

3. To perceive and appreciate the beauty of the natural world and creative expressions.
4. To work together to ensure that society satisfactorily and continuously sustains the life-requirements of everyone.

NOTE: *The lack of awareness of loss brought about by a loss of connection with fulfillment may not always be realized [even though suffering is being expressed through consciousness]. For example, a human brain deprived of oxygen for several relative minutes will suffer damage to its cognitive capacities. These capacities may be damaged or limited to such an extent that the person in question may not realize or be able to articulate the full range of what s/he has lost. The loss, however, can be measured objectively.*

Fundamentally, people living in a state of disconnection and suffering create and sustain societal constructions that limit potential and inhibit self-development, rather than build fulfilling and restorative living systems. Life-deprecating services (and goods) include, for example, the production (and sale) of addictive and life-disabling (“junk” and “entertainment”) drinks and foods, and further, the injection of toxins and carcinogens into consumables that afflict countless people with disease and a lowered life-potential. Some of the elements of these products are unresearched or undisclosed.

NOTE: *Outside of community, the fulfillment of any need can be hijacked and used as a mechanism of social control.*

Like the physical-organic requirements of biological life, the social requirements of human life are defined by the objectivity of the harms that ensue for those who are systematically deprived of them. The specific forms of harm caused by deprivation of the different social (socio-cultural) life-requirements find their common basis in the instrumentalization that anyone systematically deprived of them suffers.

7.12.1 Human needs and harm avoidance

Reasons for needing are essentially common, and involve a shared understanding of what sorts of systems (and decisions) actually do avoid harm.

The universality of need rests upon the experience that if needs are not satisfied then serious harm of some objective kind will result. Serious harm is the significantly impaired pursuit of goals which are deemed to be of value by individuals. Serious harm is ‘fundamental disablement in the pursuit of one’s vision of the good, whatever that vision is’. It is not the same as subjective feelings like anxiety or unhappiness.

It follows that a current population has obligations to protect future generations against serious harm, if such harms can be reasonably predicted.

If future generations are to exist, humanity has a requirement to ensure that the global life support system is not so damaged such that it threatens the basic needs or universal satisfier characteristics of future humans.

The idea of universal human needs provides two supporting arguments:

1. Humans have requirements (“obligations”) to meet the needs of their children and grandchildren within the overlapping generational nature of society.
2. An individual’s well-being will be severely compromised if s/he lives in a world where their other individuals (of the global population) suffer profound (or even just ameliorable) harm.

7.12.1.1 Harm as stemming from some degree of impaired social participation

Another way of describing such harm is in terms of impaired social participation. Whatever our private and public goals, they must always be achieved on the basis of successful social interaction, past, present or future, with others. This definition explicitly acknowledges the social character of human action. Whatever the time, place and cultural group we grow up and live in, we act in it to some extent. Following Braybrooke (1987) we relate needs to what is necessary for social functioning. It follows that participation in some form of life without serious arbitrary limitations is a most basic human interest. Basic needs are then the universalizable preconditions for non-impaired participation in any mutually accessible form of life.

7.12.2 Competition preference function and irrational behavior

The combination of irrational [behaving] humans with a [societal] protocol preference function orienting individuals, or groups of individuals, toward competition (e.g., the market-State) is a combination of unknown human decisioning (irrationality) and unknown preferences (the market solution). Observing the behavior of combining unknown human decisioning and unknown human preferences, then explaining the behavior in terms of many different combinations of non-rational decisioning, plus preferences is common in early 21st century society; and, is likely to miss, the real-world presence of fundamental needs not being met, the real life-grounded structure). There is a “fact of the matter” (i.e., there are facts) in real-world decisioning. Irrational [behaving] humans and a societal protocol based with a preference function as axiomatic is unlikely to use facts at the organizational level to sustain global [access] fulfillment (instead, it may use facts at the technical engineering level).

7.13 'Human need' and social justice

NOTE: *Fairness is not the same as sameness. In other words, fairness in coordinating opportunities for socio-economic access is not the same as either an authority treating subjects equally or all individuals having the same interests and aspirations in life.*

Inherently, the concept of human needs raises questions of human equity and justice. A societal system that encodes the value of justice [in part] as equity of fulfillment [by common heritage resources and contributed services] requires the following essential equity-based principles applied to absolute human needs:

1. No person's non-substitutable need may be sacrificed to the desires or lesser needs of any group of other people.
2. All humans have [sufficiently] equal access to all needed satisfiers.

A goal of fulfilling everyone's life needs is to enable everyone to fully develop, fully express, and fully enjoy their lives and capacities, together; thus, reducing the worst possible misery to its least possible occurrence. Take note, however, that this goal presupposes that the projects people engage in during their lives are consistent with the health of the natural field of life-support and other people's projects through common decisioning.

At the social level, the idea of self-significance becomes an important conceptual encoding:

1. Selfish: I only value my own needs.
2. Selfless: I only value others' needs.
3. Self-full: I value my own needs with others' needs (equally at the socially coordinated level).

7.14 'Human need' integrated into a materially significant social system

NOTE: *When needs go unidentified, they are easy to neglect.*

If all individual humans have a set of common needs (some of which are material), then needs become relevant at the socially significant level, and thus, must be accounted for at the societal level. At the societal level, the idea of 'human need' has material-social significance:

1. In science (human combined body of knowledge), a 'need' primarily represents a desire to know and understand more, to inquire into a material environment.
2. In engineering (human combined body of

processes), a 'need' primarily represents a requirement to resolve a socio-technical problem.

In a unified [societal] information system, the term 'need' is recognized as having applications at multiple levels of scale:

1. In the context of humanity, the term '**need**' is synonymous with: human need, life-need, life requirement (life-requirement), and human requirement, human interest.
2. In the context of humanity, the **environmental objects** (with geometric shape) that complete the need are called 'resources'. 'Resources' (a.k.a., need satisfiers) are that which exist and have the potential of completing the need/requirement. Synonymously, the idea of 'life-requirement satisfiers' (a.k.a., need satisfiers) is that there exist objects and conditions of relationship between objects that [f]actually satisfy the requirements of a given life.
3. In the context of humanity, the concept **completing a requirement as expected** is synonymous with: met requirements, fulfilled requirements, and satisfied requirements.
4. In the context of humanity, the concept **not completing a requirement as expected** is synonymous with: unmet requirements, unfulfilled requirements, and deprived requirements.

For a system to orient strategically, it must identify that it has a spectrum of needs [through to requirements] for expressing two capabilities:

1. Living in the present (sustainability), and
2. Planning for the future (attainability).

Contribution through participation on an InterSystem Team represents a higher level of socio-technical participation, where individuals are able to contextualise their own form of life, to criticise, and most importantly, to do something to transform it.

NOTE: *Individuals [in society] have a need to understand the societal system in which they live; because, every society is designed, and before 'design', there is 'need' (Read: the need for a designed solution).*

7.15 In service of 'human needs'

A.k.a., In service for humanity.

Because individual's needs necessitate an outside input for fulfillment, each individual needs the "means" to do be fulfilled. Together, humanity can organize a common "means", a unified societal information system with a materialized habitat service system, and in so doing, free

everyone for the experience of their higher potentials.

INSIGHT: *The way forward is having, sharing, and using knowledge about what is required to survive and thrive on the planet.*

The fulfillment of need through service involves (the 'service' syntax):

1. *Identification* of that service without which the life capacity of anyone is reduced.
2. *Determination* of the degree of the service's necessity and extent of its deprivation.
3. *Operation* of the service system when the means are available to provide it.

Fulfillment services (or goods):

1. Have ["intrinsic"] value so far as they are objectively felt by human beings.
2. Have ["instrumental" or "ultimate"] value so far as without them human life is reduced or destroyed by degree.

At a societal level, the fulfillment service spread identifies systematic, structural:

1. Injustice to the measured degree service fulfillment is deprived.
2. Justice to the measured degree service fulfillment is protected and provisioned through time.

The basic syntax of [habitat need fulfillment] service is:

1. The structuring of access (or activity or production),
2. for all individuals (in the population),
3. to life services (resources and goods),
4. whose generic criterion is: that without which human life capacity is always reduced.

7.15.1 Needed habitat services

NOTE: *In the fulfillment continuum of human needs, services are the satisfiers.*

It is upon the foundation of need that the habitat service sub-system categories are based (as where and when universal human fulfillment emerges). Every discipline/ system that may be regarded as of common interest (i.e., commonly valuable) follows into an economic prioritization matrix for fulfilling all human demand, which includes firstly, human need. Of greatest priority are those sub-systems of the life support system, including architecture, medical, water, and energy. The technical system includes communications and transportation; and the facility system includes: art, sport, and scientific exploration.

The encoding of these concepts into a society's information system opens a calculation space

where further crucial issues may be addressed; specifically, surrounding initiation and maintenance of cities (our integrated service systems), implicit and explicit motivational processes, human personality development, and optimal well-being.

A population can fulfill [common] human needs through a [common] service system that cycles [common] human resources. That service system could be coordinated into continuous operation by teams working through the design and implementation of the societal system specification. From this cooperation come integrated service systems, of which the habitat service systems (i.e., cities) are one type of integrated system.

There are services and material products required for the flourishing fulfillment of all human. These services and material products can be designed, integrated, and used as either a service itself, or as an object of a service. The collection of things [to be] generated from work (including physical and organizational structures) are defined in a 'specification' as [habitat service] requirements.

7.16 'Human need' services

INSIGHT: *There are times when wants do not contradict desires, and those are needs. It is when that we see that all need it is service it is that we see more clearly.*

In order for a need to be completed, a service must have existed. Every service is an interaction between the provider and the recipient effectuated through four media:

1. The environment (the given information).
2. The organizational framework (the structure).
3. The needs (the requirements).
4. The method (the approach/strategy).

The classification of human needs, despite any deficiencies and incompleteness, establishes a falsifiable (capable of being proven wrong) model for classifying human [fulfillment] services.

Six key elements common to all human [need] services:

1. The provider of the service ("Employer").
 - A. Unified societal system.
 - B. Habitat service system.
 - C. InterSystem team.
2. The recipient of the service ("Customer").
 - A. The community of users.
 - B. The InterSystem team.
3. The environment of the service ("Externalities").
 - A. The solar-planetary ecosystem.
4. The organization of the service ("Market").

- A. The habitat service system.
- 5. The need for the service ("Human").
 - A. The human requirement.
- 6. The method ("Business-State").
 - A. The unified and open system.

NOTE: Omit the word "basic", stating that all human services share a common feature: they are all designed to meet human needs

Defining "human services" as responses to human needs rather than responses to needs indicates that the "human" attribute of "human needs" is significant. These are the necessary conditions required to allow "decent" bodily-human existence, or "decent" socially-human existence.

Human services to provide a support structure for humans to flourish toward their highest potential(s). Therein, human services are also those services designed or available to help people who are having difficulty with life and its stress.

The optimized, efficient fulfillment of need requires co-operation - systems of mutual assistance and transfer; global coordination, co-operation and complementation; shared resources and access.

7.17 'Human need' structural sub-conception

From the perspective of human-embodied consciousness, 'need' is sub-composed of the states of:

1. **An internal being (inner being, feeling an aliveness):**
 - A. An inner [consciously] **motivating feeling-state (a.k.a., inner states)**. Feeling [shape] needs exist due to the consciousness that is embodied in a material [density].
 1. *For example, the physiological needs of safety, belongingness, love, esteem, contribution, and self-actualization.*
2. **A material environment (outer being, doing an activity):**
 - A. A set of **relational belonging needs (a.k.a., material relationships)** to which embodiments become actively related (a.k.a., conditional needs). Material [shape] needs exist due to the physics of the [material] reality in which the consciousness is embodied.
 1. *For example, the human requirement for hydration periodically given the human individual.*
3. **A conceptual environment (conceiving, having a method):**
 - A. A set of **instrumental [control] needs (a.k.a., constitutive needs or 'values')**, which exist due to an ability or method. Conceiving [shape] needs

exist due to the information-based nature (structure) of conscious awareness (and thus, society as a whole).

1. *For example, the human requirement to optimize the technical hydration system given the technology resources state available now.*

7.18 The fundamental 'human need' for measurement

In order to orient (in society, toward the fulfillment of needs) there must exist the ability for measurement (measurability) of an environment:

Formatting of list:

1. *The pure category (idea, object, interface).*
 - A. *The market overlay upon the pure idea/category.*

The human need measurement list:

1. **Service (goods)** - what is engineered; systematically contributed life services.
 - A. In the market, a service is any priced commodity which may be bad for ecological and human life, or any authority-determined output.
2. **Necessity (need, requirement)** - what is needed by the lives of human individuals.
 - A. In the market, the necessity is the demand of what those with money want to buy from private corporations (the State included).
3. **Resources (supply)** - the commons and ecosystem services.
 - A. In the market, a resource (supply) is any priced commodities, or anything for profit.
4. **Productivity** - optimization of life fulfillment (life-goods, life-potential).
 - A. In the market, productivity is measured by ever more manufacture, transport and/or sale of profitable commodities at lower financial (monetary) costs.

7.19 The testability of a 'human need'

There are, at least, four testable and systematic generalizations of need:

1. **Needs are objective**, because they exist (are true), independent of anyone's subjective perception of them. Existence is testable by embodied sensation.
2. **Needs have unlimited validity**, because there is no exception to them, which is testable by searching for one.
3. **Needs are universalizable**, because a system derives its existence from them.
4. **Needs are the priority** over other types of system

processes.

7.20 The standard linguistic expression of a 'human need'

A [human] 'need' is that without [human] 'life' capacity is reduced (in its efficiency to flourish), and it is only provided [for in 'fulfillment' > 'service'] by [human] 'life' capital (Read: information to material expression).

7.20.1 The relational need formula

A need [as a relationship's presence] may be expressed with the following conceptual formula:

- A need (S), if S is a necessary condition for A to achieve N, and N is either directly an approved priority or is a necessary condition for achievement of the accepted approved priority P.

What is a need?

- A drive or some inner state that initiates a drive.... Here "need" refers to a motivational force instigated by a state of disequilibrium or tension set up in an organism because of a particular lack. Individual organisms have needs, and species have common needs.

All needs are relational, in that they relate a system and its capabilities (capacities and functions) to the system's environment in which those capabilities are expressed. Relational statements generally conform to the structure:

1. Person (P) needs (N) in order to express (E, achieve).
2. Where, P refers to a living organism, E the function that is to be generated, and N is the resource that is required.

This meaning can also be expressed as a conditional: if E is to be functional, then N is required by P. Hence, any reference to a sub-category of needs as "relational needs" does not make sense, because all needs are relational.

All needs are also conditional, in that they relate the expressed and expressible capacities of a system to a set of conditions which must exist. A conditional statement is based upon the logic that for capability/event 'A' to occur, conditions 1,2,...,n must exist (or, P needs N, in order to E). A need always requires at least the occurrence of one external condition. Hence, any reference to a sub-category of needs as "conditional needs" does not make sense, because all needs have one or more conditions that must be met.

7.20.2 The 'human-life need' criterion (n-criterion)

The N-criterion denotes all life needs. Thought experiments (i.e., hypotheticals), as well as scientific findings, demonstrate that there is no vital [human-life] need that does not satisfy the N-criterion, and also, that a claimed need that does not satisfy this criterion is not a [human] life need.

To be a need, a criterion must be met - the need criterion (n-criterion, principled criteria for being a need) is:

- N is a need, if and only if (and to the extent that), deprivation of N (or N's input) always results in a reduction of life capacity (expressible as capability).

There is no life capacity that is not also measurable by this [N-criterion] principle; for example, the need for drinking water measured by the calibrated life capacity loss without it through time.

NOTE: *There is no life capacity (life function to survive and thrive) that is not also measurable by this principle - for example, the need for drinking water measured by the calibrated life capacity loss without it through time, or the need for the external storage of information, calibrated by life capacity lost over time.*

The syntax of [life] need (N) is:

1. N is a need,
2. if and only if,
3. deprivation of N always results in a reduction in a [desired] measurable capacity or condition variable.

7.20.3 'Human need' criterion selection

What is required at the baseline of understanding and prescription is an incontestable and sufficient criterion of [human] life necessity, coherent with others' same necessities. Such a criterion must solve for three problems (Note: these problems are unsolvable in the market-State, but are solvable):

1. How to distinguish needs (system required inputs) from mere wants and habits (optional system inputs)?
2. How to provide a criterion that is consistent with, and works for, all needs?
3. How to provide a criterion that applies across diverse ways of life and individual differences? The criterion must be capable of providing feedback through iterative testing and studied observation of change in the environment.

In order to error check the final set of human needs,

the questions of whether the need set is “too broad?” or “too narrow?” must be asked:

1. Is anything claimed that is not a demonstrable universal need/good by the N-criterion?
2. Or is anything missing from the set or any part of it?

7.20.4 ‘Human need’ criteria

What conditions define any given ‘need’ in particular. In order to distinguish between life-requirements and consumer demands we must ask: if anyone were deprived of the given resource, relationship, practice, or institutional structure, would they suffer harm to any of their human capacities to experience the world through the senses, to feel the range of human emotions, to think and imagine, or act and create in life-valuable ways?

If deprivation causes objective harm in the form of loss of life or vital capacity, such as would ensue if one were deprived of all shelter in a cold climate, then the object, relationship, practice or institutional structure in question is a requirement of organic-social human life. If only subjective feelings of relative deprivation ensue, as in the case of Marx’s man jealous of his neighbour’s house, then no life-requirement is involved, but only a preference, want, or consumer demand with no or negative life-value.

Since human beings have only a finite life-span, they are harmed to the extent that their life-time is structured as a closed routine rather than an open matrix of possibilities for life-valuable activity.

Universal human needs have (at least) six theoretical features that resolve identifying sustainable well-being:

1. **Human needs are objective** - statements about wants are subjective, whereas statements of need are extensional (i.e., their truth depends on ‘the way the world is’ and not ‘the workings of my mind’).
2. **Human needs are plural** - needs cannot be added up and summarized in a single unit of account.
3. **Needs are non-substitutable** - one domain of need satisfaction or objective well-being cannot be traded off against another. More education is of no immediate help to someone who is ill through lack of vitamin C. Thus certain packages of need satisfiers are necessary for the avoidance of harm. This is quite different from consumer preferences in economic theory, where substitutability is the default assumption: given a bundle of two goods it is always possible – by reducing the amount of one fractionally and increasing the amount of the other fractionally – to define a second bundle between which a consumer is ‘indifferent’).
4. **Needs are satiable** - It can be shown that the amount of intermediate needs required to

achieve a given level of need diminishes as their quantity increases, eventually plateauing. Thus, the contribution of calories, dwelling space, even levels of childhood security, to basic needs can be satiated. In the case of the basic needs of health and autonomy, thresholds can be conceived where serious harm is avoided such that acceptable levels of social participation can take place.

5. **Needs are cross-generational** - The consequences of current behavior progressively impose dilemmas of intergenerational fulfillment of human need. The epistemology of reasoning about needs remains extensional, not intentional, and thus avoids the indeterminacy of reasoning about future preferences. Until the genetic make-up of Homo sapiens changes significantly, population successors will need specific amounts of the full range of basic and intermediate needs. As technology and understanding develops the specific biological (or otherwise) constituents of the fulfillment of a category of need may change (i.e., evolution or de-evolution), but that category of need, itself, is unlikely to change. There are a particular set of biological experiences that form necessary inputs for human thriving.

7.21 *Cultural [societal] differences in societal structure*

While basic needs are universal, they are satisfied in countless different ways and through different strategies, which vary across environments, societies, cultures, and times. Whether humans have needs that must be fulfilled to survive and thrive is not a choice, just as whether the sun is at the center of the solar system is not a choice.

What is valuable as a need satisfier (i.e., life-requirement resource) is anything that satisfies (or fulfills) the requirement. The local environmental (cultural) differences between the contents of life-requirement satisfiers (of groups in different geographic locations) do not express fundamental differences of the common human life requirements across cultures.

In some cases satisfiers, as conditions and resources, do not vary, and in other cases they vary enormously. However, the needs served by a satisfier (i.e., fulfilled by a service) can be shared and stable; and thus, it is possible to distinguish levels of generality and stages in causal sequences.

Imagine for a moment someone claiming to have a preference for one specific type of food. Here, context is important. There is desire and motivation because there is a need. That need does not come from the psychology of the organism, although it can be influenced by the psychology of the organism; instead, it comes from an objective requirement of the body for material nutrition.

At any given time there may be a selection of options from which to choose to eat. In nature, flavour is the guide for conscious selection between different (but similar) options. And therein, there is an optimal choice for nutrition given the body's own nutrient requirements and circumstantial conditions, otherwise, there is no need to eat. This innate body understanding of what is optimal to eat at any given time, and when to stop eating, can become impaired by aberrant psycho-social and material conditions (e.g., foods that confuse the body's own ability to tell what it requires as material nutrition).

It is claimed that cultural and individual differences, and beliefs about freedom, make any universal principles of good (fulfillment) and bad (insufficient fulfillment) impossible, or undesirable, or both. For example, some choose to satisfy their need for food in the form of fish and beans, others by meat and potatoes, and still others by vegetables and fruits, with many further variations among these menus. Hence the false inference arises that even the need for food is not universalizable, because of these cultural and individual differences. More careful consideration resolves the problem, however, because it recognizes that the organic need is for a complement of nutritional food which can be spelled out across these different fares by the objective N-criterion and primary axiom of value. No one "decides for others" this or any other life necessity and good. It is a necessity of life recognized by a scientifically verifiable criterion of life-value understanding, and it admits of endless degrees and choices within its objective principle of determination. Whether recognized or not, the objective criterion of life value always remains a constant.

Nothing worthwhile in life that is excluded because all that people do or choose to do requires life capacities, and they in turn require the goods that meet needs to flourish, however free and unique they may be. Whatever the manifold variations and choices within the generic goods of these universal life needs, no life-coherent possibility is pre-empted.

7.22 When services become an 'end' in themselves

When a societal system makes goods and services an end in themselves, then the alleged satisfaction of a need by the societal system, actually impairs its capacity to create potential for the individual with the need. In other words, when goods or services becomes the end, then the real need [of the individual] goes unrecognised, which reduces the individual organisms ability to sense its real world fulfillment; its sensitivity to its real world need fulfillment becomes diminished. Life, then, is placed at the service of systems, rather than systems at the service of life fulfillment. The question of quality of life can become overshadowed at a societal level by artifactual, system constructs.

In some societal arrangements, the speed of production and the diversification of objects become ends in themselves, and as such, human needs become

forgotten in the design of goods and services, in the design of cities and habitats, and in the design of society in general.

In a fulfilling [critical] version of society, it is not sufficient to specify the predominant satisfiers and economic goods produced within that society. Service systems must be understood as iterative productions, which are the result of accumulated knowledge, and consequently, liable to change. Thus, it is necessary to retrace the process of reflection and creation that conditions the interaction between needs, satisfiers and economic goods.

7.23 'Human need' as priority functioning [service] satisfiers

Needs are satisfied by a relationship of appropriate shape. Therein, satisfiers are material services (and/or material objects) that allow the relationship to complete its functioning. Satisfiers vary enormously in contextual application, whereas the needs they serve can be shared and stable. It is possible to distinguish levels of generality and distinguish stages in causal sequences.

TERMINOLOGY: *Access is being able to attain a functional capability. The idea of "access" exists between functioning and capability.*

The habitat service system exists between guaranteeing attainments and strengthening capabilities (in other words, service exists between functioning and capability). The habitat operational processes exist between orders of priority; for example, incident response is given highest priority, above facility servicing.

In a service system, there is the satisfier as a category (e.g., food), then there is the quality of the food, which arrives via a service.

7.24 'Human need' satisfiers

QUESTION: *How can a social group identify needs and appropriate need satisfiers?*

Satisfier disambiguation:

1. Max-Neef - satisfiers are processes/strategies.
2. Material - satisfiers are resources or other people.

In order for a need to be completed, a satisfier must exist. Need satisfiers are the systems, services, processes, activities, tools, relationships and goods required to satisfy needs in any given social context. Determining need satisfiers entails a problem-solving process, rather than a preference aggregating one. Meeting human needs requires a socio-economic system that produces and distributes the necessary and appropriate need satisfiers – and ensures that all this does not threaten planetary limits.

It is essential to identify the distinction between

universal needs and specific satisfiers. For example, the needs for food and shelter apply to all peoples, but there are wide varieties of cuisines and forms of dwelling that can meet any given specification of nutrition and protection from the elements.

Max-Neef identified five types of satisfiers:

1. **Satisfiers** [f]actually satisfy.
 - A. **Synergistic satisfiers** fulfil several needs at once.
 - B. **Singular satisfiers** that fulfil one at once.
2. **False-satisfiers** do not [f]actually satisfy (only viewable over the long-term).
 - A. **Pseudo satisfiers** are a unique case that give only fleeting fulfilment (a temporary feeling of well-ness that does not last, and may degrade actual fulfillment over time).
 - B. **Violator satisfiers** (violators of satisfaction) inputs that claim to be actually satisfying, but completely fail to satisfy, yet one may be habituated to them.
 - C. **Inhibiting satisfiers** satisfy one need (often a short-term one), but at the consequence of reducing satisfaction of other needs.

The requirements of human physical and mental health relate inherently to the three human need modes:

1. Basic human needs (e.g., food).
 - A. Need as a noun.
2. A lack of basic human needs (e.g., these people need food).
 - A. Need a verb about the needing of a noun.
3. A lack of habitat service system (e.g., these people need a food service).
 - A. Need as a looped verb about the needing of a process (or service).

The third mode refers to a particular method or satisfier (e.g., food service as part of a habitat service system) for fulfilling the more general need (food).

The two need modes are:

1. Need is a term used, in an evaluatively neutral description or explanation, to refer to a drive for potential completion or want. Need as a factor that motivates individuals toward survival and thriving.
2. Need is a requisite for achieving an objective. Need as a functional prerequisite. What is required in order to do or achieve something, which in application are generally called 'resources'.

Satisfiers are ways of meeting needs, some of which completely fulfill the actual need, and others do not:

1. **Single satisfiers:** meet one need with one

environmental input or condition.

- A. For example, breast milk fulfills the need for nutrition for a baby. Note that in common parlance, the term satisfier is often used to refer to a behavior. In this case, the baby has a need for nutrition (sustenance) and someone provides the baby access to breastmilk through the behavior of breastfeeding. Breastfeeding is the satisfying behavior (or service). Breastmilk is the resource accepted by the baby as an input for nutrition.
2. **Synergistic satisfiers:** are a case an where environmental input or condition meets multiple needs simultaneously.
 - A. For instance, where a habitat service system is designed to fulfill needs simultaneously. Humans have a set of common needs, and a habitat service system can be established to synchronously fulfill those needs. The habitat service system's services are the satisfying (fulfilling) behavior.
3. **Violators:** claim to be a satisfying need, but in the real world, it makes it more difficult to satisfy a need.
 - A. For example, a dictator claims to be fulfilling the need for protection.
4. **Pseudo satisfiers:** claim to be satisfying a need, yet in fact have little to no effect on really meeting such a need.
 - A. For example, using a social network to satisfy a need to intimate human connection. Or, a piece of sugary synthetic cake being claimed to satisfy the need for nutrition. In the case of someone starving, such a piece of cake would be a single satisfier. However, when not under extreme conditions, such a piece of cake is not a fulfiller of nutrition (and is more akin to eating entertainment).

7.25 'Human need' thresholds

QUESTION: *By what satisfactory degree are human needs being met?*

The idea of a need carries with it the idea of sufficiency and insufficiency (as well as threshold) for the system with the need. Herein, sufficiency is definable by the margin gain, or loss, of life range with, or without provision.

Sufficiency is reached when no life need is missing from this set without which life capacities are reduced—a condition that flourishing human lives and societies both enjoy and provide for.

Living in stress is [on the psychology and biology of most individuals among a social organism] living in survival.

Meeting human needs requires a societal (socio-economic) system that produces and distributes the necessary and appropriate need satisfiers, while ensuring that all action does not threaten planetary [capacity] limits.

Just like humans have capacities (functions) that can be extended and limited, developed and damaged, the planetary system has life-carrying capacities that can be expanded and limited.

Although there can be cultural (localized) variety in meeting needs, the only morally relevant threshold for basic need (through to flourishing) satisfaction is the optimum level for every individual, given what is known.

In concern to human need, there are two fundamental types of need thresholds:

1. **Survival Needs** - The needs for socio-organic functioning are met. Survival threshold needs are those needs that are necessary to be met for a life-form to relax to the degree to which it can effectively focus on things of even greater depth and importance than survival.
A. To what relative degree is there survival?
2. **Flourishing Needs** - The needs for developing and sustaining higher intentional capabilities are met. Flourishing threshold needs are those needs that are necessary to be met for a life-form to express its capabilities to the fullest intended extent possible.
A. To what relative degree is there flourishing?

Need is a threshold concept or, put another way, basic needs and intermediate needs (universal satisfier characteristics) are (temporarily) satiable. But how are appropriate thresholds to be decided and measured? Possibly, critical optimum levels of health and autonomy can be operationalized in practice by reference to the best level of need-satisfaction attainable anywhere in the world at the present time, or a higher standard which is materially feasible at the present time.

At the level of universal satisfier characteristics, it is possible to identify a 'minimum optimum' (minopt) threshold. It is possible that increasing inputs of universal satisfier characteristics, such as nutrition or child security, will yield increasing increments of health or autonomy, but with diminishing returns, and beyond certain point there is no further benefit. As a principle this could possibly define threshold levels of each universal satisfier characteristic.

Future people will have needs for affiliation, cognitive and emotional expression, understanding and critical thought. To achieve these they will need specific minima or minopt levels of water and nutrition, shelter, a non-threatening environment and work practices, significant primary relationships, security in childhood, physical and economic security, education and health care.

NOTE: All socio-economic (or socio-technical) systems can need to be assessed according to their ability to produce enough appropriate need satisfiers.

7.26 Basic human need (the category of)

A.k.a., Basic human needs (BHN); the basic [category of human] need.

