learning systems that produce dramatically positive and "flow"-like neurological changes – and thus dramatic learning and optimized contribution – have been hampered because of a failure to understand that learning takes place though the process of 'self-selection', not the academic professing of "instruction".

There are substantial differences between the biological term "selection" and the academic term "instruction." The academic term implies a method in which learning is claimed to take place through directives and orders from a central authority (e.g., a "teacher" or "leader"). Instructive methods view the brain as an empty container to be filled through the authority's direction, using the Newtonian and behaviorist tools of leverage that every learner in early 21st century society is likely familiar with: the reward and punishment of good and bad grades, marks, scores, and evaluations.

A learning community does not force a predefined (or planned) program of study or career of tasks on individuals. Planned programs cannot adequately accommodate the evolving interests of learners and the expansion of our knowledge. Planned programs advance students down a single path toward a pre-chosen [authority directed] goal, often in a single discipline. In community, we realize that learners have interests that span numerous disciplines, and that in truth all disciplines are connected. Here, we begin to see the interconnectedness of the world around us.

Individuals in community don't generally segment their life into academics versus life. Instead, learning enmeshes with life. There is hurtful artificiality in separating learning from living through institutionalization of learning into academics. In community, we look at life more as connections and less as academic subject matters. 'Academia' represents the compartmentalization of life. Effectively, school diverts our attention from a sensitivity to, and the fulfillment of, our life needs. One of the consequences of school is the disconnection of learning from living.

The truth is that when you dig deep intellectually, everything has an interdisciplinary synergy. We can't talk about nutrition without also talking about biology. We can't talk about biology without also speaking about physics. We can't talk about physics without talking about mathematics, and so forth. There is a synergy in life that we can integrate [over time] and use to organize a more fulfilling lifestyle for all of us.

> **INSIGHT:** *Often, academia is the parroting of what another parrot who came before him/her was told to parrot.*

1.9.1 Self-direction, life-long learning

> *A.k.a., Individual learning, self-directed learning, self-directed tutoring,*

Self-directed learning (or self-directed study) is the process by which learners initiate, monitor, and reflect on their own learning, and it is potentially the most important element in life-long learning. Our community exists to support individuals in their pursuit of learning throughout their entire lives, and therefore, self-directed learning must be an inherent part of our community. Self-directed learning provides an environment for the

natural continuation (or "development") of self-directed individuals. To have a self-directed education at its best is to have an individualized learning experience where the learner selects the topics, goals, objectives, strengths, challenges, interests, passions, and weaknesses, that are all naturally expressed by someone. The Community offers individuals the freedom to explore their personal interests and to fulfill their continuously evolving aspirations. Here, learners are nurtured into taking the initiative and the responsibility for their own lives, their learning, and their routines. In community, learners are responsible "owners" and "managers" of their own learning process and progress. Here, learners design their own path to their own highest potential. The modular, continuous learning approach [discussed later] ensures that learners have the time to process, integrate, and fully enjoy what they are learning.

Self-directed learning nurtures the intrinsic motivating factors of autonomy, connection, mastery, and purpose over factors of a more extrinsic nature, such as reward and punishment. Self-directed learning allows for a state of flourishing among individuals, for herein, we are following the interests and curiosities of our own hearts and minds, which have not been shackled and beaten by the self-serving agendas of others. Environments that support learning shift the role of the "instructor" [if one is present] from that of the "bearer of knowledge" to that of a "facilitator of learning". Hence, in community there are no "instructors" or "teachers"; there are only learners, some of whom may have sufficiently mastered a subject or task to a degree that they have the capacity for adopting the role of "facilitator" or "guide" to other less developed learners.

Only a limited form of self-direction can be achieved in a programmatic or pre-planned environment wherein individuals are told (or "instructed") on what they must learn and how they must learn it. Alternatively, an emergent curriculum is founded upon the principle of individual self-direction, and it is therefore in line with how learning and change actually occur in our natural, biological systems. This leads us to acknowledge that optimized learning, the efficient and logical integration of new knowledge, and movement toward a true higher potential, necessitates a self-directed environment. Self-directed environments appear when individuals have the freedom to express their desires, wants, and preferences. Note that self-directed freedom is one of our community's core values, and it is discussed at length in the Social System Specification.

When individuals have a choice as to where they focus their physical, creative, emotive, and intellectual energies, therein exists alignment with our natural world. If we seek a continued movement toward our higher potential, then the decision to learn something must originate from within the individual. In community, individuals have the opportunity to self-select their intention and focus their intention without intrusion by others.

What is Confucius stating in the above quote? Should a "good teacher" not show you all four corners, laying everything out plainly? Confucius apparently thought otherwise. Nature provides the corner of experience. To truly learn, to remember and understand and integrate, a mind must be in a state of questing, of seeking to find knowledge.

In the Community, most formal learning is delineated into what may be commonly referred to as formal learning experiences ('learning objects' or learning modules). A learning object is a collection of activities, events, and content that has been temporarily assembled based upon one or more closely knit learning objectives. 'Learning objects' represent smaller, self-contained, re-usable and often assessable units of learning or purposeful experience. By organizing learning into manageable chunks, learners can smoothly transition between experiences and disciplines. Many technical learning objects are even designed to span disciplines.

Metadata about 'learning objects' is an important component of the learning system. Metadata provides learners complete transparency within and between learning objects and experiences, allowing for an informed choice about the direction and path of their own learning.

> *"I never let my education interfere with my learning. [In other words,] I never let schooling get in the way of my education."*
> *- Mark Twain*

1.9.2 Learned helplessness

> *"Whatever an education is, it should make you a unique individual, not a conformist; it should furnish you with an original spirit with which to tackle the big challenges; it should allow you to find values which will be your road map through life; it should make you spiritually rich, a person who loves whatever you are doing, wherever you are, whomever you are with; it should teach you what is important, how to live and how to die."*
> *– John Taylor Gatto*

Learned helplessness is a mental state in which an organism forced to endure aversive stimuli, or stimuli that are painful or otherwise unpleasant, becomes unable or unwilling to avoid subsequent encounters with those stimuli, even if they are escapable, presumably because it has learned that it cannot control the situation. (Nolen, 2014) In other words, learned helplessness develops when an organism learns that its efforts are wasted and it's easier to just conform, when it believes its problem is permanent. It is characterized by decreased motivation, failure to learn, and negative thoughts and emotions.

The learned helpless [behavioral] response pattern was discovered accidentally during the mid-1960s while studying the relationship between fear and learning in animals: psychologist Martin Seligman observed that after exposure to inescapable electric shock some dogs passively accepted the shock even when they could take action to turn it off. Seligman and colleagues discovered

that the conditioning of dogs led to outcomes that opposed the predictions of B. F. Skinner's behaviorism, then a leading psychological theory. (Seligman et al., 2916; Overmier et al., 1967) In the attributional reformulation of the theory it was found that humans with a pessimistic explanatory style who perceive "negative events" as permanent, personal, and pervasive, are most likely to suffer from learned helplessness and depression. (Peterson et al., 1995) Certainly, learned-helpless individuals see failure as permanent (ability not effort), pervasive, and very personal. Learned helplessness has a high chance of occurring when someone feels a lack of control of one's time and space and activities.

> **INSIGHT:** *Among the many things that schooling creates is learned helplessness in the face of authority. As a result of being harnessed for a period of time, even when that harness is removed, that animal may act as though it is still harnessed.*

Learned helplessness is formally defined as a disruption in motivation, affect, and learning following exposure to non-contingent (uncontrollable) outcomes. There are three essential elements to its definition: contingency, cognition, and behavior. It also produces three basic deficits in someone - cognitive, emotion, and motivational - which inhibit the desire to learn. For all practical purposes, learned helplessness involves a "giving up" that is incompatible with new learning. Contingency is the idea that there is an identifiable relation between one's actions and the environmental response. In learned helplessness research, contingency is more often operationalized as its converse—uncontrollability—so that when an agent acts, there is no identifiable relation with a specific response. Cognition refers to the way one understands and explains contingency or lack thereof. And, behavior refers to the observable effects of being exposed to uncontrollable outcomes; including, relative passivity versus activity in coping with situations that are potentially controllable. The motivational deficit of learned helplessness aborts the initiation of a productive response. Teachers and parents often state that a struggling student isn't trying, but research shows that such individuals have likely learned to be helpless to learn. The learned helpless individual believes s/he has no control over the learning process, and, after many failures, the gives up trying because it hurts too much to try. It is a cognitive deficit in that it is a learned conditioned response; it is learned rather than rational. Someone who has adopted a mental state of learned helplessness will experience some degree of cognitive debilitation, including a reduction in awareness, logic, and thinking. The emotional deficit is the experience of substituting energy-depleting emotions for energy-mobilizing emotions. The emotional deficit may lead to anxiety, depression and lowered self-esteem, which may result in anger, aggression, and avoidance.

1.9.3 Learning and bedtimes

One ought to ask oneself what the meaning of a "bedtime" is when there is the understanding that our bodies have naturally evolved rhythms. What are you actually enforcing when you enforce this thing you refer to as a "bedtime"? We now understand that modern technologies, particularly lights and televisions that emit photons of blue and green light will interrupt or offset sleep cycles. In nature void of modern technologies, when the sun sets our bodies naturally begin shifting toward sleep, with the exception that ancestrally, those younger in age might still be active for several hours after the sun goes down. There is a natural timing cycle which we can entrain to, and the entrainment can be interrupted through modern technologies and practices. Using red and amber lights at night and shifting television screens and monitors toward a lower kelvin value can help mimic the light cycle we have evolved with. We might ask ourselves, how can we facilitate a change in the environment to ease us more naturally into sleep [so that we drift off to sleep when our body is ready instead of forcing a schedule or agenda]? Fundamentally, you can't force someone to sleep. Of note, exposure to sunlight for at least 15 minutes first thing in the morning is also fundamentally natural, and it helps to set the circadian rhythm. Clearly, we evolved to wake up and walk around outside wherein our retinas [at least] would be exposed to sunlight. Further, the foods that one consumes throughout the day, though particularly in the afternoon and evening, play a role upon when we begin to feel 'sleep pressure'. Temperature is another environmental factor. Goals and values also play a role. If we have more conscious awareness during the process of sleep, then we might be keener to sleep. In other words, do you dream and do you enjoy your dreams? Are you possibly practicing 'lucid dreaming'? And finally, the knowledge of what sleeping is and its value to performance is another factor. Sleep is when we build, cleanse, and consolidate our tissues (and memories). Hence, it is empowering to know that we can do things and know things which may facilitate sleep pressure and reconnect us with our natural cycles, which will improve our waking-life performance. Here, guidance and a restructuring of the environment are significantly useful; imposing rules and arbitrary consequences are probably unhelpful and possibly hurtful, certainly disrespectful to the individual and to the individual's self-directed rhythms, which can become offset and disrupted by technology and may be different than one's own, naturally. The real question is, how do you as a "parent" seek consistency between your knowledgeable understandings about how individuals learn and have evolved to thrive, and your actual practices (i.e., your approach to connection) as a "parent"? When someone goes from years of a strict bedtime to no externally set bedtime, then sometimes they binge; they go crazy and don't want to go to sleep. It can take time to reset natural cycles.

2 Schooling

INSIGHT: *School is a bonding experience. The question is, to what or to whom is one being bonded?*

School is a process (i.e., schooling) represented by an institution in the market and/or in the jurisdiction of a State. School is visible when education (or the claim to educate) is imposed by law or by institution. As such, it is product centered. In other words, the result at every level of school is a marketable product. The three main markets of schooling are represented by the roles of "parent", "the State", and "commercial entity". Therein, schools are organized around final results, rather than continuous and life-long processes. Personal goals are not equivalent to the scheduled goals set for students in school. In school, the fundamental goal is good marks on a routine basis. The purpose of schooling is to prepare students to be good worker drones for the market-State.

School segregates children from society (and adults), which only began happening after the industrial revolution. This has created an alienation of the child from society and it is very difficult for them to put together a picture of what the real world is actually like, or formulate ideas about what their place in the world might be, other an arbitrary and two dimensional perceptions that they draw from media or conversations.

Schools are institutions in which learning is taken to mean "being taught". In other words, schooling is the idea that someone with training is doing something to someone. You want people to learn? Teach them. You want them to learn more? Teach them more ... and more. Work them harder. Drill them longer. Keep them longer. And when a new technology comes along, just reorganize the structure with the same variables (i.e., do assignments in class and watch presentational videos for homework, or the opposite). Unfortunately, the advocates for such a system do not realize that learning is a process "you" do, not a process that is done to "you", which is true for everyone. It is basic. Learning, thinking and actively using your mind is the essence of being human. It is natural. With that said, some people have specific functional disabilities that affect their drives and others have specific mental impairments. These must be dealt with in special, potentially therapeutic ways.

No one sticks people's faces in bowls of food several times a day to be sure they'll eat; no one closets people with mates to make sure they'll couple. How ridiculous is it then to force people to do that which above all else comes most naturally to them. Ironically, everyone knows just how widespread and overpowering curiosity can be. If a person is determined to learn, they will overcome obstacles and learn in spite of everything. Support, help and facilitation just makes the process of learning more efficient.

But, if "you" bother a person, if "you" insist she or he stop his/her own natural learning and do instead what "you" want him/her to do between 09:00 and 09:50 and 10:00 and 10:50 and so forth, not only won't s/he learn what s/he has a passion to learn, but s/he will also hate you, hate what you are forcing him/her to do, and often, lose all taste for learning, at least temporarily. Every time you think of a class in school, just imagine a "teacher" forcing carbohydrates, lipids, and proteins down each student's throat with a giant ramrod. It is an arcane form of torturing ourselves.

School has very little to do with learning and although some actual learning does happen in school, the schooling system was not designed to facilitate either the non-contradictory integration of a more accurate model of reality, or an area for playing with a set of tools that might be useful in the integration of understanding and the solving of real world problems; instead, schooling is designed to facilitate introduction into a market-State society (which is, the society present among the global population in the early 21st century). Fundamentally, the ~15,000 hours of [primary and secondary school] conditioning runs completely counter to the propagandistic message that school is designed to help "you" achieve your highest potential [success in the market].

School is [in part] about feeding information into empty vessels that was relevant to the work force at the time. In a very real sense it is an institutional system for the creation of robotic workers. In general, the practice of school is the performance of unaided work and the arbitrary "learning" of irrelevant and uninteresting facts. It is a system of coercion, by contextual degree. It is the assimilation and conformity of someone else's mis-associated needs and desires. It is a system that teaches you how to be a cog in the machine, another "brick in the wall".

School is also a form of social [design] engineering for moulding a population toward a particular end. In other words, we know the historically designed purpose for school as early 21st century society sees it: John Taylor Gatto outlines the history of the modern schooling system in many of his works, and its distinctly structured purpose is to make everyone the same for management purposes. School is a "Skinner box"; it is an institution of operant conditioning. It is designed to reinforce the artificial limitations of ongoing social conditions and conditioning. It is now public record that the school system has been manipulating our minds for the agendas of entities and establishments that do not serve our highest interests and fulfillment. School achieves exactly what it is designed to achieve: obedient employees; power hungry leaders; and an underclass of dis-empowered followers and prisoners.

The schooling system, despite its rhetoric to the contrary, is a completely [industrial] time-based institution. Virtually all of its major features are formally/legally defined by and structured around predetermined blocks of clock and calendar time (the Industrial Age). Just like the industrial diet has created physiological dis-ease conditions, industrial education has created psychological dis-ease conditions.

School is a programming machine [for the mind of the future generation – it is one of the principal interconnections one might have when they are plugged into an artificial limitation "matrix"]. One of the greatest things young people can do is to reject it [as a process]. Unfortunately, without a support structure and a foundational approach toward integration many who reject it end up in a state of limbo. If you go into it without the awareness of what it is trying to do to you, then you are likely to end up in a damaged state. If you go in with your guard down, thinking that it is trying to serve you and make you cleverer, then figuratively speaking, "you are a lamb to the slaughter". If, however, you enter it with an awareness of its structure and behavior, then you are more prepared to repel it.

To be clear, "school" is formalized education provided within structured institutions sanctioned or regulated by the State. Formalized schooling in the market-State is separated by years (a.k.a., grades, age) and/or ability:

1. Primary education from **kindergarten through 12 grade school** (12th grade coming in for most at 16-18 years of human age).
   A. Pre-K: Optional pre-kindergarten education for children typically aged 3-4 years old.
   B. Kindergarten (K): The first year of formal education, usually starting at age 5-6.
   C. Elementary school: Generally spans from grades 1 to 5 or 6.
   D. Middle school (primary school): Typically includes grades 6 to 8.
   E. High school (secondary school): Encompasses grades 9 to 12.
2. Secondary education (a.k.a., **college/university school**): Higher education institutions offering undergraduate degrees (Bachelor's degrees).

Through schooling knowledge can become associated with pain. First, students learn to incorrectly associate school with learning. And then, they learn to correctly associate school with pain. And unfortunately, next comes the association between pain and learning. Potentially, school teaches that education is to be carried out as a chore. There is such a thing as 'avoidance behavior' due to frustration and poor self-image and low self-efficacy (among other causes), which outside others may misinterpret as "laziness".