The notion of basic human needs has been in the rhetoric of modern economics since its beginning, appearing in the conversations of those attending the Lake Placid conferences (1899-1909). Brown (1985:257) explained that a small cadre of participants at Lake Placid believed families have a moral obligation to attain and gain satisfaction from attaining basic human needs. At the 1902 meeting, Alice Chown explained, "home economics in its broad sense was a subject for developing...the meaning of the physical, social, moral, aesthetic [sic] and spiritual conditions of the home" (as cited in Brown, 1985:263).

All human life, everyone in the world, at all times present and future, have certain basic needs. These human-life needs must be met in order for a human to:

1. Avoid harm (resilience).
2. Participate in society (contribute and participate).
3. Reflect critically upon the conditions (learn and create).

Basic human needs are the universal preconditions for effective participation in any form of societal life. Whatever a person's goals, whatever the configuration of practices and values, certain prerequisites or basic needs are required, in order to achieve those goals. Therein, to participate is to formulate goals, understand how to completely solve for them, and act to achieve them in practice through action in time.

There is general agreement that basic needs (whether survival- or non-survival-oriented) are central to human motivation, because needs are forces that induce people to action (Burns et al., 1989). Resultant human behaviour from these actions creates the living conditions of humanity.

7.26.1 Conception enables (Read: conceptualization - the ability to conceive)

Conceiving of human need as something common enables the conceptions of measurement and evaluative comparison of human experience, human well-being and life capacity, across time and space.

7.26.1.1 Human life functions

The life functions are key. Well known life support functions include, energy, sewer, etc. All life support functions include technology as part of a unified habitat

service system [supra-function]. The technology support service enables all other services, of which life support is the priority and the facility (leisure and secondary-opportunity fulfillment are secondary; “wish” fulfillment needs come after life-support needs). The life and technology support services are the [InterSystem] engineering life [service system] functions of any given society. Note that under market-based conditions, what could be a unified [in operation] InterSystem Team becomes divided into a structure market labor-service competition among individuals -- people are not working cooperatively for everyone’s fulfillment, people are working [at socio-economic organization] toward sometimes competing ends (objectives).

7.26.2 The primary axiom of [life] value

The N-criterion is based on the axiom of life value, which states:

1. x is of value if and only if (and to the extent that), it constitutes or enables a more fulfilled range of life than without it:
 - A. within the fields of life as thought (conceptual and image),
 - B. felt side of being (sentience, emotion, mood), and/or
 - C. action (animate movement through space-time).
2. X is of dis-value if and only if (and to the extent that), it disables life so pre-defined.

7.27 Unhealthy pathological responses

While negative emotional responses (anger, fear, etc.) are a natural and healthy response to a lack of complete fulfillment, they can become pathological when it is more frequent, intense, or persistent than necessary. Pathological responses can be characterized by:

1. **Frequent false positives** - where a need is actually being met, but because of someone’s filters they are responding as if it is not.
2. **Inappropriate intensity** - where the emotional response to the need not being completely met is inappropriately intense and likely to create further issues and/or prolong the issue.
3. **Prolonged duration** - when the response to the need not being met (or, the false positive) goes on for an extended period of time (e.g., going to bed angry, or carrying anger on day-after-day).

8 Human requirements

A.k.a., Human-life requirements, human-life needs, human needs, human necessities.

Humans have requirements for the fulfillment of their needs. Human requirements are built from human needs and human objectives (and, they are influenced by goals and intentions). Human requirements include physical (tangible) and non-physical (non-tangible) elements necessary for human subsistence, growth and development, as well as those things humans are innately driven to attain. Life-requirements are not simply demands for use-values that are lacked, they are actual observably shaped connection to the natural field of life-support and the social field of life development. Thus, life requirements are the essential direction to the fundamental, practical question of what a life-coherent system must produce (and account for in the production of new relationships).

Knowledge may be used to resolve the identification of what an individual needs. ‘Needs’ reference knowledge, as the entire range of predictable understandings (formerly codified, explicit model) and accumulated problem-solving (procedural, tacit model) about human requirements. Knowledge about human-embodied requirements can be visualized in a knowledge space (a model).

8.1 Requirement

NOTE: *A society not constructed around the requirements for that social organism is likely to suffer a lack of well-being.*

On the demand scale, from the mental to the materially constructed, a ‘requirement’ is a usable representation of a ‘need’.

Therein, a requirement is any one of the following three definitions:

1. A condition or capability needed by a system to solve a problem or achieve an objective.
2. A condition or capability that must be met or possessed by a solution or solution component to satisfy a specification.
3. A specified representation of a condition or capability as in (1) or (2).

Hence, a requirement is:

1. A representation, not the thing itself.
2. A condition or capability of some relationship to orient (or re-orient) a system by conferring an ability, a characteristic, or an experience.

And, from an engineering perspective,

1. A requirement is a representation of some relationship that could deliver value to a system by solving a [design and construction] problem.
2. A requirement can represent constraints that a solution must conform to.

Requirements include, but are not limited to, past, present, and future conditions or capabilities of an organization, and descriptions of organizational structures, roles, processes, logic, rules, and information systems. At the societal level, a requirement may describe the current or future state of any aspect of the society.

NOTE: *Requirements and Designs are labels used to express the determination of value [or value orientation].*

8.2 The nature of life-requirements

CLARIFICATION: *Life-requirements (life requirements) refers to the requirements for live to survive and develop.*

A set of human life-requirements can be systematically derived and applied (via systems engineering) to the benefit of everyone in society. The real material world, as described and explained by [material] science, may not be all there is to reality, but it nevertheless has its own dynamics to which humans must align for their survival (surviving and thriving). In this material reality, human beings and their capacities of thought and action are a product of, and entirely dependent on, material reality (and not the other way around). This extant relationship does not exclude the possibility that human thought can shape or change the material world - provided, of course, that the thought in question is located in, and acted upon by, living human beings. Human beings are in a direct and causative relationship to the life-sustaining, life-enabling as well as life-damaging and life-destroying dynamics of nature.

All human life requires [a frequency and composition of environmental] inputs to survive and develop fully. There is a connection between life and life's requirements-resources. Through [life] sciences, significant knowledge has been accumulated into what fundamental organic life-requirements must be satisfied if human life-capacities are to develop more, rather than less, fully.

It is an observable fact that all living things, and not just human beings, must exert conscious effort to maintain connection to that which sustains and fulfills their lives. Therein, conscious humans realize, to varying degrees, that they are dependent upon certain substances (at a specific frequency) from their environment. A human consciously experiences a need for air and water, which cannot simply be conjured out of no-thing (nothing) or satisfied in the realm of mere thought. The human organism requires (i.e., needs) not only the surrounding natural [environmental] world, but also other human

beings, and the work they do as part a society to survive and thrive. Humans are not only naturally dependent (i.e., dependent on nature), but also socially interdependent in a way that is intimately intertwined with this natural dependency. Even the most self-sufficient foragers rely on the accumulated knowledge of their habitat and edible plants that is developed and communicated to them by others, including techniques for hunting and gathering.

In early 21st century society, no individual human being can fulfill even the need of living for more than a day or two into the future without relying on a massive amount of work done by countless other people -- growing, harvesting, and transporting food and other basic necessities; maintaining power grids and sanitation systems, etc. Need fulfillment plays an essential role in sustain social bonds (with relatives, friends, and colleagues) -- humans tend to be fulfilled together (commensality); thus, reflecting the social relationships of individuals.

NOTE: *It is unwise to develop a false and entitled sense of one's own self-sufficiency, and take all that sustains one for granted.*

Humans have relations of material dependence and interdependence, and that experience can give conscious rise to an awareness of mindfulness, gratefulness, and willingness to act to maintain and develop the conditions that sustain them, from social bonds of connection to the cultivation of natural environmental resources.

8.3 Individual satisfaction of life-requirements

The comprehensive satisfaction of life-requirements is limited by the normal operation of global market-State forces -- zero-sum competition and a lack of transparency inhibit the universal and sufficient fulfillment of human life requirements. Alternatively, cooperation (or limited, non-zero sum competition) with a transparently shared and informed societal model is likely to sustain and optimize the fulfillment of human life requirements.

Societal failures to fulfill humankind's sociological life requirements undermine everyone's capacities:

1. To work in both instrumentally and intrinsically valuable ways;
2. To care about, relate to, and interact with other people as unique bearers of life-value;
3. To think analytically and critically and imagine and plan for new possibilities of action and social organization;
4. To perceive and appreciate the beauty of the natural world and social creations;
5. To work together to ensure that community continues to fulfill life requirements, and life itself,

evolves.

NOTE: *In community, as we develop in age, independence and capacity, we acquire the capability to access ("carve out") a life space for ourselves.*

8.3.1 Habitat exploration human research subsystem

The Human Research Project (HRP) shall:

1. The Human Research Project (HRP) shall quantify the human health and performance risk associated with habitat operations or exploration projects.
 - A. This HRP requirement is to quantifiably describe the likelihood and consequences of the risks. The uncertainties associated with these quantities should be narrowed to the target values identified by each standard or to the greatest extent practical to facilitate proper decisions for operation and exploration, including human procedures, hardware and software design, and project design.
 - B. The Human Research Project shall develop countermeasures and technologies to monitor and treat adverse outcomes of human health and performance risks.
2. The Human Research Project Science Coordination System shall develop ways to improve estimates of the integrated human health and performance risk associated with human habitation and exploration projects. Generally, each risk is written with respect to an adverse outcome.
 - A. The intent of the HRP is to prevent the adverse outcome from occurring. If that cannot be done, the intent is to develop and validate novel countermeasures (devices, drugs, procedures, etc.) that will mitigate the adverse outcome. In this context, "mitigate" means "reduce the severity or reduce the probability of the adverse outcome."
3. The Human Research Project Science Coordination System shall ensure that their processes and products comply with the standards directives and procedural requirements listed in applicable standards document.
4. The Human Research Project Science Coordination System shall provide the enabling capability to facilitate human habitation with respect to the human system.
5. The Human Research Project Science Coordination System shall ensure preservation and maintenance of core technical capability and expertise in human research, technology development, and operations coordination.
 - A. The core competencies are those that are necessary to maintain and nurture an understanding of the existing evidence base regarding human habitation. This core competency involves sustaining and maintaining a dedicated scientific discovery and exploration InterSystem team, and robust scientific participation. It also requires adequate testing capability.
 - B. Preservation and maintenance of this capability is necessary to provide stability over the multi-decadal implementation of the vision for human habitation and exploration. This core competency is necessary to facilitate the following: Strategic planning. Identification and prioritization of the risks to the human system and development of long-range plans to quantify, prevent, mitigate, and treat the adverse outcomes requires competency of all inter-connected societal systems; to ensure proper direction to the research discovery-group for focusing their effort.
 - C. Acquisition development, planning, and execution. Acquisition of research and technology development is an inherently socio-technical function that requires core expertise within the with respect to research and technology development for the human system.
 - D. Operations support for planning real-time and real-time operational decisions involving the human system and environment. Laboratory facilities and the expertise to run them and interpret results are necessary to support an ongoing evaluation of the human system response to the space environment and to support the medical operations function during a mission. This involves the internal community, and to some extent, the external community where uniquely specialized expertise must be sought. The requirement is written at the HRP level and not specifically allocated to the Program Elements. However, the Program Elements shall provide inputs regarding their core competency needs and issues. As part of the annual Planning, Programming, Budgeting, and Execution (PPBE) process, Program Management will review the core technical capability of the Program Elements and adjust where appropriate.
6. The Human Research Project Science Coordination System shall develop methods and technologies to reduce human system resource requirements (mass, volume, power, data, etc.).
 - A. The rationale: Methods and technologies

that reduce the human systems resource requirements for mass, volume, power, data, etc. must be developed to reduce the overall resource requirements. For example, producing countermeasures and technologies that fit within an extremely limited resource envelopes anticipated for a service project or exploration mission.

8.4 Human environmental design requirements

The environmental designers task is to bring the designed environment into equilibrium with the human biological and non-biological systems. Therein, architectural form, structure and space are no longer considered ends in themselves, but become means to establish this equilibrium. Formally stated, the problem of environmental design is the accommodation of the biological and non-biological requirements of the human organism through the appropriate organization of relevant variables in the designed environment. The decisioning structure in an environmental design problem involves the description of a system of human requirements. (Studer, 1966)

9 Need and wants

A.k.a., Demands (need), and lesser demands (preference).

The difference between a need and a want (or preference) is stability. Preferences are flexible ("plastic"), such that what someone thinks they might like in the future may turn out to not be what is liked; the individual may change their preferences (as a result of experience). Needs are originators of action; they engage, motivate and mobilize [people]. Wants overlay a naturally originating structure of action. Preferences are acquired over time and through experience; needs are due to the embodiment of consciousness in a physical, impermanent form. Need fulfillment sustains the optimal experience of a physically embodied consciousness. A lack of need fulfillment is likely to cause a void of fulfillment (experienced as suffering). Wants motivate people but are not normatively linked to human functioning as basic needs are. Fundamentally, there is a difference between a 'want' and knowledge of what is needed in order to survive and to thrive.

Needs don't change over time, but the way in which they are satisfied does. Needs are persistent, wants are shaped by culture and the development of social standards and technologies. People may be culturally conditioned (programmed and manipulated) to have certain thoughts in their heads concerning wants, which can supersede the fulfillment of needs. Yet, when individuals are not trapped in their conditioning, they can look at all situations as an opportunity to explore their desires, needs, wants and preferences.

The problem for any given society is distinguishing life requirements from the extraordinary range of demands people could possibly place on their natural and social environments. The first step in solving this problem is recognizing that there is a connection between life, the environment, and life's requirements therein; that relationship is most commonly called a 'need'.

In a community-type society, certainly, human life-requirements are distinguished from market-consumer demands, which sometimes are, but sometimes are not, tied to actual, objective life-requirements. The ubiquitous usage of the term, "basic needs", invoked by most market and State organizations is essentially vacuous. Humanity has been a long time without its most basic life-value bearings.

The concept of human need, and thus demand, must be open to continual improvements in knowledge and understanding; for example, advances in the biomedical understanding of health and disease. Demands can be artificially manufactured ("socially engineered") by profit seeking entities that implant desires and narratives that lead to views and purchases (i.e., the implanting of desires and narratives):

1. Purchase[d] political influence - lobbying and marketing.

2. Purchase[d] consumer influence - advertising and marketing (propaganda).

The test is, always, whether life-capacities (Read: common habitat services and individual opportunities therein) are more restricted or reduced in range without the life necessity service/good, than with it. The question can be resolved to an answer through empirical evidence (science), which will can confirm or dis-confirm. Every action that a person could choose to do could be said to be categorized by (or "require") life capacity, and the capacity, in turn, requires some set of services/goods that meet needs (inputs/requirements) to exist, and further, remain in an optimal state.

Behavior can be highly affected by environmental variables. Researchers (Geier, 2006) put a bowl of candy M&Ms on the concierge desk of an apartment building, with a scoop attached a sign below that said, "eat your fill". On alternating days, the experimenters changed the size of the scoop; from a table spoon to a quarter cup scoop, which was 4x as big. If people were only eating what they wanted, the scoop size shouldn't have mattered, but it turned out to be significant. When a bigger scoop was present, more candy was eaten. Under certain conditions, some humans don't have a fixed value of how much is wanted. Instead, under these real-life conditions, humans looked to outside queues to meet their requirements for candy, which is essentially a form of mouth entertainment. The cues in some societies all point toward consuming more, others less.

APHORISM: *If you spend more of your time noticing what you actually are, you will rediscover what you are creating. At that same moment, you will be able to choose what you are creating. Try not to get lost in fantasies in the process.*

Modern neoclassical [market] economics is generally either casually dismissive or else willfully silent on the subject of human needs. Most market economists eschews all discussion of needs as superfluous, believing human choices are more effectively viewed in terms of wants. In market economics, need is a 'non-word'. Many market economists group desires, consumer preferences, tastes, and demands under the category want, and insist that absolute human or economic need is nonsense. Market economists generally interest themselves in questions of market allocation of resources, and generally refuses to distinguish between different kinds of preferences or the motivations for the use of these resources. All transactions in the market [or, at least those allowed by the State] are assumed to represent the rational decisions of informed consumers, attempting to maximize individual utility in the face of the available choices and their own resource constraints. In reality, market economists collapse different categories of human needs into a flat plain of [infinite, insatiable, unlimited] wants. This means that material wants for goods and services are incapable of being completely

satisfied.' Where, occasionally, the concept of need is introduced, it will invariably appear only to be dismissed very quickly in favor of wants or preferences. Anderton (2000:3) for example, introduces the question of human needs on the first page of his undergraduate textbook on economics. 'Human needs are finite...' he concedes.' [But] no-one would choose to live at the level of basic human needs if he could enjoy a higher standard of living. This is because human wants are infinite.'

There are some modest exceptions to this tendency. In an essay entitled 'Economic possibilities for our grandchildren', Keynes distinguished between two classes of needs: 'those needs which are absolute in the sense that we feel them whatever the situation of our fellow human beings may be, and those which are relative only in that their satisfaction lifts us above, makes us feel superior to our fellows' (Keynes 1931, p.326). In the same essay, Keynes looked forward to a point in time - 'much sooner perhaps than we all of us are aware of' - when absolute needs had all been satisfied and we could devote our energies to non-economic purposes. Perhaps more importantly, the concept of insatiability underlies the entire edifice of the consumer society. Modern economies are themselves structurally committed to a continuing growth in the national income. Growth in consumer demand is regarded as a vital prerequisite for a continuing improvement in the quality of our lives.

Interestingly, producers, retailers, marketers and advertisers wanting to know how to design and sell products that consumers will buy use the field of human research (known as consumer research, economic psychology, marketing, human persuasion, motivation research, etc.), and have drawn quite specifically from the needs-theoretic framework that formal [market] economics has rejected.

There has been a long-standing and world-wide confusion on these issues. Amidst tireless variations on the slogans of "individual and consumer differences and choice" and "what is a need to some is a want to others," reveal the absence of any grounded understanding of humanity [f]actual organic-social life. In the background, for over 2500 years philosophers have largely avoided the issue of universal life needs and any common life-ground of moral meaning. Economists (market economists) have systematically conflated needs and desires with no recognition of their ultimate distinction by life necessity itself.

ABSOLUTELY NEEDED DIRECTION: *Humans have has something resembling needs, and among society, there is a decisioning procedure that will algorithmically tend to choose the thing that society has programmed into it that humans need, and humans prefer.*

Human behavior provides evidence for human needs and preferences. In general, the difference between a need and a preference/want is stability:

1. **Needs** are static and do not change significantly

in relation to experience -- needs are human requirements given a conscious human exists within a conditional environment (where, conditional = requirements). Needs are due to the embodiment of consciousness in a physical, impermanent form. Need fulfillment sustains the optimal experience of a physically embodied consciousness. A lack of need fulfillment is likely to cause a void of fulfillment (experienced as suffering).

2. **Preferences** are flexible ("plastic"), they overlay needs, and may change in relation to an adaptive experience (a self-interaction with an environment). Preferences are acquired over time. Preferences may not be stable; they may be dynamic. A preference system should be appropriately uncertain.

Statements about wants are intentional, whereas statements of need are 'extensional': their truth depends on 'the way the world is' and not 'the workings of my mind' (Wiggins 1987: 152). It is quite possible to need something that "you" do not want; for example, "you" may need it without even knowing of its existence, as a diabetic needs insulin to avoid serious harm. More education is of no help to someone who is starving. Compared to the indeterminacy of future generations' preferences, need provides a firm foundation on which to build sustainability targets for decisioning, habitation, and ultimately, fulfillment.

What is to be done address various types of:

1. Needs (habitat service systems).
2. Wants (personal life and growth opportunities).
3. Preferences (customizations).

In application, values* [encode] decisions that orient more or less greatly toward the:

1. Optimized fulfillment of need, and
2. Sufficient meeting of a flexible preference.

It is possible to perceive 'want' more clearly when it is seen as a level of social standing between people.

NOTE: *Values and preferences are acquired over time, through experience.*

Being 'human' comes with innate and stable "preferences" (misnomer) called 'needs' (a.k.a., fundamental/stable human fulfillment requirements). Because individual human beings have needs that may be sufficiently fulfilled to optimally fulfill, they are self-interested, naturally.

If there are preferences, then they are preferences over all of one individual's possible future human lives? And then, there is the social matrix of preferences

combined.

Human needs have a sound moral grounding that preferences do not. Human needs coherently link with principles of justice and equity that orient socially toward ever greater states of flourishing for everyone. Claims of need inform moral determination on agents that preferences do not. An important corollary of the moral import of human need is that meeting needs should be given priority over meeting wants whenever the two conflict or if resources are scarce. Human needs, present and future, are prioritized ('triaged') present (and future) before consumer preferences.

QUESTIONS: *How is the societal system optimizing and prioritizing for human needs and subjective preference? Then, with preference, there is always the question: Whose [individual] preferences are being optimized for? Which preferences are being optimized for, the current or future probable (i.e., what you want now, or what you want after having the experience fulfilled of what you want now)?*

Material interaction can go well or badly for human flourishing (and suffering) depending upon its regulating value purpose: well (toward flourishing), if steered by life-value coordinates to realize human needs; and badly (toward suffering), if steered to maximize private profits or state-party power. There are a wide variety of terms for the idea of material interaction, including 'productive force development', which means nothing but more material output.

Questions for differentiation include:

1. How is the societal system optimizing and prioritizing for human needs and subjective preference.
2. With preference, there is always the questions of:
 - A. Whose/which preferences are being optimized for?
 - B. Are they optimized for the current, or future probable, state (i.e., what "you" want now, or what "you" want after having the experience fulfilled, of what "you" want now).

There is a relationship between needs and wants:

1. Needs are innate for functioning efficiently, wants are products chosen - needs as anything people depend upon to function such that a state of optimization is experience by the system; for humans, this would be a high form of well-being and fulfillment. On the other hand, wants are products/services identified for satisfying unfulfilled preferences, or services that are not of a primary life-support type. The search for need satisfiers is influenced by societal, environmental, and technological changes, and wants are also

influenced by similar forces.

2. Wants can be created, needs cannot - Needs cannot be created because they are considered innate and hence presented as beyond the influence of marketers. On the other hand, wants can be created because they are culturally defined, they are subject to learning, and they can be influenced by individual traits.

There are:

1. Absolute needs - those inputs required to remain alive (and living, 'well').
 - A. A need is that without which life capacity is necessarily reduced.
2. Wants - everything else.
 - A. If a want is not fulfilled, then life capacity is not reduced.

In early 21st century society, there is a conflation of needs and consumer demands. Objective human life-requirements can be rigorously distinguished from stimulated consumer demands.

APHORISM: *You can't truly do what you want until you know what you are doing.*

In community, individuals maintain a connection to the things we design and create after they have been placed in the real user world:

1. In the market, the perspective is, at least in part, getting people to want stuff.
2. In community, the perspective is, at least in part, making stuff that people want.

Life-requirements are not simply demands for use-values that we lack, they are our actual, positive connection to the natural field of life-service support and the social field of life-social development. As such, life requirements are an essential guide to the fundamentally practical question of what a life-coherent societal system must produce.

If human demands at any moment are infinite, then humans need infinite resources, and the problem of scarcity exists de facto. In concern to needs, at least, demand is not continuously infinite. Humans need specific amounts of various inputs (e.g., food, water, etc.).

APHORISM: *To get what you want, get what you need. We can't always get what we want, but we always want what we need, though aberrant environments may confuse what is needed.*

The second assumption is that there can be no self-management of resources, so society must create rules from authority in order to solve the problem of scarcity.

If a need involves a behavior, then to ever claim that you

are done with that behavior does not make conceptual sense. Peace is a process. In early 21st century society, going to the grocery store to buy food is a cyclical process, you are never "done" going to the store. The need has a cyclical task nature that requires the involvement of a self-initiating constructor to perform the task.

When we have our food and shelter needs taken care of we can start responding to the deeper demands for access and opportunity in society, the wants.

If a need involves a behavior, then to ever claim that you are done with that behavior does not make conceptual sense. Peace is a process. In early 21st century society, going to the grocery store to buy food is a cyclical process, you are never "done" going to the store. The need has a cyclical task nature that requires the involvement of a self-initiating constructor to perform the task.

In part philosophy is about helping you differentiate that which you can and cannot choose. Whether humans have needs that must be fulfilled to survive and thrive is not a choice, just as whether the sun is at the center of the solar system is not a choice. Knowing the difference between facts and personal/emotional preference. And also knowing what you do and do not have control over.

Human needs, unlike preferences have a foundational moral composition; they come with statements (claims, arguments) of justice (social access) and equity (economic access). Universal needs imply that there is an optimal, [f]actual way to generate human flourishing. In more simple terms, universal needs imply moral decisions, actions, and creations (or "obligations"). An important corollary is that fulfilling (meeting, satisfying) human needs should be given priority over meeting wants if the two conflict ("trade off"), or if resources are scarce (i.e., there is not abundance). Universal needs imply that specific formations of societal system are likely to sustain flourishing, while other formations are likely to deviate by degree from optimal flourishing. Human need fulfillment present (and future) is a priority over [consumer, individual, or fundamental] preferences. Note, the three words in brackets in the prior sentence are systems of belief, generally termed: consumerism; individualism; and fundamentalism.

DEFINITION: accommodation (n.)

c. 1600, "that which supplies a want or need, from French accommodation, from Latin accommodationem (nominative accommodatio) "an adjustment," noun of action from past-participle stem of accommodare "make fit; make fit for" (see accommodate). A home, today is a place where needs are satisfied. In community, the habitat is the place where needs are completely satisfied.

There are several possible processes that may generate preferences:

1. Adaptive processes.
 - A. When people's desires or preferences are adjusted to what it is possible to achieve.

'Adaptive preference formation is the adjustment of wants to possibilities.

2. Preference change through learning that there is a better preference.
3. Pre-commitment.
4. Manipulation.
5. Rationalization.

If we aren't fulfilling our instinctual needs then we won't be happy. Why are people the way they are at the instinctual level? When we know that we will have a higher probability of making intelligent choices. We have to find a way to work with our instincts. If we don't meet our instinctual needs then we aren't going to feel "right". If you don't feel like who you are being who you need to be, if you are not serving those instinctual needs, then you will feel unfulfilled, you will feel unhappy, you will feel as if there is something wrong. But, this doesn't mean that we are a slave to our instincts, we need to change, and evolve to our new environment.

Prior to the "want", there is a need. When a need is not satisfied, it becomes a strong stimulus to action on the part of consciousness. Needs may be viewed as "drives", which spur actions aimed at fulfilling a need. A need may or may not be fulfilled by the conclusion of a wanted action or product. A want can have any of the following three characteristics:

1. Wants that express themselves as non-functional requirements.
2. Wants that express themselves as products and services. Here, want is a specific requirement at the product class level in the market. Needs become expressed as particular arrangements of the environment forming services (which are used), and products (which are used). In the market, products and services are identified for satisfying unfulfilled needs. In a community-type society we design systems that fulfill our common, individual needs.
 - Commercial standpoint: A want is something capable of being learned or experienced in a person's lifetime. However, want will constantly change, unlike needs which remain unchanged.
3. In the market, there are also brand-specific wants, concerning the choice between brands that produce the same class/type of product or service. In the market, products are brand specific. In community, products have no brand specificity; hence, there are no brand-specific wants. A brand-specific want concerns the choice between brands that produce the same class/type of product or service.
 - Marketing standpoint: Wants are learned, culturally influenced, and fulfillment is determined by the level of an individual's

resources.

Contextually, wants may be synonymous with several other concepts:

1. Needs.
2. Intentions.
3. Motives.
4. Drives.
5. Desires.
6. Goals.
7. Driving forces.
8. Feelings.
9. Expectations.
10. Preferences.
11. Customizations.

In regard to these terms, four orientations ("dichotomies") are available:

1. Needs can be recognized and fulfilled, or not.
 - A. Primary needs are innate and come from the code that re-creates humans.
 - B. Secondary needs (acquired or psychogenic, including desires).
2. Motives (orientations) can be toward the fulfillment of real world human need, or not; regardless, real world human need is experientially.
3. Goals can be generic or specific.
4. Driving forces are internal and external, responses from the inside to signals from the outside, and signals from the inside to which the outside (in scale) responds to.

NOTE: *Take a primitive skills/survival course and one will quickly learn the importance of setting one's needs apart from one's wants.*

9.1 Implication of need and want encoding for a societal decision algorithm

NOTE: *In many ways, an intelligent approach is also about recognizing what we don't need.*

In a sustainable societal system, the meeting of needs is given priority over the meeting of wants if the two conflict, or if resources are scarce. Each generation needs to pass down the conditions for well-being and the regeneration (sustainability) of satisfiers. This can be stated formally, following

1. Wp: present-generation human wants
2. Np: present-generation human needs
3. Wf: future-generation human wants
4. Nf: future-generation human needs

The implied priority rule is:

- $N_p = N_f > W_p/W_f$

NOTE: *This “morality” protocol means that it is immoral to take action that provides [commercial] luxuries to some at the cost of others’ access to [life] needs.*

This is a principle or protocol that states that it is not permissible to fulfill the wants of the present generation if doing so would compromise the needs of future generations. The idea/protocol is given many names, including the “moderate sufficiency” principle.

9.2 Infinite wants

APHORISM: *Never be so sure of what you want that you wouldn’t take something better.*

The “infinite wants” culture is a product of the system need for constant turnover in the market economy (“wants that go on and on forever”). One could think up any random item of “want” and then assume not everyone could have it. This is called “scarcity projection” and, in short, it implies people are utterly irrational and upon learning about some new material fashion/good, they will impulsively fight for it. Such thinking keeps the market in place and the consumption ethic going.

MAXIM: *The market is a place of infinite wants and ignored needs.*

Examine every desire and ask:

1. Is this a desire that is aligned with the highest truth for all?
2. Is this a desire that I want to satisfy my egoic needs?
3. Where does the desire come from? A feeling of lack, a sensation of lack (of something missing, of something not here).

Early 21st century society has confused needs with wants and also manufactured desires for products that have no human requirement in order to sustain a profit.

NOTE: *Advertisers (marketers) use the presence of human needs to sell more products by associating a commercial product with real need fulfillment.*

There is a large amount that could be said on the value system disorder that is essentially inherent in the statement that assumes that people have infinite wants, that everyone wants to live in that 10,000 square foot mansion, or that service systems couldn’t be organized to provide everyone on the planet with an extremely high standard of living. The values present in early 21st century society continuously reinforces materialism and acquisition. These are, in part, value system disorders.

Market materialism and its accompanying value system disorder exists not only on the demand side of the employer-employee-consumer model, but also on

the production side also, the notion of “harder work” equals more pay. But in reality, low income workers are not poor because they do not work hard; they are poor because they are paid low wages.

INSIGHT: *People preferences are shaped to meet industrial needs by advertising.*

The following is the irrational argument for infinite (and/or the unplannability of) wants:

“People are different; people live differently. Since everyone’s (“our”) interests, values, and lives are different, everyone owns different things. Further, everyone’s lives (“we”) are constantly changing. What someone (“we”) own today might not be what we own tomorrow, or even have an interest in, and if we don’t make decisions about what to keep and give to others, by default, we will hold on to everything (and our lives will be packed with stuff). Depriving “ourselves” of the natural stream of infinite wants is deprivation, and deprivation is suffering.”

Note how, in the argument above, there is little to no integration of commonality, either within or between the individuals. There is also no recognition in the argument that some systems for which humans require continuous input are of continuous interest, and ought to be planned out ahead of time. The idea of infinite wants is dominant in short-term thinking (and not the idea of extant logical and continuous, though temporally finite, relationship between an environment and a social organism, which necessitates complexity and long-term thinking).

In some societies, there is also the manufacturing of unhappiness via industrially manufactured and socially engineered wants, which are often attached to needs by advertisers.

What is less subjective is emotional responses that relate survival and the pleasure and pain principle. While it might be that some people are emotional dysfunctional to the point of not feeling much at all, we will all generally feel the pain of stabbed by a knife, lack of belonging, or of starving, of being homeless, or even just illness. We will all feel the pleasure of having our needs met and of feeling secure in life in general.

9.3 In comparison, the market (as a direction)

NOTE: *Marketers create want; they create (or, at least, influence) a market of consumers for capitalists.*

The monetary market (“want”) mindset assumes that more productivity or material output automatically means better lives and life conditions for people. But, without any life-value criterion (i.e., any life-value mechanism) to show or enable this outcome, it is not

likely to be the actual outcome. It is unwise to assume that technological advances or innovations in themselves serve human needs and capacities to live fuller lives. They can only reliably do so if life-value standards are involved in decisioning. The idea of ephemeralization (most notably seen in the industrial method of factory and assembly-line production) expanding to ever vaster and world-changing forms can continue to be either by slave-like mass labour and ever more nature-destructive machines and methods or, at the other pole of possibility, organized by coherent life need orienting values (or standards) to ensure humanity's universal life necessities including human contribution and ecosystem integrity. This is the deciding choice process of social rule-system. Fundamentally, community and the market have different information requirements.

NOTE: *Competition at the socio-economic level often means that some course of action may be satisfying one need, while simultaneously inhibiting another.*

Advance or degradation of the human contribution and common access is the key on all sides—the ultimate need for life contribution and enjoyment which entails free critical speech, thought and creative action in realizing the life capacities and needs of people.

In the market, the claim that a certain product or service improves quality-of-life is a popular notion that is commonly exploited. It is frequently not clear how this concept is understood by those that claim their products and services contribute to the improvement of quality-of-life. On the one hand the multifaceted nature of this notion is more than often neglected; on the other hand the complexity of the subject matter is employed as an excuse not to stipulate how quality of life improvement claims could be verified.

INSIGHT: *The market-State system enforces participation under their jurisdictions. Without participation in the market, there is destitution. Without participation in the State (e.g., taxation) there is prison or death.*

9.3.1 Market needs

A.k.a., Monetary needs, money needs, financial needs, currency needs, credit needs.

People in early 21st century society do consequential economic actions for an abstraction called money; the structure of their society means that their very lives depend upon this abstraction. In the early 21st century, money is absolute in value, in that it is absolutely required to do anything, and in the hands of those who did good and those who did bad, it has equal [future] purchasing value. Alternatively, people in community do consequential economic actions for real human need and well-being. In early 21st century society, individuals are likely to feel pain when lacking money for any significant period of time. A lack of money tends to mean

a lack of access, and so we suffer and may even die as a result. In the real world humans can live without money, but they can't live without food, sleep, etc.

INSIGHT: *In the financial market, “you” need money to make money to live and not become destitute. In the ecological environment you need food, water, shelter, and other resources to survive and thrive.*

There are no currency related economic needs in community. There is no concept of “or domestic product” (GNP or GDP), no economic market, no abstracted costs, no profit, no paid work, no level of income, no private wealth, no trade/barter, and no monetary value. These concepts do not affect any aspect of society in community. Buying and selling is essentially anti-social in itself. It can be made more social (though still not being actually social) by differentiating money used for “good” (linking price to benefit, economizing positive) and for bad (linking price to harm, economizing negative). When currencies are linked to “bad” objectives and abstractions/concepts (i.e., such as trades) they they are likely to take on unequal value (with one currency being more valuable than others), and distribute value (as fulfillment) unequally. In this way, an algorithm could scale the value of cost/payment of some product/service dependent on its knowable, statistically certain consequences.

INSIGHT: *Livelihood in the market is irrelevant when the market is not present.*

There are no secret or “indirect interactions” in a community-type societal system. “Indirect interactions” are another name for market-based interactions. Indirect interactions include all of the following types of societal organization: all businesses, all charities, and all State/government organizations (authoritarian or representational). Businesses are indirect, because the life cycle therein is separated (i.e., employee, employer, consumer), and not, unified (user-designers). Charities are indirect, because instead of replacing the old (socio-economic system) with the new (community-type), they do what is called patchwork. A good analogy is: you can catch a fish for someone and give it to them, or you can teach the person to fish for themselves and maintain the ecosystem from which the fish originate. Authoritarian States are self-evidently indirect because it is the authority that decides subjectively, regardless of an objectively real world. Representational States are indirect because the notion of something or someone being representational (of the actual thing) means, itself, to be indirect. Instead of an open source protocol, in a representational State, decisions are made arbitrarily or based on representational opinion, both of which are indirect, and not, unified organizational structures.

Human fulfillment cannot be explained with property, trade, and force, but you can do it with information,

resources, access, and coordination.

QUESTIONS: *Can the market-State define and explain human fulfillment in a mechanistic way? Can it tell you how well-being is achieved among the whole planetary human population. Fulfillment, as global well-being, is something different than what market economists and politicians are doing.*

9.3.1.1 Market and community perspectives on the atmospheric services

The natural atmospheric [resource] service of breathable air, open space, and light are neither conserved nor protected by the corporate-State rights system, but systemically deprecated insofar as:

1. The air is polluted by commodities production and uses.
 - A. Air composition protocols.
2. Open space is cumulatively occupied by same private uses and commodities disabling people's lives (e.g., visual and aesthetic obstruction, pervading fumes, and motor-spike decibels and subsonic propagations).
 - A. Open-space protocols.
3. The light of the sun has been made toxic by effluents having cumulatively destroyed the ozone layer for protecting the earth from infra-red solar radiations.
 - A. Sun-radiation buffers (by ozone-layer protocol).

9.3.2 Market price

INSIGHT: *Community exists beyond exchange, mutual or otherwise. Instead of exchange, there is coordinated access fulfillment.*

All that matters for the market's continuation is that there is an exchange, that people pay. The market is bound by price, by money-demand. When needed resources become commodities (anything that can be exchanged, bought and sold), the concept of 'price' becomes encoded as 'value'. For instance, food (as a resource) is no longer valued based on its dimensions of health (a "true", materially fundamental value), but on the tradeable features that can be valued as a 'price' in the market (i.e., its transactional relationship value). Value (that which oriented toward survival and fulfillment) and price are thus mixed up (confused in cognition). That which is of "true" value (i.e., orienting toward fulfillment) is a non-market dimension.

NOTE: *Advertising exists to convince people to do things that they would not, necessarily, otherwise choose to do (or, at least not prior to more intentional thought).*

9.3.3 Material acquisition and possessions as materialism

APHORISM: *Unless we think through what it is we want to happen we are unlikely to make it happen.*

The centrality of material possessions in current societies and for certain individuals has triggered a significant amount of research in the social sciences. Belk (1985:291) defines materialism through the importance a "consumer" attaches to worldly possessions. At the highest levels of materialism such possessions assume a central place in a person's life and are believed to provide the greatest sources of satisfaction and dissatisfaction'. At the societal and cultural level, materialism has been taken as a structural variable in order to compare societal types. In social sciences, historically, materialism has been identified with personal values (Richins et al., 1992) and individuals' personality traits, but not with differently encoded understandings of access (as in, cooperative societal structures versus competitive).

There is also the similar, but separate notion that materialist societies are those that focus on Maslow's lower order needs. Maslow regarded the lower needs as deficiency needs (doing, "D" needs) that for children had to be met by parent-figures, and the higher needs (Being, "B" needs, growth needs) as developing later through 'inner states of being' to the ideal stage of self-actualization.

9.3.4 Consumer demands

There is a difference between life requirements and objects of consumer demand, that is, the deprivation of the latter might produce subjective feelings of harm in some people in "wealthy" societies, but these feelings are not objective harms (though the self-created psychological trauma can be). Here, life requirements are separate from market-based consumer demands. In early 21st century society, there are inputs that all human life requires to survive and develop, and then there are a separate set of demands that humans do not require for their life capacity and full development, but they still demand. Needs (life needs) exist in contrast to conditioned market desires, preferences and wants, which are the opposite in principle, because without them no life capacity is reduced.

NOTE: *Life requirements may be distinguished from the extraordinary range of contextual and cultural demands of people.*

In the market, where all (or, most) human needs are classified as wants, there is likely to be very little agreement on what needs are or could be (because, they are intermixed with wants).

9.3.4.1 Market demand creation

A.k.a., Market created wants, market demands.

It cannot be denied that individual humans can be (and have been) enculturated through advertising and marketing by commercial institutions to want objects and services that are verifiably detrimental to their well-being and to the ecology -- to want things that if the individual humans were better informed and with sufficient foresight, would immediately recoil from.

"You can sell anything to the masses if you just display it well."

- Professional display designer

It is important to recognize that the hooks some people have been enculturating into accepting are connected to the way they see/perceive life today. How they were taught, and now experience yearning, and even desire itself, is a product of a pre-existing system that they were born and conditioned into (a governing reward system), and it is going to take quite a bit of information processing and time to undue this programming. Socio-economic conditions determine a lot more than people in modern realize.

In the market, artificial "needs" are created through the logic of profit. The culture of profit and fundamental structural needs of the system tell individuals therein what to value. Through its acceptance we encode a value set into our lives and lifestyles that orient toward the achievement of these artificial needs and away from human need.

NOTE: *In a state of socio-economic competition, where everyone is out to meet their own needs at others expense, a predatory system emerges, and wants can easily become confused with needs.*

In the market, institutions and companies producing the goods and services, that people have from to choose among, are actually setting consumers' options, shaping wants. The available consumption bundles have been created by entities in the market, and not the individuals themselves. Thus, the goods and services may not be what the consumers' desire, dream of, or prefer under alternative institutional settings.

In the market, everything is called a "good", regardless of it is life affirming or not. Consumer "goods" subject to the forces of marketers and social differentiation are not always successful in contributing to human needs.

9.3.5 Consumer rights

When the [free] market is present, there are not [human] 'needs', only [consumer] 'preferences'. In the minds of some market theorists, there is the idea of "consumer rights", which establishes the following logic:

1. I the consumer has a right,
2. whatever sentience of other life is degraded,
3. because I have bought and paid for it,
4. this is my right and my freedom.

When there is ownership, then the idea of having "a just right" and "privilege" (i.e., hierarchical priority access), become active encodings over inter-dependent, mutual access (i.e., community access types). What if the desired capability for which people claim a right is for what stunts or violates life capacities at an ecological or organic level?

9.3.6 Societal-type input differences

APHORISM: *There is no such thing as 'fairness' in 'bargaining' (in the 'market'); their is only 'fairness' through 'contributed protocols' designed for 'cooperative fulfillment'.*

Different societal structures are responsive to different inputs:

1. **Capitalist markets** respond only to price signals (i.e., consumer demands). Price signals are generated by peoples' purchases. The socially constructed system has needs for its continuation.
2. **Community** responds to life requirements (i.e., humans have needs for their continuation).

Given the societal type, who has control over basic life-resources and life-services?

1. Private control (in the **market there is price**).
2. State control (in the **State there is legal authority**).
3. Commonly informed and openly engineered decision control (in **community there are humans with systems science**).

Socio-economies are complex evolving networks formed by individuals acting on the basis of inputs (and pre-existing structures):

1. In the **market-State**, the primary input (signal) is some individual(s) psycho-sociologic position among competitors in a hierarchy of individuals. The primary structures are institutions, with multiple sub-institutions categorized under the labels "the market" and "the State".
2. In **community**, the primary input (signal) is the internal experience and external condition of human fulfillment. The primary structure is adaptive, optimized, and unified for human fulfillment. At the information-level it is a unified societal system, and at the physical level it is a materialized habitat service system.

Individuals with needs require a "means" to meet their needs. Therein, different societal types may select different "means" to/of fulfillment:

1. In the **market**, that "means" is money. The point of money is to make enough to do what you want to do -- fulfill your needs and add those market

“luxuries” on top.

2. In **community**, that “means” is collaborative development of a unified societal model at the macro scale and access to a materialized habitat service system (i.e., integrated city system) at the personal scale.

9.3.7 How conflict/anger may arise through dis-coherent wanting

TRUISM: *All conflict arises from misplaced desire.*

An “adult” does not get angry when s/he doesn't get what is wanted, because his/her wanting it was simply a preference, not a necessity. S/he therefore has no fear associated with the possibility of not getting it. Hence, no anger or conflict. S/he is not angry when s/he see others doing what s/he doesn't want them to do, because s/he doesn't need them to do or not do any particular thing. Hence, no anger.

INSIGHT: *In socio-economic competition, competitors are incentivized to reduce humankind's ability to self-regulate [toward fulfillment] in order to bolster their own powers and profits.*

In most product markets around the world today, most of the products are supplied by a small number of suppliers. There is very little diversity in terms of the products themselves and the number of suppliers. For most products there is a relatively low demand for diversity. Individuals everywhere all want the access that science, technology, and available resources can best provide at the time. And in the market, individuals pay for what we can be afforded or perceived as affordable. Hence, in many real world cases of wants, variety is not valuable or desirable; what is desirable is optimization.

STATEMENT: *Demands of human opinion will always be secondary to ecological demands if humans want to survive and thrive on this planet.*

There are authors who have well-conceptualized the link between human needs deficiency and social conflict. John Burton (1997) provides reasoning for that when, generally, there is insufficiently individual fulfillment of needs, there is social likelihood of “Deviance, Terrorism, and War: The Process of Solving Unsolved Social and Political Problems”. It is possible to imagine that much of the protracted social conflict that is expressed as ‘deviance, terrorism, and war’ are actually frustrated human needs of identity, security, recognition, participation (and others), and trauma. (Burton, 1997)

Assume that the social structures of a community, or any society, are to some degree functional or dysfunctional for the purpose of providing or supporting the fulfillment of needs for a population. And, when those needs go unfulfilled, there are lesser states of

community, and under some societal structures and social dynamics, they may breakdown into conflict. It is sometimes one group of a whole population's efforts to satisfy their own needs, at the expense of others (or, another groups') needs (the satisfaction of) that actually fuels conflict, causing a difficulty to grasp in the consciousness of the individuals how need fulfillment becomes the obvious basis for conflict resolution.

QUESTION: *In what societal categorical state does ‘conflict’ exist? How is violent conflict handled by individuals (in particular, the three core of: murder and rape and assault), as a ‘medical’ and ‘restorative justice’ issue by some organizational/structural intersystem team of contributors, or a ‘criminal authority’ issue of enforcing monopolizers, or other? Is there profit off of conflict?*

If dysfunctional social structures and institutions are root causes of social conflict, then conflict resolution (justice and restoration to full freedom) should be a process for fundamental structural social coordination, so that social structures and institutions exist explicitly for the purpose of satisfying human needs as intentionally demanded and contributed. If the goal of conflict resolution is framed as a ‘problem to be solved’, then an analytical problem solving process can (i.e., requirements, *but not complete*):

1. Analyze the existing social structures and institutions, in order to determine in what ways they are dysfunctional;
2. Determine just what the culturally, socially and environmentally appropriate needs satisfiers would be in the conflicted community or society;
3. Design a process for making the necessary operational changes or engineering the new structures that would suffice for fulfilling those unmet (gap-ping) needs that have been frustrated. This analytical problem solving process may be used in both a pro-active and re-active manner, when used pro-actively in planning, there might be the opportunity to prevent, some conflicts from becoming violent and protracted, ensuring risk reduction.
4. Decide a resolution that denies power [over others] a place in the resolution of conflict. Outcomes based on coercion cannot be a basis for long-lasting and self-reinforcing societal decisions or resolutions.

9.3.7.1 The world is neither free of resource nor free of work

To some people the term, “free”, means that there is no resource consumption in a produced service or product. But, this isn't how “free” is defined in community. In community, “free” means that there are no artificial

restrictions on access to materials required for human fulfillment. Here, access to material resources and products comes without the necessity of participating in an exchange - community is a moneyless form of socio-economic organization. In community, the word "free" does not mean that a good or service is provided without using or otherwise being composed of resources. In the material world, every productive output utilizes resources, which are then reused or recycled following natural processes. In fact, resources aren't technically consumed, they are transformed. But, the total process of maintaining access to the productive result of material construction and re-configuration does have a technical component to it.

In truth, work as effort expenditure has been tied to our survival for a long time. Historically, we have had to do work to provide shelter, water, food, and fire for ourselves in order to survive. And, one of the consequences of this relationship between effort expenditure and survival has evolved our biological system to maintain an inherent desire to conserve energy.

In community, individuals are not actually giving a group or people anything. Instead, individuals are constructing via a contribution-based system that provides access for individuals to service systems that fulfill their needs, wants and preferences. Community is not a system where groups of individuals take from any other group, to give to any group, which is one of the characteristic roles of government.

Example: Given what is available now, "you" may want an "apple watch", but what do "you" really need? "You" need a communications and information processing interface, for which the current level of [un-/]common technological access may be a "apple watch". And, how many do you need? If it is an apple watch, then you want ("need") one, and maybe if it breaks you will want ("need") another.

Today, instead of becoming sensitive to that which is commonly needed and wanted, people are being conditioned to want certain things in certain ways, and to settle for certain things, certain ways.

9.3.8 Coordinated access by common [un] ownership

A.k.a., Coordinated access through a unified information system.

The earth's natural resources are essential to all forms of human life, and the earth's existence is not owed to any human accomplishments. Similarly, the earth is essential to all forms of life, and the earth's existence is not owed to any individual life accomplishment.

NOTE: *In a society, we are either all fulfilled, or none of us fulfilled, because we all exist within the same society and the complete fulfillment of any one individual necessitates the fulfillment of all.*

Common [un]ownership is logical, because the natural resources and spaces of the earth are nobody's achievement, and are required for human needs to be fulfilled. Individuals are only capable of creating complex accomplishments because of the efforts of past, as well as other current, individuals.

NOTE: *Obviously, humans are not the only users of earth's resources. Collective [un]ownership is a relationship among humans stating that all of humans have the same "claim" (i.e., access) to resources and spaces. That relationship does not imply that other lifeforms should not also have an opportunity to access and consume resources, or that the preservation of ecosystems does not by itself at least have ecological value that demands preservation.*

Different societal views on accomplishment:

1. In community (a *co-operative* system), individual accomplishments are informed by other individual accomplishments (going back thousands of years), producing an interconnected matrix of knowledge, technologies, resources, and spaces for current individual accomplishment.
2. In the market (a *competitive* system), individual accomplishments are the property of the final individual effort. Therein, when someone mixes their labor with something that is commonly owned, this object is thereby appropriated by the laborer as property.
3. In the State (a *dictative/authoritative* system), a portion of every final individual accomplishment is appropriated by the State to use as the State decides.

Egalitarian ownership is the view that the earth originally "belongs" to humankind commonly, in the sense that all humans, no matter when and where they are born, have some sort of symmetrical use (or "claim") to it. Egalitarian ownership identifies a common relationship among human beings and allows for a social recognition of concern about the usage of nature, and to the extent that nature is accessible, no human being has a privileged claim.

Four types of ownership-status:

1. **No ownership** (*a.k.a., common access, shared access, common unownership*) \pm access directed by collective protocol.
2. **Private ownership** (*a.k.a., capitalism*) \pm ownership directed by individual preferences.
3. **Shared ownership**
 - A. **Joint ownership** (*a.k.a., public ownership*) \pm ownership directed by collective preferences. Joint ownership means that each use would be

subject to a decision process to be concluded to the satisfaction of each co-owner. Each co-owner must be satisfied on each form of use.

- B. **Common ownership** (a.k.a., \pm in which the entity belongs to common population of individuals, each equally entitled to using it within explicit constraints. The first constraint being the inability to exclude other co-owners from also using it.

10 Preference

A.k.a., Customization, subjective needs, comparative options needs.

It is because needs are based upon a common, social life ground that they are morally significant in ways that preferences are not. Preferences change in light of the options we have available – the phenomenon of ‘adaptive preferences’. The concept of need is objective, whereas that of preference is contextual, subjective and environmentally determined. Preferences are subjective needs; because, although they are still common options to all of humanity, but they are the category of service-objects (provided under the condition of fairness; restorative justice) and not the fundamental structural direction itself, for everyone. Preferences define threads of the common, showing the separation between people’s demands for needs, but “needs” categorize all people/humanity in society. In community, preferences are surveyed and observed on a shorter timeline than needs, which are appearing eternal for humanity. The accounting for preferences in a social system shows the accounting for local customization, and ultimately, freedom from coercion and conforming to various forms of dictatorship.

The privatization (in a market) of consumption preference precludes questioning the nature and content of consumer preferences, except within narrow limits. It is subject to numerous challenges on the grounds of subjectivity, epistemic irrationality, endogenous and adaptive preferences, limitlessness of wants, the absence of moral evaluation, and the non-specificity of future preferences. In a society where human needs are prioritized, then the action taken to have preferences fulfilled is reliant upon on the prioritized fulfillment of human need.

10.1 The logic of preference

NOTE: *Preference can overlay (i.e., “colors the view) factual human need fulfillment, but it does not have to.*

The Logic of Preference: An Essay, von Wright (1963)::

1. Preference is related to the axiological notion of betterness and the anthropological notion of choice.
 - A. Extrinsic preference - p is preferred extrinsically to q if it is preferred because it is better in some explicit respect. If there is no such reason, the preference is intrinsic. In other words, it is preferred because it can be explained to other individuals.
 - B. Intrinsic preference - If there is no explicated reason for the preference.
2. In a unified societal system with an efficiently

organized economic system, only demands with reasoning exist actively in societal decisioning:

- A. Intrinsic “preference” (i.e., human needs) refers to evolved conscious-organismal requirements (e.g., human requirements), which are known or knowable. These are the categories of human requirement relevant to embodied consciousness, that when complete in some pattern to allow consciousness to feel, express, and respond optimally.
 - B. Extrinsic preference (i.e., environmentally bounded preference) states that, given what is known, an individual chooses to play one instrument over another. For example, there are an environmental set of physicalized and physicalizable instruments that a given person can play. Or, there are a set of physicalized and physicalizable wines (food>alcohol) that a given person can consume. There are a range of optimal human nutritional requirements, given nutrition is the intrinsic “preference” category.
 - C. Here, extrinsic and intrinsic preferences are interrelated and form a unifying system measurement system for human relationship fulfillment. There is an intrinsic category for which there exists a range of optimality, and a preference therein. For example, the decision and action to play an instrument, from a given set of instruments, may fulfill a need for self-actualization and/or health. There is a source for input (intrinsic preference, which isn't really a preference, but an absolute category), and then there is a range dependent (in part) on environmental availability and socio-psychological meaning. What are values, if not preferential orientations, given a direction (category of human requirement).
3. Notice the difference in perspective and complexity between the two views of intrinsic and extrinsic preference. From a market-based perspective, there can be “no reason” a demand is created or met. Conversely, in an unified societal system, there is always a reason, a source (trace) and posted organized location, for the instantiation of a demand into the societal decision system for re-organization of a common information-materialized environment (a space that affects every-one). In either case, someone can revise their preferences for many legitimate (or explicated), and non-legitimate (in the market) reason. There are mechanics with knowable dynamics that influence the probable resolution of a preference (value) for need (human requirement). In the market for competition over fulfillment, money is an abstract method for denoting the “value” (preference) of goods and services (Read: market assets). Money adds an additional layer of abstraction. There are components of valuation calculation in the physical world:
 - A. Energy and materials required to produce - a biophysical baseline
 - B. Utility value - how useful is it in optimally fulfilling a human requirement (with a biophysical baseline), given what is known. How does the methodical re-orientation (i.e., value) of change relate to that which is optimally demanded.
 - C. With the least risk (e.g., opportunity cost, sunk costs, disaster recovery, etc.)
 4. Here, energy is just another word for work (an operationally useful process). Useful (economic) work includes:
 - A. Designing and organizing [information in the information system].
 - B. Reshaping the material environment (e.g., cultivation, production, manufacturing, etc.)
 - C. Habitat services for users (e.g., housing, medical, transportation, etc.).
 5. In formal logical languages, states of a system (of “affairs”) are typically represented as propositions, with the latter viewed as a set of possible system expressions (or “worlds”). All possible entity-access relations form all possible systems (“worlds”) as ‘betterness’ relations, a model for a modal preference logic:
 - A. A betterness model is a tripe $M = W \leq V$, where W is a set of system expressions (“worlds”), \leq is a reflexive and transitive binary ‘betterness’ relation \leq (‘at least as good as’), and V is a valuation function for proposition letters.
 - B. Herein, all system expressions that are at least as sufficient at meeting current optimum access-fulfillment requirements are preferences (or preference relations). For example, someone can choose and have visualized a particular material object, an instrument for instance, and have it not negatively impact the access-fulfillment of the remaining population. All system expressions where possible instruments are produced are at least as good at sustaining optimum access fulfillment as the other -- and, this logic enters the decision system as a preference set. The individually preferred (relatively) materializations that do not impact the optimal materializations (the actual materially expressed access fulfillment) of every-one individual (i.e., of everyone). Within the preference set there is an individual (relative)

determination of preference. A preference is the relation between world expressions, quantifying over all world expressions.

- C. For instance, in the market, one prefers some house over another because the first is cheaper (market conception), and/or of better quality (quantitatively determinable) than the second. (Liu, 2009)

INSIGHT: *All motivation to take a decision and act, originates from somewhere. What really is "a random thought"? Is there really such a thing as a "random" thought? How can you be sure it wasn't derived from some sort of stimuli, either known or unknown, conscious or unconscious, internal to the body or environmental? How can consciousness pay attention to what arises spontaneously, noticing and recording what comes, eventually tracing the information to a source.*

10.1.1 The conception of preference

The conception of preference can be broken down into the following characteristics:

1. A preference is a preference for:
 - A. Utility (functionality).
 1. Featurality.
 - B. Aesthetic.
2. Can pleasure and pain (happiness and suffering) be numerically standardized and measured [in terms of utils or utility units, which are considered as real as units of length, mass, or temperature]?
3. Is there a natural 0 between pleasure and pain, or is pain (or death) 0, and a continuum extends therefrom, with the highest pleasure being that which is currently knowable, but not ultimately, statically defined? Can utility units have arithmetics applied to them. Biophysically, is a utility units index constructable from pulse, blood pressure, glandular activity data, rate of salivation, a degree of pupil dilation, or perspiration? Is there any way of comparing levels of satisfaction, human fulfillment, and expressed life pleasure among different people? Is there an objective way of measuring life satisfaction at two different times for the same individual? If all of life is subjective preference disconnected from that which is common to all individuals, then there appears to be no way to objectively measure life satisfaction. However, if there is commonality, a common genetic expression, a common environment, a common societal system, a common network of influence, then there appears to a way of objectively (i.e., commonly) measuring satisfaction. Are there better alternatives to the current

environment that are the "best" for everyone in that common, current environment?

4. A unit of length is scientifically real for several reasons: first, there is a standard object which everyone can observe (sense) as one unit. Second, there is a natural zero for length. Third, units of length can be mathematically manipulated in relation to that which is observed (i.e., added, subtracted, and multiplied by numbers according to the rules of arithmetics), and the results make cognitive-logical sense (e.g., 2 meters + 2 meters = 4 meters).
5. Ask and observe the person: If it is asked: "How many units of happiness (nutrition) would you now get if I gave you a banana (food)?" If the context was a starving person. If instead, the question was: "Would you prefer an apple of banana?" If the context was a starving person. The zero state is death due to lack of nutrition (food). In the case of the true preference, the apple is at least as good as (Read: logical equivalence) the banana in meeting the current nutritional needs of the individual. It would seem that the first question and follow through (i.e., providing the food) would save the person from death, whereas the second question and follow through would do similarly, but allows for a "true" preference beyond the states of life or death (if the food objects are logically, sufficiently equivalent in meeting the individuals nutrient need, such that either choice meets the need).

10.1.2 The notation of preference

Notationally, let x and y be two logically and sufficiently equivalent (at least as good as) alternatives.