Sometimes people develop "negative" beliefs about learning because education is frequently associated with force and pain and boredom, and hence, a lot of adults are left unmotivated to learn more about a broad range of topics; because, the "learning experience" of schools was so miserable. Learning (and an education) is not something that someone else gives, or that is purchasable; it is lifelong first-person experience. In other words, it is not fixed to 12 years, or 12 years + 4 years + another 2 years of graduate school. Education is something "you" go out and seek for yourself. Only school can do school. A community-type society has a learning/educational system, but it is not school. There are consequences for non-conformity to school, not the least of which is a feeling of being defective and punishment. In the early 21st century, parents have a need to believe in the goodness of the school system, because that is where they are placing their children for at least 35 hours a week while they go to work (or other) to earn money (due to monetary economic pressures). To a great extent schools serve the parents. It is a daycare for them, it helps them feel as if they are conforming with the rest of society. They get to drop them off and they become someone else's "problem" until they get home.

In early 21st century society, many of the people who embody the problems associated with self-development — politicians, administrators, and teachers — are also the ones charged with solving it.

You can't call something a "service for kids" if they are forced to be there and they hate it. That is a weird word to use, "service". Compulsory is not "service". When learning becomes compulsory, it becomes indoctrination.

The schooling experience has a major and potentially lifelong impact on an individual's ability to learn and one's feelings of self-worth. There are serious and potentially life-long consequences to going through the process of schooling; and, they are most serious when one doesn't realize what it means to be a self-directed learner, and hence, aware of how schooling is not learning.

And yet, among all the downsides to the way education is constructed in the 21st century, public school (a.k.a., public education) has educated billions of people worldwide, bringing them to a higher-level of knowledge and skill, and provided them opportunities out of poverty. Public education has given people worldwide opportunities for fulfillment that they otherwise may never have had.

> *"Every truth has four corners: as a teacher I give you one corner, and it is for you to find the other three." [In other words, those who have come before us have given us potentially useful information that we may critically examine and potentially use as a point of reference to continue our own discovery into that which exists. Maybe there are, and maybe there are not, four corners]*
>
> *- Confucius*

Human senses are designed to communicate meaning to us of the place/space we are in, and we then craft responses within that context. But, in early 21st century society we have now consumed poisoned meanings and feelings and material by the ton, and our senses can no longer taste toxin from nutrition. Most young humans walk into school and say, "This feels horrible". And then, the parent or teacher says, "Sorry, you have to stay here for 14 years or about 15,000 hours … at least." What sort of a 'double bind' might that create in someone? Someone placed in such a position is likely to deaden their feelings (or "feeling sense") so that s/he

can continue to remain in a place that by its very nature is not supportive of life and well-being. When confined to a place that feels "bad", after a while, our "feeling sense" has to dull [for us to survive]. We shut down our feeling(s) because we have to endure it and get through it, and survive. Those who attempt to delve too deeply into the meaning [behind schooling and teaching] often get punished or ostracised. Therein, young humans lose their sense of childhood wonder about the nature of the universe. They shut down because most of that which is coming into them (i.e., is being felt) is something that feels so bad that they don't want to feel it. Effectively, over time school shuts down our intrinsic drive and curiosity; it teaches us to ignore [our sensitivities to life and to our fulfillment]. We become inculcated through the school system into an experience that is commercial, reduced, competitive, and that constantly requires deference to an authority.

Once something has been gated (i.e., "shut out" or "closed out"), then that which can be perceived of the world around becomes artificially limited, until an event occurs that re-opens the gated channels.

2.1 Responsibility and punishment

> *"I don't believe in the curriculum, I don't believe in grades, I don't believe in teacher-judged learning. I believe in children learning with our assistance and encouragement the things they want to learn, when they want to learn them, how they want to learn them, why they want to learn them. This is what, it seems to me, education must now be about."*
>
> *- John Holt, The Underachieving School, 1972*

The denial of self-responsibility in schools is threefold: freedom of choice; freedom of action; and freedom to bear the results of action. In other words, schools do not allow individuals to choose their own course of action fully, and also, they do not permit individuals to suffer the natural consequences of a course of action once taken outside in the real world. Schools as a matter of policy restrict freedom of choice and action, and as such, inhibit the integration of feedback through natural consequences … in the real and relationally meaningful world. It is the tenant of modern education that the psyche of a student suffers harm to the extent that it is buffered by the twin "evils" of adversity and failure, which effectively generates the psychological states of entitlement and helplessness.

Discipline in the context of an authority is punishment by another name. In English, the term 'discipline' has different categorical meanings, it can also refer to someone who eagerly embraces various hardships and is working to "master" a skill. For example, you might take ice baths to develop courage and to gain the physiological (possibly epigenetic) benefits of cold adaptation and stress recovery. At a social level, this discipline [of mind] generally comes from a particular value orientation (which maintains social norms and societal expectations). Notice that we don't call those individuals who help us clue in on various challenges (or the ways they were/are helpful) as "disciplinarians" – we call them mentors, possibly coaches, and always facilitators. Remember from the Social System specification that for every "behavior" we encounter, there's an underlying want or need for which someone is aiming. Also, in English, the term 'discipline' is used to identify different fields of study, such as the discipline of writing, the discipline of geography, or of biology, for example.

Fundamentally, mistakes can contain loads of valuable information. However, through the process of schooling mistakes become associated with punishment. Eventually, learners end up in a situation of mistakes becoming something to avoid (and if not to avoid, then to sacrificially internalize), which induces trauma.

Punishment is used by an authority to get someone to do something they don't want to do or to stop them from doing something they want to do; and, it is often used to "teach a lesson", which effectively degrades mindfulness in both the punished and the punisher. There are enough "natural consequences" in life; only an artificial and arbitrary ego imposes artificial or arbitrary ones. Punishment to alter behavior is destructive to all.

Punishment is a familiar practice to those who go through schooling. The school model penalizes you for failure. It demonizes failure; it is something that should be dramatically avoided. Therein, a failing mark or grade is a form of punishment. A poor evaluation by a teacher is a form of punishment. Discipline by an authority is punishment.

What does someone (e.g., a young human) learn from punishment? Punishment conditions fear. It programs people to fear being wrong (i.e., to fear failure or to fear potential), and hence, learning. Also, punishment and authority-driven discipline encourage covert behavior, which becomes an emergent behavior at the socio-economic level of a society.

In truth, your failings serve you, but we are so conditioned with the unpleasant and downright retributive consequences of failing in early 21st century society, particularly in schooling, that we adamantly avoid failing, and thus, avoid the greatest opportunities for learning. So, we shy away from learning because failing is painful. In the real world, failure is simply feedback [to a learner who is able to remain objective].

In community, we do not punish. Instead, we restructure our environment and our values where applicable, and we facilitate discernment and trustworthy, open channels of communication.

Consider for a moment that a win/lose system based on punishment and sacrifice may actually be a race to the bottom. What type of society would inculcate a state of fear among individuals that others in that society might hurt them; is this not the state of "terrorism"? How might coercive educational institutions maintain themselves without providing external motivations for the people in them to do a variety of things that they

don't want to do? Punishment is entirely consistent with coercive educational philosophies. Extrinsic motivation is all about punishment and external reward. Extrinsic motivation in general, and school in particular, can scramble someone's inherent sense of self-motivation.

> *"School is the advertising agency which makes you believe that you need society as it is."*
> *- Ivan Illich*

2.2 Social relations

> **NOTE:** *In early 21st century society, compliance is rewarded. In community, self-direction is nurtured.*

Where do we see forced social relations? We see them in prison, in school, in many positions of employment, and in the military. Now, show me a place where forced associations exist where people are experiencing harmonious social interactions. Environments of forced association lend themselves quite well, and we all know this, to unpleasant types of behavior. How many issues and conflicts are consequences of young people being forced together? There are reasons why people bully others or behave in a socially corrosive manner.

School not only forces association, it also forces segregation. Does age segregation (i.e., division by age) take place anywhere naturally? Is anything more socially damaging than forced association and forced segregation in school by age and sex? Are not the "arts" of association and cooperation as valuable or more valuable than anything else you learn when you are young?

Schools not only make it difficult for those of different ages to relate to one another, they even make it difficult for individuals of the same age to do so through the enforcement of competition (the scarcity of education).

The primary, almost exclusive mode of relationship fostered by schools among children in the same class is competition. The pecking order and who is better than who, who is faster, smarter, taller, more attractive, who has the best this or that. Who is worse, stupider, slower, shorter and least attractive? If ever a system was designed to effectively produce competitive, obnoxious, paranoid, selfish and insecure social misfits, the schools have managed it. Yet, in the real world the most important social attribute for a stable and healthy society is cooperation.

Schooling often appears more akin to "education at the expense of others", because "you" want to become better than others and out-compete them in school [for grades or praise] and eventually in the market [for a job and for limited wealth]. University programs often market themselves as the optimal path to becoming the best at a particular knowledge, skill, and subject area so that "you" can out compete others in the labor market. Similarly, some secondary schools market themselves as the best school to attend to get into the college of "your dreams". Aren't most aspects of modern life a competitive game where we try to earn rewards and points in school so we can go out and compete for a job, compete for wealth, save to ensure that when we are past our prime we can still have a reasonable quality-of-life.

School is a self-reinforcing competitive ethos. A portion of the children conditioned to appreciate a state of competitive training (i.e., go through the process of schooling) go on to become teachers. The most aspirational teachers become senior management and further reinforce the competitive sentiment.

The structural origins of the present schooling-education system are predicated upon competition as an outgrowth of the underlying socio-economic system. The root sources of problem in the market-state "education system" cannot be understood without also understanding the socio-economic system in which it is embedded. One of the immutable components of the modern monetary economic system is competition, which is drilled into us from birth: from companies having to compete with one another for market share, to people having to compete with one another for labor, to students having to compete with one another for grades, politicians for office, and nations for resources. It is a value oriented substructure in early 21st century society. It is so deeply conditioned into us that many of us think that it is part of an inevitable human nature; rather than the narrow pursuit of one's own detached self-interest, which is useful and protective under conditions of scarcity. Fortunately, the reality of the situation is that everything on this planet depends upon everything else. The notion of a "trophic cascade" is just one example of this reality. A "trophic cascade" is an ecological event that involves changes to the structure of an ecosystem resulting from changes to animals or plants at one or more levels of the food chain. (*Trophic cascade*, 2022)

If the earth is one single interconnected system and the well-being of human beings is dependent on maintaining the integrity of their habitat, then the supposed divisions that separate all of humanity are illusory. Thus, a cooperative systems approach that "manages" our earthly resources in the most optimized fashion; though, more accurately, it allows for a synergy of our understood experience into the arrival at a common decision. Conversely, school teaches that competition is the basis of the world.

In part, competitiveness outside of schooling stems from insecurity and insufficiency: the fact that for so many years the "student" needed to be validated and accepted into a social world that wouldn't see or accept him/her without bearing the proper approvals, authorizations, and insignias, some of which were limited in number.

In school, competition can be as subtle as playing the games: the row that is quietest can go to lunch faster; and, who is going to get the prize for the best essay. All forms of grading and authoritative judging and evaluating foster a competitive spirit which transcends the schooling environment and roots its way into our social lives. If there are award assemblies where there is

a trophy, a prize, a medal, a plaque, a certificate, or some form of recognition and we have decided in advance that not everyone can get it, then the message is clear, everybody else around you is there to be beaten.

Yet, the global school system claims that if it doesn't establish competitive environments it will be sacrificing the long-term "legitimate" objectives for children. One might wonder what these "legitimate" objectives actually are.

> *"When training beats education, civilization dies."*
> *- C. S. Lewis*

2.3 Freedom

> **APHORISM:** *It is hard to conceive that you are in a prison, when you are effectively born into one.*

School is not the freedom of the expression of ideas, it is more akin to the forced or coerced acceptance of ideas. And, even if they can't control what you think, they can at least force you to pretend that you agree with them. And, if they can't force you to pretend to agree with them they will force you to stay in a "special safe place" for so many days out of the year and "out of your family's hair".

Generally, this thing called 'school' tells students when they can speak and when they can use the bathroom in addition to all of its other programming outside of the curriculum, just the milieu itself. What would not appear to be freedom after that? In part, this is why government uses schooling: it uses it to acculturate the young into a society of violence and aggression such that they are incapable of perceiving the violence and aggression inherent in the [modern] society around them when they get out. It actually sets a baseline for violence, coercion and aggression.

Schooling quarantines the learning process -- the knowledge areas are separated from each other, as if cross-contamination were a form of pollution, where history can't touch mathematics and chemistry can't be connected to physics or anatomy. The subjects are generally trapped and monitored, forced with conformity and consequence. Many of the young in this system are tormented by commercialized children who will outcast another for not wearing the latest fashion or being aware of the latest manufactured trend; it is the start of consumer pressure and "market forces" in those who will eventually become good consumers and good owners, and keep the money cycle going (keep capitalism running). Why are so many humans so mean in school, so aggressive and reactionary? Why do they appear as if they are in fight or flight mode, in their survival mind, in a prison that is shaping their perception of reality, in a physical and mental cage preparing them for the rest of their lives in the matrix, in an environment of insulting boredom? School acclimates children to boredom so that in the future they can work long hours at jobs they will more than likely describe as "uneventful, mind-numbing, and soul-destroying", in other words, as boredom. School inculcates children into boredom as an attitude, a habit, and a way of being in the world. Boredom is more than a consequence of curriculum and of teaching, it is actually an ethos; and one that lingers on into adult life. Education is to be done dutifully or avoided entirely, but never savoured or enjoyed. And, it seems odd then that those who are facilitated to be autodidacts, self-learners, those who are more likely to be home and family educated, to be "unschooled", are often asked, "weren't you bored at home as a home schooler?" These people are out of their minds; and the learners (or "unschooled" cordially ask back, "Don't you remember being in school?" Schools are factories of envy, restlessness, monotony, tedium, and force. Just think back to the hours staring at pencils and pens, the mindless doodling, the staring off into space, the desperate passing of notes, the lines, the trying to look busy when you are about to start dozing, the wishing, the dreaming, the rules and orders, the scheduling and lockers, think back to what school was really like, and not some idealized fantasy or a few selected highlights from 13 or more years, and chances are you will recall being bored out of your mind.

"When you are free, then when you are bored, you are boring." This phrase reveals what might be the essence of self-education, and may be taken as reverse psychology, if you will. When you are free you don't have to learn because you will get into trouble, or you will fail a test, or because there is someone who is threatening and cajoling you; you learn because you want to learn. In truth, there is something in you that wants to reach out and touch the world and wants to communicate with it and share experience; it wants to integrate and to facilitate.

Think about all those hours forced into boredom at school. Think of the absence of autonomy, of self-direction, and of the freedom to explore, trapped in a ghetto of peers. Do you even know who you are or what you have interest in anymore after approximately 15,000 hours of processing through such an institution?

Self-learning is a lifelong commitment; it is something which is natural and can be nourished, but it is also something that can be diminished. It is not something you do until you are 18, or you graduate a level, it is not a stepping stone to university or to a career, it is an ethos, like boredom, but possibly it's opposite. Self-learning involves getting in touch with one's inquisitive nature, to set one's own standards for engagement and mastery.

John Taylor Gatto wrote in an article published in 2004 that it is not the potential of self-education that has yet to be demonstrated, but that its success has to be suppressed in the service of compulsory education's true purpose: the cultivation of thoughtless acquiescence and conspicuous consumption which defines our true culture and fuels the economy. Thus, the "education" system's ultimate goal isn't to impart knowledge, or to inspire the love thereof, but to train people not to think at a sufficient level because that is what makes them good employees and good consumers and good citizens.

School is [in part] a mechanism for those in authority to maintain control of a potentially unruly citizenry.

Summarily speaking, school represents an artificial scarcity of choice. Of course, one of the most important things missing from schooling is the freedom of choice (i.e., the freedom to choose). School removes volition. Volition is essentially your [free] will. And, the question everyone must ask themselves is, "Am I choosing this for myself? Am I making informed decisions, and am I acting in a constructive manner on my behalf regularly? Am I improving my circumstances? Do my actions generate or otherwise create more opportunities for myself and others? How are my actions affecting others? Are my actions lessening our opportunities?" To a great degree these are the variables that measure how much "I" have learned. When volition is removed education is no longer about learning and instead becomes about conditioning or modeling in another's desired image.

When learning among community (i.e., "unschooling") is equated with "alternative school", then it can blind people to the possibilities of full on [radical] learning. No matter how extremely great or different a school is from a traditional school or the default standard, it is still a school. Learning as a whole way of life, particularly among a community of learners, can discover learning that no school can find.

Adults can learn what they want to; that same freedom and respect and dignity ought to be extended to the youth of society. Schools treat children like children (and many parents do the same). In other words, there is not a lot of respect going on for young humans in early 21st century society. In early 21st century society the youth are beyond second class citizens; they are beyond prisoners in some cases.

> *"Whatever does not spring from a man's free choice, or is only the result of instruction and guidance, does not enter into his very nature; he does not perform it with truly human energies, but merely with mechanical exactness"— and so when the laborer works under external control, "we may admire what he does, but we despise what he is."*
>
> *- Wilhelm von Humboldt*

2.4 Prison and play

> *"Is it surprising that prisons resemble factories, schools, barracks, hospitals, which all resemble prisons?"*
>
> *- Michel Foucault*

The things that one chooses to do voluntarily give one a sense of fulfillment, of completeness, and flow in their life; conversely, the things one is forced to do are an imposition and makes us emotionally distraught, upset, and distant. The experience of schooling is the experience of having something done to you by an outside force; school is [by degree] a prison for children (both in its internal and external meaning – it is a mental and physical prison principally for the regurgitation of belief). School is force; it is jail for the first part of your life. It is the inculcation of dependence and a lack of self-sufficiency; and some people make it through better than others. Only when one is imprisoned can an outside authority force another individual to "learn" something. In other words, school is an actual prison that children are forced to go to. School is not voluntary, otherwise it would be called 'play', which is what we naturally do when we are young.