1. To symbolize the preference of the i th person.
 - A. M_i is the primitive "**mutual**".
 1. xM_iy is "I thinks (subjective) and/or measures (objective) x is at least as good as y and y is at least as good x "...at accomplishing some thing, at accomplishing something mutual. There is a specific type of presence, a choice where it is possible to have a preference, because difference exists in presence.
 2. $[X]$ is at least as good as $[Y]$ if and only if it is at least as good for the people who exist in both.
 - B. R_i is the primitive "**given**".
 1. xR_iy is "I thinks (subjective) and/or measures (objective) x is at least as good as y "... given they are substantially equivalent at accomplishing the same thing. Note: the language "at least as good as" indicates the presence of a preference category. Given a concrete structure of the set of alternatives,

- R can be associated with a preference in the following way: x is at least as good as y if and only if (x, y) is an element of R. Given this type of connection, the binary relation can be regarded as a representation of a preference, and can describe a choice over alternatives. If (x, y) is an element of R and (y, x) is not, then x is chosen over y.
- C. Pi is the “**preference**”.
1. xPiy is “I prefers x to y”...preference for a sufficiently equivalent thing.
- D. Li is the “**indifference**” (i.e., no preference).
1. xliy is “I has no preference between x to y” ...no preference when accomplishing a sufficiently equivalent thing.
- E. If there exists a world where different environment compositions can accomplish the same thing (the set xMiy), then the relationship between Pi and Li can be derived from Ri (i.e., where Mi is also Ri):
1. If (xPiy, xRiy and not yRix) or (xliy), then xMiy is 001 - person i either has a preference or is indifferent between x and y, given a real mutual presence with the identifier 001 which x and y are similarly associated:
 - i. If, x is at least as good as y (xRiy), and not, Y is at least as good as x (yRix),
 - ii. Or, there is not a preference for the preference between x and y (xliy),
 - iii. Then, there exists a mutual preference set (xMiy).
 - iv. While, x and y are mutually equivalent at doing/accomplishing the same thing (with the identifier 001, or 1, or whatever).
 2. Without xMiy there is no true preference, because there is no mutually substantial equivalence (i.e., no “preference” set), given a conscious receptor and the condition of an environmental context that connects with that receptor. In the context of humans, needs may be the receptor (i.e., human requirements), for which there are sub-receptors (e.g., human nutrition), and there are different environmental conditions (base on different environmental configurations) that connect with that receptor (i.e., different types of food, like carbs, lipids, a banana, a piece of fish). There must be a given substantially equivalent set for a preference to exist, otherwise the logic ‘preference’ is incomplete. If there is no substantially equivalent set, then the preference is arbitrary and subjective, and thus, the social coordination of decisioning [within a common environment] becomes unpredictable (i.e., the market).
 3. Where Mi is not also Ri, but Pi or Li is Ri:
- A. A. Not xMiy - “I do not think (subjective) and/or do not measure when x is at least as good as y and y is at least as good x” ...at accomplishing some thing. Here, the common environment (the mutual existing) is unobservable and/or not thought about.
1. If, not xMiy,
 2. Then, no existence for presence to occur within.
- B. xPiy if xRiy and not yRix (or yRix and not xRiy) - person i prefers x to y if (for what reason, R):
1. If, x is at least as good as y (xRiy),
 2. And not, y is at least as good as x (and not yRix),
 3. Then, x is preferred to y (xPiy).
- C. xliy if xRiy and yRix - person i is indifferent between (the preferences of) x and y; x is indifferent to y if x is at least as good as y and y is at least as good as x:
1. If, x is at least as good as y (xRiy),
 2. And, y is at least as good as x (yRix),
 3. Then, there is indifference to the preference between x and y (xliy).
- D. So what? In other words, so what if person i prefers x to y if there is relationship to an environment including a common population? Where is the meaning between a population where preference exists and a common environment where resources exist the population uses? It would appear that without a set, without xMiy, then there is no completeness.
- E. The fundamental axioms for real preference are:
1. **Completeness (given presence, thought-observation)** - For some presence that exists mutually among a population (of thinking observers) it is possible to have a set in which the population has differences in preference in the way in which some thing, a presence, occurs, xMiy and (x,y)Ri. In other words, for some “thing” that occurs commonly among a population, it is possible for individuals of that population to have preferences (x,y)Ri about the outcome or method of that things occurrence.
 - i. x equals y
 2. **Completeness (within the preference set)** - For any pair of alternatives (given substantial equivalence in “preference” set xMiy) x and y, either xRiy or yRix.
 - i. x does not equal y => x >_ y or y >_ x (connectedness)
 3. **Transivity (of the preference set)** - For any three alternatives (given a preference set of

$xMiy, z)$ x, y , and z , if $xRiy$ and $yRiz$, then $xRiz$.

i. $x >_y, y >_z \Rightarrow x >_z$

- F. Note that any model of preference that does not account for *presence* as part of its completeness is not complete. In other words, if a model for preference starts with, “preference within a set”, while not acknowledging the presence of a “set”, then that model is incomplete. A market-based social encoding of preference starts with the logic, $xRiy$ or $yRix$, not with the acknowledgement that humans have common categories of requirement, $xMiy$. An poor analogy might be some individual who expresses the logic: “this is the way the world works (i.e., makes a truth claim), but simultaneously states that there are no truths that can be known about the way the world works.” And so, there is no $xMiy$; the preference logic starts with $(x,y)Ri$.

11 The human needs list(s)

A.k.a., Human needs list, human needs inventory, human needs database, human needs spreadsheet, human needs organization, human needs table, human needs index, human needs hierarchy, human needs pyramid, human requirements table, human requirements list, human requirements index, human life index, human life standards list, human needs taxonomy.

Although the list of basic human needs does not vary and is universal, the ways in which these are met are context specific and may potentially vary over time. New human socio-technical advances may provide different means to meeting a basic need. Other changes in a socio-ecological context, such as, new environmental pressures or changes in the demography may also affect how needs are met or unmet. General improvements in human understanding may also lead to re-evaluations as to what constitutes meeting a basic need, thus shifting thresholds of harm over time. Despite the potential for thresholds to be context and time specific.

QUESTION: *What motivates healthy individuals?*

11.1 The primary [human] life processes

The four primary [human] life processes (or needs) are:

1. Sleep (restoration).
2. Move (locomotion).
3. Eat (nutrition).
4. Waste (material cycling).

The four basic life adaptation processes are:

1. Existence and survival (safety).
2. Relatedness and connectedness (social service).
3. Togetherness in habitation (technical service).
4. Self-growth and other discovery (exploratory service).

11.2 Real-world hierarchy of material life-cycling need

In a real-world, there is a hierarchy of material requirements for humanity:

1. **Universe:** Universal services allow for conscious existence in the universe (note: this could be considered an environmental need or condition).
2. **Planetary:** Biospheric and ecological services allow for life, and particularly, human life on planet earth (note: this could be considered an environmental need).
3. **Habitat:** Habitat services allow for meeting the requirements of human well-being at the habitat

service levels of life support, technological support, and exploratory support (note: this could be considered an environmental/social need).

4. **Individual:** Individuals have physical and social capabilities and needs that must be met for humans to be well and flourish. The individual's body is a life ecosystem service itself.

11.3 Formal human needs lists (simplified)

A.k.a., Prior human needs lists, models, schema and organizations.

In past literature, there have been many different versions of a list of human needs. The following are the most common and well-known models, lists and schema of human needs (by different individuals and organizations):

Note that some of these lists have variations.

11.3.1 Henry Murray (1938)

Henry Murray (1938) listed 24 needs in 2 categories:

1. **Biological demands (primary needs, the vitals)** - such as the need for oxygen, food, and water. These are fundamental needs for basic survival.
2. **Psychological needs (secondary needs)** - such as the need for nurturing, independence, and achievement. While these needs might not be fundamental for basic survival, they are essential for psychological well-being.

11.3.2 Abraham Maslow (1943-1971)

Abraham Maslow (1943, 1954, 1968, 1971) listed 7 needs in 3 categories (originally depicted in the shape of a pyramid or triangle as drivers of human action):

1. The categories are:
 - A. **Existence needs** - physical physiological existence requirements, safety.
 - B. **Relatedness needs** - self and social connection (contribution, love & belonging, external esteem).
 - C. **Growth needs** - internal esteem and self-actualization.
2. The needs are:
 - A. **Physiological needs (bio-physical, vital)** - seeking food, shelter, air, water, warmth, reproduction (sexual intimacy), hygiene (e.g., excretion and toilets), sleep, and movement; seeking certainty of completeness of these bodily needs. Physiological needs are the

requirements of all biological creatures. These survival needs form the base of Maslow's pyramid.

1. Physiological is at the base of the "hierarchy" and represents survival kinds of human needs.
 2. Physiological needs are the only needs which can be completely or even over satisfied.
 3. Physiological needs are continually recurring, so we must seek satisfaction of this basic need on a daily basis.
- B. **Safety needs (physical security)** - protection from harm; from disease, from physical insecurity, shelter; clothes; city/urban services; predictability, routine; familiarity; certainty; order; stability; limits/boundaries; seeking security in the market-State (through security of tokens, property, belongings, oneself and family, and employment), and in community, there are predictably planned socio-technical services, and health restoration (locally and globally). Someone can be safe, someone's personal objects can be safe, and habitat/city services can be safe when they work as expected, for human need fulfillment.
1. Safety refers to securing oneself and ensuring safeness in one's environment.
 2. In peaceful societies, safety needs are relatively easy to satisfy.
 3. Safety needs become highly important (become a priority) during natural disasters, fires, accidents, and other life threatening situation.
- C. **Belonging and love needs (social inclusion)** - affection; [positive] connection; family & friends; shared interest; bonding; seeking a sense of connection and belonging with friends, family, and others.
1. Love/Belonging refers to being able to have a sense of human belonging with others and an ability to embrace love.
 2. A person who has never experienced love and closeness will eventually devalue love and not be particularly worried over their inability to find it.
 3. A person who has received love and closeness during childhood will be able to love others, and not be devastated by the occasional rejection.
 4. A person who has experienced just a little love and affection will be strongly motivated to meet these needs, and might go about satisfying the need for love and belongingness in a pathological way.

5. Children need love in order to grow psychologically, and also, physiologically.
- D. **Cognitive needs (intelligence inclusion)** - understanding and creation; knowledge; meaning and self-awareness; imagination; discernment, creation; visualization; information curiosity; seeking intelligence and useful information; discovery and exploration.
1. Cognitive refers to intellectual understanding and the ability to create through knowledge -- the desire to know, to solve life's problems, and to be curious.
- E. **Aesthetic needs (beauty inclusion)** - beautiful and uplifting; appropriate surrounding natural environment; biomimetic aesthetic; biophilic aesthetic; natural harmonic forms; harmony and setting; seeking beauty and natural biomimetic environments; search for beauty in environment, both as a real-world eco-system service condition and as an uplifting "awe inspiring" visual and auditory environment.
1. Beauty serves to elevate the feelings of individuals. It serves to broadcast the fact that you live in a society that cares about you. Exquisite objects and locations serve to bind society together through shared values and a deep sense of place and meaning.
- F. **Esteem needs (self-social inclusion)** - self-respect and respect from others; high evaluation of oneself; achievement; confidence; competence; and the respect of others; seeking self-confidence, recognition, and achievement. Maslow distinguished between two levels of esteem needs: reputation and self-esteem.
1. Self-esteem comes from what you experience about yourself. Esteem refers to having a sense of ability to confidently engage with the world and affective decisions within it.
 2. Other-esteem refers to one's reputation in community, which comes from contribution and education. Here, there is someone having the feeling that others recognize and respect oneself, and that one recognizes and respects the abilities (and histories) of others.
- G. **Self-actualization needs (self transcendence inclusion)** - self-growth; actualizing one's innate potential; seeking one's full potential; flow and peak experiences; challenge; problem-solving, understanding, exploration, discovery, self-development; personal growth (physical, mental, spiritual and mystical, and intellectual); realizing personal potential in self; seeking a desire to become better in all aspects of ones body and life; seeking a desire to help causes

and reaching beyond one's own needs.

1. Self-Actualization refers to a higher order of human fulfillment, the desire for self-fulfillment and to realize one's potential.

H. **Other-self-actualization needs (self-other transcendence inclusion)** was added by Maslow in 1963 - helping others to self-actualize (may not exist for everyone); helping others to realize their potential; realizing person potential in others. Seeking a desire to help the cause of helping, supporting, and facilitating others in achieving their highest potentials at the societal and individual levels. Applying ones abilities during contribution in the mentoring of others could also be a form of other-self fulfillment.

1. An example of this is continuing to contribute into the "retirement" leisure phase of life, instead of leisuring through the remainder of life.

All of the needs below self-actualization are basic needs. Maslow also called these basic needs neurotic needs, deficiency needs, and deprivation needs, because if these needs are not sufficiently fulfilled there is likely to be fear and psycho- or socio-instability (i.e., "you" don't feel yourself. "You" can't operate from a calm, quiet center). Any unmet basic need causes problems and tensions that a human will seek (be motivated) to resolve. Maslow (1971) posited that the two layers, deficiency and actualization, are interrelated; however, the lower level needs must be satisfied before higher-order needs can influence one's behavior.

NOTE: *If both physiological needs and safety needs are satisfied, then individuals can turn their energies toward our "Higher" needs.*

The top four layers represent actualization needs, in other words, the quest for knowledge leading to character development. When these needs are met, the person experiences a greater sense of wholeness and fullness (wellness) as a human being. People learn to connect to something beyond themselves, gaining wisdom and enlightenment. Per actualization needs, behaviour, in this case, is not driven or motivated by deficiencies but rather one's desire for personal growth and the need to become all the things that a person is capable of becoming.

NOTE: *Maslow did not originally use the triangular (pyramidal) shape that has now become synonymous with his hierarchy. Instead, his initial description was narrative in style. Further, in his original article, Maslow proposed two separate hierarchies, the Hierarchy of Basic Needs and the Hierarchy of Cognitive Needs.*

Maslow expanded his thoughts on motivation in the book, *Motivation and Personality* (1970). Maslow (1943,

1954) tendered five levels of needs: physiological, safety and security, belongingness and love, esteem, and self-actualization. In 1971, he added a sixth level beyond self-actualization, that of self-transcendence, the need to connect with something beyond ones self. Maslow and Lowery (1998) added two more levels: cognitive (the need to know and understand) and aesthetic (the need for beauty, symmetry and order). The original five-level hierarchy of needs model remains a definitive classical representation of human motivation; and the later adaptations serve best to illustrate aspects of self-actualization, his original, fifth, highest order need.

If people are fortunate enough to meet their esteem needs, then they are ready to try to satisfy the highest level of needs in Maslow's hierarchy. A major difference between people who don't progress farther than the esteem needs stage is due to the adoption of core B-Values. B-values (Being-values) are what distinguishes the truly enlightened person (one who is self-actualized) from an individual who has satisfied all basic needs, yet still lives a life without purpose. People who embrace B-values will live a life of meaning and fulfillment.

- The B-Values are: truth, goodness, beauty, wholeness, aliveness, uniqueness, perfection, completion, justice, simplicity, totality, effortlessness, humor, and autonomy.

Maslow had indicated that each level when reaching a threshold of satisfaction would no longer become dominant as a human need. For example, if someone were starving to death, that individual would likely putting their physiological need for food high up on his/her set of priorities, and drawing a picture would be low in his/her priorities (unless it led to getting fed). Until some semblance of physiological needs are met, it is hard to move upward to safety, and likewise until some semblance of safety needs are met it is hard to move upward to love/belonging, etc. Human needs arrange themselves in hierarchies of pre-potency. Here, "prepotent" means that lower needs had to be satisfied before higher needs came into play.

Maslow acknowledged, however, that the natural ordering of needs may not apply in all circumstances, such as say a martyr that has chosen to give up food to make a statement of a political or social nature.

Maslow also indicated that indicated that humans can become complacent at a given level and not necessarily seek to rise higher. If someone is satisfied at the first four layers, under certain environmental conditions, that individual might not necessarily seek to achieve the fifth and highest layer of self-actualization, or to try and make the world into a predictable and orderly structure (cognitively and/or externally).

There are many variants of Maslow's "hierarchy", some of which try to remove the hierarchical nature, for instance, by:

1. Placing the needs side by side as continuum

extending from physiological on the right of the continuum to self-actualization on the left of the continuum

2. Placing self-actualization in the center and then evenly spacing the other needs in a circular manner around that center.

11.3.3 Ian Gough (2014) and Doyal

Doyal and Gough needs (depicted as a three dimensional list):

1. **Universal goals** - avoidance of serious harm; contribution, social participation, exploration.
2. **Basic needs** - survival, physical health, cognitive and emotional capacity, opportunity to participate, opportunity to contribute, critical autonomy.
3. **Universal satisfier characteristics** - nutrition, water, shelter, non-hazardous environment, safety (birth and childbearing), appropriate health care.

A conceptual bridge be built to link basic needs and specific satisfiers using the idea of 'universal satisfier characteristics'. If we define 'satisfier characteristics' as that set of all characteristics that have the property of contributing to the satisfaction of our basic needs in one or any context, then we can in principle identify a subset of universal satisfier characteristics (USCs): those characteristics of satisfiers which apply to all human contexts. USCs are thus those properties of goods, services, activities and relationships which enhance physical health and human autonomy in all societies. For example, calories a day for a specified group of people constitutes a characteristic of (most) foodstuffs which has transcultural relevance.

NOTE: *The concept of human need, and thus demand, must open to continual improvements in understanding; for example, advances in the biomedical understanding of health and disease.*

The universal goal for all individual humans together in society is:

- Minimally impaired social participation.

The basic human needs (core universalizable goals of human action) are:

1. Physical health/survival (health of body; organismal conscious).
2. Autonomy (critical autonomy, critical participation, integration, and contribution states).

The universal satisfier characteristics (a.k.a., intermediate needs) include:

1. Nutritional food and clean water.
2. Protective housing.

3. Non-hazardous living and work environments.
4. Safe birth control and child-bearing.
5. Appropriate health care.
6. Significant primary relationships.
7. Security in childhood.
8. Physical and economic security.
9. Appropriate education.

**Note here that the first six contribute, in part, to physical health, and the last five contribute, in part, to autonomy.*

Societal pre-conditions for need satisfaction are:

1. Universal pre-conditions:
 - A. Reproduction.
 - B. Production.
 - C. Cultural transmission (information sharing).
 - D. Political authority (State only).
2. Pre-conditions for optimization:
 - A. Freedom from civil and political rights (in market-State, this precondition means having rights; versus, in community, this precondition means freedom from coercion and authority where rights are given, taken away, and enforced by the authority).
 - B. Freedom to access to need satisfiers (in market-State, this precondition means having rights to access need satisfiers).
 - C. Contribution (in market-State, this precondition political participation).

11.3.4 Martha Nussbaum (2000)

Nussbaum (2000) identifies needs as central human functionings and human capabilities (a.k.a., central capabilities (depicted as a list of capabilities, the “capability approach” (a.k.a., capability model, a functional -capability model).

The central human capabilities are:

1. **Life:** Being able to live to the end of human life; not dying prematurely or before life is not worth living.
2. **Bodily health:** Being able to have good health, including reproductive health; being adequately nourished; being able to have adequate shelter; being able to function well psycho- and physiologically to the end of life; having the ability to restore health after incidents occur.
3. **Bodily integrity** (similar to Gough's need for bodily health): Being able to move freely from place to place; being in safe social environmental conditions, high confidence that assault is unlikely.
4. **Senses, imagination, thought:** Being able to use the senses; being able to imagine, to think, and to reason - and to do these things in a way informed

and cultivated by an adequate education; being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech and freedom of religious exercise; being able to have pleasurable experiences and to avoid non-beneficial pain.

5. **Emotions:** Being able to have attachments to things and persons outside ourselves; being able to love those who love and care for us; being able to grieve at their absence; to experience longing, gratitude, and justified anger; not having one's emotions developing blighted by fear or anxiety.
6. **Practical reason:** Being able to form a conception of the good and to engage in critical reflection about the planning of one's own life.
7. **Affiliation** (similar to Gough's need for autonomy): Being able to live for and in relation to others, to recognize and show concern for other human beings, to engage in various forms of social interaction; being able to imagine the situation of another and to have compassion for that situation; having the capability for both justice and friendship. Being able to be treated as a dignified being whose worth is equal to that of others.
8. **Other species:** Being able to live with concern for and in relation to animals, plants, and the world of nature.
9. **Play:** Being able to laugh, to play, to enjoy recreational activities.
10. **Control over one's environment:** Political: being able to participate effectively in political choices that govern one's life; having the rights of political participation, free speech and freedom of association; (b) Material: being able to hold property (both land and movable goods); having the right to seek employment on an equal basis with others.

These central capabilities provide a basis to define universal material requirements for human flourishing, if it can be established that these requirements are instrumental and essential. (Nussbaum, 2000)

The “capability approach” purports that freedom to achieve well-being is a matter of what people are able to do and to be, and thus the kind of life they are effectively able to lead. The capability approach focuses directly on the quality of life that individuals are actually able to achieve.

This quality of life is analyzed in terms of the core concepts of functionings and capability:

1. **Functionings** (comparative quality of life) - states of 'being and doing'.
 - A. Being well-nourished (or not).
 - B. Having shelter (or not).

- C. Having access (or not).
- D. Having opportunities (or not).
- E. Feeling positively (or not).
- 2. **Capability** (theorizing about “justice”) - the set of value[able] functionings that a person has [effective] access to. A person’s capability represents the [effective] freedom of an individual to choose between different functioning combinations of a given environment – between different kinds of life [experience] – that the individual has reason, or not, to value. Having data on, and an awareness of, one’s abilities is likely to optimize functionings related to particular aspects of [high-]life [value]; for example, the capabilities of literacy, health, or social coordination at the macro-scale; and, at the micro-scale, such activities as tennis, typing, meditation, and tool use.

NOTE: *Functionings should be distinguished from the processes (methods and/or technologies) employed to achieve them (as ‘bicycling’ is distinguishable from ‘possessing a bike’, or ‘cultivating’ is distinguishable from ‘having nutritious food’).*

Capabilities are:

1. What people are doing. These are currently active capabilities.
 - A. Current doings.
 1. For example, the market-State socio-economic system is what people are doing in the early 21st century.
2. What people can do. These are currently unused capabilities.
 - A. Could do currently, but are not doing currently.
 1. For example, modern 21st century humans have the capability, but unused, to significantly reduce and remove pollutants in their environment.
3. What people are capable of (have the potential to) do. These are potential capabilities given activities that move people from current to some desired future state.
 - A. Have potential to currently do.
 1. For example, modern 21st century humans have the potential to live and operate a community-type socio-economic system (representing a higher potential for human capabilities than the market-State).

NOTE: *Self-direction in an environment of high ability necessitates self-response-ability, and self-response-ability necessitates an environment of autonomy to sense, integrate, and express the response-ability.*

There exist important relationships that the “capability approach” identifies [adapted herein and significantly changed] (Sen, 1999:70-71):

1. **Individual physiology:** such as the variations associated with illnesses, disability, age, and gender. In order to achieve the same functionings, people may have particular needs for non-standard services/objects – such as prosthetics for a disability – or they may need more of the standard services/objects – such as supplementary food in the case of intestinal parasites. Note that some of these disadvantages, such as blindness, may not be fully ‘correctable’ even with tailored assistance.
2. **Local environment:** a complex such as biospheric elements as climate, epidemiology, and pollution. These can impose additional material output connection; such as, more or less resource usage for heating or clothing requirements.
3. **Variations in social conditions:** such as the provision of public/community services; including, but to limited to: education and security, and the nature of community life, technological, and exploration activities.
4. **Integration modeling:** The social, integrated understanding of how working together toward a unified and mutually beneficial operationalization of society. For example, a cooperative societal InterSystem team. An information system working group. An operational Habitat InterSystem team.
5. **Decision support operationalization (differences in relational perspectives):** accounting for differences in regional sub-community decisioning (“perspectives”). Local environments, constructions and customs are highly likely to determine each individual habitat’s (i.e., individual city, or region of cities) social requirements of expected standards of behaviour and consumption, given the optimization of mutually planned fulfillment, flourishing, and well-being. For example, local requirements of ‘the ability to appear in public without ‘shaming’ (by the social) or prison (by the State); or, to a lesser extent, in terms of acceptable clothing, which may vary widely between cities, both upon personal as members of the Habitat InterSystem teams, and at the socio-personal explorational level of society.

A capability approach [model] that accounts for well-being has to be assessed in terms of the freedoms and opportunities “to be” and “to do” what people have reason to value. Thus, human development is defined as the process of extending the real freedoms that people enjoy (i.e. enhancing people’s capabilities) to all humans globally, through planning, coordination, and socio-technically contributed support.

Capabilities are the collection of functioning available to people. Functioning are beings, doings, etc. There are sets of functionings. Importantly, capabilities correspond to the various options (within a given environment) that a person can choose (their 'decision space'), according to his or her values, in order to achieve expected life-styles (as described by the lifestyle system specifications). Capabilities are composed of a group of achievable functionings. Functionings can be basic/elementary (i.e. related to life, such as nutrition) or more complex, such as contribution to a habitat InterSystem Team and having high self-esteem and high self-direction.

INSIGHT: *There are a set of values that all humans value together, and all humans together have reasons to value. What there is to value, there is reason (rationale) to value.*

Functionings (information and conditions) and satisfiers (materials and services) are the basis of human well-being. In part, capabilities are experienced as freedom of choice in a given environment (potential functionings/satisfiers) and needs account for well-being satisfaction (achieved functionings/satisfiers).

One view of sustainable human development is: the improvement of people's capabilities to adequately satisfy/fulfill their fundamental needs via self-capability, while simultaneously integrating the equitable distribution of socio-technical capabilities among the population, ensuring transmission of freedom of choice of and in materiality, and condition, across generations.

11.3.5 Erich Fromm

It must be noted that Erich Fromm, one of the early influential researchers on a human perspective of human nature and human need, maintained the understanding that there were two basic character orientations of the self, that of selfishness and altruism. Erich Fromm believed that pursuing a viable future for people and their world depended on reversing the powerful socially encouraged tendency (i.e., destructive incentives & structure) toward selfishness evident throughout the 'advanced' (post)industrial capitalist world. This, he argued, called for renouncing ways of life lived under the "having" mode of existence and moving progressively toward ways of life lived under the "being" mode of existence. Fromm claimed that it was being (and altruism) that are the only option that enables self-actualization, fulfillment, and abiding peace. In short, we can pursue unity through being with ourselves, with others, and with nature. Erich Fromm's perspective is summed up nicely in the following quote:

"Humans are rational creatures, with a reasoning faculty to express and actualize. In processes of affirming this capacity by knowing because we are 'moved' to know something, we authentically express who and what we are as a species. We actualize or realize what in a deep sense we are. This is compatible with all people

doing the same thing and with individuals collaborating with one another in expressing what they are. Living as humans becomes the major end in itself, and this option is open to all. In the having mode, by contrast, there is no need at all to affirm our being in the process of acquiring knowledge. Moreover, knowledge readily becomes a resource that we can use to advantage ourselves over others. The point of one person knowing in the having mode may be precisely to prevent others knowing or getting access. Knowing becomes competitive, exclusionary, and divides people into 'haves' and 'have-nots'. Destroying other people's knowledge or access to it can become (almost) as good as having knowledge oneself. This logic is buttressed by all sorts of mechanisms designed to discourage people from thinking they can know. Only some knowledge is 'genuine', 'legitimate', 'authoritative'. This becomes a way of robbing humans of their species capacities, by telling them they do not have them, and forcing them to acquire on a market or to 'get' the necessary training." (Lankshear, 2003)

Fromm (1959, 2008) identified a set of basic existential psychological human needs:

1. **Relatedness** - connection and relationships through submission, power, or love.
2. **Transcendence** - life purpose and productivity.
3. **Rootedness** - feeling connected, family.
4. **Sense of identity** - awareness of self and environment.
5. **Frame of orientation** - mental model of the world.

Fromm (1959, 2008) further identified a potential for the decay or growth of human character:

1. **Negative components (decay) of human character (a non-productive orientation):**
 - A. Submission or domination (authoritarianism) - gain power-over-others to escape suffering.
 - B. Destructiveness - destruct to escape suffering.
 - C. Fixation - fixate to escape suffering.
 1. Exploitation - is more concerned with receiving than giving, and is not concerned that everyone has sufficient.
 2. Hoarding - is more concerned with obtaining and storing than using in common.
 - D. Adjustment to a group (conformity) - become what others desire to escape suffering.
 - E. Irrational goals - develop irrational goals to escape suffering.
2. **Positive components (growth) of human character (a productive orientation):**
 - A. Love - harmonious interconnection between the self and others (connectedness, "biophilia").

1. Biophilia refers to the 'self' direction of an organism who naturally needs to emotionally affiliate/connect with the biophysical environment. (Gunderson, 2014:187)
- B. Creativeness - exploration.
- C. Wholeness - understanding and interconnection.
- D. Individuality - self-directed, self-productive.
- E. Rational goals - develop rational goals that facilitate fulfillment.

Fromm argued that love of life and living beings will not become the prevailing character structure until society is capable of meeting three prerequisites for human flourishing (three social conditions that must precede the unfolding of love) (Gunderson, 2014):

1. **Security:** Society must develop a socioeconomic system capable of meeting basic human needs. In the early 21st century, the vital needs of every human being could be met but are not. The absence of a scarcity of human [economic] need fulfillment is a prerequisite for a "dignified life".
2. **Justice:** Injustice takes place when any person or group is used as a means for another person's or group's ends. Justice must precede biophilia as exploitation distorts and stunts the development of primary potentialities.
3. **Freedom:** Develop essential human capacities and participate in society in a meaningful, non-alienating, and productive way.

11.3.6 Manfred Max-Neef (1989-1991)

Max-Neef (1989) proposed a matrix of interrelated needs, in which, human (axiological) needs (a.k.a., axiological categories) encounter four existential categories that define humans as a whole.

INSIGHT: A lack of fulfillment results in basic anxiety.

The existential needs (of consciousness; typology of satisfiers is based on an existential categorization by Max Neef) of:

1. **Having (things, objects)** - person's life lies in accessible things ("possessions"), in the things s/he has access to and/or owns.
 - A. Here, what satisfies is having access to what is physically needed.
2. **Being (qualities, self)** - person's life lies in what they are (character, interests, values, etc.), not in what material things they have access to.
 - A. Here, what satisfies is having a real-world, positive and growth orientation.
3. **Doing (actions, activities)** - persons life lies in what they do habitually, as a lifestyle, to be

productive, and as a life purpose.

- A. Here, what satisfies is education, exploration, contribution, and leisure; having a life purpose and doing things habitually to fulfill one's needs and the needs of others.

4. **Interacting (settings, environment)** - person's life lies in their relationships to other humans and to their material environment.

- A. Here, what satisfies is having loving relationships and a harmonious and aesthetic physical environment where need fulfillment is satisfied and self-growth is a potential.