Play is the ability to make mistakes without fear, which generates rapid cycle-time learning (i.e., rapid iterative learning). As such, play is activity that is directed by the player(s) oneself (or themselves). Play is an activity that you can freely join and freely leave [without fear of punishment]. In other words, you can quit whenever you want; there are no consequences from authority for losing interest or walking away. If you are not having fun, you quit, you walk away.

The presently emergent scientific hypothesis is: The cost of a decline in our freedom to play equates to an increase in our mental disorders. It is the opinion of Peter Gray (2015) that it is a cause effect relationship. Hence, one of the effects of play deprivation is to make us unhappy. In play we judge our own activity and are not judged and evaluated and ranked and compared with others by others, particularly authorities. Play is a context of emergent organization. In the book "Free to Learn", Gray (2015) argues that children, if free to pursue their own interests through play will not only learn all that they need to know, but will do so with energy and passion. Therein, Gray provides evidence and articulates how all people are born to be self-directed learners. He has conducted several research studies on individuals who were never coerced to learn.

The scientific finding is that depriving rats of play has an effect on their psychology, their personality and their behavior. When these deprived rats become young adults and they are assessed for their emotion stability and positive interconnectability, they are found to be emotionally crippled in comparison to control rates whom are allowed to play as they are growing up. Note here that there are ways of raising rats so that aren't deprived of other social experiences, but are deprived of play. Those that have been deprived of play, if you put them in a somewhat novel environment, they often freeze in the corner, they don't explore the environment as a normal rat would; they don't habituate to their environment. And, if you place them with an unfamiliar other rat they alternate between freezing in fear and lashing out with inappropriate and ineffective aggression. This is analogous to the kinds of behaviors we see in children today in early 21st century society. In rats, this is extreme, they have been totally deprived of play; children in early 21st century society are not totally deprived of play, but they are partially deprived of play. School shackles our instinct to learn and to play.

One of the things that children learn while they play is how to deal with strong emotions. In play we are

learning how to process strong emotions and come to an emergent understanding of our capabilities. For example, we may be learning how to be in a fearful situation and how to overcome it. I can feel this fear and I can overcome it, I can handle this situation effectively and I can process these emotions.

In social play we learn how to not be self-centered and how to pay attention to the needs of others. We come into the world with the desire to play with others, which leads us to learn how to attune to the needs of others. When children are playing with other kids and there are no adults there to solve their problems for them, then they have to pay attention and learn to adapt, to compromise, to negotiate, otherwise the other kids will quit and just leave them. And quitting is a powerful lesson; it is a learning opportunity. It represents the potential that the next time we play together again we will be more attuned to each other's needs so that we maintain play and no one quits. The process effectively facilitates our attunement to others' subtle expressions of whether they are having fun, or not. So, in play we learn to meet our own needs while also helping others meet their needs. We are social animals and we need to get along and interact with others in such a way that they find us a pleasure to be with as opposed to a pain to be with.

Play is a creative activity. The essence of play is that it is fun; and hence, when you play you find your interests. People find what they enjoy doing and they develop real skills while doing it. The secret to living the good life is … play.

You (as a "student") think school is a prison and hate it, and all the adults tell you that you just don't understand. This carries with it the probability of you believing that you are "defective" when you are not such a thing – school maims intuition (and it cuts the legs off of will). It makes independent thinking extremely difficult.

You aren't defective for feeling that school sucks, that school is like a prison or that you are being psychologically conditioned and tortured. Adults that are telling you something else are kidding themselves.

2.5 What does school teach?

> *"School prepares for the alienating institutionalization of modern life by teaching the need to be taught."*
> *- Ivan Illich*

School is what it teaches -- school is not its teachers. Schools teach conclusions [to the young] who might otherwise be having their intellectual abilities encouraged and curiosities fostered [in a fulfillment-oriented community environment]. Anything less is not "fair" to the young. Unfortunately, for many people, the encouraging of their child's rationality and curiosities may lead their child to conclusions that are uncomfortable for them; and a lot of people [would rather] choose to avoid that.

In school, many students learn that they should look to the older, more experienced people in their lives to tell them what to do and who they are. Therein, they intuitively learn to expect to be taken care of in this way. Another thing students learn in school, particularly public school, is that they learn their place in life … which is important. They learn to settle for their lot in life, while at the same time envying those who [seem to] have more in their lives. In other words, school teaches people their place in life.

What else does school teach?

1. It teaches that truth comes from authority. Mostly, the authority figure stands up in front of you, telling you when you have to be there, when you can leave, and what you do while you are there. The school authorities are preparing you to be an adult whereupon you will acquire a greater authority (e.g., a boss or leader) who gives similar commands.
2. It teaches the confusion of intelligence with memory and recall. In reality, intelligence is not the ability to repeat or remember what someone else has told you; and, it is what you do with your intelligence that matters.
3. It teaches that accurate memory and repetition are rewarded by society. You remember what the teachers have told you, and you repeat it where the teachers tell you to (on the exam or in talking to me), and the authority will say you passed, and others will find you intelligent because you "got good marks and evaluations"; whereupon, your prospects for a good university and good career will improve.
4. It teaches that non-compliance is punished. Challenge the authority figure at the front of the classroom, or in the circle, don't agree with them, refuse to do what they say because you don't agree with them, and then, there is punishment and disciplinary action.
5. It teaches us to conform intellectually and socially, or face not being accepted. Because, that is the easiest way to get by without hassle and upset. It is a way of preparing young people to become adult[ed] slaves for the rest of their lives.

In school, students are told, ordered, and assigned [content]. In other words, students are told what their assignments are through orders from authority. Hence, there are [at least] four lessons of school:

1. **Obedience**. Everything is already known and has been decided by your authorities.
2. **Conformity**. You will join us and participate in this polite society.

3. **Punishment**. If you don't participate politely then you are going to stand out and there will be [at the very least] social consequences.
4. **Apathy**. We don't want your self-direction interfering with our lesson plan.

John Taylor Gatto (1991) is one of the more prominent critics of the idea of a public school system. His observations and criticisms of the public school system were distilled into 7 lesson that the schools teach, which he wrote into his work "Dumbing Us Down: The hidden curriculum of compulsory schooling". These 7 lessons are quoted below:

1. **Confusion**: The first lesson I teach is confusion. Everything I teach is out of context. I teach the un-relating of everything. I teach disconnections.
2. **Class position**: The second lesson I teach is class position. I teach that students must stay in the class where they belong. I don't know who decides my kids belong there but that's not my business. Stay in the class where you belong.
3. **Indifference**: The third lesson I teach kids is indifference. I teach children not to care about anything too much, even though they want to make it appear that they do. Turn on and off like a light switch.
4. **Emotional dependency**: The fourth lesson I teach is emotional dependency. By stars and red checks, smiles and frowns, prizes, honors and disgraces I teach kids to surrender their will to the predestined chain of command. Rights may be granted or withheld by any authority without appeal, because rights do not exist inside a school.
5. **Intellectual dependency**: The fifth lesson I teach is intellectual dependency. Good people wait for a teacher to tell them what to do. It is the most important lesson, that we must wait for other people, better trained than ourselves, to make the meanings of/in our lives. The expert makes all the important choices; only I, the teacher, can determine what you must study; or rather, only the people who pay me can make those decisions, which I then enforce.
6. **Provisional self-esteem**: The sixth lesson I teach is provisional self-esteem. If you've ever tried to wrestle a kid into line whose parents have convinced him to believe they'll love him in spite of anything, you know how impossible it is to make self-confident spirits conform. Our world wouldn't survive a flood of confident people very long, so I teach that your self-respect should depend on expert opinion. My kids are constantly evaluated and judged. People need to be told what they are worth.
7. **One can't hide**: The seventh lesson I teach is that one can't hide. I teach children they are always watched, that each is under constant surveillance by myself and my colleagues. There are no private spaces for children, there is no private time. Class change lasts three hundred seconds to keep promiscuous fraternization at low levels. Students are encouraged to tattle on each other or even to tattle on their own parents. Of course, I encourage parents to file their own child's waywardness too. A family trained to snitch on itself isn't likely to conceal any dangerous secrets.

These lesson structures are highly likely to re-generate faith in authority as well as self-sacrifice to authority. In a very real sense, learning is dangerous to authority. Here, a community may recognize that it need not regenerate faith in anything; we can verify existence for ourselves through our experience(s), and coordinate therein.

What is it that the process of schooling will teach anyone, regardless of what is being taught? It is to "behave", it is to "defer to authority", it is to "memorize facts by rote". Often, though not always, school is one class after another of apparently unrelated "subjects" in which you just "memorize" what is being thrown at you, and if you don't, there is punishment. What kind of a view of oneself and the world does that create? What kind of a person does that create? What kind of an understanding of values does that create? And, to put it slightly differently, are you creating people who might endanger your own future as you age in that society? Are you creating fulfilled individuals who have everybody's interests at heart, who can think in terms of a fulfilling context and adapt and change their thinking as new information becomes available? No, schooling does not and structurally speaking, cannot do this. The system is what it produces; and, it produces a standardized and marketable product primarily for the State and for the [cultural] market. Simply, a State education conditions children with what the State wants them to know.

In school, students are taught that they get rewards for obeying and conforming. In other words, they are rewarded (or not punished) for sitting still, shutting up [when told], speaking [when expected], and answering questions according to the plan.

In most schools, people learn that graduation comes through "credits". This idea of a "credit" is visible and plays a role in the monetary economic system also (it goes by the same name). In other words, students learn that at the end of "learning" there is something called "graduation", and "graduation" comes from having accumulated enough points, credits, or "positive" subjective evaluations. Similarly, to be accepted into the monetary market, you too must have credit in the form of currency (i.e., purchasing power) or capital ownership.

Questions are a threat to authority. Ask questions and notice the "authorities" around you. Beware; you may be punished for doing this.

Fundamentally, school teaches you to trudge through life according to the scripts of others. Trudging through to get a piece of paper (diploma) to trudge through some more to get more paper (money). Hence, in part, the schooling system exists to sort people for the market. The market needs some people to work in factories, some to work in offices, some need to be managers, and some need to be policy and decision makers. The market needs employers, laborers, and consumers; it needs money circulation. The current educational system exists to sort people out and to prepare them for citizenry in a market system overseen by a State. Is that truly education? One might then ask, "How will the economy work if everyone has a high level of education and a self-directed nature?"

2.6 Force

> *"School is indeed a training for later life not because it teaches the 3 Rs (more or less), but because it instils the essential cultural nightmare[:] fear of failure, envy of success, and absurdity." [The 3 Rs are reading, writing, and arithmetic].*
>
> *- Jules Henry*

Most of schooling is the process of having opinions formed for you without engaging critical thought and discernment. Most of the school experience is about you showing up and being evaluated for what was prepared by someone else. When people are forced into a relationship, a huge amount of quality is lost from the social environment. In other words, when "you" force people into a relationship "you" lose a huge amount of quality within society.

School teaches that the school schedule is something that must be followed … or else. School teaches individuals to attend, to memorize, and to perform on command, or else. In other words, school is force for "your" own good. It uses compartmentalization and chaos to reinforce the need for authoritarian order; while removing individuals' natural ability to organize, plan, and integrate for their betterment. If you, as an adult, don't feel like you have a tremendous amount of self-efficacy, then it is important to realize that a psychological sense of dis-empowerment has likely been built into you through those 12 or more years of experience in schooling, which at least affects your thinking, and ultimately, your efficaciousness. Oddly enough, some people can get pretty far in life never experiencing or even understanding intrinsic motivation. Some people live their whole lives never entering into the state of flow.

Force feeding individuals information that has no apparent relevancy or relationship to their lives and then assessing their regurgitation establishes a less than ideal environment for fostering positive, serving emotions in learners.

An education system based upon force creates anxiety, stress, and frustration within all individuals under its control. Such a system serves only to control others, and not to support others in their self-directed freedom and intellectual liberation. Observationally speaking, the force-feeding process permanently sours individuals on learning and the mechanisms are well described in Alfie Kohn's work entitled, "Punished by Rewards".

Forcing students under threat of punishment and coercion to take exams is highly likely to lock the true capabilities of individuals. Forcing students to complete work and judging their finished products can create serious stress responses. Such an environment will modify behaviors, decisions, and cognitive processing. The stress individuals experience due to threat and judgment is likely to cause them to act and think in ways that are less than optimal for their well-being and the well-being of the social environment.

Additionally, many schools are funded by the threat of force (i.e., they are funded through taxation, which is backed up by the threat of violence). Therein, if school is a "social responsibility", then force is a social value.

2.7 Stress

> **NOTE:** *Having to ask permission to use the restroom is a dehumanizing experience. Some schooling experiences are more dehumanizing than others.*

It is a natural and healthy response to fight back against oppression (i.e., the forced un-fulfillment of needs), to escape, or to seek help. In a system based upon authority we either conform or rebel, both of which lead to self-destructive behavioral patterns. Or, we escape the trap entirely and build a new system that makes the old one obsolete. But, what if you are in a position where you realize that fighting back is futile because the opposing party has "authority" and/or a monopoly on violence (to escalate it infinitely beyond your capability). Such a structure has the potential of maiming self-empowerment (i.e., generating self-helplessness) and wasting cooperation. How might someone's brain deal with the overwhelming stress being imposed on them under such aberrant conditions? One way is to "tune out" or to enter a dissociative state as a natural defensive state of the brain [in part] for blocking conscious awareness of emotional pain. Effectively, some people disassociate as a way of dealing with their environment, and this disassociation persists.

The actual effect of school is to put some people into dissociative states and states of psychosis. The belief in "authority" is actually a state of psychosis involving a "loss of contact with reality". As is detailed in the Social and Decisioning Systems, there is no such thing as "authority". Effectively, the process of schooling creates psychotic symptoms in people by conditioning them to believe in and respond to those who themselves believe they are authorities. In early 21st century society, these psychotic symptoms might appear normal to most of the population because most people have gone through the process of schooling or a similar indoctrination process

(i.e., they have had the belief inculcated into them). However, in a cooperative and fulfillment-oriented community based upon the natural environment, the so-called "normal" behaviors expressed by people in early 21st century society would be seen for what they really are: characteristic symptoms that indicate a level of severe malfunction where the person is unable to differentiate real from not real.

It is common knowledge that unwanted stress negatively affects learning and memory. The man who gave the world the "conditioned response" was also one of the first researchers to recognize the profoundly negative influence that stress has on the learning process. In 1924, during a major Leningrad flood, water surged high into Ivan Pavlov's laboratory. The terrified dogs that Pavlov had spent weeks and months conditioning were trapped in their cages and had to paddle for their lives with their noses just barely above the high-water mark. After these animals were rescued, Pavlov was shocked to find that the stress of the flood had produced such profound changes in these animals' brains that they had unlearned the conditioned responses he had worked so hard to implant. (Pavlov, 1927) Recent research confirms Pavlov's findings. Over 125 studies of more than 36,000 individuals have shown conclusively that the more stress you are under, the lower your memory performance, no matter how it is measured – by grade point average, IQ, or any other form of achievement test.

There are [at least] nine primary reasons why excessive and unwanted stress significantly decreases learning and skews decisioning:

1. Stress can atrophy and wither neural connections.
2. Stress can wipe out memory by literally killing neurons.
3. Excessive amounts of stress inhibit the creation of new brain cells.
4. Stress negatively affects specialized neurons called glial cells, inhibiting them from transporting nutrients, cleaning up neuron waste, and generating the insulation that surrounds neural wiring.
5. Stress compromises learning by promoting the negative expression of specific genes, resulting in the creation of neural tangles, the obstruction of working memory function, and a propensity to engage in reckless behaviors.
6. Stress can cause neurochemical reactions in the brain, producing "neural static", which garbles the brain's ability to effectively prioritize information for inclusion into working memory.
7. Stress can weaken the body's immune system with the consequence that it reduces someone's desire and energy to learn.
8. Stress destroys the brain's ability to effectively drop into the incubation states (*Sleep, 2009*).
9. Stress causes a shift in neural energy (and blood flow) away from our most flexible and evolved neural structures to our most fixed and least-evolved structures. This neurological "downshift" has the potential to "blank out" our learning and creative abilities, while also negatively affecting our capacities for big-picture thinking and planning for the future, as well as reducing deep empathy and compassion for others. It also increases impulsiveness, which leads to the high number of behavioral problems seen in stress inducing institutions.

If learners begin to feel aggressed upon, threatened, subjugated, or alienated, they are more likely to stop learning, start arguing, cease participating, or perhaps drop out [mentally and/or physically]. This is simply the fight or flight reflex taking effect, which leads to [a state of] disassociation [with one's environment].