The axiological needs (axiomatic-logic of needs; typology of needs is based on nine values by Max Neef, 1991) - Human needs (i.e., aspects of human needs) include:

1. Subsistence: intactness, arrangement, intake, waste, movement, temperature, receptivity, adaptability, growth, will to live.
2. Protection: maintain physical subsistence, maintain mental & emotional well-being.
3. Affection: pleasure, trust, loyalty, respect, beauty, meaning.
4. Participation: receiving, giving.
5. Understanding: perception, cognition, emotion, reflex.
6. Creation: transform matter, transform symbols, procreate.
7. Leisure (idleness): catharsis, revitalization. Identity: physical disposition and appearance, personality, past experience, aspiration.
8. Freedom: choice, value.
9. Transcendence: affirmation of life, overcome meaninglessness.

Note: Because development is about the qualitative growth of people, and not the quantitative growth of real objects (or abstract concepts reified), Max-Neef does not focus on objects per se. Objects and artefacts facilitate ways of being, doing having and interacting and increase or decrease the efficiency thereof.

Manfred Max-Neef needs (usually depicted in the shape of a wheel (Max-Neef, 1992):

1. Water.
2. Food.
3. Fuel.
4. Shelter.
5. Protection.
6. Affection.
7. Participation.
8. Understanding.
9. Creativity.
10. Identity.

11. Transcendence.

All exist within family, wider community, region, nation, biosphere.

Manfred Max-Neef (1990) needs and satisfiers (usually, depicted as a table, a matrix of needs and satisfiers):

1. Needs according to:

A. Axiological categories (value categories):

1. Subsistence.
2. Protection.
3. Understanding.
4. Participation.
5. Leisure.
6. Creation.
7. Identity.
8. Freedom.

B. Existential categorises (modalities of being categories):

1. Having (things).
2. Being (qualities).
3. Doing (actions).
4. Interacting (set and setting).

Max-Neef makes a further extremely useful contribution by classifying satisfiers with regard to their utility. Satisfiers have different characteristics; they can be positive or negative. Destroyer satisfiers address one need but end up destroying others. Pseudo-satisfiers only promise to fulfil needs. Inhibitors satisfy one need while inhibiting others. Singular satisfiers meet one need while ignoring others. And, synergistic approaches not only satisfy one need but lead to the satisfaction of others. Manfred Max-Neef's (1990) five classes of satisfier (usually, depicted as a list, a tabular row of characteristics; needs according to satisfier type):

1. Violators and destructors of need satisfaction - these are claimed-supposed satisfiers, but are actually, violators and destructive structures, mostly connected with 'protection'[-oriented behaviors], and a feeling of fear and of lack of belonging. When 'protection' becomes the need to be satisfied without human context (e.g., through exile, censorship, bureaucracy, authoritarianism, profit maximization, arms racing, etc.), then any number of other (real-world, human) needs (e.g., subsistence, understanding, affection, participation, leisure, freedom, etc.) become impaired in their satisfaction. Here there are 'protection' enforced satisfiers.
2. Pseudo-satisfiers - these are claimed-true satisfiers, but are actually, elements [in the real-world] that stimulate [in "me"] a false sensation of satisfying a given real-world need.
3. Singular satisfiers - these are singular satisfiers

and are those which aim at the satisfaction of a single need and are, therefore, neutral as regards the satisfaction of other needs. They are very characteristic of development and co-operation schemes and programmes.

4. Synergistic (synergic) satisfiers - are those singular to complex of satisfiers that by the way they satisfy a given need, stimulate and contribute the to simultaneous satisfaction of other needs. Here, there is a tabular [row] matrix of the categories of:
 - A. Satisfier (e.g., breastfeeding, education, air, buildings, etc.).
 - B. Need (e.g., subsistence, understanding, participation, leisure, etc.).
 - C. Needs whose satisfaction the prior need stimulates (e.g., any of the other needs not in category 2, etc.).

In working with the classifications in the field it has sometimes been effective to simplify the concept to three classes:

1. Positive satisfiers.
2. Negative satisfiers.
3. False satisfiers.

Max-Neef (1991) developed a 36-cell matrix, filling each cell with satisfiers (McGregor, 2010). Max-Neef proposed a process (called "satisfiers" or "strategies") that people can use meet these nine needs. Strategies are cultural, contextual, specific, and negotiable.

What determines people's quality of life?

- Quality of life depends on the possibilities people have to adequately satisfy their fundamental human needs.

What are those fundamental needs and /or who decides what they are?

- Satisfaction of fundamental human needs is for Max-Neef the definition of quality of life.

Max-Neef does not model needs by recognizing basic needs and a hierarchy of needs. Max-Neef does differentiate between needs and satisfiers.

1. Needs are interrelated and interactive. In the same way there is no one-to-one correspondence between needs and satisfiers.
 - A. Need refers not only to deprivation but also to potential. Because of his view of needs as deprivation and potential Max-Neef uses the term actualize instead of satisfy.
2. A satisfier may satisfy various needs at once while one need may require more than one satisfier in

order to be met.

- A. A satisfier is a way of being, doing, having (in the sense of social institutions) or being situated (in time and space) that people use to actualize their needs. Satisfiers are ways of being, doing, having and interacting that contribute to the actualization of needs.
- B. A satisfier is the way in which a need is expressed, and goods are the means by which individuals apply the satisfiers to meet their needs.

In community, [habitat] services are the means by which individuals coordinate the production, distribution, and cycling of satisfiers to meet their needs.

11.3.7 Integration between Maslow and Max-Neef

Maslow and Max-Neef are two well known contributors that added context to human [re-]understanding of life's needs. Maslow (1943) proposed that the closer to a basic need an act or desire is, the more important it is. However, the hierarchy and the grouping are not rigid:

1. Elements on the pyramid can be swapped depending on culture, religion, etc.
2. Full satisfaction of a level is not necessary so that a human seeks and gets satisfaction of higher level needs. In the same article Maslow also identifies the preconditions that are needed for the basic need satisfaction, for example, freedom to speak, justice, or fairness.

In studying accounts of peak experiences, Maslow (1998) identified a manner of thought he called "Being-cognition" (or "B-cognition", which is holistic and accepting, as opposed to the evaluative "Deficiency-cognition" or "D-cognition") and values (not specifically virtues) he called "Being-values" (B-values). Maslow listed the B-values, which were present in manners of thought that led to peak experiences, as (14 total, including the following most relevant):

1. Wholeness - unity, integration, tendency to oneness, interconnectedness, simplicity, organization, structure, dichotomy-transcendence, order.
2. Perfection - necessity, just-rightness, just-so-ness, inevitability, suitability, justice, completeness, oughtness.
3. Completion - ending, finality, justice, fulfillment, finis, and telos, destiny, fate.
4. Self-sufficiency - autonomy, independence, self-determining.

Alderfer (1969) grouped the five categories of Maslow's

eight needs into three:

1. Existence, which combines Physiological and Safety needs.
2. Relatedness, which combines Interpersonal Love and Esteem needs.
3. Growth, which combines Actualization and Self-Esteem needs.

Huitt (2007) reorganized Maslow's eight needs into three levels:

1. Self existence.
2. Relatedness to others (personal identification with groups and significant others).
3. Growth (of self-knowledge, competencies, character and relationships to the unknown and unknowable).

Burns (1989) distinguished higher order human needs from survival needs, identifying the higher order needs of:

1. Survival needs.
 - A. Food, shelter, water, etc.
2. Higher order needs*.
 - A. Sensation: The biologically-based need for sensation.
 - B. Uniqueness: The acculturation-based need for uniqueness.

**Neither of two higher-order needs are crucial to survival (like food, shelter and water), yet they do influence people's behaviour directed towards experiencing variety, novelty and complexity (sensation) and being different from others (uniqueness).*

To continue existing in society, a person shall have all possible services available to fulfill their life, technology, and exploratory needs. Max-Neef and Doyal & Gough justify a material basis for a 'basic minimum', through the notion of satisfiers of (or intermediate) needs, which are essential preconditions to meet basic needs. Both Max-Neef and Doyal & Gough delineate universal satisfiers from context-specific satisfiers in principle, but they give limited attention to concretely defining universal satisfiers. Doyal and Gough define all intermediate needs as having to fulfill the requirement that their lack can lead to a sustained degradation of people's basic human needs, which they define as physical health and critical autonomy.

Sound physical health is interpreted as freedom from chronic disability, disease, and impairment of cognitive function. Autonomy reflects the ability to learn, work, engage in and reflect on culture, and enjoy leisure. Wiggins (1998) also describes absolute needs as having to meet the test of being necessary and sufficient to avoid serious harm. Doyal & Gough's categories of physical

health and autonomy as directly parallel to the physical and social well-being related capabilities described above. Furthermore, the notion of harm avoidance is helpful to identify risks to well-being and the material conditions that can mitigate them.

Max Neef envisioned a matrix in which human (axiological) needs mesh with the four existential categories that define humans as a whole. Human needs satisfaction is then facilitated by the achievement or provision of a combination of satisfiers that are related to each existential category. In Max-Neef's proposition axiological categories are not hierarchical. By describing needs satisfaction in systems theory terms, Max-Neef deals with the problem of Maslow's hierarchy. He goes on to address the issue of whether needs are universal, or culturally relative and states something like, "Fundamental human needs are finite, few and classifiable. Human needs (such as those contained in the system proposed) are the same in all cultures and in all historical periods. What changes, both over time and through cultures, is the way or the means by which needs are satisfied."

Max-Neef further claimed that:

1. All human needs are necessary, and all are equal. Any need that is not satisfied reveals a human poverty, a compromise to a desirable human condition.
2. All needs can be satisfied at different levels, and with different intensities, and that needs can be satisfied at the level of the individual, the social group, or the environment (Alkire, 2002).

Human needs satisfaction is then facilitated by the achievement or provision of a combination of satisfiers that are related to each existential category. In Max-Neef's proposition axiological categories are not hierarchical and their relative priorities depend on culture and groups.

It may be possible to map a Max-Neef's type of classification of human needs to a classification of requirements. Requirements in artificial and man-made systems have strong mapping to human needs, and therefore a model inspired by human needs can be of immense use in categorizing requirements in man-made systems. It may be possible to organize requirements following Max-Neef's proposition of existential categories and grouped according to their value to stakeholders.

Axiological needs ensure user needs (and consequently requirements) do not have uniform value. Under these terms, human needs are reflected by user values or need levels, existential categories are reflected by the types of requirements that completely define a system, and satisfiers are reflected by system requirements placed upon it by the user.

Max-Neef proposed a framework, designed for utility (to put 'needs' into operation) rather than continue the

study of prove human-ability. Max-Neef proposed a framework (a schema) that offers two types of needs: 'existential', and 'axiological', which can be arranged in a matrix, allowing for a visualization of the relationship of complex of need-satisfiers. The axiological needs are (the modalities of life: being, having, doing, interacting. In the matrix, the existent[ial] needs are: subsistence, protection, affection, understanding, participation, idleness (leisure, sleep, relaxation), creation, identity, and freedom. Note that one of the meanings of idleness is "the quality or state of being lazy", which is not the intended meaning herein. This matrix allows for the formulation of fundamental analytical frameworks (such as, statistical mathematics) upon the results of a series of questions (decision inquiries) to compute various commands (operations/decisions); the most significant being the decision system's 'effectiveness inquiry' threshold supra-inquiry, which could include, What habitat- and social-structures will provide for, or support the satisfied degree of fulfillment of:

1. Being-identified (recognition).
2. Having-subsistence (food, water, shelter, etc.).
3. Having-technicians (technical system access justice, fairness through coordinated planned of global access collaboration and distribution).
4. Doing-participative things (whole InterSystem Team contribution network).
5. Interacting-affectionately (global and local social group activity).

If one were to propose the application of Max-Neef's need framework to incoming orienteers (or potential orienteers), then it could be proposed in full an used for purposes of diagnosis, planning, assessment and evaluation. The matrix of needs and satisfiers may serve, at a preliminary stage for each individual (often in childhood), as a participative exercise of self-diagnosis. In community, the young through a process of what amounts to regular dialogue gradually begin to characterize themselves by identifying their personal interests and identifying the contribution points [on the InterSystem Team] where they feel the most passionate [or not]. The outcome of the experience of being on or being mentored on an InterSystem Team will enable the individual to become aware of both its deprivations and potentialities. Which, for the individual orienteer (of the sub-type other societal mentee), may relax the market-State abstraction filter (so well visualized in the film), and, 'authority' in general, can be seen for what it is; in order to visualize that which is Community more clearly in the now.

NOTE: Today, information systems, including space agency information systems and sporting information systems, and medical information processing centers, hold significant data, from a significantly wide array of scientific studies and observations, into what humans require to be,

live, and perform optimally.

Max-Neef sets out “to make a theory of human needs understandable and operational for development”. Every need, with its different aspects, has dimensions - like the temperature range that constitutes thermal comfort, or hormetic challenge. Designs features are best oriented toward these constituents. The dimensions of needs and the current satisfiers determine a set of requirements for their satisfaction. A non-hierarchical view of human needs means that one does not think of a house as a mere physical shelter but as a synergic satisfier that influences the satisfaction of all human needs. Here, ‘being’ is a description of the abstract value of a need. For example, within the Max-Neef matrix, the cell corresponding to ‘doing-participation’ might contain ‘learning or discovering’ as a satisfier, whereas ‘doing-contribution’ might contain ‘InterSystem Team work’. The cell ‘having-protection’ might contain a dwelling. The axiological need of ‘interacting’ refers to the places and ways in which humans come together in society in order to have needs satisfied. Therefore, the cell for interacting-understanding might have an information system with a learning sub-application. In the market-State, the being-identity cell could contain membership in a gang or cult, which anticipates (or recognizes) the criticism that some satisfiers of needs are associated with creating conflict rather than resolving it.

Max-Neef doesn’t propose it, and I wouldn’t know how to draw it, but a multidimensional matrix might incorporate his assertion that needs can be satisfied in (at least) three contexts:

1. With regard to oneself (being).
2. With regard to the social group (doing with others).
3. With regard to the environment (having an interactive environment).

11.3.8 Simon Hertnon (2010)

Simon Hertnon’s (2010) Nautilus of needs (usually, depicted in the shape of a spiral):

1. Existence.
 - A. Physical well-being.
2. Survival.
 - A. Mental well-being.
 - B. A safe and healthy environment.
 - C. Reproduction or limiting reproduction.
3. Happiness.
 - A. More respect from others.
 - B. More self-esteem.
4. Betterment.
 - A. Appreciation of ‘life’ and all that you have.
5. Contentment (and ongoing survival of species).
 - A. Doing good deeds (helping others to satisfy their unmet needs).
 - B. To understand the nature and purpose of

human life.

11.3.9 Qizilbash (1996)

The idea of prudential values include:

1. Certain, at least, minimal levels of health, nutrition, sanitation, shelter, and security.
2. Certain, at least minimal, capacities, including (a) literacy and (b) certain basic intellectual and physical capabilities.
3. Self-respect and aspiration.
4. Positive freedom or autonomy [of choice].
5. Negative freedom or liberty [from coercion].
6. Enjoyment.
7. Understanding or knowledge.
8. Significant relations with others and some participation in social life.
9. Accomplishment (the sort of achievement that gives life point and weight).

11.3.10 Narayan (1999)

The idea of ‘social capital’, in a market-State, is sometimes substituted for ‘need’. The dimensions of social capital (Narayan, 1999):

1. Structural dimension - explains how people can obtain certain advantages through the use of personal contacts within the structure of social interactions.
 - A. Bonding.
 - B. Bridging.
 - C. Linking.
 - D. Corporate.
2. Relational - relationships built by people through a continuous series of interactions.
 - A. Knowledge-based trust.
 - B. Trust political institutions.
 - C. Trust public services.
 - D. Safety.
 - E. Tolerance and social sanction.
 - F. Generalized reciprocity.
3. Cognitive - resources that have a common code or a shared paradigm that facilitate a common understanding of collective goals and appropriate ways of acting in a social system.
 - A. Community cohesiveness.
 - B. Civicness (volunteering, helping others).

A second view on the dimensions of social capital (Yilmaz, 2012):

1. Group characteristics:
 - A. Number of members.
 - B. Frequency of participants.
 - C. Membership heterogeneity of purpose.

2. Generalized norms:
 - A. Helpfulness of people.
 - B. Trustworthiness of people.
 - C. Fairness of people.
3. Togetherness:
 - A. How well people get along.
 - B. Togetherness of people.
4. Everyday sociability:
 - A. Everyday sociability.
5. Neighborhood connections:
 - A. Asking for help.
6. Volunteerism:
 - A. Help others for their work.
7. Trust:
 - A. Trust people in neighbourhood.
 - B. Trust people in your team.
 - C. Trust the management.

11.3.11 Robeyns (2003)

The top-level capabilities include:

1. Life and physical health.
2. Mental well-being.
3. Bodily integrity and safety.
4. Social relations.
5. Political empowerment.
6. Education and knowledge.
7. Domestic work and other projects.
8. Shelter and environment.
9. Mobility.
10. Leisure activities.
11. Time-autonomy.
12. Respect.

11.3.12 Biggeri et al. (2006)

The top-level capabilities include:

1. Life.
2. Health.
3. Physical security.
4. Legal security.
5. Education and learning.
6. Standard of living.
7. Productive and valued activities.
8. Individual family and social life.
9. Identity, expression and self-respect.
10. Participation, influence and voice.

11.3.13 Goldin (2013)

The top-level dimension and components of human need include:

1. Health and basic goods - health, sanitation, water, shelter, sleep and rest, nutrition.

2. Education and literacy - basic minimum level of literacy and education, indigenous knowledge, a priori learning.
3. Certain basic mental and physical capabilities - innate capabilities that can be enhanced or undermined by the state.
4. Self-respect and aspiration - feeling good, feeling valued, having hope.
5. Autonomy and self-determination - control an individual has over his or her life.
6. Awareness - Knowing about external environment.
7. Understanding - Comprehension, knowledge.
8. Significant relations with others - Connectedness, belonging, meaning.

11.3.14 Gross National Happiness Index

A.k.a., Gross domestic happiness.

The Gross National Happiness (GNH) Index is an index composed in Bhutan to facilitate a measurement of the happiness of the overall population and to guide policy change, using the following indicators:

1. Psychological well-being.
2. Living standards.
3. Time use (& life radius).
4. Health.
5. Education.
6. Ecological resilience.
7. Community vitality.
8. Intelligence (good decisioning, good governance).
9. Cultural joy.

The concept of a 'gross national happiness' implies that human well-being should be the approach of progress. As of 2023, there 9 domains, separated into 38 sub-indexes, with 72 indicators and 151 variables. (Pillay, 2019)

11.3.15 U.S. National Aeronautics and Space Administration (NASA)

NASA has a list human research, factors and integration reports and standards:

1. NASA Human Research Program - there are multiple guidelines and requirements documents to design a human spacecraft and settlement.
 - A. NASA-STD3001, NASA Space Flight Human System Standards (SFHSS) consists of two-volumes that provide overarching principles applicable to all human space flight programs:
 1. Volume 1 - Crew Health. Standards needed to support astronaut health (medical care, nutrition, sleep, exercise, etc.).
 2. Volume 2 - Habitability and Environmental

Health. Standards for system design that will maintain astronaut performance (environmental factors, design of facilities, layout of workstations, and lighting requirements, for example). It includes classic human factors requirements; the chapters closely parallel those in the previous version, NASA-STD-3000.

- B. NASA-STD3001 HIDH, NASA Human Integration Design Handbook - Each individual human space flight program will develop program-specific, verifiable requirements that meet NASA-STD-3001, using a companion document, the Human Integration Design Handbook (HIDH). For example, Volume 2 states that all programs shall define the user population and their size ranges, and that the design of systems shall then accommodate the full size range of those users. The anthropometric data to be used to define the potential crew size ranges will be in the HIDH. Together then, NASA STD-3001 and the HIDH provide a set of human factors engineering (HFE) principles that programs must follow as well as the information needed to derive verifiable requirements from these principles. The HIDH is divided into topic areas, which address the range of human operations in space:
1. Anthropometry and Biomechanics.
 2. Human Performance Capabilities.
 3. Natural and Induced Environments.
 4. Architecture and Facilities.
 5. User Interfaces.
 6. Hardware and Equipment.
 7. Facility Management.
 8. Extra Vehicular Activities (EVA) .

Each of the above topic areas are to be subdivided into sections:

1. Introduction.
2. Design Considerations.
3. Critical Design Elements.
4. Example Solutions and Lessons Learned.
5. References and Background Research.
6. Research Needs.

Two primary uses for the handbook will be to:

1. Provide data and guidance for contractual program-specific human interface requirements - Users will include program managers and system requirement writers.
2. Provide data and guidance for human vehicle and system designs - Users will include human factors

practitioners, engineers and designers, crews and mission / flight controllers, and training and operations developers.

Significant NASA standards in relation to human needs include, but may not be limited to:

1. NASA/SP-2010-3407 Human Integration Design Handbook
2. NASA/NRP 8705.2B Human-Rating Requirements for Space Systems
3. NASA/JSC-64367 Exploration Life Support Baseline Values and Assumptions document
4. NASA/HRP-47052 Human Research Program (with multiple revisions)
5. NASA/HRP-47065 Human Research Program Integrated Research Plan (with multiple revisions)
6. NASA/HRP-4705 Human Research Program Requirements Document (with multiple revisions)
7. NASA/TP-2014-218556 - Human Integration Design Process (HIDP) - Health and Performance Directorate

The goal of the HRP is to provide human health and performance countermeasures, knowledge, technologies, and tools to enable safe, reliable, and productive human space exploration. The specific objectives of the HRP are:

1. Develop capabilities, necessary countermeasures, and technologies in support of human space exploration, focusing on mitigating the highest risks to crew health and performance. Enable the definition and improvement of human spaceflight medical, environmental and human factors standards.
2. Develop technologies that serve to reduce medical and environmental risks, to reduce human systems resource requirements (mass, volume, power, data, etc.), and to ensure effective human-system integration across exploration mission systems.
3. Ensure maintenance of Agency core competencies necessary to enable risk reduction in the following areas: space medicine; physiological and behavioral effects of long-duration spaceflight on the human body; space environmental effects (including radiation) on human health and performance; and space human factors.

Working group outputs (including but not limited to):

- NASA/TM-2014-217394 - 2014 International Workshop on Research and Operational Considerations for Artificial Gravity Countermeasures

11.3.16 Other significant contributors to the literature on human needs

Other well cited names in the literature on human needs include, but are not limited to:

*First and last name, publication date
(professional identity).*

1. Paul Sites, 1973 (sociologist).
2. Johan Galtung, 1988 (sociologist and international relations).
3. John Burton, 1990 (international relations and conflict resolution).
4. Dennis Sandole, 1990 (political scientist and conflict resolution).
5. Ronald Fisher, 1990 (psychologist).
6. James C. Davies, 1988 (psychologist and political scientist).
7. Christian Bay, 1988 (economist).
8. Chris Mitchel, 1990 conflict resolution).
9. Ed Azar, 1978 (international relations and conflict resolution).

11.4 Human needs list: Orientation-modality (human consciousness triality) view

A.k.a., The three modalities, the triality of consciousness, the triality of conscious form.

There appear to be three states, dimensions, or modalities that compose human life experience. A human consciousness is experiencing behavior through accessible resources. Humans are individuated units of consciousness, subjects, that feel definable states of being (e.g., happiness, sadness, etc.). As individuated units of consciousness inhabiting physical bodies that effect within an environment, each body has access to a set of definable resources. Simply, humans feel their being, they do their behaviors, and they have access to resources and resource compositions (i.e., technologies). For a social population of individuals to take control of their direction it is essential for them to realize that there are at least three perspectives that must be integrated at once in order to sustain mutual coordination. Individuals come together within an environment where behaviors are expressed and access to resources increases or decreases. There is no need to fear the experience of empathizing with another.

There exist three forms of intentional self-orientation that together lead to other stable forms of orientation, including the possibility for a stable social-orientation. These three forms represent the perceptual orientation of experience from which conscious existence derives its source and iterates (Read: ΔT - changes its temporal state). Each form represent one of the first coordinated orientations of the 'intentional self' in material reality.

The three functional coordinates as representations of the orientation of the self [toward the world] are known as:

1. A state of **being** - there are being [human] needs (psychology, cognition).
2. A state of **doing** - there are doing [human] needs (contributability, contribution).
3. A state of **having** - there are having [human] needs (habitability, habitation).

There is [a being of] consciousness because there is an awareness of existence. There is a haver because there is [having] access to existence. There is a doer because there is doing (and learning) through existence. Hence, conscious existence necessarily involves the states, attributes, and forms of being, doing, and having. And, a community's socio-economic system must account for the being[ness], the doing[ness], and the having[ness] of individuated consciousness. How it defines these states will define how it perceives its orientation, and hence, orients.

If these three concepts were applied at the 3 forces model level, then being would be the activating force of will, having would be the restraining force of availability, and doing would be the reconciling force of experience through intention, which leads to adaptive integration.

INSIGHT: *A different way of thinking creates a different way of being, creates a different way of doing, creates a different way of having. And, a different way of having creates a different way of doing, creates a different way of being, creates a different way of thinking. Simply, all ways of orienting affect all other ways of orienting.*

11.4.1 A state of being

INSIGHT: *In a conscious information system a 'concept' represents the integration of existent mental information by an actively [pattern] integrating consciousness.*

A "state of being" describes, not necessarily an acceptance, but more of a state of mindful and perceptual engagement with oneself and one's life, with existence and with how things truly are. A state of being is a state of engagement with [the nature of] existence. Consciousness is being - doing, not doing; having, not having - consciousness is without dissonance, but may experience dissonance. A "state of being" is an initialization of the state of conscious existence through the opening of [sensory] perception [to existence] for experiential integration, decisioning, and action. Therein, organisms maintain a consciously processing decision space indicative of a "function of being".

Unity through consciousness represent a far reaching experience, and when adopted as an essential element of perspective, then it is profoundly life enhancing. Herein, appreciation uplifts consciousness and generates a

radiance in consciousness that is hard to ignore. It is the state of perception that brings regenerative and eternal joy to experience; in some of us it is a flicker of light and in others it is the light of all experience. See a flower, appreciate its beauty and receive the radiant gift of pleasant feeling.

When someone is said to be in “an aligned state of being”, then they are said to be ‘alive’ to the world and ‘authentically related’ to all that it entails - directly, and as expressions of what they are as human beings. Therein, appreciation is an entirely open option for humans, and moreover, it is the only option that enables self-actualization and common human fulfillment. Our experience is that at the end of a lot of arguing and talking there is being [expressed in a diversity of forms]. Herein, beingness becomes a collapse of awareness into a point of conscious awareness of the now, of the present moment of beingness.

The act of being is itself part of what it is to become who and what “ou are. The act of having learned something first hand by experiencing it is what makes you who you are. The act of learning by life experience has sufficient value that to just have someone tell you what you should and shouldn’t do is not what makes you who and what you are. Who and what you are is what you do and what you learn [along the way] from what you did. You can tell someone something, but if they don’t think it is true it will fall on deaf ears. A society must let people find out for themselves, and in the act of finding out is the “lesson”, not the lesson itself. It is in the moment that we are learning what it is to be alive. Life experience feeds what we are today. Life experience feeds what “I” am today. Even if “I” am steeped in ignorance at some point in time in my life.

“As long as you are unaware of Being, the reality of other humans will elude you, because you have not found your own. Your mind will like or dislike their form, which is not just their body but includes their mind as well. True relationship becomes possible only when there is an awareness of Being. Coming from Being, you will perceive another person’s body and mind as just a screen, as it were, behind which you can feel their true reality, as you feel yours.”
-Eckhart Tolle

11.4.2 A state of having

INSIGHT: *In an information system, having, represents “the accessing of” information. Therein, as beingness, consciousness has thought.*

The “state of having” describes what is accessed by (or carried with) the body consciousness when it interrelates.

The “state of having” generally takes one of two forms:

1. Having coordinated and organized access, and helpful accurate tools, and therein, appreciation.

2. Having ownership in defense of property.

These are essentially two different perceptual paradigms. And, they describe how consciousness interrelates with material reality. The later paradigm restricts access to resources by the obligatory exchanged acquisition of property. The former paradigm opens access to and the sharing of resources through the common organization of their access and usage. In some respects, the former is the state of having, not having (i.e., accessing); and the later represents a continuum of restriction and possession (i.e., ownership).

Herein, it is significant to recognize that what someone “has” changes their psychology. For example, wearing certain clothes changes psychology. The tools used change psychology. The structures people integrate with change their perception. Having an inflamed brain is even known to change psychology. In essence, the interface some uses influences their psychology, and hence, their behavior.

In a property-based relationship, someone’s connection to themselves and the world becomes one of possessing and owning, extending to the possible point where they want to make everything and everybody—including themselves—their property. The idea of an ownership relationship involves something of a positing of those internal values and aspirations and existences within objects in the surrounding environment. Therein, the positing of values replaces the resonance of values. A harmonious interrelationship actually involves connection through resonance, and resonant values. The idea of having ownership subdivides into:

1. Possession (taking possession).
2. Ownership (having ownership).
3. Property (being property).

This ownership-type orientation results in a commercially experienced life (i.e., life composed of a series of commercial experiences in the market) versus a community experienced life (i.e., life composed of fulfilling experiences in common). This generates: Egoism and self-interest at the cost of others; Individual pursuit at the expense of others; Pursuit of self-interest with the structurally reinforced incentive for disregarding the needs of others; And, unhealthy predispositions.

A “state of having” that includes a remote process of organizing reality based upon attachment and competition, based upon property, is a very unstable and stressful state because someone is essentially investing themselves in everything other than themselves - they have identified their being with what they have. The corrupted societal philosophy that emerges from this ideology represents a natural and inevitable human orientation toward hierarchies of ownership.

From this perspective, egotism and selfish self-interest are seen as leading naturally to harmony. Each person pursuing their own interests within recognized legitimate limits in a market of selfish satisfiers (e.g.,

profit produced goods and services) that is kept as unregulated (or regulated) as possible. Some allege that this system is the best guarantee of conditions under which humans can realize their life aims. A further view accompanies this conception of the human condition. This additional view asserts that humans are “basically lazy [and] passive by nature” and that “they ‘do not want to work ... unless driven by the incentive of material gain’ or else ‘coerced by hunger or fear of pain and punishment’.”