2.8 Indoctrination

> *"Governments want efficient technicians, not human beings, because human beings become dangerous to governments – and to organized religions as well. That is why governments and religious organizations seek to control education."*
> *- Jiddu Krishnamurti, Education and the Significance of Life*

The process of schooling removes [by contextual degree] the self-reliance and self-esteem of individuals [while instilling them with fear] to make them more malleable and susceptible to authority; it effectively trains deference [to authority]. In other words, schooling trains people to defer to "authorities" (sometimes also known as "experts", "teachers", and other "professionals", "leaders", or "owners"). Bluntly speaking, school emphasizes regimentation and conformity while it leads people around and dominates them by directing and scheduling their development. Once we have established that conditioning is indeed a major tactic of public school, we have to ask what the students are being conditioned for. Again, candidly speaking, school is a place where human beings are trapped and their minds are opened as a dumping ground to whomever controls the curriculum. And, over the years, a variety of different interest groups have tried to shape the curricula.

School often overlooks the negative factors of a given society, exaggerating the positive, and providing a superficial understanding of its meaningful operation [and structural purpose]. As such, school becomes an efficient structure for inculcating beliefs and other patterns into people, principally, the belief in authority. In early 21st century society, the greatest authority for some is the State [or nation] and for others it is the market [or business, ownership]. In other words, the State is a god in early 21st century society for some as the Market is for others. One ought to ask themselves

how that might have happened – could it possibly have something to do with the nature of schooling? The state appears to make a lot of sense after 15,000 hours of schooling (or approximately 12 years). Allegiance to the state is implicit in much of schooling, and it is still noticeable in many alternative schools.

Schools are autocratic institutions designed [in part] to indoctrinate students into an autocratic socio-economic system. Practically speaking, school instructs individuals in their identity as the citizen of a nation-state and a future laborer/owner in the market. Through schooling our resistance to authority is bred out of most of us. In practice, schooling is a behavior system that trains people like people domestically train animals. School exists [in part] to create a uniformed pattern of response to authority – that is the outcome and was [quite possibly] the intended result. Yet, it is also true that the claim that school is solely about control is an overly simplistic narrative.

If education is enforced in any manner, then surely it is not about personal development … it is about conformity. It might be interesting to note that in Germany in 1936 a law was passed that made it mandatory for all German youths to be educated in National Socialism through the Hitler Youth Program (except for Jews). The Nazi's even punished parents with jail time when they would not allow their children to join the organization. Over time, the youth of the country began to regard Hitler as a god-like figure/leader. The National Socialists became willing to die for his cause. In early 21st century society also, schools are reproducing similar, though significantly less caustic, authority-oriented belief structures. It was not until very recently that the act of homeschooling was not a seriously punished offense, in Germany.

Learning is not about entering an institution that is organized by policy and managed by a collection of bureaucrats and security officials that are there to make sure the policies are followed. Like the State and industry, school treats "students" as mere units moving along an assembly line governed by a manager and policy / procedural documentation.

Despite their "democratic" claims, the few owners with the greatest wealth in early 21st century society have long seen compulsory schooling as a mechanism for maintaining control of a potentially unruly citizenry. In 1909, Woodrow Wilson, then president of Princeton University, put it this way in a speech to the New York School Teachers Association, "We want one class of persons to have a liberal education, and we want another class of persons, a very much larger class of necessity in every society, to forgo the privilege of a liberal education and fit themselves to perform specific difficult manual tasks." A scarcity-oriented economy doesn't have a need for creative and cooperative systems thinkers.

In school, children are taught to be servants [to an authority]. School is not about building self-reliant, confident and cooperative individuals, but about building a servile class of people; a class of people subservient to the greatest owners; a class of people who are unlikely to freely cooperate and express their creativity and imagination when they encounter a problem (i.e., they do not "cross the chasm" of self-integration). Instead, they become thinking servants who do little more than stimulus-response. Instead of crossing the chasm on their own they have to wait for an authority, teacher, expert, leader, or manager to tell them what to do next or to give them the resources through some requisite exchange. Some people become so disconnected from reality that they can't even fulfill their own needs. It is the creation of a naive class of people, the extension of adolescence, the generation of a mass of people who become absorbed into the collective chaos of early 21st century society.

What if school included the notion of an education as the idea that it is possible to self-direct and to self-integrate? Then, it is likely that the population would begin cooperatively coordinating its efforts at scale, and individuals would stop turning their ability to navigate over to an authority, which would essentially mean the end of schooling, as well as the end of many other socio-economic institutions reliant on the reinforced regeneration of the value of competition in early 21st century society.

There is a saying, "Strings attached often turn out to be chains". Are these strings going to make our independent thinking difficult. There is a schooling primary and it says, "Want them to learn more, teach them more."

In a sense, the State and other forms of authority are giving "students" assignments (as work dictates) at a very early age. They say, your school work is your duty as a student, as a "citizen", as someone who has yet to begin living their own life.

2.9 Subjectification

A.k.a., Academia, non-interdisciplinary.

Subjectification is the divisioning of reality into teachable subjects (or, disciplines). To cut off a single field, any subject, from the rest of cognition, is to drop the vast context which makes that field possible and which anchors it to reality. The ultimate result, as with any failure of integration, is floating abstractions and self-contradictions. Potentially generating a form of compartmentalization with respect to values, desires, and logical self-interest, by the compartments of private, economic, and political life. Relating one context of knowledge to another is necessary for integration. Reality must be viewed as a whole, a unity, in the formation of concepts that indicate aspects of reality.

Note here that the term 'academia' means to separate a whole into disciplines or subjects. (*Discipline*, 2019)

INSIGHT: *When people learn superficially, then only recognize reality superficially.*

2.10 University/college

CLARIFICATION: *What the words "college"*

and "university" stand for varies significantly by country. In general, a "college" is a schooling institution of "higher education" that may stand alone or make up one part of a university. Within a single university, there may be several colleges that cater to a variety of specialized professions, such as law, medicine, the liberal arts, etc. In some countries, the terms "faculty" or "school" replace the usual meaning of college (e.g., "faculty of law" or "school of medicine", instead of "college of"). Sometimes "college" and "university" are used interchangeably.

In early 21st century society, the ultimate goal and measure of an education is a college/university degree. There are two reasons why college used to mean a lot more than it does now [and secondary school was someone's ticket to getting there]. The first reason was that university kept certain sets of knowledge more protected from the ordinary masses. And, the other reason is/was that everybody is told to go to university for university is their ticket to "success".

QUESTIONS: *What type of a society would charge people for learning? What type of society would create an admissions (e.g., college admissions) boundary to bettering themselves and developing the skills necessary to survive and thrive in their world? What type of a society would "in-debt" future generations for education in the present? What type of a society would use the threat of violence (Read: taxation) to pay for the schooling of others?*

The university degree replaced the family name as a centralized model of trust for businessmen. The trust relationship is that some person graduated from this university, which I trust, so I trust them to work in my business. The businessman could trust that the graduate was roughly as good as the colleges reputation. Colleges are selling and students are buying a credential, nothing else. Colleges are credential factories. What is being bought and sold is the certificate. The credential signals to employers and others that someone has some minimum standard of acceptability based on the reputation of the institution. A certificate from an academic institution (the academic system) means that you are approved for placement in commercial institutions. Naturally, the more certificates someone gets from a certificate rewarding system, the more likely someone is to become a spokesperson for that system. In the [labor] market, coaches/teachers are certified and sold.

A degree is more easy to obtain now than it has ever been in the past. Hence, it is becoming a commodity that is no longer able to sell itself on the basis of rarity. In the market economy the notion that "my degree is valuable because not a lot of people have it, or because it says something really special ... about me" is beginning to be seen as vacuous. More and more people are realizing that their ability to survive and thrive is actually based on our capacities to solve problems, not to acquire pieces of paper. In the past, the degree was the primary market signal for a person's capacity to solve problems and to create "perceived value" for others, but now, the signaling power of that degree is weakening amongst the numerous ways we can freely and transparently demonstrate our intellect and abilities. In the early 21st century, people have an abundant number of ways of educating themselves and demonstrating their abilities. There are many alternative ways for people to signal their abilities and share knowledge when global communications mediums and creative avenues are essentially free and open to everyone. One might well wonder how this abundance of access to knowledge and the ability to help others affect the [labor] market? We no longer need personal intermediaries like school and agents and representatives, and when logically extended, money itself (which was at one time a requisite for education and labor). We don't need institutions to signal our abilities or to provide for our fulfillment; we can signal ourselves and create for our own fulfillment.

Primary and secondary school were once considered preparation for this thing called "university", which was preparation for this thing called "employment". Herein, it is important to remember that "employment" is a legal term, and not a term that describes work within the Community. Fundamentally, no one needs university to develop passions, or to step forward in their own development and facilitate the development of others.

A degree is supposed to represent competency. In the real world, competency represents itself. It is important to recognize that universities do not add value to us (or to community); they are a product of a specific (and one might say, unfortunate) socio-economic environment, that of employers and employees. In reality, university degrees exist primarily to produce employees.

In early 21st century society, university is the finishing school for citizenry. In other words, schooling is partially a tool of the State and university is its finishing school. It is the metaphorical nail in the coffin to social conformity around the encoded concept of "authority". It represents a duty to contribute to the perpetuation of the society in which one was enculturated and given the gift of an "education". Therein, the institution of college/university is designed primarily to provide graduates with employable skills and/or managerial skills. In fairness, these institutions also conduct research as well as providing a space for socializing and recreating, but these are secondary to the organizations primary purpose of being a place for self-directed learning and socio-technical excellence, or a place for indoctrination and conformity.

What do capital industrialists and other social controllers (i.e., human resource managers) want? They want a population with skills useful for specialized commerce as well as a predictable and ordered subordination among the common population. Effectively speaking, university is a commercial product that standardizes and turns out other commercial

products. Yet, statistics of working university graduates show that many (if not most) of them don't end up working in a field related to their university education.

Here, we are called to notice the general difference in perspective toward life taught at "prestigious universities" versus the perspective conveyed by most other schools. At the Ivy League schools they teach their students from the perspective of, "how to make a living for yourself", and at all the other schools, especially public schools, they teach students from the perspective of "how to get a good job."

In the market, educational establishments are in competition with one another. Hence, they naturally attempt to hoard knowledge, creating artificial scarcity to give "market value" to the information they systematically sell as a product / service. Today, however, some universities have such a great reputation, as well as such advanced and expensive technological research facilitates that they are capable of giving away a small portion of their instructional-oriented knowledge for free. MIT OpenCourseWare [ocw.mit.edu] is one such example.

College/university is an institution that came to be when most people had no [easy] access to information. Through the internet, anyone can replicate everything that university (as an institution of knowledge storage and sharing) does, for the equivalent of marginal cost; with the exception of the achievement of the piece of paper (i.e., the "diploma") at the other end. Teachers and professors and authorities are no longer gatekeepers. In the age of ridiculously abundant information and multiple avenues for acquiring knowledge, these anachronistic institutions are slowly being seen for what they are: principally, scarcity promoting structures for rolling out a new generation of employees for State industrial capitalism.

There is more educational freedom in university. Yet, university is different than other schools in ways that seem important but are insidiously not. University is still schooling; it is just a different version of schooling. To put it less eloquently, it is true that everything "stupid" about primary and secondary school is less "stupid" about university, and even less "stupid" about graduate school; but, school is still school is still school (i.e., schooling as a process has a set of characteristic variables which exist along a spectrum and produce equivalent behaviors along the spectrum). People are attracted to these places for entertainment, socializing, and personal interests, all worthwhile. However, a common goal is to come out a winner and enter your next role in the life of a machined society.

2.11 Professionals

> **INSIGHT:** *One of the great failings of a lack of critical thought is the assumption of authority around a given data set.*

In school, the authorities tell the students what to believe, and after graduation, the students become a "professional" practicing in what they have been schooled to believe. "Professional" is a market-State term. A "professional" is someone who has been trained and is being paid to render a service or an opinion in the market or State. In the market-State there are inherent hierarchies of professions, and hence, power-classes of professionals. In early 21st century society most people do very little for themselves, and rarely do they have volunteers to do things for them. Instead, most people hire "professionals" to organize, manage, and fulfill their needs. A [professional] service culture is not equivalent to the engineering of need fulfillment. In truth, potential is wasted through a societies contrived notions of [a "professional"] identity.

Certainly, any society demands a certain level of training, experience, simulation, etc., before it accepts someone as capable of practicing some service that can greatly affect others, or another (e.g., piloting potentially dangerous vehicles, conducting a surgical procedure, etc.).

2.12 De-schooling (unschooling)

People who grow up going to school end up believing that learning is something that has to be forced; and, therefore, that learning is not fun. Children who are never forced to learn or to do schoolish things have no reason to believe this. Before children, and more importantly, their parents who have gone to school and do believe this, can find the joy in natural learning, they first have to unlearn this idea that they have acquired from the forced learning (school) model. This healing and unwinding process is usually referred to as "deschooling" or "the deschooling period".

"Deschooling" is going through a period of time when you are decompressing from all of the extrinsic motivators that have stripped away your intrinsic motivation, your own sense of identity of what you want to do and your sense of purpose. Many people in early 21st century society seek spiritual guidance from others for identification of their "life's purpose". Yet, if they were to just strip away all the conditioning and trauma they might see the purpose in life for themselves.

> **DE-SCHOOLING INSIGHT:**
> *Indoctrination + Regurgitation + Graduation ≠ Education*

"Deschooling" is effectively a period of detoxification [from the toxic accumulation of by-products which someone has accepted, by varying degree, while in the process of schooling]. People who begin deschooling might do nothing for a period of time because they need to rest and recover, to decompress and to re-set. "Deschooling", if not interfered with, eventually leads to a higher degree of completeness and confidence; but, it can take time to re-integrate one's sense of self-esteem and self-direction. From a parent's perspective,

deschooling is a time of relaxation and healing away from the system of conditioning. It is important for a parent to note, however, that often the entire process of deschooling starts over again for the deschooler each time a presumed authority figure appears to instruct the deschooler. In other words, the deschooling process starts over again each time someone from an apparent position of authority tells the deschooler what s/he should be doing with his/her time.

Deschooling can be slow because it is not just about understanding, it is also about letting your emotions catch up with your intellect, which takes time, and often, an environment of support. Read a little, try a little, wait a little, watch [and repeat]. This is a useful mantra while you are in the throes of deprogramming yourself and relaxing into the natural flow of learning, of inquiry. It can be painful at times to look at the broken trust and suffering that one experienced around the whole schooling process.

Many people don't want to face the truth that many of the ways in which they were treated, when they were younger, were morally wrong, and that many of the conditions they suffered were unjust, which can be difficult to come to terms with (i.e., to accept, process, and move forward). Life goes on. The realization that one has been duped is an opportunity for learning.

Because schooling is a model that becomes deeply conditioned into peoples' psyches, it can be difficult to de-condition from that model and integrate a new and more accurately "emergent" one.

People who grow up around school have a degree of fear and panic around the non-existence of school. Partially, this is because they were told that school is crucial to life and that if they didn't finish school they wouldn't have the ability to provide a life for themselves. Likely, they were also told that if it wasn't for school no one would know how to read and write, and that there would be this thing called "chaos". They may have also been told that if it weren't for school then laziness would dominate.

What is laziness? Is "laziness" just a reaction against the constraints placed on someone by an overly controlling [schooling] environment? Is "laziness" possibly just a reaction against that process, against being programmed? Is "laziness" a fear response to failure? Is "laziness" a lack of energy, or an unwillingness to apply effort, as a result of abuse in life? How do you feel when your day/week is completely busy and being programmed for you by others? Disengagement sometimes looks like "laziness" to people on the outside. Yet, downtime and recovery is often where our most creative ideas come from -- from stillness often comes a build-up of energy and power. What is laziness as a measure of someone else's behavior (i.e., how exactly does one individual judge another individual's behaviors, or lack thereof, as lazy)? In community, laziness is a personal projection onto another. If you call someone you love "lazy", then you ought to understand that they may come to believe your label.

Maybe someone is doing something internally and does not look productive form the outside, but inside there is processing going on, there is a part of the naturally cycled process of learning. Or, maybe there is something actually wrong. Downtime is useful; it is a time for processing, restoring, thinking, doing something different, and de-conditioning/decompressing. Therein, it allows us the space and freedom to think about what might be going well, and what might be going wrong, in one's life.

Trying to stay busy is a failure to acknowledge that the moment you are in is the only one you can live.

Practically speaking, it can take a long time and a lot of revision and reflection to unscrew the worldview that is plugged into someone's brain through schooling. And, it is sad to see how many people can't unplug from it completely. In order to actually better oneself and others, then you kind of have to realize the hole that you have been thrown into. And if you don't realize it, you might live the rest of your life in that hole. A life of a higher potential is about identifying and stepping out of (or around) holes when you encounter them.

It is important for our health as individuals to look at our past in a meaningful and constructive way [so that we stop feeling defective and we don't let it beat us down into despair].

Generally, parents come from the same school system that they send their kids to. To put the same idea forward from a somewhat linguistically imprecise psychoanalytic generational perspective, "bad" people tend to do "bad" things because "bad" things happened to them. Without interruption, most societies condition and repeat the same pattern of abuse and trauma across generations. We developed ways to protect ourselves from further harm when we didn't get our needs met as children. And, we repeat those same patterns over and over again even when they no longer serve us as adults.

Once a paradigm has become established among a society and the population has given away their power to people who spout the paradigm, then that population essentially becomes stuck in the replication and multiplication of that paradigm. Once a paradigm has been established through belief and repetition (in a parrot-like fashion), then it becomes extraordinarily difficult to shift people away from their limited understanding.

People who support or have otherwise become invested in the system will say, "I went through the school system and I turned out fine." And from their perspective they did; they can pay the rent, they can take care of themselves and their families; and they feel like, "How dare you attack this system, it did good for me." At a basic level, the system they were processed through has formatted their thinking, conditioned their opinions, and re-orientated their values to find acceptable behaviors and systems that if they more accurately understood themselves and the real world they would find unacceptable. And, its likely (or possible) that they actually found school unacceptable at the

time [they were in processing through the condition system of schooling]. In other words, they do not realize that they have come to accept artificial limitations, misunderstandings about themselves and others, and [by degree] the initiation of force, for those are the things they have been conditioned to accept through schooling. Schooling modifies and shapes one's own perception of themselves and of the surrounding world, while masking the real influence of its social purpose and content. It effectively conceals how it contributes to the reproduction of harm and the limitation of individual potential. In other words, it masks the social and economic roots of under fulfillment. The process of schooling itself is rarely interrogated and critically examined in school [or anywhere else in early 21st century society, for that matter]. The system is designed to repeat its own cycle.

When you are in high school, people are already asking you what you want to do for the rest of your life. Early 21st century society has a practice of trying to establish who you are (i.e., where you fit in the socio-economic hierarchical system) and make these proclamations before you even have the tools for self-discovery. By the time you want to start figuring out who you are, you are already too busy pretending to be who you said you are going to be.

In academic schooling people spend years developing their opinions, many of which are contrived, about the way in which the world should work. Fundamentally, it is unwise to expect that just because something was apparently good in our own lives that it will be good in the lives of others; particularly if we have been living sheltered lives.

Many adults don't want to look back and admit that they were deceived, that they were lied to, that they were forced and punished for doing things that they didn't want to do, that they were put through a processing machine. In this sense, there is a rationalization that happens. They have become completely invested in the system, of which they are a product. From a wider perspective, what these people are essentially saying is, "I have become attached to my given identity (or, the identity I have been given) and I cannot change or accept change, for then I would not know who I am."

The enemy that the system of schooling and forced education crushes at each and every opportunity, starting at birth and continuing until death, is: creativity. When someone's life is dominated by curiosity, then creative desires become relatively immune to this agenda. When people are creative, they want to make things, not buy things. They want to discover, not follow. They want adventures, not entitlements. They want self-control, not control of others. They want intelligent
s, not social sacrifices. They want to free others in like kind and not claw over others to see who can acquiesce or acquire first. They set goals and are not set back by agendas. They are creators, not social manipulators. The worst nightmare of social controllers is a population of intelligent, creative, and curious individuals sharing and working together. Such people are potentially subversive to self-serving agendas. So, once employed or in debt, they are buried alive in contracts written up by organizational entities that fear them and wish they did not need them. These contracts hijack their physical and intellectual freedom, and prevent them from working on what they think is important, in favor of what a "boss" orders. This is a system of slavery by any other name – a system of profit and social control over people.

Those who choose to engage with and stay in artificial structures of forced limitation, must remember at all times (i.e., always and all the time), that they are being molded and patterned to fit the narrow and superficial agendas of that particular society. Some control structures are simply more likely than others to refresh a "mask" over reality, and cause a forgetting of the true nature of this existence we all share. It is important to remember that we all naturally entrain to our environments, and that someone can entrain to a corrupted environment [over time] without realizing it -- by being continuously present in (or exposed to) that environment.

For those who have been subjected to "power over" [fulfillment] strategies for most of their childhood, school seems helpful as a natural extension of the parenting process.

> **INSIGHT:** *Before calling the young a pejorative, such as, "clumsy", "bad", a "disappointment", or a "child", consider the question, "Is this how I want this young person to experience himself/herself?" Which, eventually speaks to the type of relationships this person will be able to form as an adult: their friendships; their romantic partners; and ultimately, how they view themselves.*

2.12.1 The schooled narration of life

> **MAXIM:** *The largest proponents of slavery are often those who are the most enslaved themselves.*

The general and impressionable narrative of life given to people by schooling is: You go to kindergarten, and that is a great thing, because when you finish that you will get into first grade. First grade leads to second grade and so on, until you get out of primary grade school, and now you have secondary high-school and life is just revving up. The thing is coming, and then, you go to college and become educated. Some of you will then go on to graduate school. When you are through with school, you go out and join the world's workforce (or become part of ownership class) where you have timelines and quotas and tables and deadlines and commands to give [into]. And, all the time that thing is coming, its coming, its coming, that great thing, the success you are working for, that absolute reward. Until one day, if you are fortunate, you wake up somewhere and you say, "My god, I have arrived". Yet, you don't feel very different from how you've always felt, and there is a slight let down. It is

here, in this moment of pause, that the courageous and still inquisitive begin to reflect on this feeling; they begin to search more deeply for answers. And, if they search long enough, they eventually realize it was all a hoax, a dreadful hoax. "They" made you miss everything by expectation. We cheated ourselves the whole way down the line. We thought of life by analogy with a journey, a pilgrimage, which had a serious purpose in the end, and the point was to get to that end, success, or whatever that it is for you, maybe heaven, after you are dead. But, we missed the point the whole way along. It was a musical thing, and we were supposed to sing and share and dance and create while the music was being played. Then, after this realization, you begin to inquire about all the other illusions that were once accepted, tolerated, and dis-integrated as truth. One's whole value system of what's important and what's not, what's good and what's not, what's worth putting effort toward and what's not, must be called into question [not to destroy the whole value system, but in order to see it for what it is, and to redirect where necessary].

Among community, why would you follow this narrative; why would you stop being yourself and become a tool for someone else, or for someone else's agenda?

3 List of community learning techniques, methods, and strategies

There are no pre-defined, authoritative programs of study in our learning community. Learners progress from module to module (or experience to experience) dependent upon their developing interests, curiosities, and goals. This progression of flow is known as 'branching', and therein, the system keeps track of the modules someone has completed (including the interactions the individual participated).

A module is one or more closely bound learning objectives or purposefully definable experiences designed by an earlier learner who may be acting in posterity as a facilitator. Modules may also have a series of learning tasks (or interactions) including but not limited to exercises, events, videos, and other activities relevant to the acquisition, completion, or experience of the learning objective(s). In a sense, every module could be seen as a "situated problem" representing some form of explicitly formalized inquiry, which involves access to knowledge and the practice of tasks [to acquire a set of knowledge and/or skills for oneself].

Community recognizes that lengthy, course-based instruction is perhaps not an ideal model for learning. A course [of study or of instruction] is still the "educator's" pre-existing combination of connections, and so, the "teacher" is highlighting by default, whether intended or not, certain elements of the discipline and deselecting other elements. When a course follows more of an "instructionally open" and tutor-based approach, then individuals have the space to express their own views (allowance for critical thinking and logical integration), and they can explore and involve their own personal learning preferences, while truly integrating their experiences. Our community fundamentally requires an environment where individuals are allowed the space to foster the development of new and potentially novel (i.e., creative) connections. In other words, it is an open approach, and not necessarily an instructional approach.

A second issue with courses is that as our understanding of learning itself continues to evolve, those methods and strategies followed in a course must be continuously updated and adapted, which is a tedious action for a course instructor to pursue, if they even remain aware of the understood advancements in the field of learning sciences. And, if an instructor is aware of changes and has a desire to implement those quasi evidence-based changes, then they require the permission of another layer of authority. Certainly, the change management process for a course of instructional material is less efficient than the change management process of shorter modules and their associated learning objects.

When a module is created, then a defined sequence of learning activities, events, content and materials are associated with (Read: linked to or placed within) the

module. And, anyone can facilitate the creation of a module.

When a learner decides to "take" a module, they may either follow a predefined path (i.e., a template), such as the one created during the modules initial establishment, or they may define their own path (i.e., their own sequence of relevant activities and events, personalization). This flexibility allows individuals to pursue their own path of learning and joy, while adding to the learning community's understanding of the learning process itself. Each new path to an objective or purpose helps to more greatly inform the community's knowledge base. In many ways, learning is like journalling.

Module sets often contain different templates, which represent different activity pathways to the same learning objective. Every learner has the choice to select their next learning objective/module.

Within our community learners choose those activities, events, and materials that they wish to utilize during their learning experiences. Learners have three primary options when it comes to personalizing a module. Firstly, they may select a "good practice" design template that other learners have followed as an efficient and enjoyable way to complete the module. Secondly, learners may follow the advice of the community's recommendation planner, which provides the learner with a selection of templates that meet the learner's personal preferences and explicit requirements, such as completion date, the amount of deep practice desired, and the desired amount of collaboration. Finally, the learner can define (or develop) their own unique path.

Learners may formally enrol in a module when they have met the module's prerequisite knowledge or skill requirements. Some modules require no prerequisites and others necessitate the taking of prerequisite modules. Few modules exist in isolation; there is a tree of integrated progression with all knowledge. As the learner advances, s/he moves further and further down (or "along") the knowledge map. The great majority of modules have content elements (Read: specific knowledge and tasks) that are also part of another module. The restricting of participative access (i.e., enrolment) in a particular module due to a lack of prerequisite knowledge and experience is discussed later, and is a necessary control mechanism built into the functioning of our learning system. Please note that this is not a secreting or confidentiality mechanism. It is a material, safety control mechanism. A quick example of this is someone who has never driven a car before and is on their first day of a driver's education course. It would not be safe for them to sit behind the wheel during rush hour highway traffic conditions. Without prior training, there would not be sufficient proficiency of knowledge and skill to operate a vehicle safely in those conditions. This is an example of an evidence-based safety control mechanism.

Learners in our community generally take a single module at a time. Instead of being forced by an outside authority to handle multiple subjects at once [splitting their attention and their will], they may immerse themselves in as little as one, or more if they so choose, full-time modules for any pre-specified period of time (Read: module duration).

The Community's learning system makes a recommendation to the learner concerning the amount of time the system forecasts it will take the learner to complete the specified module. With this recommendation in mind, which is informed by prior knowledge of a learner's past experiences, a learner will then set their desired module-completion date and time goal based upon a reasoned expectation of how long they foresee the module taking. Over time, this action becomes second nature and becomes a useful measuring tool for individuals to gauge how rapidly they acquire, understand and integrate new material. It is a feature of the learning system to be capable of logging the amount of time a learner spends on a module. The learner can choose to enable or disable this logging capability. If the learner chooses to enable it, then the learner has the option to share or not to share the information. Time tracking gives the learner useful data for quantifying self-improvement. It also gives the community useful data for flagging modules that may need improvement.

For most modules, individuals work toward proficiency/mastery, which is indicated by completing a set of active problem-challenges in a row, unlike a test. This means that proficiency (or "mastery") can be achieved in minutes or hours, but the learner is learning through the entire process. There are no time limits or even estimates for how long it takes someone to obtain proficiency, and there is no final exam in which "you" can "fail". It should, however, be noted that there are some modules that involve the operation of technologies/processes which could be unsafe to the wider community if mishandled or if mistakes are made. At the conclusion of one of these modules, or "module series" (Read: a sequence of modules with an overarching objective) learners take a set 'knowledge and skills assessment' to give reliable information to the community (and to themselves) that they have achieved (or not achieved) the learning objective(s) of the module(s). After passing the assessment learners may safely operate the technology/process, or move on to a more advanced module that involves the technology/process. The assessment of certain learning objectives is part of the safety control mechanism mentioned earlier. These assessments may be retaken as many times as necessary, so the fear of failure or the urge to rush the learning is significantly lessened or non-existent (i.e., removed). Also note that the operation of certain technologies/processes may require periodic re-assessment on a scheduled cycle to ensure that proficiency has been maintained.

Although higher-level modules often have prerequisites, and learners are encouraged to take a broad-range of modules in different disciplines, learners choose modules based upon their own evolving and emerging interests. Herein, the learning system may

make recommendations to the learners concerning which module(s) might be a preferred next module (based on a variety of metrics, including observed interests, potential challenge areas, pre-requisites, skill set, and goals), but this system acts solely to support the learner in making an informed choice. This recommendation system could ease learners' regular entry into the flow state by supporting them in determining tasks/activities (and their qualities) that are of an optimal, individualistic challenge to skills ratio for producing flow. Another feature of the learning system is the ability of learners to recommend related materials (i.e., something found on a video hosting platform could be associated with the module as a recommended resource by other learners). Over time, as others review the modules, they can up-vote or down-vote materials, and the module algorithmically updates the presented content.

The form of learning described herein is also known as self-regulated learning (SLR). Under SLR conditions the learner has control over his/her own learning. The learner steers and directs their cognitive and motivation processes toward achieving their highest potential at their own desired pace and through [objective] selection via preference. At the present, we understand the most efficient form of learning as that which is characterized by definable and recognizable experiences, by self-directed characteristics. It is in the recognition of having these experiences and the integration of being in them through which our cognitive and physical abilities evolve.

3.1 Learning styles and memory

The ability to learn involves the capability of remembering, logically speaking. Skilled practitioners of memory show us, they demonstrate, that memory is visual, regardless of what people may believe about "learning styles". We can improve our ability to learn by looking at those who have deeply studied and practiced the skill of remembering. Therein, we may refine our approach and our visualization skills.

> **INSIGHT:** *The most important "style of learning" (for facilitating memory) is the intrinsically self-directed one.*

There is a significant lack of evidence that there are different kinds of "learners". A scientific assessment of the "evidence" for learning styles published in Psychological Science in the Public Interest (Pashler, 2009) conclude that the learning-styles hypothesis has little, if any, empirical grounding. Further, the very idea of a "learning style" becomes significantly irrelevant when the teacher-student paradigm is dismissed, and hence, "teaching styles" also become irrelevant. Individuals do not "learn better" when the instruction they receive is tailored to their preferred way of learning. Instead, individuals learn better when the learning is self-directed. In part, the idea of a "learning style" has persisted because in a school-type setting: Parents like to think that their children are receiving a tailored education, and teachers like to think that they are sensitive to each child's needs and motivated to find out more about how to fulfill this ideal.

Finally, in concern to learning, neuroscience tells us that memory consolidation occurs primarily during sleep and down time (a restoration phase).

3.1.1 Daily Routines

Humans have routines in their daily lives that they follow which maintain their lives on some [oriented] course. These daily routines may over time lead to the development of greater health, skill, understanding, flow, and appreciation, or they may be harmful patterns and can have the opposite effect. Over time, hurtful patterns can wear us down, make us unhappy and less functional. Daily routines can fashion and mold us into beautiful and intelligent compassionate beings, or they can break us down and cycle fear, and ultimately, disease. Yet, these routines do not just manifest out of nowhere; they come from within us, and also, from without (i.e., the material conditions, material life-radius access, and social influence). Routines are repetitions that rewire the brain and mind (as "learnings").

> **INSIGHT:** *A slight change in repetitious thought or behavior pattern can bring about major effects [in one's life and others' lives].*

The brain adaptively rewires (Read: neuroplasticity) itself through behavioral patterns. It has an almost inexhaustible capacity to rewire. It adaptively reroutes control of the way it uses various packets of neurons in order to help the human organism do the activities it regularly participates in.

3.2 Intelligent tutoring system (ITS)

> *A.k.a., Learning and artificial intelligence, AI tutoring agents, AI tutors.*

First, there were human tutors. With the advent of artificial intelligence, there are now intelligent tutor system (a.k.a., AI tutors) is a computer-enabled artificial intelligence system that aims to provide immediate and customized instruction or feedback to learners. Artificial intelligence (AI) collapses the distance between any question and/or problem someone has, and then, finding the answer as fast and efficiently as possible. Artificial intelligence will take over education, moving education from the textbook and classroom-teacher era to the interactive super-smart tutor era. AI presents the ability to have an interactive tutor, that knows everything that is known, and can guide users through any knowledge and/or skill set, at any point in time. Classrooms have to go at the pace of the slowest students, or the slowest students get sent to remedial classrooms. Here, the faster students are not served. The students with different interests are not served. Tutoring optimizes learning, by allowing learners to go at their own pace.

An intelligent tutoring systems (ITS) has two aims:

1. To provide appropriate and comprehensive instructional-type communication (advice) on a one-on-one basis:
   A. Knowing as much as can be known about the subject system.
   B. Providing information without bias.
2. To develop and test models about the cognitive processes involved in instruction.

3.3 Open and meaningful learning

Our community defines "open learning" as an approach to learning that gives the learner flexibility and choice over what, when, where, at what pace, and how they learn, and also, that there is no externally ordered or coerced target, outcome, or result that a learner must achieve.

For a moment, imagine the following: A student enters an educational institution and registers for a course. The background of the student is not taken into account. The institution does not know the types of experiences that the student has formerly had, the type of home life they have come from, the beliefs and value system they hold, and the extent of knowledge and understanding they maintain in long-term memory. Simply, educational institutions do not know their students. Said institutions then throw disconnected and often irrelevant materials and experiences at their students, and then, give them a standardized test. This commonly accepted [as normal] and established schooling process is irrelevant to meaningful learning, because meaningful learning is concerned with active participation and reflective engagement on the part of the learner. Most educational institutions are simply not designed to facilitate/produce meaningful learning. To a great degree, they are designed to produce people (Read: workers) who can mimic and duplicate. By making learning experiences open, our learning community establishes a system that supports individuals in pursuing learning experiences that they find relevant and meaningful to their lives, not to the lives of controlling outside forces.