Ownership is an orientation which essentially removes existence from the self and places it onto a metaphorical and very real table of things, material objects, collections that are trying to sort of help you exist, but actually don't do that at all. If someone's sense of identity, their existential identification, is based on what they has, on their possessions, if they can say they are what they have, then the question arises, what am I if I lose what I have, or if I am not what I once had? Therefore, the sense of identity based on what I have is always threatened. A person is anxiously concerned not to lose what he has because he doesn't lose just what he has, but he loses his sense of self. If I feel that I am what I have and I have nothing anymore, then I am not (i.e., I do not exist; the state of existence is negated).

“Man is not what he thinks he is, he is what he has.” [What tools he has, what needs he has fulfilled, what information he has accessible to him, what tools he has available to approach the re-orientation of his life with.]
- French novelist Andre Morrow

11.4.2.1 A state of having health

A.k.a., A state of being in health, doing things because there is health.

There is the idea of having a state (being and doing) of health, because human needs are sufficiently and appropriately met; wherein:

1. Physical health increases as individual's own needs are met.
2. Mental health increases as individual's group's needs are met.
3. Intellectual health increases as individual's community needs are met.
4. Spiritual health increases as the whole planet's needs are met.

11.4.3 A state of doing

Everything you do is training; the question is, what are you training for? One thing we can surely say about homo sapiens is that they are highly adaptable. Whatever is in our immediate environment, whatever we are exposed to, whatever we do again and again, we begin adapting to, becoming better at. In this regard then, we could say that everything we do is a kind of training; everything we

do is a physiological and psychological learning session. We are constantly educating ourselves, body and mind, on how to perform. We are always adapting to that which we place before ourselves or is placed before us. Everything is training. Even those who spend their days behind a desk or operating a machine or driving a vehicle; they too are teaching themselves to perform their chosen task — in all its physical specificity — better today than they did before, better tomorrow than they did today. They are learning to increase their efficiency, to shave off the bumps and smooth out the slaloms that cause drag in the execution of their skill.

Yet, if we don't actual do anything, then we aren't actually going to learn anything or get better at anything in any way. Learning requires action, interaction and reaction; it requires experience.

Doing may involve the autonomous identification of useful patterns of information in a common reality (i.e., integration); a more complex form of which involves technologically facilitated participation in a cooperating social community. The state of doing represents the continuous emergence of a process (or set of processes) that move consciousness toward greater and lesser states of potential being -- as action, interaction, and reaction that facilitate (or otherwise structure) a higher potential state of fulfillment.

Herein, in order “to do something” there must also exist “having access to something”. In order to become our more fulfilled selves we must learn through experience to that which we have access.

Through unfulfilling structures we can create own undoing. A fulfilling structure isn't just something that individuals have within them and around them (i.e., environment), it is also something they use (i.e., a functionality) and something that they ultimately become.

QUESTIONS: *If you are what you do, and identify and define yourself by what you do, then what happens when you stop doing it and you still are?*

11.5 Human needs list: Habitation-service view

Useful design is an expression of an underlying anthropology. Architectural (Read: building design) is intimately linked to human needs (shelter/clothing in particular), and the designers understanding of human nature will largely determine the way in which s/he designs. Pauw (2004) has demonstrated that the work of an architect can be analysed in terms of its underlying anthropology and evaluated against a needs model.

A simplified view of the habitation service system is viewable from several perspectives.

1. Biological and Physiological needs - basic life needs
- air, food, water, shelter, warmth, sex, sleep, etc.

- A. Considered a deficiency need.
- 2. Safety needs - safe designs and operations (safe standards), stability to society, certainty to fulfillment, limits to decisions, etc.
 - A. Considered a deficiency need.
- 3. Belonging and Love needs - affection, relationships, work group, etc.
 - A. Considered a deficiency need.
- 4. Esteem needs - achievement, responsibility, reputation.
 - A. Considered a deficiency and growth need.
- 5. Cognitive needs - knowledge, order to existence, self-awareness.
 - A. Considered a growth need.
- 6. Aesthetic needs - beauty, nature (in all senses), biomimetic aesthetic, form and harmony, etc.
 - A. Considered a growth need.
- 7. Self-actualization - personal growth and fulfillment.
 - A. Considered a growth need.

Habitat service support view (simplified):

- 1. Life support [material service] needs.
- 2. Technology support [material service] needs.
- 3. Exploratory support [material service] needs.
- 4. Human (social) connection needs.

Habitat service support view (simple detail)

- 1. Habitat [ecosystem life].
- 2. Hydration [life].
- 3. Nutrition [life].
- 4. Shelter [life].
 - A. Sleep.
- 5. Medical [life].
- 6. Power [life].

Habitat defense support view (simple detail)

- 1. Security.
- 2. Food.
- 3. Shelter.
- 4. Personal safety.
- 5. Air and water.
- 6. Emotional needs (connectedness).
- 7. All required for existence in defence, as in life (as in life, where 'security' becomes dormant projects 'monitoring' and energy is applied toward exploration, growth and self-expression).

11.5.1 Water (hydration service)

A.k.a., Hydro service, hydrological service.

Hydration is any source of water input for organic embodied restoration. Organisms need a source of water to live. Organisms use water, in part, as their

energy source. Organisms differ in the way they obtain water.

Hydration > Water source [resource satisfier] - the need for accessing water of some appropriate composition at some frequency, which are not optional:

- 1. **Required by (1st level):** Absolutely required by.
 - A. Life forms.
 - B. Habitat service system operations).
- 2. **Service layer (2nd level):** Absolutely required for.
 - A. Drinking.
 - B. Hygiene.
 - C. Life-cycling materials (HSS operations).
- 3. **Resource layer (3rd level):** Options for.
 - A. Water elements (e.g., dissolved and undissolved solids).
- 4. **Environmental layer (4th level):** Options for.
 - A. Production elements (e.g., rain encatchment, well).

Humans need water for biological functioning, organisms need water to obtain chemicals from their surroundings, break down food, grow, move substances through their bodies, and reproduce.

11.5.1.1 Basic human water requirements

Humans have requirements for water with a specific composition and at a specific frequency (which will fluctuate within a range). In order for a habitat service system to fulfill individual humans' relationships with water, the following availability data must be present:

- 1. Water resource availability:
 - A. Is there water available?
- 2. Water service availability:
 - A. Is there an engineered water distribution network?
 - B. Is there an engineered water processing system for changing composition?
- 3. Water type availability:
 - A. What is the composition type of the water?

A water scarcity (fulfillment) index is a measurement of the ability to meet all water requirements for human requirements. There are multiple sub-requirements to the need for water at the population scale in a controlled habitat, and they include, but are not limited to:

- 1. **Drinking** with water for organism existence.
 - A. Survival - Non-optimal composition and frequency of water.
 - B. Flourishing - Non-optimal composition and frequency of water.
- 2. **Cleaning** with water for hygiene and sanitation
 - A. Survival - Non-optimal composition and frequency of water.

- B. Flourishing - Non-optimal composition and frequency of water.
- 3. **Cooking** with water for food preparation (nutrition).
 - A. Survival - Non-optimal composition and frequency of water.
 - B. Flourishing - Non-optimal composition and frequency of water.
- 4. **Materializing** with water for material production lifecycle (manufacturing, recycle, energy, etc.).
 - A. Survival - Non-optimal composition and frequency of water.
 - B. Flourishing - Non-optimal composition and frequency of water.

Water requirements for each water process must be defined, and may or may not include the following examples:

1. **Drinking water parameter requirements:** Data on the drinking water requirement for human survival (min, max, etc.) under a temperate climate with some activity is about x liters per person per day.
2. **Cleaning water parameter requirements (a.k.a., requirements for sanitation):** For example, taking into account various technologies for sanitation, the effective disposal of human wastes can be accomplished with little to no water, if necessary. Or, given conditions and decisions, data on the water requirements for cleaning.
3. **Bathing water parameter requirements (a.k.a., hygiene water):** Data on the amount of water needed for complete fulfillment of the water-type need for bathing, per person per day.
4. **Basic requirement for food preparation:** Data on the water needed for food preparation to fulfill human nutritional needs is x liters per person per day.

NOTE: Data must account for water composition and usage.

11.5.2 Atmospherics and geospherics

CLARIFICATION: *Atmospherics (Read: air/space around a sphere to move through) refers to that which is in the atmosphere above [walking] surface-ground. Geospherics (Read: surface of sphere to walk/move on) refers to land or some other walkable surface.*

The atmosphere provides breathable and liveable air. There is a global, biospheric atmospheric and geospheric service. Then, there are atmospheric and land (geo) changes to where a city exists. Then, there are atmospheric and land (geo) changes to where buildings exist.

1. GeoInformatics (land analytics; “geospherics”) - Surface composition; land, ship.
2. AtmoInformatics (atmosphere analytics; “atmospherics”) - Quality of composition; understanding and planning.
 - A. Open space?
 1. Somatic (hearing, sight, olfactory, dermal, electromagnetic)
 - B. Natural light?
 - C. Close and far sight observation throughout some natural cycle?

11.5.3 Food (nutritional service)

A.k.a., Cultivation service.

Food is any source of nutrient input for organic embodied restoration. Organisms need a source of energy to live. Organisms use food, in part, as their energy source. Organisms differ in the way they obtain energy.

NOTE: *Autotrophs use the food they make to carry out their own life functions. Organisms that cannot make their own food are called heterotrophs. Hetero- means “other.” Humans are heterotrophs, given what is known. Heterotrophs obtain their energy by feeding on others (other organic and in-organic). Some heterotrophs eat autotrophs and use their energy. Other heterotrophs consume other heterotrophs that eat autotrophs. Humans are “omnivorous”, in that require both (given what is known).*

Food > Nutrient source [resource satisfier] - the need for accessing food of some appropriate composition at some frequency, which are not optional.

1. **Required by (1st level):** Absolutely required by.
 - A. Life forms.
2. **Service layer (2nd level):** Absolutely required for.
 - A. Eating.
3. **Resource layer (3rd level):** Options for.
 - A. Food elements (e.g., need for one carrot; many genetics + growing conditions will produce a carrot with different micro-nutrient, macro-nutrient, and energy density measurements. Measured in nutrient and vitamin yield.
4. **Environmental layer (4th level):** Options for.
 - A. Production elements (e.g., need for land and technology to cultivate carrots).

11.5.4 Shelter (architectural service)

A.k.a., Accommodations service, building service, structural service, erectors service.

Shelter is any source of architectural input for organic embodied protection. Organisms need a source of

architecture to live. Organisms use architecture, in part, as their energy source. Organisms differ in the way they use shelter. Shelter from the elements and noxious animals and insects with means to freely function, and improved by conveniences.

Shelter > Architecture source [resource satisfier]

- the need for accessing shelter of some appropriate composition at some frequency, which are not optional.

1. **Required by (1st level):** Absolutely required by.
 - A. Life forms.
 - B. Habitat service system operations).
2. **Service layer (2nd level):** Absolutely required for.
 - A. Inhabiting (buildings) .
3. **Resource layer (3rd level):** Options for.
 - A. Inhabiting elements (e.g., buildings involve materials and construction).
4. **Environmental layer (4th level):** Options for.
 - A. Production elements (e.g., land or other buildings).

11.5.4.1 Sleep (dwelling service)

Sleep environment > Habitation source [resource satisfier] - Need for safe sleep cycle environment.

1. **Required by (1st level):** Absolutely required by:
 - A. Life forms.
2. **Service layer (2nd level):** Absolutely required for:
 - A. Rebuilding body for another cycle.
3. **Resource layer (3rd level):** Options for:
 - A. Bedding (including bed and cloth, and room, ambiance).
4. **Environmental layer (4th level):** Options for:
 - A. Complete darkness (the absence of artificial lights bleeding into the sleeping environment).

11.5.5 Medical (medical service)

A.k.a., Lifeform restoration service, life-form restoration service, hospital service, safety service, life emergency service.

People are injured and/or get sick for two reasons:

1. Acute injury, and/or
2. The body is missing something that it needs. Take good nutrition in, and/or
3. The body is exposed to something that it doesn't need. Do not expose yourself to toxins that will weaken you.

Herein, what is generally understood by mental health, however, is negative, rather than positive; the absence of sickness, rather than the presence of well-being. Herein, hygiene is to some relative degree an action that reduces the incidence of medical disease. Medical

services exist to discover and treat injuries, and educate about human bio-physical optimization. The body (and mind) is regenerative by nature. Optimization of biological systems is likely to reduce injury and disease.

11.5.6 Energy (power service)

Organisms need a source of energy (power) to live, to do work, for light, and for heat. The primary sources of energy for the Earth are the sun and the materially layered composition of the Earth itself. The first forms of power technologies were mechanical. The second form of power is, mechano-electrical.

Definition: Energy > Power source [power resource satisfier] - Need for accessing local electromagnetic energy of some appropriate composition at some frequency, which are not optional.

1. **Required by (1st level):** Absolutely required by:
 - A. Life forms.
 - B. Habitat service system operations.
2. **Service layer (2nd level):** Absolutely required for:
 - A. Energizing (powering).
3. **Resource layer (3rd level):** Options for:
 - A. Energizing elements (e.g., fire, electricity, mechanical pressure).
4. **Environmental layer (4th level):** Options for:
 - A. Production elements (e.g., wood and twine, solar power).

11.6 The universal set of human needs [list]

In community, there are fulfillment opportunities in the domains of:

1. Personal growth.
2. Life, technology, and exploratory physical habitat services.
3. InterSystem team contribution.
4. Education.
5. Leisure.

11.6.1 Universal goals in the context of human need fulfillment

The universal goals of human need fulfillment include:

1. Minimally impaired social participation (cooperation of information and sharing of common resources).
 - A. Maximum technical efficiency (mathematics and pattern optimization).
 1. Critical participation (contribution actualization).
2. Human need fulfillment list (of an objectively,

openly, adequately fulfilled threshold of [information or resource to form some construction]]):

- A. Food and water.
- B. Protective housing.
- C. Protective clothing.
- D. Non-hazardous life-space.
- E. Medical/health service.
- F. Social relationships.
- G. Critical autonomy.
- H. What if we were “free” to contribute to the whole global, local access-fulfillment system simultaneously, globally (i.e., “true” open-source [to the commons; public; social; global-population of extensional users and creators].

11.6.2 Individual needs

The following is a simplified needs list for an individual, in a household, in society:

1. Basic necessities.
 - A. Water.
 - B. Food.
 - C. Waste removal.
 - D. Clothes (elements protection/architecture).
2. Localization.
 - A. Land.
 - B. Air (atmosphere - for breath, movement, and vision).
 - C. House/dwelling.
 - D. Light (illumination includes “shadow” as deprivation of light, and vision).
 - E. Sound.
3. Basic activities.
 - A. Care (self-bodily and other-bodily care).
 - B. Work (contribution and participation).
 - C. Rest (sleep).
4. Relationships.
 - A. Self.
 - B. Intimate individual (partner).
 - C. Close social individuals (family).
 - D. Household members.
 - E. Non-household members.
5. Consciousness (thought/motivation).
 - A. Meanings/understandings.
 - B. Values and objectives.
 - C. Learning.
 - D. Communication.
 - E. Beauty (natural and harmonious/uplifting surroundings).
6. Body structure.
 - A. Gender.
 - B. Development phase (proximal to birth is highly age dependent, but distal to birth is highly

disorder/disability dependent).

- C. Health (state of structure and function of body from optimal to dis-ease).

The ten needs and 25 elements of the household form the outline of a database that describes need satisfaction within the household. Each element of the household is analysed for its possible links to all the aspects of all the needs.

11.6.3 Organic life-requirement needs

A.k.a., Categorical needs, absolute needs, electro-biological needs, innate needs, physical needs, bio-physical needs, electro-biological needs, organic requirements, organic-life requirements, physical-organic life-requirements, organismal requirements, biological needs, biological requirements, basic life requirements, basic needs, universal needs, human basic needs (HBN), etc.

Organic based needs are innate to a physical body, and consciousness is enmeshed with the fulfillment of these needs, as they arise (to be fulfilled by their active pursuit and conscious integration) for continued biological (and conscious) existence.

For instance, food as a [category of] resource, and eating as the act of fulfilling that [category of] need. In the case of food, it is an absolute or categorical need, because it is determined by our biological requirements, which exerts particular demands on embodied consciousness if it chooses to remain alive and happy. As an absolute need, it is neither substitutable, negotiable, nor optional. In that sense, an essential principle is applicable to absolute human needs: nobody’s non-substitutable need may be sacrificed to the desires or lesser needs of any group of other people.

Biologically-based needs are the sensed experience that organisms require environmental inputs for optimal biological functioning, such as water, air, sleep, food, EM, etc. Organisms experience and can be visibly seen to diminish in well-being, when they go for too long without the fulfillment (as, connection>integration>release) of a particular environmental relationship. The deterioration that ensues from relatively less immediate needs, such as sleep, is also clear (Colten & Altevogt, 2006).

The degree to which physical-organic life-requirements are satisfied is the most basic foundation (i.e., the physiological source) of well-being. Humanity’s highest potential (e.g., free conscious activity) requires the fulfillment of needs that develop out of the physical-organic foundations of life.

‘Need’ is an intrinsically socially and species relative measurement; is it relevant only in relationship to the highest potential expression observed by another, or how often and sustainably does someone experience the states of well-being and flow.

Needs can be satisfied in (at least) three contexts (i.e.,

with regard to):

1. Oneself.
2. The social group.
3. The [ecological] environment.

Satisfiers can be classified with regard to their utility. Max Neef original suggested suggests five classes of satisfiers in concern to their utility:

1. Violators or destroyers - destroy future utility.
2. Pseudo-satisfiers - appear to provide utility, but are neutral or negative.
3. Inhibiting satisfiers - inhibit current satisfiers and current utility.
4. Singular satisfiers - a satisfier .
5. Synergistic satisfiers - mutual satisfaction.

More simplistically, satisfiers can be axiomatically divided into:

1. Positive satisfiers - factually, a satisfier.
2. Negative satisfiers - reduce current or future satisfaction.
3. False satisfiers - appear to satisfy, but do not, and are some degree of neutral.

There is one sub-characterizable meaning to the word 'organic' in the context of human 'need':

1. Organic, in terms of composition (and conscious understanding).
 - A. Organic, in terms of, the genetics that have material satisfaction [requirements] of a specific composition.
 - B. Organic, in terms of, the organism that has requirements [demands] to sustain and develop its own composition.
 - C. Organic, in terms of, the consciousness that has feelings (from wellness to suffering) that sustain and develop its own composition.

Needs can be sub-classified as to whether they are one of three modalities to consciousness:

1. **Informational** [to consciousness, mental state] - does the information available sufficiently fulfill conscious collect-ability, understand-ability, controll-ability/direct-ability, and use-ability needs?
2. **Spatial** [to consciousness, body/physiological state] - does the material surroundings available, inputs and outputs, and cycling, sufficiently fulfill conscious-material needs?
3. **Consciousness relational** [to consciousness, psychological state] - does the social surroundings available, the other conscious beings, sufficiently fulfill conscious-socio needs?

Needs can be sub-classified as to whether they are one of two spatial modalities to consciousness: (material and non-material):

1. **Individual MATERIAL NEEDS** [for services and objects]
 - A. **Organic satisfiers (objects)** - Organic compounds are generally any chemical compounds that contain carbon.
 - B. **InOrganic satisfiers (objects)** - An inorganic compound is typically a chemical compound that lacks C-H bonds.
2. **Social MATERIAL NEEDS** [for services and objects]
 - A. **Ecological satisfiers (services)** - Life-form cycles (within a biosphere) are generally any living organism that contains consciousness.
 - B. **Habitat satisfiers (services)** - A controlled and localized environmental cycle is typically a socio-technical organization that contains a population of an organism (for instance, human).
3. **NON-MATERIAL NEEDS** [for conscious 'information interconnection' and environmental 'quality of state']
 - A. **Social connection satisfiers** (A.k.a., Belonging, self-esteem, etc.). This is 'needed'. Note, that in this context, the material needs could be said to be 'required'.
 - B. **Conscious self-development** (A.k.a., Growth, self-expression, self-learning, education, etc.). This is 'demanded'.
 - C. **Environmental order sufficient** (threshold) for desired level of contribution (in the context of need and demand). This is 'essential', otherwise required work doesn't get done; or there is 'coercion', the violation of freedom, but work gets done via extrinsic motivation.

11.6.4 Societal-level sub-conceptions of human need

The notion of human need can be viewed, at the societal level, from multiple perspectives, including but not limited to:

1. **Basic human needs:** Equate to physiological and safety; subsistence and security.
2. **Market [economic] needs:** Equate to those safety needs described by employment that meets basic economic needs (not being destitute), cost of education, earning power, personal wealth, household infrastructure, and non-paid work - as well as some socially based needs - community/national wealth and productivity, public infrastructure, economic diversity, economic growth, economic sustainability, and trade. Note

that “market” needs do not exist in ‘Community’; they have been specifically understood and engineered out of the system’s design. In a market, products and services are provided through trade/object/currency-exchanged re-distribution. In community, access is globally coordinated to fulfill needs, demands, and there is no need for services or objects to be traded, priced, or otherwise, marketed or commercialized.

3. **Ecological needs:** Environmental needs for natural ecological services. For example, the Earth’s water cycle, atmospheric cycle(s), and other biospheric and sub-biospheric-organic systems with overall dynamic requirements and living needs.
4. **Environmental needs:** Environmental needs also equate to safety needs and include the availability of clean air, the availability of clean water, low health risks due to toxic contamination, biophilia (equates to belongingness/love needs) and acceptable distances from critical ecological thresholds. Real environmental needs span human and ecological life’s inherent requirements, to reproduce, bio-diversify, and live well. Environmental needs would fall into Maslow’s hierarchy at multiple levels:
5. **Optimization needs:** Where well-being equates to the remaining hierarchical needs from belongingness/love through aesthetic needs.
6. **Service (operations) needs:** The operation of a habitat service system, which has a set of specified needs for its operation and adaptation.
7. **Subjective happiness (subjective satisfaction):** Subjective happiness equates to the remaining hierarchical needs from belongingness/love through aesthetic needs. Here, happiness is subjective satisfaction, but not totally subjective, but also, common, because of embodiment. These include life satisfaction and freedom, sense of place, identity, community vitality and cohesion, access to nature, access to diversity of nature, affection/respect toward nature, value/importance of leisure time, mutual respect, cultural and spiritual beliefs, and aesthetics. Subjective happiness impacts several of Maslow’s hierarchies, but particularly the psychological need to know and understand, aesthetics needs, and esteem needs. Life satisfaction or quality-of-life (QOL) is a focal point for subjective happiness, with satisfaction being gauged at the individual and social levels. Quality-of-life (its composition) is an measurement of the opportunities that are provided to meet human needs in the forms of built, human, social, and natural conditions (in addition to time). Ones ability to **express one’s own values**[system] and

socialize with others of a similar value system significantly influences subjective happiness. Of course, a given value/belief system can orient its user toward a wide-variety of different experiential destinations.

MAXIM: *Needs are not infinite, except for the power of love [I have for you]. Firstly, nothing in the material world is infinite. Secondly, humans have fixed amounts of things that they need (on a daily, weekly, monthly, yearly, and life, cycle). Everything in the material world is finite, and the material world is all that exists. No material body can be of infinite size. Further, length cannot be divided into infinitely smaller units. The Love [I have for you] is continuous and not conditional on the material.*

11.6.5 A “goods” view of human needs

A “goods” view of human needs:

1. Atmospheric “goods” (or, satisfiers):
 - A. The atmosphere as a satisfier may be sub-composed of the natural atmospheric “goods” (elements and characteristics) of breathable air, open space and light.
 - B. Systemically depredated insofar as:
 1. The air is polluted by its commodities’ production and uses (e.g., ever more motor vehicles for profit with no limit on their numbers or ration of their use on land, air or water).
 2. Open space is cumulatively occupied by these corporate-person uses and commodities disabling people’s lives (e.g., by pervading fumes and motor-spike decibels and subsonic propagations).
 3. The light of the sun has been made toxic by corporate-commodity effluents having cumulatively destroyed the ozone layer for protecting the earth from infra-red solar radiations.
2. Bodily “goods”:
 - A. The bodily goods of clean water, nourishing food and waste disposal.
 - B. Systematically depredated insofar as:
 1. The fresh waters of aquifers, lakes and rivers are polluted and drawn down by corporate-person activities of manifold kinds from factory farming, toxic discharges across industries and commodity extraction, with untreated sewage itself led by these open-waste methods (and taxes required to financially resolve the problem)
 2. The world’s foods and beverages are increasingly palatable, chemically adulterated,

- and genetically altered to serve money-sequence functions of mass sale, masking of age and quality, and care-cost reduction, thereby leading multi-disease causation and depleting loss of seed stocks, vitamin yield, forest covers, and organic immune resistance, etc.
- 3. Massive non-cyclical waste methods throwaway products and packaging and non-recycling of waste products.
- 3. Home and habitat “goods”:
 - A. The home and habitat goods of shelter from the elements and noxious animals and insects with means to freely function, and are improved in countless expendable conveniences.
 - B. Systematically depredated insofar as:
 - 1. A home is the fundamental property of the State (requiring tax to sustain access to).
 - 2. A home is a purchasable asset that must be maintained through additional purchase.
 - 3. Protection from noxious animals and insects is by profitable commodities of instant poisons, solvents and other kill-mechanisms that are hazardous to life-forms in general and blinker out life-coherent methods of common/public resolution.
- 4. Home and habitat “goods”:
 - A. The built and natural environmental goods of surrounding elements and contours contributing to the whole are what form all pleasant human surroundings across cultures.
 - B. Systematically depredated insofar as:
 - 1. Urban sprawl ‘development’ extending from one town and city and beauty space to the next.
 - 2. Buildings determined only by corporate-person profit for unit sold and not for their contributing place in the whole unless regulated by such public coercion standards.
- 5. Security and healthcare “goods”:
 - A. Social life security (a.k.a., civil life security).
 - B. Systematically depredated insofar as:
 - 1. The manufacturing, sale, and jurisdictional equipping of armaments.
 - 2. The mass sale of addictive and life-reducing usables (e.g., cleaners) and consumables (e.g., junk drinks and foods, personal care products) that afflict countless people with diseases, whose cause by these products is unresearched or undisclosed.
 - 3. The privatization for profit of health-restoring goods so that what does not serve corporate money sequences is ruled out, including human health plans and their extensions.
- 6. Cultural “goods”:
 - A. Language, music, art, and play which constitute culture in all its diverse human forms.
 - 1. Systematically depredated insofar as:
 - 2. Corporate money-sequence growth selects for funding and reproduction of only those forms which directly or indirectly produce and mass-market commodities for corporate profit. Whatever does not serve this ulterior goal is not funded or, if integral to people’s lives, distorted into a form that does (e.g., public education tailored to the demands of corporate rule). Thus, culture becomes commodified to sell corporate brands, communication is reduced to what promotes sales by instant images and sound bites, and public cultural policies are determined by corporate policy. The cultural form is decided as “good” or “bad”, in turn, by private money-value returns – that is, how much is paid for product or reproduction (high art), or how well it sells corporate commodities (commercial art). In general, culture becomes funded or defunded as it returns higher or lower money value to private parties.
- 7. Human vocation as a “good”:
 - A. The good of human vocation is the ultimate life good for human beings in community insofar as it enables and obliges people to contribute to the provision of universal life goods consistent with each persons enjoyment of them. This is the innermost moral logic of real economy and social justice ruled out by the opposite demands of pecuniary self-maximization with other human beings as mere resources for more money for ever fewer at the top. At the highest level of abstraction, the vocation of each individual is to do what s/he can that is of life-value to others and of life-interest to self. The value of work for others, in turn, is defined by its contribution to the provision of the universal goods each and all require to live as human.
 - B. Systematically depredated insofar as:
 - 1. Work exists not as contribution, but an extrinsically motivated necessity.

11.6.6 Socially embodied need types

The needs common to all humans are:

- 1. **Basic [Physical] needs** are survival factors without which life existence is disrupted.
 - A. Without the fulfillment of basic needs, living system is unlikely to exist or is highly disrupted.
 - B. Required for persistent survival (existence) of

the organism (intergenerational) or species (intragenerational).

2. **Complimentary [Social] needs** comprise of needs that may cause difficulties in life if they are not met. Without it living is disrupted. Access to services.
 - A. Without the fulfillment of complementary needs, living systems are [physiologically and cognitively] disrupted, but not at direct risk of non-existence.
 - B. Required for persistent physical and mental life sustainment (or, life satisfaction) of an organism.
3. **Desired [habitat] opportunities** represent human needs that fulfil human potential, although without their fulfillment, lives would not be impossible. Opportunities [to access] growth and contribution enabling environments. Without available habitat opportunities for self-development and contribution (social development), living is still possible, not as joyous.
 - A. Without the fulfillment of desired opportunities, living system are [cognitively] disrupted, but not at direct risk of non-existence.
 - B. Without the fulfillment of desired opportunities, life experience is not full [of potential growth and exploration].
 - C. Required for optimizing for realization/ actualization of a higher potential of self-expression and available opportunities.

11.6.7 Individual human needs for access

Needs are satisfied (fulfilled, completed) by access to adequate food and water, protective housing and clothing, medical care, significant belonging, etc., and in turn, optimized by freedom from coercion, freedom to satisfaction, justice to restoration, justice to access, and efficiency.

NOTE: *In materiality, all is access.*

Humans have a set of needs representing requirements that must be fulfilled for individual humans to live, and live well:

1. **Human needs for existence** - what needs accessing in order to exist.
 - A. **Subsistence (sustenance)** - access to food, shelter and clothing, social and physical habitability, freedom to reproduce. Determined by the amount and characteristics of the geographical space, natural resources, life support factors, infrastructural conditions, total resources throughput (internal and external); eternal conditioners of society reproduction.
 - B. **Protection (safety)** - access to health services,

safety systems, and protection against disaster. Warning, prevention, protection and assistance systems against internal and external natural and social disasters.