Open learning exists even within the learning module's, for learners have the flexibility of selecting those learning activities, tasks and events that they find relevant and meaningful [in the context of a given objective]. There is no outside force applied to them in the selection or creation of a template (i.e., the defined series of learning experiences or activities).

3.4 Proficiency learning within the context of continuous education

It is commonly recognized that individuals learn at different rates (i.e., different paces). If learners intend to progress toward their own higher potentials, then they must be afforded an environment where conditions allow for individualized progress. The amount of time and effort learners' need to master a given objective will vary, and a learning system designed to support a community in developing toward its highest potential must account for this. The understanding that learners have different temporal needs when learning a subject matter is a core characteristic in what is commonly known as "proficiency learning".

Proficiency learning is most adequately defined by its four major associated principles:

1. **Principle #1:** Individual learners have sufficient time to acquire proficiency of specific learning objectives. It is a feature of the community to provided learners with a recommended completion date & time using an informed predictive engine. The predictive engine arrives at the recommended completion date based upon several factors of input, including but not necessarily limited to: past performance of the learner, current/predicted knowledge schema, the observed performances of past learners with the module, and other ongoing modules or activities the learner is participating in. Learners then set, if they so choose, a completion date & time goal for themselves, which may have no relationship to the recommendation engine's date & time. The setting of a 'timeframe' may be done for each module. If the completion date needs to be changed, extended or shortened, then this is generally always possible (i.e., it may not be possible when a module is scheduled among multiple participants). And, this information can be added to a personal schedule/calendar.
2. **Principle #2:** The subject matter to be learned is broken down into units of learning (i.e., modules, experiences and learning objects) with objectives for each unit. All learnable content is provided in modular branching (Read: tree like) form, which constitutes a systems knowledge map. Branched knowledge progression maps often look like trees with trunks representing core concepts and leaves represent modules. Here, each module (or, content + task) contains one or more learning objectives. Community is essentially a purposeful experience, wherein meaning generates goals, which subsequently direct tasks.
3. **Principle #3:** Learners demonstrate proficiency at each unit's objective(s) before moving on to other units. Learners may take an authentic/formal "knowledge and skills" assessment or an alternative requirement to certify to the community (where necessary) that they have achieved proficiency of some information or task. Also, the learner may need to re-assess at some periodicity. Again, for

our community, this is an inherent safety control mechanism to maintain the safe continuance of our society, and it is not applied to every module. Note, that this principle isn't embedded into the learning system itself. In other words, it isn't designed into the learning system to restrict learners from progressing to other modules if they haven't achieved proficiency at a given module. Here, "we" recognize the necessity for proficiency of a given task before moving on to a more complex information set. As "we" move on in our education, we achieve proficiency in different ways, which facilitates mastery over time in a given subject.

4. **Principle #4:** Learners' assess their progress and receive feedback and guidance where necessary or available. Many of our community's computerized learning modules provide continuous feedback. End of module (i.e., subsequent or "summative") feedback is sometimes provided. Feedback may be entirely automated or it may come in the form of facilitator or guide, or in form of the individual checking their own work. But primarily, it comes in the form of sensation from a responsive environment. Human facilitators and subject matter experts are available for feedback and re-mediation when necessary.

3.5 Community education

The individuals in our community learn, play, grow, and work together as all pursue their highest potential through the opportunities provided by the synergy of cooperation. Herein, we recognize that there exists self-benefit through the interplay of action, interaction, and reaction with a community of those who have similar interests, curiosities, and goals. Humans are social beings with a vast potential for learning from one another. Individuals that recognize this necessity for connection will seek to better the community because in so doing they better themselves.

Community learning is not teaching: it is not the teaching or selling [of anything] to an audience. A community is a space where like-minded people can come together and share with each other things that matter to them, while they design and engineer things that benefit them. With an "audience" there is a sense of removal, of artificiality, and of persuasion -- there is a disconnect. There are experts and students, not learners. It is a sense of being "talked at". Whereas with a community, there is a sense that we are "all in this together". No one is above the other, we are here to help each other, and we care about things together. An audience is passive, a community is active. An audience is entertained or not; whereas, a community is actively involved.

Imagine having a relationship with a community that supports you and fulfills you. In community, we are supported to maximize a maintained movement toward our highest potentials. We create a space where ideas can mingle and swap, and evolve to create more fulfilling forms. Here, we are continuously evolving our spaces and information systems to make it easy for people to find one another and share information and creative works and tools and tasks.

In the community, many people's days are highly taken up with participation in multiple communities of practice.

3.5.1 Communities of practice

In community we get together and share and practice forming a structure of peer-to-peer education -- we share with our peers and learn from our peers. Communities of practice are groups of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly. Communities of practice exist both offline and online. Communities of practice are not a new phenomenon: this type of learning practice has existed for as long as people have been learning and sharing their experiences through storytelling. A community of practice is essentially a group of people practicing something in some form of a "gathering". A group of interest is simply a group of people sharing information of a particular topic of interest.

Etienne Wenger et al. (2002:4) define a communities of practice as:

> *"Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly."*

3.6 The one-room school house model

Learning within an open community has some similarities with the historical schooling model known as the "one-room schoolhouse". The one-room schoolhouse is the name given to the space in which some cultures have historically (as youths) learned in a formalized manner. The concept is now more commonly known as a "multi-age classroom" or "multi-age learning environment". It is essentially a space where learners, who are diverse in age and experience, get together and pursue learning activities where they facilitate each other's progress.

In many historic cases of the presence of a one-room schoolhouse, the majority of "teaching" was actually not done by the "teacher" overseeing the space, but was instead done by older students, who were more advanced, helping younger students with their lessons. Younger students also learned by observing the more advanced lessons being given to older students by the "teacher". Although schooling still occurred here, if someone was slow or had a problem, it was another student that was responsible for helping when the teacher (or "facilitator") was busy. Sometimes even if

the sole teacher wasn't available, it would be another student who was responsible to provide assistance. Traditionally, the basic structure of a multi-age learning environment is one in which the teacher views the entire class as one learning community, and students stay with the same teacher for more than one year.

In some cultures the one-room schoolhouse served as a center of rural town activities, a place where parents gathered and shared information. Learning has not always been isolated in our history, but was typically considered a part of the community (or "tribe" / "village"). The one-room schoolhouse is described and discussed at length in John Taylor Gatto's authored work, "The Underground History of American Education".

3.7 Task- and project-based learning

In the community, a project-based approach to learning focuses on the exploration of real-world problems and challenges, while simultaneously developing interdisciplinary skills through individual practice, or through participation on a systems team. Because project-based learning is filled with active and engaged learning, it inspires individuals to obtain a deeper knowledge of the topic they are pursuing. Project-based learning is essentially a form of task-based learning where tasks are defined, completed, and integrated [through a "project or "mission"]. Task complexity (within the scope of a project) is broken down into manual skills and cognitive intelligence.

Here, the idea of 'mission-based learning' is similar to project-based learning with the transposition of the notion of 'mission objectives' in place of 'project objectives'. The terms 'project' and 'mission' are similar, but may have slightly different meanings depending upon the specific situational context. A 'mission' is essentially a declaration of a purpose; however, the term also applies to an assignment (or objective) given to someone (or to a group) by an authority that expects compliance.

At a basic level, most projects involve organizational skills, discovery and analysis skills, and communication skills. Learning within project-based environments is often based on one or more of the following:

1. Adding to one's knowledge schema.
2. Consideration of future projects and new or rekindled interests.
3. Assessment of the success of the project.
4. Self-evaluation and reflection.
5. Documenting what occurred.
6. Producing something.
7. Accomplishing the goal of the project

3.7.1 Goal setting

Just the act of setting a goal has been shown to increase performance. And, setting "big" goals is important; it is just easier for our cognition to process a complex goal when it is broken down into tasks (or "chunks"). The "quantitative self" metrics that matter are those that measure your progress towards a well-defined goal. If you can't measure it, then it is likely not understood. Even the five sensations we are familiar with (i.e., touch, taste, and so on) are a form of measurement.

3.8 Informal learning

Informal learning is widely used to describe the many forms of learning that take place independent from an instructor or teacher, through direct and often real-time experience. Informal learning is not formal learning, which involves a pre-design of the learning experience. In essence, informal learning is everything that is not formal learning (Read: that with a predefined curriculum and time frame). The way you learn to speak your native language is a pure example of informal learning. Informal learning occurs all the time. It is the primary means by which most people learn. Even in early 21st century society, which applies a schooling model, more learning occurs in informal learning environments than in formal learning ones. It is commonly understood that approximately 80% of learning about a job is actually accomplished through informal learning while on-the-job. In fact, informal learning is occurring to everyone all the time. To not remain aware of this fact is a dangerous thing.

"Social networks" are vital to informal learning for they allow for the communication of knowledge, understandings and opinion from one individual to another. Hence, the Community's infrastructure has necessarily been designed to facilitate communication, connection, and sharing. Conversation is incredibly important, and we tend to want to encourage conversation to transfer and reinforce learning.

3.9 Interdisciplinary learning

A community-type society supports individuals in contributing to and benefiting from a wide-variety of disciplines, which are perceived together as an integrated whole. Herein, the term 'interdisciplinary' implies that methodology and language become efficiently communicated and integrated between disciplines (i.e., from more than one discipline) to examine a central theme, topic, issue, problem, or work. Every complex system can be categorized by those subjects or disciplines which structure the language from which the system is built.

An interdisciplinary approach is a collaborative approach because it necessitates cooperative activity and information flow between disciplines (or knowledge/skill areas).

> **INSIGHT:** *Within a community-type society, individuals connect and seek relationships regardless of discipline. They explore connections regardless of discipline. In this sense, nature is a systematic network of*

potential knowledge that is available at all times for integration by consciousness.

3.10 Experimental failure

INSIGHT: *Being wrong might be right if it keeps you moving. Is there the space for being wrong in your society's educational system?*

Failure is useful for it represents an opportunity to develop ourselves further. It is our fundamental understanding that through the frequent testing of our limits, and failing, that we experiment and learn. In other words, we understanding that we learn through experimenting, through the frequent testing of our limits, and through our failings (or failures). We recognize that spectacular failures lead to spectacular learning. Failing is neither embarrassing, nor discouraging. Also, in virtual learning environments we can fail time and time again without any other human knowing or caring. Learners in our community fully understand the necessity of failure in exploring, experimenting, and ultimately, learning.

There is nothing wrong with failure; it is where we acquire our experience. And of note, there is nothing wrong with criticism. We shouldn't be ashamed if someone (a critic) points out a technical or scientific issue in regards to our understanding (learning) of something? We are all sufficient in our process of learning. We are all learners; it is innate in all of us, and there is still a great deal more to learn.

3.11 Possible learning methods and strategies

In the learning community we recognize that there is no single, universally applicable learning method or strategy. In some cases a single strategy is most appropriate and in other cases a blended combination of strategies is ideal. And, in state of play or "flow", often if there is a strategy, then it is applied seamlessly, almost effortlessly.

In terms of the learning system as a whole, it is impossible to build a single learning solution that fits the needs of all learners. Real complexity is a requirement for a learner-centered, systems-based approach, an essentially personalized approach.

The following learning strategies are only suggested strategies. They are suggested due to what we now scientifically know of how and why we learn (in the context of our value system). These strategies are essentially learning design / selection strategies formed by what we know, and also by our value orientation. They are recommended suggestions in concern to the design of learning modules and their accompanying activities, events, and experiences. These learning strategies, when applied appropriately, are highly likely to facilitate high-quality learning under intrinsically motivating conditions. You will not find a single method, strategy, or philosophy that serves the needs of so many diverse individuals who have different needs, desires, curiosities, aspirations, and varying strengths. Our learning system is not a "one-size fits all" system. Our learning system is emergent, encompassing, and fundamentally, self-directed. We, as learners, desire to customize our learning experiences while we also learn from the experiences of others.

These are just some of many ways to learn in a more formal manner an objective ("over the course of a curriculum"). These methods and strategies provide a high potential for facilitating the acquisition and integration of knowledge, skills, and behaviors by learners in an effective, efficient, and intrinsically engaging manner.

3.11.1 The construction strategy

A.k.a., The constructivist method, the self-betterment construction method, the natural learning method.

The construction strategy is based on the 'constructivist learning theory that holds that learning always builds upon knowledge that a learner already knows; this prior knowledge is called a "schema". The theory suggests that because all learning is filtered through pre-existing schemata, learning occurs when a learner is self-directed and actively engaged in the learning process, constructing a better model of the world and better skill precision within it, rather than attempting to receive knowledge passively (i.e., through teaching and/or schooling).

The following constitute the strategy's four primary principles:

1. **Principle 1:** Anchor all learning activities to a larger task or [real and responsive] problem.
   A. The purpose of the learning activity or lesson must be relevant to the learner in order for the learning task to be successful from the learner's perspective; its purpose must be clear to the learner and accepted by the learner.
2. **Principle 2:** Design or select an authentic (intrinsically chosen) task.
   A. Tasks are authentic in their cognitive demands. Maybe the task has real consequences. Learning should occur in environments and under conditions that present the learner with the same type of cognitive challenges and physical demands as the authentic real-world environment (i.e., authentic in their cognitive and physical demands).
3. **Principle 3:** Select a focus of intention (i.e., "objective").
   A. Learners set goals and regulate their own learning, through which they live in alignment with a deeper integration.
4. **Principle 4:** Design the learning environment to

support and challenge the learner's thinking and response.

A. Learning environments are designed to promote immersion and engagement while supporting and challenging a learner's thinking. Facilitators and others play an important role by encouraging critical thinking and coaching (where desired).

The self-betterment construction methods ensure the replication of a real-world, authentic learning environments. It should be self-evident that an appropriate redesign of the expository instructional environment toward a more authentic and problem-based learning environment (including interactive 3D / simulation-based learning) not only supports learner satisfaction, but it ensures a stronger connection between the learning that occurs in the community and the tasks and responsibilities that may be required of learners outside of the community. Computing technology can facilitate just the right amount of challenge, through algorithmic programming, to keep a learner engaged and learning a subject matter for a [learner's] chosen amount of time.

When individuals select their own learning activities it is wise to anchor them to a larger task or problem [in their life], which is commonly understood to increase feelings of both relevance and satisfaction in learners [by increasing the meaning and connection the learners experience with that which they do].

Fundamentally, one's current understanding is constructed from experience based upon prior understanding. It is often stated that wisdom is the product of knowledge + experience.

3.11.2 The trivium method of organization

NOTE: *The Social System describes the Trivium Method in full. The method is a component of the social approach of a community-type society.*

The Trivium, the first three of the seven Liberal Arts and Sciences, is both a method and a selection of content used to support the mind in learning and thinking systematically without contradiction. It benefits us as individuals and as a community in deriving certainty while arriving at ever greater approximations of truth with any information coming in via the 5 senses. The Trivium, by its very nature, is a systematic method of learning and discernment. The method serves multiple purposes, among which is its ability to verify an intuition or hunch. The Trivium is intrinsically related to the process of critical thinking. It is a simple stepped process and has been given many names over the centuries.

The Social System describes the Trivium Method in full. The method is a component of the social approach of a community-type society.

The Trivium (Latin for "three ways") is the core of what was once known as a "classical curriculum". It is believed to have been developed by ancient Greek philosophers [though forms of it date back further] and practiced during Greco-Roman times. It is likely that the Vedas had a similar system. The Trivium curriculum was formalized in the medieval period and nearly universally embraced by teachers in the English-speaking world until the early 20th century. Although the Trivium Method is traditionally a teaching method for children, it may be applied to the process of learning at any age level and with any subject matter. Every system, every subject matter, has a grammar, a logic, and a rhetoric.

The Trivium recognizes three developmental stages of comprehensive learning: grammar, logic, and rhetoric (in this order). A Trivium-based learning method organizes learning around the maturing capacity of an individual's mind (their knowledge, understanding, and cognitive skills) by using methods and materials specific to each progressive, spiralling stage of development. When used in this configuration, one's thoughts shuttle back and forth, up and down the focus stages of the Trivium in an attempt to discern and communicate ever greater approximations of reality.

The purpose of the Trivium Method is to support an individual in becoming intellectually independent and self-reliant (i.e., "intellectually self-sufficient"). A Trivium-based approach is sometimes discussed in contrast to an outcomes-based education (i.e., outcome-skills based). An outcome-based education (OBE) generally teaches rhetoric level skills without teaching the basic grammar and logic level skills. With standard outcome-based education, externally expected results (i.e., those standards and results that teachers, parents and politicians expect) may be obtained faster, but they are often shallow, short-term, and create collective minds that perceive themselves incorrectly, sometimes with a sense of deficiency.

The three roads of the Trivium offer three insights for learning. First, every discipline has a "grammar": the organizing factual data (a coherent body of knowledge) on a particular subject, known as "general grammar". Logic refers to the systematic arrangement and relationship of factual data in a non-contradictory manner. And a rhetoric, which concerns the means by which it is most cogently and appropriately applied and communicated – its stories, discourses, and applications. Second, any topic can be learned (or taught) in a way that includes its grammar (that which exists – factual knowledge), its logic (cause and effect relationships, scope and sequence, and rationale), and its rhetoric (communication and implications). Third, the Trivium affirms the developmental nature of learning – that is, learning progresses in iterations and the learning process is best tailored to each iterative stage.

The Trivium Method is roughly equivalent to a community-type society's Social Domain, as composed [in part] of data, knowledge, and values:

1. The 'grammar' is the 'data'.
2. The 'logic' is the 'knowledge' involving the data and

its complete relations set.
3. The 'value' is the 'rhetoric', which explains why and how individuals share, communicate, and create together.

Because the Trivium Method necessitates the verification and understanding (i.e., grammar and logic) of information prior to the information's communication (i.e., rhetoric), it is reasonably effective at reducing the dissemination and accepting of falsehoods (i.e., the learners' exposure to information that if properly checked would be shown to be false). Thus, its application generates a more efficient learning process by reducing the noise within the learners' learning space. Further, with this systematic method of discernment learners always know to dig back down into the grammar and logic of a subject when instruction is being provided (i.e., a teacher is teaching) to ensure that what they are being taught is the presently knowable truth, and the most valid and logical conclusion with all the available data.

The Trivium, as a functioning system, always teaches the user to return to an examination of the data when contradiction precludes a logical conclusion. It also tells the learner that they must go back and recheck the whole information system when more data becomes available.

There exists an understanding that humans make errors; those errors in thinking and acting are a natural part of the learning process. Through error correction we can correct our patterns. When the Trivium Method is applied, errors are recognized and instead of stagnation, a continued movement toward truth occurs; setbacks are seen as opportunities for further development and integration. When the Trivium Method is applied appropriately, one's thoughts flow in a coherent manner between the Trivium's stages (or nodes) in search for the truth relative to the known information system. Similarly, the idea of science is to look at the available evidence and then always look for new evidence. If someone is holding on to a single idea, then they are effectively putting logic before grammar, which is neither the scientific method nor the "trivium method", and will flat-line self-development.

The three stages are most easily represented as:

1. Knowledge [or grammar].
2. Understanding [or logic].
3. Wisdom [or rhetoric].

3.11.2.1 The **grammar** *stage*

During this stage individuals learn the facts (or "general grammar") of a subject or task. Under the Trivium Method this is traditionally done through memorization and drill. It is important to recognize that memorization and drilling can be made enjoyable and often young children have a natural fondness for such activities - think of those who repetitively use their body in a way that they enjoy such as any sports practice. To "drill" is just to practice. However, the grammar stage can be blended with numerous other learning methods in an effort to create a fun and engaging learning experience.

General grammar answers the questions of who, what, where and when of a subject under study and concerns the discovery and ordering of the objective facts of reality to form a basic, systematic knowledge set.

3.11.2.2 The **logic** *stage*

An individual's capacity for abstract thought expands rapidly. At this stage the learner becomes attracted to reason and abstraction. The introduction of logic shifts the focus from mere facts to the understanding of relationships (conceptual and mathematical). Individuals learn to reason as they identify critical assumptions, logical fallacies and inconsistencies. Through the logic stage the faculty of reason and the actualization (or integration) of non-contradictory relationships is established, which reveals a fully systematic understanding of the thing being dealt with.

The art of logic is the art of non-contradictory identification. Logic answers the why of a subject. It is important to note that without having a solid grasp of the general grammar of a subject, then how do you know exactly what you are understanding?

Having explicit knowledge of the fallacies enables the identification [via explicit knowledge] of the exact type of falsehood being used against someone, and it provides the ability of expressing (or explaining) the specifics of the uncertainty generated by the use of the fallacy to others (i.e., intellectual self-defense). This is an especially useful faculty for all learners. Sophistry ("sophisticated") behavior exists. Sophism is the intentional use of fallacies to "win" an argument regardless of grammar or certainty.

3.11.2.3 The **rhetoric** *stage*

Grammar and logic are now integrated into communication and problem-solving. In experimenting and designing learners develop clarity and beauty of expression in addressing vital and sometimes controversial issues and philosophies.

Rhetoric is the *how* of a subject. A rhetor will ask, "How is the grammar and understanding of a subject best communicated and applied?" Thus, rhetoric concerns the application of knowledge and understanding expressively, which composes wisdom. Note that inherent in the rhetoric stage is the proper choice of means and methods for cogently expressing the conclusions of the grammar and logic of a subject.

In the market, rhetoric is generally seen as a synonym of persuasion, maybe with evidence. In a more general sense, rhetoric is determining the best way of communicate an idea to another.

Fundamentally, if something cannot be explained, then it is likely not understood. If something is not understood, then it is likely that the comprehension or breadth of its grammar is not sufficient. Therefore, when something cannot be fully or appropriately explained,

under the Trivium Method, it is prudent to return to the grammar stage before preceding forward once again. In other words, if someone doesn't understand a subject (logic), then they likely don't know enough about the subject (grammar), which may necessitate further inquiry and discovery. One might gather more "grammar" through additional study, research and/or discovery, (i.e., all the available data), then one might remove the contradiction for the purpose of integration (logic), and finally, one might seek its cogent re-expression or re-explanation. For true rhetoric, true wisdom, is pure signal and void of noise.

3.12 Playful learning and appropriate challenge

> **APHORISM:** *If you don't love it, you'll never work hard enough to be great at it.*

Play is nature's learning engine. It is therefore terribly unfortunate when play is painted as a negative or placed in contrast to the "work" or "effort" of learning. When we look at the mechanics of play, it is fundamentally the act of deploying the scientific method toward learning in its most natural form through which a state of flowing engagement is formed with the natural world – hypothesizing, testing, retesting, improving, and enjoying. Fundamentally, if you are playing, then you are likely learning. If you are not playing, then you are likely not creating long-lasting and integrated, meaningful learning. We view the abundance of play as true freedom. The term 'play' is generally used to refer to children when they are in this state. And, the term "flow" is generally used to refer to adults when they are in this state. Quite possibly the two words might be connected to describe a 'playfully flowing' state of experience.

A playful learning design strategy selects for an environment where the learner is energetically explorative and curiously interested in solving a problem or pursuing a purpose. Playful learning is in effect, learning through the act of playful exploration. Playful learning is itself an excellent facilitator of intrinsic motivation. In other words, the space and opportunity to play increases our internal incentive to play. The Rat Park study discussed in the Social System specification relates to this understanding. It is important to recognize, however, that within an environment that accommodates play, it is relevant for learners to develop a sense of metacognitive reflection on their actions and activities. In other words, not all play includes learning, though it is our preference that all learning includes play.

Learning is more than the accumulation of data, especially in a society where the Internet and online reference and troubleshooting guides are at everyone's fingertips. In community there are no artificial barriers (e.g., pay walls) to learning. This perspective has empirical support from the field of neuroscience, which shows that the brain is changed more so through active experimentation, rather than by a teacher-centered pedagogy.

Playful learning may be differentiated from "edutainment". Edutainment activities typically blend entertainment and education. At least one complication with edutainment includes the way that creators of edutainment products tend to think about learning and education. Too often, they view education as a bitter medicine that needs the sugar-coating of entertainment to become palatable. Further, edutainment activities are often not complimented with metacognitive reflection. In an edutainment environment, entertainment is often provided as a reward for suffering through "education" (Read: extrinsic motivation).

James P. Carse (2013) observed in Finite and Infinite Games,

> *"It is an invariable principle of all play … that whoever plays, plays freely. Whoever must play, cannot play."*

In other words, if someone is forced to do something, by definition, it ceases to be play; therein, one might ask themselves, Do you have to get your playing done now, so that you do not lose your chance?

When you seek to explore and to answer questions freely, of your own volition, and not because you are obligated to, then we say you are "curious". But curiosity does not immediately imply you are going to play. Play involves something else — play involves willful action, usually a willful action of touching or changing something — manipulating something, you might say. So, one possible definition of play would be: Play is manipulation that indulges curiosity.

3.12.1 The concept of "entertainment"

The concept of entertainment relates closely to play, because play is often mis-categorized (by authorities), as entertainment.

Entertainment has the following simultaneous meanings:

1. **To entertain** a guest means to bring him/her into your house. To get together with others, relax together with others, and share together with others is a form of entertainment of others. This is a form of play.
2. **To entertain** a thought means to bring it into your mind. To have and/or be given an idea, and then critically integrate it into one's developing/-ed model of the world (the real-world). This is a form of play.
3. **To be entertained** means to be brought into something external (e.g., television programming). To be entertained means to be removed from yourself and the world, and placed in a fantasy, temporarily. When television and/or media creators

do this successfully it is applaud it as "entertaining". Yet, craving to only be entertained points to the impoverishment of complete fulfillment in a society. Without excess, being entertained can be playful; however, with excess, being entertained can be a sign of a socially isolating (and hurtful) societal structure.

3.13 Experimental learning

Aristotle once said, "For the things we have to learn before we can do them, we learn by doing them." Experiential learning is learning through reflection upon doing, which is often contrasted with rote (or didactic) learning. Experiential learning is related to, but not synonymous with, experiential education, action learning, adventure learning, free choice learning, cooperative learning, and service learning. While there are relationships and connections between all these methods of learning, they all have slightly different meanings.

Experiential learning focuses on the learning process for the individual (unlike experiential education in an institutional setting, which focuses on the transactive process between teacher and learner). An example of experiential learning is going out in nature and learning through observation and interaction with the things in nature, as opposed to reading about animals and plants from a book. Through experience we may experiment and discover knowledge firsthand, instead of hearing or reading about others' experiences.

Experiential learning requires no teacher and relates solely to the individuals process of direct understanding and integrating an experience. According to David Kolb, an American educational theorist, knowledge is continuously gained through both personal and environmental experiences. He states that in order to gain genuine knowledge from an experience, certain abilities are required:

1. The learner must be willing to be actively involved in the experience;
2. The learner must be able to reflect on the experience;
3. The learner must possess and use analytical skills to conceptualize the experience; and
4. The learner must possess decision making and problem-solving skills in order to use the new ideas gained from the experience.

Experiential learning can be a highly effective learning method. It engages the learner at a more personal level by addressing the experiential needs, wants and preferences of the individual under the condition of experience. Experiential learning requires qualities such as self-initiative and self-assessing. For experiential learning to be truly effective, it should employ the whole learning lifecycle, from goal setting, to experimenting and observing, to reviewing, and also, action planning.

As stated by the ancient Chinese philosopher, Confucius, "tell me and I will forget, show me and I may remember, involve me and I will understand."

3.14 Problem-based learning

A.k.a., Project-based learning.

Problem-based Learning is a method of learning that stresses problem-solving activities and the arrival at solutions as a means to develop and apply knowledge. The learner is initially confronted with (or inquires into) an interesting and relevant problem that requires a solution. The problem itself drives the activities and learning tasks. Instead of proceeding from the abstract to the concrete via a more traditional educational strategy, learners experience for themselves the process of arriving at a solution to the problem as they identify requirements and test their engineered solutions. Problem-based learning can be a solitary endeavour, but it is often done within a collaborative [team] environment.

Learners often select problems that exist within their own lives, as the content to which they apply the problem-solving methods. Thus, they learn while improving the total society around them. Here, learners make meaningful connections between themselves and the community. Learners build upon prior knowledge and skills while they work to solve authentic, relevant issues facing themselves and the society of which they are a part.

The individual (or group) formulates an understanding, an analysis of the problem and key questions which have to be answered in order to "solve" it. They collect data and analyze it for relevancy prior to synthesis and the arrival (or calculation) of a tentative solution [and not an opinion]. They then work to articulate the solution so that it may be tested to see whether it solves the problem. A solution might then be disseminated to the wider community. Depending upon the context of the problem, the learner(s) may apply the solution in real-time and assess/evaluate its results.

The learner is the primary agent of his/her learning in a problem-based environment with possible guidance and support from a facilitator, or even, the community as a whole.

3.15 Game-based learning

Games involve problem-solving and one is hard pressed to come up with a game that does not. Any game with a goal effectively has presented you with a problem to solve. A game is a problem-solving activity, approached with a playful attitude.

Games are also a form of play and have the innate capability of inducing a state of flow in those participating in them where skill and challenge match one another and learners become so focused that they experience a loss of time perception. It is often during this experience of

flow that gamers rapidly develop and evolve those skills which they are applying. Although a game is something you "play".

3.16 Case-based reasoning

Case-based reasoning (CBR), broadly construed, is the process of solving new problems based on the solutions of similar past problems. An auto mechanic who fixes an engine by recalling another car that exhibited similar symptoms is using case-based reasoning. Under case-based reasoning, an individual works through a significant number of cases in order to learn how to respond effectively to various situations and future cases.

3.17 Simulation-based learning

Simulation-based learning (SBL) is comprised of a computer-based learning environment that simulates in an interactive and dynamic manner both abstract concepts and complex processes. Simulation-based learning has emerged as a model implementation of interactive, real-time, photorealistic visualizations for the presentation of and interaction with information. Simulation itself is a technique for practice and learning that can be applied to many different disciplines. It is a technique to facilitate the experience of elements of the real natural world in an immersive manner that would be impossible, difficult, or dangerous to experience otherwise. Virtual immersion is intended to replicate substantial aspects of the real world in an interactive fashion. With simulation-based learning and immersive hardware, learning experiences become increasingly like real world physical experience.

Simulation-based learning environments are typically highly interactive and permit learners to change input variables, manipulate visual objects and perspectives, and view the results of changes in parameters in real-time. Simulations are generally aimed at establishing an active learner environment.

Today, interactive 3D / dynamic perspective technology provides a highly interactive and spatial environment for simulation-based learning. One example of this is a simulation that illustrates the contraction of the bicep muscle in a manner that permits the learner to both visualize and experiment with influential variables in the process in real-time. A flight simulator is another example.

The following are some characteristics of the applied technology of simulation-based learning:

1. Simulated learning environments provide learners with as much reality as necessary and technically possible to give them the "hands-on" experience they need to learn real skills. Simulation-based training techniques, tools, and strategies can be applied in designing structured learning experiences, as well as used as a measurement tool linked to targeted learning objectives.
2. Simulated environments are scalable. Because, it is a simulation.
3. Simulated environments are flexible. Because, simulated environments are a digital recreation of the material [technology] that they represent, they can be technically re-configured in a large number combinations. In early 21st century society, an instructor might have to literally break something on a machine so the student could diagnose the problem and then fix it. And, to manufacture and configure complex technical machines for many learners for one simple exercise may be inefficient when simulation technology is present.
4. Simulated environments are portable. With the advent of the internet the ability to provide hands-on experience at a distance is now possible.
5. Simulated environments are a safe option when working with the real thing provides unnecessary risk. Simulation solutions are a safe and responsible way to train. Simulation-based learning helps to mitigate errors and maintain a culture of safety. With a simulator, dangerous and sensitive tasks may be trained for in a safe and flexible manner.
6. Simulated environments allow learning and re-learning as often as required to correct mistakes, permitting the learner to perfect steps and fine-tune skills. Human performance is strongly influenced by the ongoing situational context (i.e., the interaction between the task, the environment, and behavior), and simulators virtually facilitate the maintenance of a realistic context.
7. Simulated environments are designed for learning. Learning scenarios can be reset and practiced over and over again. Technical processes can be artificially slowed down to demonstrate difficult concepts or time consuming processes can be sped up to not waste time waiting for the process to be completed.
8. Simulated environments are updatable. When you consider the cost of technology and the rapid rate of technical obsolescence, it is obvious that digital environments are uniquely more easily updatable, and therefore, sustainable, than their physical counterparts (i.e., material duplicates for a great number of learners).

The features of a simulation that best facilitate learning include, but are not limited to:

1. The ability to provide feedback.
2. Repetitive practice.

3. Information system integration.
4. The ability to range (i.e., set, modify, and control) the difficulty level.
5. Engagement and enjoyment.

The benefits of simulation-based learning include, but are not limited to, the following:

1. Deliberate practice with feedback.
2. Exposure to uncommon events.
3. Reproducibility.
4. Opportunity for assessment.
5. The absence of risks.
6. Parameter modification.

Simulation Based Training is ideal when:

1. A piece of equipment is hidden or inaccessible to the learner.
2. An object is dangerous or difficult to manipulate in reality.
3. An object is too small and needs to be shown in great detail.
4. A process must be visualized [with spatial information] to be effectively understood.
5. When the technology is available, and the learning strategy is conducive.

3.17.1 Simulation games

Simulation games are a practice associated with both interactive 3D (i3D) and simulation-based learning (SBL). Simulation games used for learning (i.e. "serious simulation games") engage learners as active participants in an immersive gaming environment. Designers must realize that it is not a necessity for simulations to have explicit goals, and many simulation games are open-ended in that they contain a flexible virtual environment where players define their own goals. It is also important for learning designers to understand that the primary role of a simulation is for it to be a highly realistic representation of some chosen reality; however, this is not the function of games, which out of necessity use restrictions and challenges to create and maintain playability.

3.17.2 Game design considerations

It is not sensible to design a game that baits learners into doing things while disregarding their movement toward greater skill acquisition. If badges and rewards aren't actually built on a basis of real learning, real accomplishment and real skills development, then the rewards will wear off and the badges will wear away. We will be left with a sense of loss for what we could have accomplished together, instead of set in opposition to one another.