- C. **Affection (love)** - access to family-type relationships and the means to keep a family. Recognition of one another.
2. **Human needs for persistence** - what needs accessing in order to persist.
 - A. **Comprehension (understanding)** - access to knowledge and the societal information system; access to communication; freedom to share information. Access to externally generated information, ideas, and scientific and technological understandings; global information services.
 - B. **Contribution (teaming)** - possibility for participation in decisions; lack of manipulation, marginalization or repression; expression of values.
3. **Human needs for development** - what needs accessing in order to develop fully.
 - A. **Recreation** - access to recreational opportunities and services, and to beautiful and restful landscapes. Access to activities and freedoms without reprisal or repression.
 - B. **Creation** - access to creative works, and to individual and collective creative activities.
 - C. **Discovery** - access to resources and tools for pursuing creative interests and inquiries.

11.6.8 Emotively embodied human need categories

Humans have two sets of physically-emotive (embodied) need:

1. The need as an animal to **avoid pain** (**hedonic**, the experience of **pleasure** is the drive).
2. The need as a human to **grow** psychologically (**eudonic**, the experience of **purpose** is the drive).

11.6.9 Functionally embodied human need categories

Humans have two sets of functional need, which may also be viewed as goals affecting human behavior:

1. **Physiological needs** (physical functioning, including eletro-bio-mechanical).
 - A. These needs could be viewed as **physiological goals**.
2. **Psycho-sociological needs** (intentional drive).
 - B. These needs could be viewed as **psycho-sociological goals**. Overlaid on top of physiological goals are the psycho-sociological

goals (e.g., purposes, plans, and intentions).

The 5 universal psycho-social needs are:

1. Love/attachment.
2. Being un/heard.
3. Social belonging.
4. Making a difference.
5. Meaning and purpose.

11.6.10 Species embodied human need categories

The specie's directive is to generate and enable human life and life conditions to survive and flourish:

1. **Survive (survival directive)** - do not die before reproduction and sustenance (as in, raising healthy offspring).
2. **Flourish (flourish directive)** - reproduce healthy organisms with ever greater potential capability (as in, healthy adaptation to a more thought responsive environment).

11.6.11 Human life-need goal categories

Humans have two related sets of life-need goals. They have a need to survive given requirement from which physical inputs are required to maintain (to be in well health) a body, and the need to become more (to be a better, more wise and developed person).

1. **Survival goals (self-survival, existence)** - the goal(s) of surviving in a physically embodied existence:
 - A. Physical well-being (existence).
 - B. Mental well-being (existence).
 - C. A safe and healthy environment (survival).
 - D. Reproduction or limiting reproduction (survival).
 - E. A feeling that everything is "OK" and there is meaning to life.
2. **Betterment goals (self and social development)** - the goal(s) of thriving by actualizing the potential (of that which is given, and available).
 - A. A feeling that tomorrow will be as good or better than today; that everything will be "OK" tomorrow and there is meaning to life.

11.6.12 In concern to human life need

Life encompasses all human real-world life compositions. To an embodied consciousness, there are a set of material life compositions, including but not limited to:

11.6.13 The "basic" human need list

This list of needs assumes that if these "basic" needs are met on a daily (natural) basis, that a person will have enough motivation, well-being, and physical stamina

to seek out challenge, hormetic growth, emotional stimulation, contribution, and creative expression, as needed throughout their lives:

1. **Food** - The body needs calories and a variety of nutrients including protein, fat, and carbohydrates everyday to grow, function, and repair. Without food, the body begins to atrophy.
2. **Water** - Ample hydration allows for the processes of the body to occur. Without water the body cannot process food or remove wastes.
3. **Shelter** - The body requires protection from the sun, freezing temperatures, wind, rain, and other organisms (e.g., insects and predators). Without shelter, human skin and organs are damaged from extreme elements.
4. **Sleep** - 6-9 hours of sleep every 24 hours allows the brain to process new knowledge and deal with emotional information. Without ample sleep humans cannot learn new things or get past emotional pain.
5. **Connection with others** - Humans require connection (physical or emotional) with other humans to release certain hormones like oxytocin. Human touch is so important that when humans are young, their brains don't develop correctly without it. Regular connection to others allows us to maintain a sense of well-being that allows for self-care.
6. **Information novelty** - New information (information novelty) creates the opportunity to learn and the potential to fail (stimulating the state of flow). Without regular novelty and uncertainty, motivation wanes and a healthy sense of well-being is reduced/lost.

11.6.14 Absolute needs

A.k.a., Absolute life necessities, biological needs, biological influences.

Biology influences and pervades behavior. The biological dimension of human behavior - what might be called, the "biological imperative" - is not often subjected to analysis. Basic human needs are the necessary conditions to basic survival and further physical and psychological development. Biological imperatives are the needs of living organisms required to perpetuate their existence: to survive. Include the following imperatives for a living organism: food, water, shelter, energy, reproduction, social connection, self-development, etc. This idea of a set of biological imperatives may also be characterized by sociological imperatives, because the environment includes multiple biological individuals.

An **absolute [biological] need**, because it is determined by the biological requirements of human life forms,

which exert particular demands on conscious (moral) agents.

1. **Social affection** - There is still a human life necessity of supportive care or “love” which some say the greatest need of all. Certainly without it people variously lose life capacity including the will to live itself, and infants and children variously shrivel up and die to the world without it, as research has shown across the primates.
2. **Personal nutrition (nourishment)** - Eating is the number one instinct. Without it, our physical vessel will die; we need to take the action of food seeking and eating to continue living (by the body in some degree of adaptation to an environment).
 - A. Nutrition is an absolute biological need; it is neither substitutable nor negotiable, and it cannot be considered a social construct.
 - B. The nourishment requirement is multi-factorial and relates calories with macro- and micro-nutrient intake, and with research establishing required range quantities for size and age parameters, otherwise corresponding physical degeneration by significant deprivations. Generally, this category is measured in the units micro-nutrients (mg) and macro-nutrients (g).
3. **Personal medical health** - The maintenance of life can require periodic health care relative to the objective disease problems that arise in the course of life.
4. **Self-actualization (access to ‘flow’, from potential)** - how to use your consciousness and abilities to do the most good for society before you die. Happiness is living a purposeful life. If we figure out our purpose through self-actualization while on a journey to it, that should facilitate happiness because we know where we are going.
5. **Aesthetic** - sensation of surrounding material environmental system; most significantly, the visual appearance and experience of the surrounding space, which can have a significant effect on the psychological state of inhabitant.
6. **Access to justice** - There is the requirement to live in reciprocity with others.
7. **Access to information** (“education”, psycho-social) is a socio-cultural life-requirement without which cognitive and imaginative capacities cannot develop fully. The higher-level capacities of human thought and expression require education. Education
8. **Contribution** (psycho-social) - Freedom to contribute for the sake of its intrinsic value (without regard to the demands of the a money-value system (e.g., funding or employment), political

pressures, and coercion.

- A. Take what you have learned and make it beneficial in your own life (i.e., beneficial to oneself):
 1. Take what you have learned and make it beneficial to others.

11.6.15 Socio-psychological human need[ed conditional satisfiers]

These human needs can be measured on an individual and social level/scale (**NOTE:** this scale includes all absolute needs, but at the same time may be considered a higher-categorical level).

1. **Subsistence** - inputs required to remain alive.
 - A. Individual: Calculation of effort for access to [clean] food, air, water, land, and shielding.
 - B. Social: Aggregation of data on access to [clean] food, air, water, land, and shielding.
2. **Safety** - inputs required to remain physically and psychologically whole.
 - A. Individual: Calculation of presence of accidents, disasters, and interpersonal violence.
 - B. Social: Aggregation of data on presence of interpersonal violence experiences, accidents and violence.
3. **Affection** - inputs required to remain connected.
 - A. Individual: Calculation of connections with significant others.
 - B. Social: Aggregation of data on levels of rape, suicide, and homicide, and observation of connections between people.
4. **Understanding** - inputs required to remain cognitive.
 - A. Individual: The [capability to] re-visualize, and inquire into, the unified information model for the community-type society [in which the individual resides, a goal of orientation].
 - B. Social: The expression of a unified information model for the community-type society
5. **Participation** - inputs required to remain socially active.
 - A. Individual: Calculation of contributions to the operation and adaptation of the unified societal system as part of the InterSystem Team.
 - B. Social: Aggregate data on contributions by InterSystem Team participants.

11.6.15.1 Complexity in understanding the need for safety

What is the level of access [to all that humanity has to offer] for someone to feel ‘safe’ [among the common population]?

If all were open, there would be a usability calculation restriction based, potentially, on some level of harm restriction:

1. Level-of-harm restricted (effectiveness inquiry within the decision system)
 - A. Level of harm is what leads to the inability of the population to commonly, and thus, personally, access certain items via nominal InterSystems habitat services, both common and personal (personal as a sub-level of common).
 1. For instance, the InterSystem Habitat Service team will not support the production or access of biological weapons for common or personal access; though such items may be experimented with (or not), transparently, at the InterSystem Team level, as decided upon via some pre-programmed design contribution algorithm.
 - B. For some materializations, the access is restricted to InterSystem team members with certification and accountability. (notice the model is recursive in access level with the first level.)
 - C. It is important here to realize that some procedural knowledge can be used to great harm, and therefore, must be restricted from common, everyone, access; though, the fact that there is knowledge of such knowledge should not (per transparency, openness values and objectives).
 - D. Personal, common, and InterSystem Team access to:
 1. Material systems and machined objects (e.g., plutonium, molecularly reactive centrifugal technology, and gravity technology), or the setting of fire to common plastics represent high level of harm and are decidedly prioritized, appropriately transparent, in InterSystem access.
 2. Information systems to reproduce certain objects (e.g., child porn; procedures for producing 'weapons' that are objects that produce a sufficient level-of-harm of possible social harm that they are restricted from common and personal access (as restricted access to the procedure or restricted access to the materials, or restricted access to the materials in that composition).
 3. For some materializations there are decided restrictions on the use of fabrication machines to produce certain objects.
 4. For some material re-cycling there are decided
- restrictions on the use of systems to reduce certain material.
 5. For example, do you want to use common access snowboarding equipment that has been checked out from a local recreational equipment library at a ski slope? Do you want to use the checked out snowboarding equipment to run the highest class level peaks? In this final case, the risk of harm to life and damage to the checked out item (or personal item) is great.
 6. In community when said snowboarding action occurs,
 7. Whether the objects are lost or damaged and the individual(s) human(s) are harmed or not is of likely emotion consequence to the social environment,
 8. Said action/execution could/would likely lead to loss of access to life and object,
 9. However, in community, there is no subsequent abstracting of trade, debt, price, punishment, possible further non-life harm. There is no further social abstract harm necessary to induce on those already suffering.
 10. There is further life harm in not necessarily understanding that which in the real-world induces the conditions of addiction and bullying of others.
 11. Abstracting is another supra-process that integrates other motives (and hence, consequences) on top of life.
 12. The question is, what [level of harm] is being abstracted and integrated as part of the core decision resolution inquiry process that restricts access to a given society system (procedure, object, or condition).

Note: In other societal configurations, this societal requirement was held by governments and their internal and external militaries down to the level of police and denouncers. In the snowboarding example, in the market, the police and judging human or machine procedural justices would have taken care of disputes arising from self-selected risky behavior (i.e., renting an item from a store and damaging it while taking great risk, possibly putting others' lives at risk, with or without insurance).

Wherein,

1. Personal sub-level type access - do "you" or small, non-intersystem, recreational group want to put yourselves at risk by some activity using personal and/or common access items.
2. InterSystem access - do "you" want to be put to

death via some painless medium?

3. Need an appropriate informational and spatial "place" to 'feel' consciously safe and challenged. Here, challenge is 90* - hormetic, appropriate autonomy on individual's levels of personal safety risk, though not individual autonomy on the selection of social risk (which, is achieved through open societal algorithmic decisioning).

11.6.16 Psycho-social needs

A.k.a., Intellectual needs, psychological needs, psycho-social experiences and conditions.

Needs involve action by the organism (organismal action) to seek out certain basic types of psycho-social experiences, to a somewhat varying extent across individuals, and to feel good and thrive when those basic experiences are obtained, to the same extent across individuals. These needs will change given the information and technology available to the population, and the population itself over time, and that population itself can compare itself to others. Wherein, the organism seeks a certainty understandable experience of the social world.

Examples of psycho-social need models include,

1. Anthony Robbins socio-self-empowerment model.
2. Self-determination theory; intrinsic motivation model.

11.6.17 Human flow needs

In order to experience flow states, a person needs to have certain basic human needs (conditions) fulfilled. By fulfilling these basic human needed conditions, a person is more likely to experience flow states. These are not technically human needs, conditions that facilitate flow; they include, but may not be limited to:

1. Competence - a person needs to feel competent and capable of completing the task (objectives they set for themselves).
2. Challenge - the task must be challenging, but not too difficult or impossible.
3. Clear goals - the person must have clear goals and a sense of purpose (intrinsic motivation).
4. Control - the person needs to feel in control of the task and their own actions.
5. Concentration - the person needs to be able to concentrate and stay focused on the task without distractions.
6. Empowering emotions - the person needs to be empowered (positively) about the themselves and their work.

11.6.18 Human needs for existence and flourishing

The common human needs could be viewed as a universal set of means of life (needs), which all humans require to flourish:

1. **Atmospheric means of life:** Breathable air, sense open space, daily light.
2. **Bodily means of life:** Clean water, nourishing foods and self-waste disposal.
3. **Architectural means of life:** Shelter space from the elements with ample provision to retire, sleep and function.
4. **Environmental means of life:** Environmental surroundings whose elements contribute to the whole and do not chronically degrade (e.g., land and the cosmos).
5. **Caring means of life:** Intimate love, social inclusion, safety and healthcare when ill or infirm.
6. **Educational and recreational means of life:** Activities of language-logos/art-play to choose and learn from.
7. **Contributory ("vocational") means of life:** Meaningful work or service to perform.

11.6.19 Human life-finding functions

NOTE: Behavioural motives, to some degree, arise due to the innate desires placed on consciousness from its embodiment in a physical human organism.

As an organism, humans have [at least] two innate [life] finding functions, which may also be viewed as goals affecting human behavior:

1. **Food-finding function** - the need to remake the individual body with minerals and dead organisms.
2. **Mate-finding function** - the need to/remake the genetic body through another generation.
3. **Social-finding function** - the need to remake the psychological (mental) body through another connection. That connection can be (or can not be):
 - A. **Bond-finding function (show trust)** - Bonding is when animals begin to trust and appreciate one another.
 - B. **Respect-finding function (show significance)**
 - C. **Help-finding function (show support)** and **contribution-finding function (show contribution)** - contributing to support others to satisfy their unmet needs (contributed optimization).
 - D. **Growth-finding function (show sharing)**
4. **Information-finding function (show growth)**
5. **Evolution-finding function (show adaptation)** - hormesis is betterment adaptation to a given

environment.

11.6.20 Self-organizing system needs (access-service needs)

The needs of self-organizing systems (e.g., human and ecological systems) can be characterized as follows (note: the habitat service support system facilitates the fulfillment of each need)

1. **Needs for existence or identity** - Needs whose non-satisfaction results in the destruction of the system.
 - A. Basic needs/requirements fulfilled by Life Support Service.
2. **Needs for completeness or integration** - Needs whose non-satisfaction results in the systems inability to perform some of the functions.
 - A. Engineering needs/requirements fulfilled by Technical Support Service.
3. **Needs for stable functioning** - Needs whose non-satisfaction results in disturbances in the system's performance of some of its functions.
 - A. Want and request needs/requirements fulfilled by Facility Support Service.
4. **Needs for adaptation, improvement or optimization** - Needs whose non-satisfaction inhibits the adaptive modification of the system's structure and functioning.
 - A. Improvement and adaptation needs/requirements fulfilled by Project/InterSystem Support Service.

The attributes of a self-organizing human system are:

1. **Completeness or integration (Source)** - All information is integrated into a complete design decision.
2. **Cooperation (Social)** - The design is shared and coordinated.
3. **Allocation (Resource)** - The design is constructed and operated.
4. **Regeneration (Service)** - The design provides services to the community.

Given an environmental dynamic where there is probability, entropy and uncertainty, then there are also the orientational system needs of:

1. **Optimization.**
2. **Adaptation.**
3. **Resiliency.**

11.6.21 Contributor autonomy needs

InterSystem team contributions are acts of involvement in the well-being of the interrelated whole to which the

contributors belong. Therein, contributors (intersystem team members) have a variety of autonomy-related needs, which include:

1. **Time:** Contributors set contribution time, unless it becomes set by the work-task and decided upon by a decisioning protocol.
2. **Location:** Contributors set contribution location, unless it becomes set by the work-task and decided upon by a decisioning protocol.
3. **Independence:** Contributors choose among the activities available to their [InterSystem Team] service development level (i.e., dependent task selections are dependent upon the skill, knowledge, and ability of the contributor, and availability of the task).
4. **Social connectivity:** Contributors choose among activities, those with a low necessity for social connectivity, and those with a high necessity for social connectivity.
5. **Work quality (positive fulfillment):** Contributors choose worthwhile tasks and activities of personal interest.
6. **Crowding (negative fulfillment):** Contributors do not choose to be crowded by information, space, or other contributors, unless such crowding is brief and worthwhile.

11.6.22 Physiological flow needs list

A.k.a., Intrinsic motivation, self-determinism theory (SDT), etc.

Flow is a cycle, and therein, state, of high performance. Flow generation (the experience of flow) requires:

1. **Autonomy (control)** - Able control over "your" own actions. The desire to be in control of oneself.
 - A. When internally regulated, this is self-control ('will' is the highest internal control).
 - B. When externally regulated, this is social-control ('protocol' is the highest external control).
2. **Adaptation (mastery; adapt to the environment with mastery)** - Able improvement toward mastery (competence) of high performance. The desire challenge and advance, to be good at something.
 - A. When internally regulated, this is hormesis (flow is the highest internal adaptation).
 - B. When externally regulated, this is evolution (equanimity is the highest external adaptation).
3. **Connection (purpose and relatedness; connect with purpose and see real-world relationships)** - Able to connect action with purpose (feeling) through logical reasoning and pattern recognition. The desire to make sense of oneself and the world through a sense of purpose or relatedness.

- A. When internally regulated, this is though (self-integration is the highest internal purpose).
- B. When externally regulated, this is behavior (contribution is the highest external purpose).

11.6.22.1 *Autonomy*

Three elements are used to operationalize and measure autonomy and its absence. The potential key variables that affect levels of individual autonomy of agency include (i.e., are required for autonomy):

1. Cognitive and emotional capacity is a necessary pre-requisite for a person to initiate an action. Since all actions have to embody a modicum of reason to be classed as actions at all, it is difficult to give a precise definition of the minimum levels of rationality and responsibility present in the autonomous individual.
2. The level of societal (or cultural) understanding a person has about oneself, one's society (or culture), and what is expected of one as an individual within it. These understandings will include both universal competences, such as the acquisition of language in early childhood, and a host of socially specific skills (which, though variable can objectively appraised). To deny a person such basic cognitive capacities is to threaten the person's autonomy within society (or culture).
3. A range of opportunities to undertake socially significant activities. By 'significant' we mean activities which are central in all societies. Again, there is a problem in determining minimum opportunity sets, given that even the most oppressed of people can and will exercise choices. Nevertheless, some minimum freedom of agency is an essential component of autonomy of agency in all societies.
4. The capacity to compare societal (or cultural) rules, to reflect upon the rules of one's own society (or culture), to work with others to change them, and in extremis (i.e., in "extreme" cases where societal change is not possible), to move to another society.

NOTE: *People build a self-conception of their own capabilities through interacting with and learning from others. Autonomy presupposes interdependence.*

11.7 *Life-quality indicator categories*

Life-quality indicator categories include, but may not be limited to:

1. **Health need:** To complete a range of practical tasks in daily life requires conscious abilities (manual, mental and emotional abilities), with which poor

health usually interferes. Illness results in suffering one or more dimensions of disability, regardless of different individuals label, name, and explain their illnesses and dis-eases. In order for health and longevity to occur in the human condition an entire lifestyle approach is required. Having health means we can take part (i.e., are sufficiently mentally and physically healthy enough to) in intrinsically valuable life activities. When individuals are healthy, then they can do the activities they desire to do in life. When humans are healthy in body and mind, and participate in life in ways that are intrinsically meaningful, then they are highly likely to be observed flourishing. Effectively, this is survival (as physical bodily health).

- A. Whatever a person's goals, whatever the societal nuances, practices and values within which someone lives, someone will require certain prerequisites in order to strive towards those goals.

1. In this way it is possible to identify physical survival (as the base threshold of physical, bodily health) and personal autonomy as the most basic human needs – those which must be satisfied to some degree before actors can effectively participate in their form of life to achieve any other valued goal.
2. Here, thriving is to have a feeling of "OKness" with life. That life has meaning and "I have what I need to be OK and live a good, fulfilling and enjoyable life".
3. Design something that makes people feel well. Do not design something that harms human health and well-being.
2. **Autonomy need:** Autonomy can be defined as, the ability to take and act on informed decisions what should be done and how to go about doing it. In a social context, autonomy refers to the ability to integrate and express experiences of flourishing individually, and intergenerationally. The idea of autonomy comes bundled with awareness, choice, opportunity, and intrinsic motivation. Autonomy is the ability to make informed choices about what should be done and how to go about doing it). Autonomy implies that people value and feel interested in their own actions, that they are self-endorsed and not forced by external agents. Competence is related to being able to achieve results to function effectively in ones' society. Relatedness is linked to feeling part of the society, accepted and respected beyond the close family ties. Design something that makes people feel empowered and sufficient. Do not design a system that coerces behavior and punishes

non-conformance; do not design a system that limits human autonomy to move residence and to appropriately physically connect with other humans. The key variables (affect-levels) of individual autonomy (Read: of agency) relates to participation in the following domains; whereupon, if any of these domains are impaired, then one's autonomy is necessarily impaired:

- A. **Mental health** - is based on some level of cognitive and emotional capacity, as a necessary prerequisite for a person to pursue a goal. This can be blocked by serious mental ill-health: the levels of rationality and responsibility present in the autonomous individual are undermined when a person suffers from severe mental illness.
- B. **Physical health** - an individual's autonomy is impaired if lacking adequate ability to move their body by understanding them-self and their environment, and what is expected by others of oneself, and what one ought to expect from others in the environment. That which is moral is to coordinate the fulfillment of human flourishing and appropriately use the service support system, thus building moral capacity in the social organism. To control the needs and need fulfillment of another is to control their autonomy.
- C. **Habitat opportunity** - a range of physical opportunities (habitat activities) to use and contribute to, by taking an active role in socially significant activities. By 'significant' this means informational and materialized activities, systems, that are central in all societies, but expressed differently: life support, technology support, and facility support. By contribution, the individual in relationship with the society build physical capacity.
 1. The market classifies this physicalized experience as employee, employer, consumer (as possible economic relationships).
 2. Braybrooke (1987) classifies these as the roles of parent, householder, worker and citizen.
 3. Ian Gough (2017) classifies these four basic social activities as production, reproduction, cultural transmission and the exercise of political authority.
3. **Self-actualization need (personal growth, self-transformation)** - experienced as a desire (with environmental access-ability) to actualize one's personal, full potential. Self-actualization has both a subjective and objective measurement input.
 - A. **Self-actualization subjective measure [of well-being]** -- quality of life (subjective well-being) at

time of survey data collection:

1. **Market (want satisfaction) - job satisfaction** (and market indirectly: "hobby" satisfaction). Statements of job satisfaction include as an indicator of well-being include: a perception of time, outdoors, earnings, and independence. Other possible perception factors include: independence, work quality, earnings, time/trip length, adventure, offshore, time/family, and crowding.
 2. **Community (flourishing, thriving) - life "satisfaction"**, which is divided into by the four types of information of which the information system is composed and with which individual's interface: social qualia (a.k.a., social "satisfaction"), decision qualia, lifestyle qualia, material qualia.
- B. **Self-actualization objective measure [of well-being]:**
1. **Market (wage and bank account size) -** measured by identifying the number of material objects found in each in each respondent household; earnings/income (e.g., gross or net earnings from a business, taxable income, income per capita, household, or family). Other measures include: "job safety," "predictability of earnings," and "your earnings".
 2. **Community (fulfillment) -** measured by identifying the degree of access (absolute number-value) to material objects (that meet human needs and facilitate the desire and access-ability to actualization of one's full potential.
 4. **Sociological needs** - experienced as a desire to connect, share and work with other human beings and animals. Opposite of loneliness. Humans have the innate desire to work with and for other humans, and to play and relax with other humans.
 - A. Design something that help create trust and positive supportive relationships between people. Do not design something that makes people feel lonely, isolated. Learning is a universal process of human development, information must be shared to develop socially, thus building social capacity.
 5. **Physiological needs** - experienced as a desire (with environmental access-ability) to move into and through different physical mediums and states. Physiological need inputs have only objective measurement inputs (food, water, shelter, energy, etc.):
 - A. Design something that accounts for the material objects needed by humans; which are measured

and determined within the context of science and engineering.

6. **Safety (and security, defense)** - no physical violence and no environmental or service serious complication. Experienced as a lack of incidents, and a desire to resolve, recover, and prevent incidents. There is the desire for safety on the part of the individual, and there is the design of a safe environment. Safety inputs have objective and subjective measurement inputs: Violence in the system:
 - A. Market - measured by those organizations funded by charitable organizations, and by State entities. Systems are designed to be as reliable as is profitable.
 - B. Community - the presence of violence is analyzed, its correlative and causative factors are determined, the system synthesis this new information with pre-existing information (i.e., integration) to generate an updated understanding; a new set of system requirements is developed, the design specification is modified, and then engineering changes the next experiential iteration of the habitat service system that provides for our common fulfillment. Systems are designed to be precisely reliable.

11.8 Community-based accounting of human needs

A community-type society recognizes a common and objective list of human (and ecologically contextualized) set of needs that allow for individual humans to flourish, have well-being, happiness, and have lives of highest potentials. In community it is recognized that humans have needs for access to a societal habitat network, where they are the final/end users (who are residents with common needs and preferences). The complete community-based (real-world) human needs list can be found in a table as an appendix to this article.

To simplify, humans have needs for:

1. **Habitat services (a.k.a., object-services):**
 - A. Life.
 - B. Technology.
 - C. Exploratory.
 - D. Decision.
 - E. Residentation.
2. **Life-phase services (a.k.a., lifestyle services):**
 - A. Nurturing.
 - B. Education.
 - C. Contribution.
 - D. Leisure.

3. Social love and connection (a.k.a., family and friends).

- A. Living together (talking, sharing, eating together, doing activities together, learning together, designing together, constructing together).

Table 2. A simplified view of the list of common and objective human needs. In society, humans have needs for objects and services.

Human Needs List
Movement over landscape
Breath of air
Climate
Sunlight
Materials cycling
Sleep restoration
Nutrient satiation
Reproduction
Construction
Affection
Socialization
Beautification
Contribution
Residentation team service
Habitation team service
Standardization team service
Decision
Contribution-phase [service]
Education-phase [service]
Leisure-phase service
Commonized Coordination of information heritage
Commonized Coordination of resource heritage
Personal access
Common access
Contribution access
Habitation
Hygienation service
Reproduction service
Cultivation service
Food service
Clothing as shelter service
Buildings as shelter service
Medical service
Protection (defense) service
Production service

Human Needs List
Transportation service
Information service
Communications service
Consciousness exploration services
Technology exploration services
Science exploration services
Recreation exploration services
Self-expression exploration services
Education exploration service

12 The motive-for-action model

INSIGHT: *Consciousness experiencing the [natural] human condition has extant, commonly identifiable needs. An objective value is the identification of a common relationship in a common system of existence through intentional inquiry and integrated understanding. Objective values describe the natural relationships that verifiably fulfill the common needs of conscious organisms. Therein, there is a coherent way for consciousness to know fulfilling actions from unfulfilling action.*

The motive-for-action model represents humankind's innate and universal motives for action, their common needs and states of being. It is a model of the forces that motivate, liberate, and direct a human life [as they are presently known] toward a higher potential of self-expression and human fulfillment. This model assumes that all humans, regardless of culture and socio-economic conditions are driven by the same fundamental needs, the same motive forces. The model exists as a guide for the informed creation of a fulfilled society. By understanding what human [life] needs are and the different ways they may be fulfilled (or prevented from being fulfilled) humanity can create an intentional environment where it can cooperate toward the fulfillment of all everyone's needs.

If motivation is driven to some extent by the existence of unsatisfied needs, then it is worthwhile for a community of individuals to maintain an awareness of their common needs and identify whether those needs are being fulfilled. When human needs are left unfulfilled, then individuals often exhibit behaviours that could harm the stability and conflict with the guiding purpose of a community. Hence, a stable community arises and is composed of individuals who recognize their needs and act in a common manner toward the fulfillment of everyone's needs so that no one's unfulfilled or pseudo-satisfied needs cause personal and social instability.

Human beings, like all living creatures and systems are characterized by needs - resources, energies, and states of experience required to survive and develop toward conditions of maturity, health & well-being, and sustainable prosperity. Human needs can be described in various ways, and they have been identified, categorized and documented by numerous scientific researchers, philosophers, and motivational facilitators.

The motive-for-action model combines multiple different isolated 'needs-based models' into a single integrated 'needs-continuum model'. From left to right, the model includes the following eight sub-models:

1. The consciousness [as a Level-of-Care] model.
2. The Power versus Force model.
3. A modified version of the Spiral Dynamics model.
4. Tony Robbins human needs model.
5. Maslow's 8 human needs model.

6. The intrinsic, self-determined motivation model.
7. A physical resource needs model.
8. A technological needs model.

Each of these sub-models categorically organize a different factorial component of the human life and learning system, extending from the subtle [as consciousness & mind] on the left of the model to the material [as physical resources & technology] on the right of the model. In other words, the Motive For Action Model represents a common spectrum of human need, extending from consciousness (left) to the material (right). When combined, these models suggest that humans have needs that extend from the “subtle” (or mental) through to the material - there are multiple integrated human systems, and there exist a set of human needs in each system. At the model's far right the spectrum may be seen interconnecting with the Community's operational processes elaborated upon in the Decision System ‘design specification’. Fundamentally, it is useful to view motivation as:

1. **Needs**, which are felt and conceived of as drives.
2. **Values**, which are orienting structures composed of [mental] concepts and [physical] objects.
3. **Goals**, which are conceptual directions with meaning gain specific to needs.
4. **Approach** responses (action plans/patterns as a result), for obtaining the goal, which are information processing structures with the potential for self-correction at every level of societal experience (i.e., at the **individual, social, material, and lifestyle** levels of society).