Well-designed games often have the following elements in a particular balance for a particular learner or group of learners:

1. Objective – the goal.
2. Outcomes – what do I win, what if I do it right, what happens.
3. The activity itself, what is the activity.
4. Player profile – who is this person, what drives them (psychological or personality profile). The things in the middle are the skill cycle, the things that are done repetitively.
5. Actions – what can you do.
6. Black box – The formulaic arrival at an alignment off/on (by degree) of the "optimal" or "correct" decision/action. In concern to a game, it is the coding.
7. Feedback – the thing that gives you points or lets you move ahead or gives you more ingredients, or whatever the case may be.
8. Skills, what skills are you learning – spatial reasoning, hand-eye coordination, cognition, memory.
9. The resources that you have to apply, the inputs. Limiting resources in this context creates a drive for efficiency.
10. Resistance– uncertainty is key to a game experience. You are on the hairy edge, will you win, spontaneity.

What are some key qualities (or elements) of games? Games are entered willfully; games have goals; games have conflict; games have rules; games can be won and lost; games are interactive; games have challenges; games can create their own internal value; games engage players; games are closed, formal systems.

3.18 Effective practice and deep practice

> **QUESTION:** *How do you know you are passionate about something until experience it (i.e., "try it")? It is after an initial exposure or experience that the passion may develop.*

Among a community of learners we desire to know more greatly how high-level performance is developed. Certainly, there are ways of practicing that are more effective and less effective at achieving goals. Research shows that the way individuals practice skills, and the amount of practice they do, largely explains differences between top performers and others (given that there are a wide-variety of other factors that influence how rapidly and precisely a task is capable of being performed at a high level). The concepts of 'deep practice' and 'deliberate practice' are two similar ways of describing the process of 'effective practice' (i.e., practicing effectively so as to develop efficiently toward high-level performance). Generally, all forms of effective practice resemble each other and have just been given different names by different market entities promoting what is basically

'effective practice'. And, the approach that leads to the application of effective practice principles might be more broadly labelled as a "progress-focused"approach or "error-focused" approach. In other words, in effective practice an individual practices, determines errors, and then corrects for those errors as they progress [in improving their performance of a task].

Deliberate practice refers to effortful activity designed to improve individually targeted performance. It consists of the following four elements:

1. It is designed specifically to improve performance.
2. It is repeated frequently.
3. Feedback on results is continuously available.
4. It is highly demanding mentally, and not necessarily particularly enjoyable because it means you are focusing on improving areas in your performance that are not satisfactory (i.e., it is challenging). Thus, it "stretches" (challenges) you.

No one needs talent; great performance is available to everyone [through precision of effort qualified by technical mechanics]. Talents is, in a sense, overrated. People carry around beliefs and myths about what great performance is. There are plenty who work extremely hard and are not great performers and vice versa. Deliberate practice is a method for developing better performance. Deliberate practice is:

1. An activity designed expressly for you at this moment of development.
2. The activity will change as you get better.
3. The activity pushes you slightly beyond, just beyond, your current abilities. Not too far so you become confused, and not too little so you don't grow. And, not too far so you don't injure yourself.
4. The activity is repeated at high volume, high repetition, in flow, etc.
5. The activity includes [continuous] feedback, [constant] feedback that is telling you how you are doing, so that you can navigate and course correct.

Here, passion provides intense mental focus = getting better faster. Passion drives deliberate practice in time. Daniel Coyle (2009) describes a way of effective practice in the book *The Talent Code*, which he calls 'deep practice'. Deep practice is a way of attentive practicing which closely resembles deliberate practice. Deep practice has three principle rules; and, the first rule identifies the three steps to the deep practice system:

3.18.1 Rule 1: Perceive system and data

If data comes in packets and systems are wholes, then the first steps to deep practice are:

1. View the whole system (i.e., absorb the whole thing; see the big picture). Take the task as a whole – one big chunk – a mega circuit.
2. Break up the system/task into the smallest possible chunks. Make small fragments/parts. Remember them. Then, link them together into progressively larger groups.
3. Play with time: first slowing the action down and then speeding it up. Slowing down helps with attending more closely to errors, creating a higher degree of precision.

3.18.2 Rule 2: Repeat procedures

Repetition (in the context of a task and a degree of intelligence) is invaluable and irreplaceable, with some caveats. First, stay at the edge of your abilities. Also, 3-5 hours of daily practice is generally the human limit. Repetition (performance) has the effect of deepening the likelihood of retention. Hence, it may be better to become proficient, and then move on to other activities, while receiving prompts over time to reassess skills and knowledge, which reinforce the memory/skill.

3.18.3 Rule 3: Learn to feel

To avoid the mistakes, first you have to grow to feel them immediately. "An out-of tune note should bother you ... a lot," states Daniel Coyle (2009). High-level performers often describe their most productive practice with the following descriptive words: attention; connection; build; alert; whole; focus; mistake; repeat; tiring; edge; and awake. The following words were never used as descriptors: effortless; natural; routine; automatic; and, genius. When we struggle, it feels like a struggle. And through struggle, we develop skill that may be applied toward a greater experience of "flow" in our life.

Embedded into the idea of 'deep practice' is the notion of 'ignition'. The term 'ignition' is something of a metaphor for the burst of awakening that leads one to passionately pursue the practice of a task. Here, ignition is seen the process by which individuals start and then maintain the high level of motivation necessary to pursue the deep practice process itself. Forms of ignition include, but are not limited to: primal cues, an event, interest or curiosity, and establishment of a goal. Opportunity and environment also play crucial roles in the ignition process. Coaching is a part of deep practice and it is described in *The Talent Code*.

The authors of The Talent Code found that highly experienced facilitation coaches delivered their [feedback] information to those practicing in a series of short, vivid, high-definition bursts. The directions weren't dictatorial in tone (usually) but were delivered in a way that sounded clinical and urgent, as if they were being emitted by a particularly compelling GPS unit navigating through a maze of city streets: turn left, turn right, go straight, arrival complete. Also, The Talent Code noted that excellent coaches and "teachers" were mostly older in age: all had spent decades, usually several, intensively learning how to coach a particular task (or set of tasks).

Feedback and guidance in the form of facilitative "master" coaching are useful in developing exceptional skill. Think of this as the wise, older sage who can tell the younger learner what he could discover on his own in time, but can't tell himself in the immediate. Coaching is a bit like neurofeedback: it becomes effective (or, more effective) with a faster signal response time. The development of great skill often requires the assistance of those who have the ability to facilitate skill in others.

The basic observation that the repetition of a task improves performance is not coincidence. The simple fact is that practice is a prerequisite for high-level performance of any type. This is because practice builds the neural superstructure that is the most essential part of a skill. In concern to coaching, if a strong neural superstructure is the first virtue of a great coach, then perceptiveness is the second virtue, which also takes practice to develop.

The neuro-scientific truth about skilled performance and information retention is that learners develop "mastery level" proficiency on only those activities they practice. Fundamentally, to improve ourselves and continue our growth process, knowledge must be applied and skills must be practiced.

At the level of neuroscience, excellence in thinking, problem-solving, and skills are at least partly based on the laying down of a dielectric material known as 'myelin' around the axon of a neuron. Myelin is the "white matter" in our brains, the dry mass of which is composed significantly of lipids. Myelin is the insulation that wraps around the nerve fibers in our brains and increases signal strength, speed, and accuracy. Scientists have discovered that there is a direct proportional relationship between "hours of practice" and "volume of white matter". As humans develop their skills they build thicker and thicker myelin around the nerve fibers that make up the neural pathway under use. In effect, the construction of myelin makes (or allows) the individual to perform a skill with greater accuracy and efficiency, leading to mastery. Building myelin through practice is a temporal variable (i.e., it takes time). One of the quickest and most efficient ways to build myelin is to place ourselves in a position to fail, then fix our mistakes and fail better.

When we practice anything — be it the flute, our tennis swing, or singing in the shower — we create a circuit of nerves in our brain (i.e., new neural pathways) and the more we practice, the more free-floating myelin wraps itself around that neural circuit. The more a circuit is fired, the more myelin optimizes the circuit. Heavily myelinated nerves are estimated to be 100 times faster than lightly myelinated nerves. The brain functions at a faster than average speed for highly learned tasks. And, highly practiced nerve systems are several thousand times more efficient. It is, however, also important to recognize that the opposite is also true. If we don't "exercise" a neural pathway in our brains, that pathway's signal will weaken.

The more myelin the circuit attracts, the stronger and faster its signal strength becomes. It turns out that myelin, not the nerves, is what builds the speed, precision and timing that creates super performers. The difference between a high performer, such as Tiger Woods, and most other people, is that Tiger Woods has built a "broadband" around his golf swing; and, most everyone else has chicken wire around theirs.

Fundamentally, neurons that fire together, wire together. Additionally, those behaviors and thoughts that are repeated become habit[s], they become subconscious and almost autonomic. Note here that a habit is doing something regularly with little to no conscious thought. It is different than routine, which is doing something regularly with conscious thought to the need do the routine (task).

If the ability to focus attention for enough time to complete a task is a learned skill, then it's worth considering how the constant interruptions typical in today's digital age may be fostering an inability to concentrate.

The right form of practice makes the master. Rote practice is not effective practice. Effective practice is a slow and uncomfortable interaction with something that is just out of your grasp and just beyond your capabilities, and this is what leads best to well-developed myelin. To practice deeply is to live deliberately in a space that is uncomfortable, but with interest and the sense that progress is not only possible, but absolute. Deep practice is built on a paradox: struggling in certain targeted ways – operating at the edges of your ability, where you make mistakes, which make you smarter and furthers your capacity [by restructuring your bodies systems]. Deep practice positions individuals in a place of self-leverage where they can capture failure and turn it into skill. Here, it is important to choose a goal just beyond your present abilities, to target the struggle, which may in fact lead into a state of flow. Thrashing blindly doesn't help; reaching does.

Every human movement, thought or feeling is a precisely timed electrical signal traveling through a chain of neurons. The more we develop a neural circuit, the less aware we become of using it (often associated with the sensation of flow). In other words, through repetition the process becomes "automatic" (i.e. without perceptible transition). When many of these automatic process are happening concurrently, driving awareness into the "now", then we are in the state of "flow". The best way to build a good circuit is to fire it, attend to mistakes, then fire it again, over and over – tension is a necessary biological requirement.

Optimally, individuals would only pursue deep practice in skills they truly enjoy, and certainly under an entirely voluntary and non-aggressive environment. If a person is going to invest the amount of time, passion and concentrated, difficult practice that produces high-level skill, that person will have to be deeply interested and motivated. This is quite simply, the way things factually are.

3.19 Immersive virtual technologies

Immersive and virtual technologies allow for the creation of flexible, realistic and authentic learning environments. The potential learning uses for immersion and visualization technologies are virtually endless.

The advent of immersive display and virtualization technologies means that highly-realistic and simulated creations of real-world environments are entirely possible, and have been so for several years. Of particular importance are immersive 3D stereo technologies in their ability to convey a spatial experience, a sense of distance, to a user. In virtual worlds and environments, learners personally experience the concrete realities that words and symbols describe. Through the use of intuitive, interactive virtual environments, learners practice skill-based activities for as long and as often as needed in an effort to develop mastery.

Certain applications of these technologies may not produce statistically significant differences in subject matter expertise over non-technology environments. However, due to the ability to alter environmental variables, the technological environment may be more efficient, safer, and also, more effective at capturing the interest and imagination of a learner.

Immersive displays (a.k.a., immersive environments or immersive visualization) physically surround the viewer with a panorama of imagery, typically produced by video projection. These display solutions generally allow a user to walk into the immersive environment, although there are exceptions (e.g., head-mounted displays). In an immersive environment, images are often, though not always, displayed in stereoscopic 3D. Examples of immersive displays include but are not limited to CAVEs and DOMES, head mounted displays (HMDs), panoramic projection screens and holo-immersive displays.

When presented in stereoscopic 3D mode, immersive displays are sometimes referred to as spatially immersive displays (or environments; SIDs). Stereoscopic 3D conveys spatial information to the user, and thus, the environments are known as spatially immersive. Please note that it is the stereoscopic 3D aspect of the visual display that conveys spatial information and that stereoscopic 3D presented on non-immersive displays (e.g., a desktop monitors) also conveys a degree of spatial information.

3.19.1 Interactive 3D (i3D)

Interactive three-dimensional content allows for the realistic visualization of objects, processes, and/or complex concepts within a virtualized and immersive environment. The degree of immersion depends on the type of technology used. Stereo 3D technologies are more immersive than 3D content published on a 2D surface (e.g., watching an animated film on a LCD monitor). Interactive 3D technologies are potentially one of the most effective learning and communication tools presently available because of their ability to photo-realistically replicate the physical world. Due to the immersive graphical nature of i3D technologies they have been found to support effective knowledge transfer; regardless of, to a certain extent, educational and cultural limitations that would have otherwise inhibited the effectiveness of learning. Further, because i3D replicates physical reality, it is a more natural learning medium than other more widely implemented mediums such as textbook reading, lecturing, and slide presentations.

One of the most powerful aspects of i3D is its ability to blend various media forms including audio, video, graphics, and animation into a single delivery method, which may be analyzed, evaluated, updated, reused, and shared. A second powerful aspect of i3D is its ability to be delivered in a large variety of presentation formats. Although i3D may be displayed on standard PC system with a standard flat screen monitors, it may also be displayed on mobile devices, head mounted displays, through transparent holographic displays, via stereoscopic technology, and in immersion rooms. Integrating i3D with simulation-based learning can establish learning environments which resonate with today's modern learners.

Some of the benefits of visualization include:

1. The safe simulation of real-word activities.
2. Visualize all proposed changes to existing structures in 3D prior to development. Create walk-throughs of the intended designs.
3. Demonstrate a tool's functionality, quality, effectiveness, and efficiency prior to manufacturing.
4. Model, train, and develop physical-world procedures.
5. Content may be published to a wide array of display platforms and the Internet.
6. Visualizing data and conducting research within a stereo 3D immersive (virtual reality) environment.
7. Virtualize all your design elements simultaneously to accelerate the design process.
8. Ability to augment reality.
9. Convey spatial information about objects, scenes, and other learning content.
10. Add visual depth and digital immersion to your peak state and meditative experiences.

3.19.2 Virtual reality

Virtual reality (VR; and virtual environments) refers to a three-dimensional and interactive computer-simulated environment that creates a sense of physical presence for the user. There are multiple publishing platforms for virtual reality-based solutions. VR provides a less symbolic interaction with the environment. Any description of an experience or action is usually transmitted through symbols, conventions and

formalisms, meaning that the traditional learning of a concept requires previous knowledge of symbology. VR also enables first person experiences, which are natural, unreflected and personal, generating direct, subjective and personal knowledge.

Physical and perceptual interactions in first person are possible with VR. Because VR can simulate the real world users may learn while placed in the context where they should apply that learning. This enables two types of experiences of knowledge not available in the real world, which have a high potential in education: scale and transduction. Scale is the process of distorting the relative dimensions of objects and the virtual world to give access to new perspectives. Transduction is the conversion of usually imperceptible data into information that is perceptible to human senses.

There are some valid concerns with virtual reality. Virtualization can create an environment that allows learners the opportunity to turn toward the virtual world as a means of escape. However, when individual's basic needs are met and they are driven in some way toward a purpose, they are happy in their pursuits and will be less likely to turn to VR as a means of escape; for they have nothing to escape from and only a path of growth to move down.

New technologies can lead to a disturbance in an individual's learning process. VR can turn the interests of the learner toward the medium itself (i.e., the VR technology), and away from the content to be learned. While this is true in particular cases, it may be more true that users of new virtual reality systems experience a bit of a "wow effect" and get caught up in the environment, no longer maintaining an awareness of what they had intended to learn. However, this peak interest and fascination in the technology fades after continued use of it, leading to the experience eventually becoming the tool it was intended to be for the user.

Also, learners acting in a self-directed environment are more likely to maintain interest in the content, regardless of a peaking interest in the technology.

Technology can lead to physiological complications when not designed ergonomically or in bio-physiological alignment of its user. Every technology in our community exists in a continuous evaluation cycle for its short and long-term effects on users and the community.

3.19.3 Augmented reality

Augmented reality (AR) is any environment that combines both virtual reality and real-world elements. More precisely, it is a type of virtual reality that augments a direct or indirect view of the physical real-world environment with an overlay of virtual, computer-generated input, such as sound, graphics, or text. Augmented reality differs from pure virtual reality in that while virtual reality often aims to replace a person's perception of the world with an artificial 3D world, augmented reality enhances a person's perception of his or her physical surroundings. AR technology can even be used to annotate physical reality. Augmented reality can be implemented over tablets, smart phones, HMDs, and even pcs with a camera attachment.

Augmented reality head-mounted display (AR HMD) devices present an alternative to CAVEs. Whereas a CAVE can only have one individual using it at any one time, AR HMD allows for multiple people to see 3D objects in midspace at the same time.

AR requires the use of physical markers or real-world shapes that allow the correct positioning of objects and text in 3D space. There are degrees of interactivity built into AR systems. Some AR marker systems allow a user "touch areas" on the marker, thus causing the AR 3D model to animate in some pre-defined manner. Some AR marker systems allow markers to "interact" with one another to change or animate the 3D model. AR systems may also be combined with voice recognition software. For example, a marker may be displaying a 3D model of a wind farm. When the user blows into a microphone the voice recognition software detects the noise and in return animates the movement of the blades on the wind turbine and makes a whirling noise. It is also important to point out that augmented reality is moving toward markerless AR using real-word shapes.

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