The Motive For Action Model provides insight into those dynamics of experience that lead to a truly fulfilled life and the expression of an individual's fullest potential. Everyone needs love, friendship, and an opportunity to contribute. Everyone has a need for the certainty of survival and a variety of experience. It is comforting and healthy to be surrounded by people with whom one is familiar and uplifted; whom one cares about and whom care about one - people with whom one can connect. Everyone cares about someone, and deep within them remains the desire to thrive personally and socially as a human being. At some level all healthy human beings recognizes that there are forces that lead to a fulfilled life. And, although one may not realize it, everyone has the capability to impact their internal and external world in such a way that they orient themselves and their societies more greatly in the direction of a higher potential. It is empowering to know that every person has the aptitude to be and act in the world for the betterment of themselves and all others - the betterment of the evolving whole.

The human system exists at multiple levels, including the individual level and the social level. In each system there exist a set of conditional human needs that may

or may not be fulfilled by the structural design and orientation of the human system within its environment. Herein, individuals relate to form social systems and make decisions to form economic [decisioning] systems. In other words, humans exist within an ecological set of discoverable nested systems which they experience by means of consciousness and which form into a socio-economic structure that inhibits or fulfills the conditions necessary for human well-being. To some degree these ‘design specifications’ are intended to elaborate and clarify the operation and preferred function of these systems in greater detail.

Although humans have life needs, the way someone comes to know the world is, in great part, through the social organization of their life experience, which may or may not recognize life needs.

***INSIGHT:** If “you” care about “your” performance and potential, then “you” might want to care about what is limiting “your” potential performance.*

The following sub-sections describe each of the sub-models of the Motive for Action Model.

12.1 The consciousness as level-of-care model

The Consciousness as Level-of-Care model describes an individual's motive level-of-care as existing along a spectrum from egocentric to ethnocentric, leading to world-centric and eventually to the state of open and appreciative compassion for the evolution of all conscious beings. The four care levels are (as levels of integrated conscious awareness):

1. **Ego-centric** - care about self.
2. **Ethno-centric** - care about group, tribe, nation.
3. **World-centric** - care about everyone [in a specifically recognized and acknowledge world space].
4. **Open inquiry (universally centered)** - open and active inquiry as an expression of conscious care about the truth and the evolving whole. Care about the truth is care about what is really going on in the world (and in the universe), and its impact on all living systems.

Compassion and truth are essentially similar. When consciousness initiates the process of open inquiry it places itself along a path toward the continuous awakening of its awareness to ever greater folds of truth, appreciation (or gratitude), and oneness [in experience]. In truth lies the understanding that one is essentially similar to all others and that care for all is also care for self, and that care for the self is also care for all.

***INSIGHT:** The mind is rarefied body and the body is solidified mind. In other words, we live in*

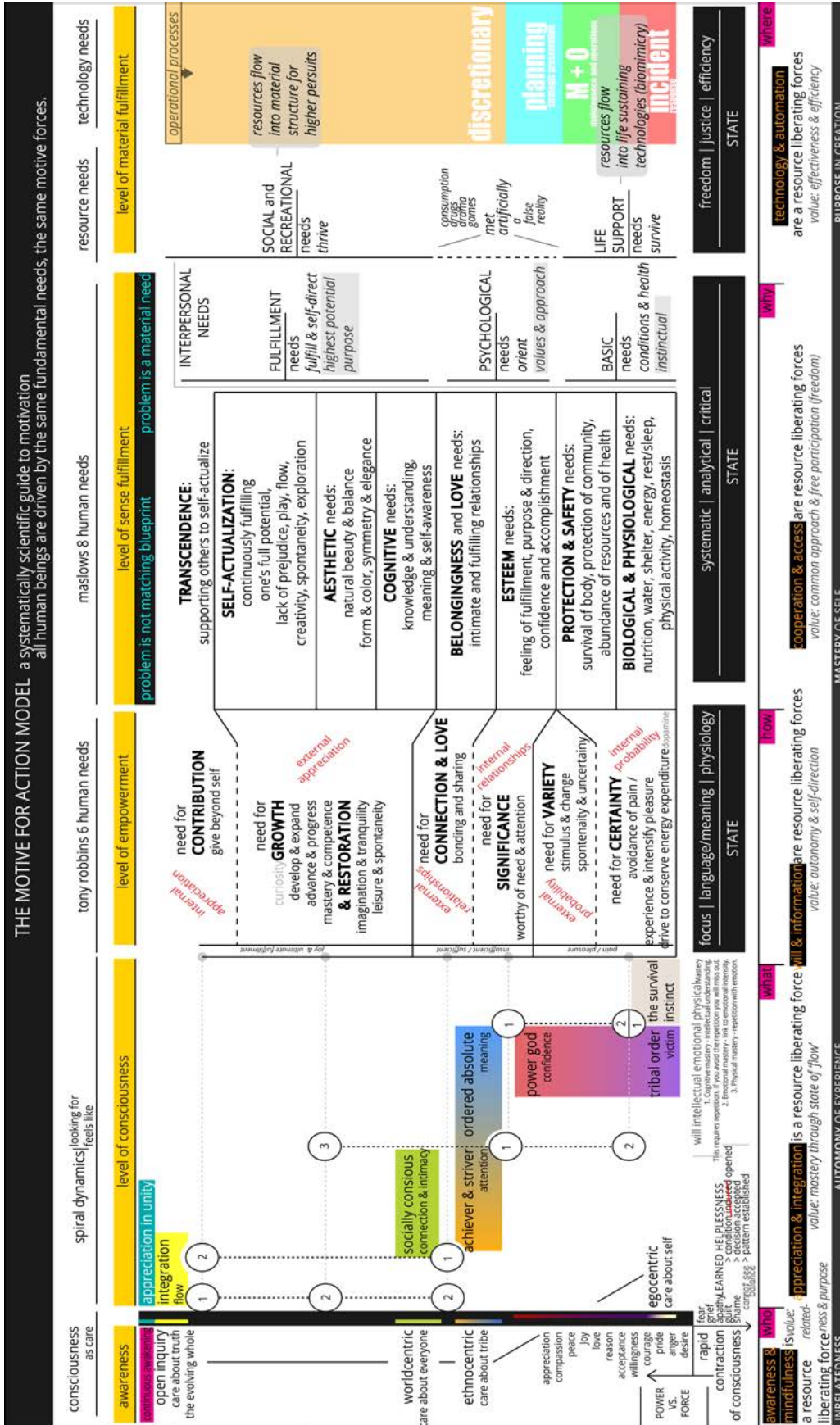


Figure 10. The motive for action model represents humankind's innate and universal motives for action, their common needs and states of being. It is a model of the forces that motivate, liberate, and direct a human life [as they are presently known] toward a higher potential of self-expression and human fulfillment. This model assumes that all humans, regardless of culture and socio-economic conditions are driven by the same motive forces. riven by the same fundamental needs, the same motive forces. The model exists as a guide for the informed creation of a fulfilled society. By understanding what the human needs are and the different ways they may be fulfilled (or prevented from being fulfilled) it is possible to create an intentional environment where humanity can cooperate toward the fulfillment of all of everyone's needs.

a continuum, and the compartmentalization of our total selves creates dis-eases of the body and mind.

12.2 The power versus force model

The Power vs. Force model (Hawkins, 2014) delineates “energetic” fields of consciousness along a spectrum from that which is incomplete and an energy drain/consumer (i.e., “force”) to that which is complete and an energy supplier (i.e., “power”). In this model, “force” exists as an emptiness of meaning, an incompleteness and a state polarization. Polarization traps the otherwise actively open mind, and leads to the formation of competing [and fighting] camps and the creation of cults. A cult cannot exist when there are no hard lines and individuals remain steadfast in their power to inquire more deeply into reality.

The power versus force model assumes that individuals become strongest [measuring indicators of physical strength] when we think of loving thoughts and weaker when we enter states of fear, jealousy, and shame.

In “power” there exists a unifying meaning that transcends dichotomy in the open experience of consciousness itself. Herein, “power” is the will of consciousness to modify the dynamics of a system. The fields of being known as reason, love, joy, peace, and curiosity represent the powerful expansion of conscious intention into ever greater understanding and creation, eventually awakening into the states of appreciation and compassion. The fields of being known as courage, willingness, and acceptance form a foundation from which consciousness establishes a sense of self-direction and self-empowerment, and the unshackling of forceful and force-based interrelationships. Feelings of anger, fear, grief, apathy, guilt, and shame commonly accompany a sense of victimhood and helplessness; they represent a loss of self-direction and self-determination. They represent a contraction and dis-integration of consciousness. When these emotional states are not moved through effectively (or processed through fully), then they can block the realization of a higher potential experience [of life]. And, when primitive instincts such as lust, fear, and control [of others] are held/attached to, then there is a high potential for the generation of illusion that is likely to waylay the movement into higher states of consciousness.

Adopting a state of contracted consciousness takes away someone’s “personal power” to affect change within themselves and their environment, limiting resourcefulness, and leaving the individual feeling like they are no longer in control of their own lives (i.e., low self-efficacy). When someone sees themselves as a victim they stop creating a personal state of empowerment and cease learning—it becomes harder for them to experience the appreciation and compassion that is always there, but is not presently being “tuned into”. Those who sink down into a state of contraction often

lose the ability (or “power”) to effectively manage their emotive state and re-orient their lives (i.e., they lose the capacity and desire to select a beneficial focus (as in, intentional attractor), meaning, and physiology; they lose their mind[fulness]).

Individuals can focus their awareness, or not. They can select meaning, or not. They can re-direct their physiology, or not. Herein, “power” is the instantiation of potential capacity within the awareness of consciousness to select a new focus, identify a new meaning, and direct a new physiology.

INSIGHT: *Mindfulness is the experience of a conscious recognition of momentary interrelatedness. It is a quality of consciousness that denotes a receptive attention to and awareness of ongoing internal and external states, and relational patterns of experience; it is a state of being “present in the moment”. When people are mindful, internal and external realities are perceived openly and without [or with less] distortion. Once we are mindful we can become discerning of our decisions and thoughtful in our behaviors; we can become powerful in our actions, together.*

12.3 The modified spiral dynamics model

The modified Spiral Dynamics model categorizes an individual’s core need orientations (or “developmental states/stages of need”) along a spectrum from base survival and reflexive instinct to the flow-based integration of emotional experiences into a state of holistic thriving. These “stages” represent the needs that are consistently cared about over time. Individuals with different core need states will maintain different thought and behavioral patterns that are reflective of their perceived experience of the world.

The seven need orientations (or “values”) are:

1. **Survival and instinct driven (Gray)** - The drive for automatic physiological satisfaction of mammalian needs. This is a state of instinctual primitive reaction.
2. **Tribal order (Purple)** - The expression of a safe mode of living through sacrifice to tradition and customs. The emotive experience of victimhood. Mythical and traditional values become dominant without inquiry into their origination and ongoing usefulness.
3. **Power god (Red)** - The expression of that which the self desires without guilt and without a recognition of commonality with others; often motivated by an avoidance of shame. This state represents the emotive experience of primal power accompanied by strong undertones of fear. Ego needs are dominant. Purely egoic values are expressed.
4. **Order & the absolute (Blue)** - Sacrifice of the self

for praise and reward through obedience to leaders and “rightful” authority. The search for heroic status (the “winner”), which often tramples upon the needs of others. This state is represented by the emotive experience of meaning. Authoritarian values dominate. Looking for heroism is a great way of avoiding one’s own capacity for great moral action in the face of great suffering.

5. **Achiever & striver (Orange)** - The search for material pleasure and satisfaction through the expression of self-goals and personal-objectives without rousing the ire of important others. The emotive experience of attention seeking. Individualistic and family values dominate.
6. **Socially conscious (Green)** - The avoidance of harm and aggressive interaction, and the search for harmony with nature and social groups. The emotive experience of connection and intimacy, but not necessarily understanding (or wisdom). Communitarian and egalitarian values dominate.
7. **Integral flow (Yellow)** - The search for an integral system that combines an organism’s necessary self-interest with the interests of the largest system(s) in which it participates and supports; a state of unity and of holistic thriving. The emotive experience of flow. Systematic and universal values dominate.

Each of the value stages in the modified Spiral Dynamics model can be seen interconnecting with both the Level-of-Care model and the Tony Robbins 6 Human Needs model in the Motive for Action Model. It is relevant to note that from the ‘tribal order’ position to the ‘achiever & striver’ position on the modified spiral dynamics model there exists a mixture of egocentric to ethnocentric Levels-of-Care in the awareness of consciousness. The modified Spiral Dynamics model interconnects with the Tony Robbins model via the 1, 2 and 3 numbering system. Each of the value stages in the Spiral Dynamics model interconnects with one or more of the 6 human needs. The needs are ordered by the 1, 2, 3 numbering system in the Spiral Dynamics model to show which need is most actively expressed at a particular stage of need development.

1. The ‘survival instinct’ and ‘tribal order’ stages interconnect with the need for certainty.
2. The ‘power god’ and ‘order & absolute’ stages first link to the need for significance and then to the need for certainty.
3. The ‘achiever & striver’ stage links first with significance, then with certainty, and finally with the need for growth.
4. The ‘socially conscious’ stage links first with the need for connection and love, and then with the need for contribution.
5. The ‘integration’ stage recognizes that the needs

for connection & love, growth & restoration, and contribution are all important.

12.4 Tony Robbins human needs model

NOTE: *It is possible for trauma and the engagement of defense mechanisms to occur at any of these systems levels when needs go unmet.*

Humans have a variety of psychological and emotional needs. These needs accord (or harmonize) with certain states of being. Some of these states represent a more expansive and constructive level-of-awareness, understanding, and appreciation. Other states, however, are more indicative of a contraction of consciousness, and a reduction in someone’s breadth of understanding and self-awareness. The Tony Robbins 6 Human Needs model presents the 6 fundamental needs that shape an individual’s behavior and support an individual in identifying how to create new patterns of thought, emotion, and behavior that lead to lasting states of felt fulfillment. (Robbins, 2006)

The six needs and their accompanying categories are:

1. The need for **certainty** - the assurance of avoidance of pain; the desire to experience and intensify pleasure; and the drive to conserve energy expenditure (i.e., energy efficiency). The individual is seeking the internal probability of pain reduction and pleasure intensification. This is a pain/pleasure need.
2. The need for **uncertainty / variety** - the desire for novel stimulus & change as well as spontaneity and experiencing the unknown (curiosity behavior). The individual is seeking the external probability of experiencing novel information (or content and meaning). This is a pain/pleasure need.
3. The need for **significance** - the desire to be worthy and gain/maintain the attention of others. The desire to feel unique, important, special, or needed. Is the individual feeling insufficient and seeking sufficiency through external relationship when sufficiency really comes from one’s relationship with oneself? This is an insufficient/sufficient need.
4. The need for **love & connection** - the desire for bonding, sharing, union, and closeness with someone or something. The individual is seeking meaningful and supportive external relationships. This is an insufficient/sufficient need.
5. The need for **growth & restoration** - the desire to develop capacity and expand capability, to advance and progress understanding, to master and develop competence. The desire to maintain healthy states of creation and sensation through imagination and tranquillity. By growing and

restoring individuals show internal appreciation for the existence of the self. This is a joy & ultimate fulfillment need.

6. The need for **contribution** - the desire to give and serve beyond the immediate experience of the self. By giving beyond oneself shows external appreciation for all selves. This is a joy and ultimate fulfillment need.

The six needs are further divided into two principal categories, each with three delineations. The first category and three delineations are:

1. Pain or pleasure.
2. Insufficiency or sufficiency
3. Joy and ultimate fulfillment.

The second category and three delineations are:

1. Internal/external probability.
2. Internal/external relationships.
3. Internal/external appreciation.

Although each of these six needs are continuously present within an individual, the needs that are most active at any moment in time will direct the behavioral patterns of the individual. All healthy humans have the ability to spontaneously change their patterned states by shifting their **physiology, focus, and meaning** - they sometimes just need some support or guidance in learning *how*, and a *resonant environmental structuring* to maintain the state.

A fulfilled society accounts for the needs of the individual. Individuals who compose a fulfilled society necessarily comprehend that their actions may align the community more closely with a desired direction [as a commonly meaningful purpose], or set it on a course toward its eventual disintegration and downfall. They realize that it is through the intentional selection of different states of being (physiology, focus, and meaning), and the shaping of the material world (environmental structuring), that individuals and communities become capable of fulfilling their highest potential and living a life that leads in a desirable direction - a direction that is meaningful to everyone.

12.5 Maslow's human needs model

INSIGHT: *Give people what they need, and facilitate their motivation to acquire more of what they need, and it is likely to be experienced that needs and wants start to divide.*

The mental and physical needs of the human organism co-join within Maslow's model with the potential of generating a state of materially sensed fulfillment. Therein, Maslow suggested that unless the lower-order needs are fulfilled, the higher-order needs are not motivators of behavior. Humans need to achieve

certain elementary states of being, such as health and safety, before they can start thinking about higher-level needs, such as social connection and self-actualization. People who are seriously ill or lack safety would find it difficult to think about self-actualization as expressed, for example, in social morality, self-expressed creativity, and systematic problem-solving.

Maslow's original model from 1943 defined five hierarchically ordered needs ranging from physiological sustainability to self-actualization. (Maslow, 1943) The model herein is slightly adapted. Herein, Maslow's model maintains that there exist eight universal human needs represented as internally sensed states of being:

1. **Biological & physiological needs** - nutrition/food, water, shelter, energy, restoration/sleep, physical activity, biophysiological and energetic homeostasis, and homeostasis. A feeling of restoration.
2. **Protection & safety needs** - survival of body, protection of community, abundance of material resources and of energetic (or metabolic) health. A feeling of protection.
3. **Esteem needs** - purpose and direction, confidence and accomplishment, and self-efficacy. A feeling of respect.
4. **Belongingness and love needs** - intimate and fulfilling relationships, social connection and sharing. A feeling of appreciation.
5. **Cognitive needs** - knowledge and understanding, meaning and self-awareness, integration of information. A feeling of intelligence.
6. **Aesthetic needs** - natural beauty and balance, form and color, symmetry and elegance. A feeling of harmony. Beauty serves to elevate the feelings of individuals. It serves to broadcast the fact that you live in a society that cares about you. Exquisite objects and locations serve to bind society together through shared values and a deep sense of place and meaning.
7. **Self-actualization needs** - continuously fulfilling one's fullest potential, recognition of commonality, play, flow, creativity in expression, joyful spontaneity, and exploration. A feeling of inquiry. The realization of human potential through the ongoing process of being open to new information and experiences, and fully and constructively applying one's abilities to one's interests for the sense of enjoyment and fulfillment that results.
8. **Transcendence** - supporting others to self-actualize, facilitation of fulfilling structures, and creating opportunities for one's own and all others growth. A feeling of compassion. All individuals love to feel like they can relate (and are related to), can support (and are supported), and can create (and share creation).

Herein, happiness comes [in part] from the sufficient fulfillment of these needs such that the sensation of a void in fulfillment (i.e., suffering) is no longer felt by consciousness. In large part, happiness is an individual's response to an environment that meets one's needs. Happiness [as a subjective feeling] is a by-product of someone's quality-of-life as objectively related to the fulfillment of these human needs. Yet, happiness becomes malformed [as excessive pleasuring and addiction] in the presence of a victimization culture wherein one person or group of people are victimized for the satisfaction of someone else's, or another groups, needs. Hence, happiness is not enough, there is also well-being; and further, there is generational well-being.

INSIGHT: *Happiness (as a subjective feeling)*
 + *quality-of-life (as the fulfillment of needs)*
 = *well-being*

The needs identified by Maslow can be sub-categorized into basic needs, psychological needs, and [higher] fulfillment needs. Basic needs provide the environmental conditions for general health. They are primal in that their insufficient fulfillment will generate primitive behavioral patterns to satisfy these needs, often at great cost to themselves and others [when methods for effectively satisfying them are unavailable]. When humans experience a reasonable threshold of primal need satisfaction, they will not necessarily be behaving specifically to satisfy their basic and primal needs; rather, they have the potential for doing that which they find interesting, important, meaningful, and useful.

When people live in a way where their most basic needs are "taken care of", then likely, they can be so much more present with the work they do, with their relationships, and in their life. When individual's basic needs are continuously fulfilled, then they have the room to fail and a metaphorical cushion to land on.

The psychological needs are those needs that allow consciousness to identify itself and relate itself to others in a social context. Values emerge therein as a principal form of [conceptual-linguistic] relation. They allow the self to orient in its relation to other selves. Fulfillment needs are those needs that fulfill the actual underlying conceptualizing consciousness, and facilitate consciousness in self-directing its own life toward a meaningfully unified purpose and higher potential state of creative existence (i.e., community).

12.6 The intrinsic motivation model

The model for intrinsic motivation is known in the literature by several names including "self-determinism theory". Intrinsic motivation is discussed in depth in the value system under the value, intrinsic motivation.

Self-determinism is a theory (or philosophic doctrine) that every present state or condition of the self is a result of previous states or conditions of the self. The self-determinism continuum [theory] is an empirically tested

macro theory of human motivation and behaviour. It has been applied and tested in a variety of life domains. According to self-determinism [theory], degrees of motivation vary on a continuum that represents roughly three motivational states: absence of motivation; controlled motivation; and intrinsic motivation. Therein, the theory represents a broad framework for the study of human motivation and personality. Perhaps more importantly the theory's propositions also focus on how social and cultural factors facilitate or undermine people's sense of volition and initiative, in addition to their well-being and the quality of their performance. In addition, the theory proposes that the degree to which any of the three psychological needs (of autonomy, mastery, and purpose) is unsupported or thwarted within a social context will have a robust detrimental impact on wellness in that setting. The continuum is visually represented in a variety of different ways in the literature, most commonly, as a matrix/table.

12.7 The physical resource needs model

A fulfilled society is composed of empowered individuals who apply knowledge, material resources, and technologies to sufficiently meet everyone's material needs. In the material world humans have two basic categories of material resource need: life support needs and social and recreational needs. These physical needs must be met with physical resources (or 'nutriments'). Humans will violate their values to meet some physical needs; hence, to maintain social stability there must exist an ordering (or prioritizing) of needs for any human system designed and organized to meet the material needs of human beings. In part, this model prioritizes through a set of formalized operational processes elaborated upon in the Decision System specification.

When basic needs are not met then a rapid contraction in consciousness is likely to occur and humans begin putting effort into harmful and destructive behaviours to "get" their needs met. This is particularly the case when individuals lack the information and tools for meeting these needs. However, when individuals' basic needs are sufficiently fulfilled, their highest potential direction and [current] emotive state-of-being are more clearly perceivable to themselves in the moment. The fulfillment of basic needs provides a foundation from which individuals may begin to orient their lives [through the adoption of a rational value set] toward a higher potential state of fulfillment.

The intelligent design of community offers the opportunity to fulfill all of the needs Maslow and others have identified. It is important to note, however, that if lower level material and social needs remain unmet, then individuals may lack the motivation (or health and desire) to meaningfully participate in a community of purpose, and they may begin meeting their psychological needs through artificial means.

12.8 The technological needs model

The technological needs of individuals are met through the societal system's operational processes:

1. **Strategic master-planning and strategic preservation** - planning and preserving access to common heritage resources and services.
2. **Operations and maintenance** - doing working in information working groups and in habitat service teams in order to sustain society.
3. **Incident response** - responding and recovering from issues with operations and safety.

These intersystem processes are active throughout the habitat service support systems (i.e., life, technology, exploratory).

13 Well-being

A.k.a., Wellbeing, human well-being (HWB), wellness, flourishing, fulfillment, happiness, human development, human welfare, quality-of-life, the human life conception, good life, positive psychology, quality-of-life, life-satisfaction, etc.

Human well-being is tied to common human need. 'Well-being', as the term visibly denotes, refers to the state of consciousness being (feeling) well (i.e., feeling in its best state, and without pain). The concept of 'well-being' indicates an evaluation of a person's situation, or more fittingly, an evaluation which is focussed on the quality of the persons 'being'. Generally speaking, to be in a state of well-being, a person must be capable of making sense of the world and acting in ways that are healthy, adaptive, and functional for life, and not unhealthy for society as a whole. However, well-being is not just a matter of subjective experience; it is a common matter (issue) of what anyone can do, or be, in a shared reality. As a human being, well-being is how [well or fully] someone is fulfilled in their the experience as a common individuated unit of human embodied consciousness.

Well-being is a positive physical, social, and mental state; it is not just the absence of pain, discomfort, and incapacity. Well-being requires that basic needs are met, that individuals have a sense of purpose, and that they feel [cap]able to achieve important personal goals, relationships, needs, and participate in society. Well-being is enhanced by conditions that include supportive personal relationships, integration between social relations (low coercion and conflict), strong and inclusive environments, good health, personal security, rewarding contribution, and a healthy attractive environment. Well-being must be approached holistically if a society is to scale well.

CLARIFICATION: *In part, this project may be defined in relation to a set of inquiries about what all humans require to live well, which define its boundary conditions.*

What does it mean to be a 'well' social primate? Probably, it means not just that an individual is capable of getting around and functioning, but also functioning [socially] with other humans in a way that allows the other humans to function well.

Humanity requires a societal environmental that facilitate swell-being, instead of different degrees and expressions of suffering and being unwell. Well-being is about feeling good and functioning well, while having access to those services that facilitate survival and flourishing.

The following are concepts that are highly correlated with well-being:

1. **Well-being is a state** - a whole systematic framework for well-being that is needs-based in

its approach, allowing humans to freely develop meaningful relationships and express purpose in life, and therein, actualize their potential.

- A. Material fulfillment generates well-being by meeting material needs.
- B. Social fulfillment generates well-being by meeting social needs.
2. **Wellness is a process** - a holistic dynamic of life fulfilling processes that starts with ecosystem services that function well.
3. **Wellness in relation to suffering/harm** - Over time, well-being could be considered a decrease in unnecessary suffering.
4. **Wellness** is the optimal state of health of individuals (and "organizations" of humans). Here, there are two focal concerns:
 - A. The realization of the fullest potential of an individual physically, psychologically, socially, spiritually and economically, and the fulfilment of one's participatory passions throughout all aspects of life.

There are three emotions that humans experience to varying degrees that can dramatically affect the quality (condition), quantity (access), and length of life and contribution. These emotions are felt and expressed in micro and macro ways. The three primary-extreme emotions are:

1. Fear.
2. Joy.
3. Sadness/depression.

The three primary-extreme emotions fit within a four point emotional-feeling circular graph that consists of five points around at the four quadrants of a circle, and a center:

1. Neural (center).
2. Exciting.
3. Positive.
4. Calming.
5. Negative.

The total known possible macro feelings (that are graphed around the circle with the four point emotional-feeling categories) include:

1. Fear.
2. Anger.
3. Disgust.
4. Sad.
5. Depressed.
6. Bored.
7. Tired.
8. Sleepy.
9. Relaxed.

10. Happy.
11. Excited.
12. Surprised.

Obvious to everyone is the truth that fear is the lowest limit of potential. However, fear in and of itself is not bad. Fear warns away from overly risky activities. The memory of pain and resulting fear is what stops people from touching a hot stove again. However, when operating together as a society, fear is the detractor. To initiate and sustain a community-type society, fear is the limiting factor.

13.1 Hedonic and eudaimonic integration of well-being

That which is applicable to society, and individuals in particular, encompasses components from multiples approaches to well-being:

1. **The eudaimonic approach** - is concerned with functioning and the realization of self-potential (Ryff et al., 2004; Kahneman et al., 1999).
 - A. Happiness from meaning to potentials and self-realization. Social and psychological well-being (socio-psychological well-being). Happiness is determined to a large extent by one's success in achieving self-set goals.
 - B. Eudaimonia implies prior hedonism and pleasure to move.
 - C. The objective of eudaimonia is that there is no conflict in life between "you" and "others" when meeting needs.
2. **The hedonic approach** - happiness comes from pleasure and not pain (in context). The hedonic approach is linked to subjective experiences of personal pleasure or satisfaction. The hedonic approach is concerned with pleasure, enjoyment and satisfaction.
 - A. Hedonic well-being - happiness from pleasure and not pain. Well-being as pleasure or satisfaction.
 - B. Mental and subjective well-being.
3. **The commons approach** - happiness comprises shared experience; those of shared interest and/or characteristics work and share mutual [optimal] well-being. Common well-being is influenced by society, human relationships and socio-technical networks.
4. **The objective approach** - happiness dependent on a set of identifiable relationships that are common to all people, and fulfilling these mutually imparts well-being.
5. **The critical approach** - Happiness may not be greatly affected by adding positives to one's life,

particularly in an enriched world, but instead, it is accomplished mostly by removing things that are a strong negative every day.

13.1.1 Mood

INSIGHT: *When our diet is in alignment with our species evolved requirements, then we don't suffer from tooth decay. Evolutionary mismatches are behind most modern health problems.*

Human individuals appear to have, given what is known, a functioning “mood-like” system involving self in relation to other, that induces feelings in the self. Even happy people experience unpleasant emotions. To have strong well-being and long-term happiness does not equate with uninterrupted joy; the restoration phase of the flow cycle is a visible indicator of this. Adaptive emotions involve being able to respond appropriately to events.

13.1.2 Well-being as ‘eudaimonia’

A.k.a., Happiness as eudaimonia.

As a conception, ‘eudaimonia’ understands human well-being as achieving a full and meaningful life [within society]. Eudaimonia is contentment from a state of being healthy, happy and prosperous. Eudaimonia (Note that eudaimonia is also sometimes called flourishing or thriving).

Someone’s sense of purpose is called eudaimonia. Eudaimonia measurements provide data on whether someone is flourishing, whether life has purpose, and whether someone is fulfilling their highest potential. That which is ‘eudaimonic’ is that which produces happiness, or is otherwise, conducive to happiness (i.e., facilitates happiness). Etymologically, eudaimonia is Ancient Greek from *eu* “good” + *daimon* “genius, guardian deity”. In moral philosophy, eudaimonia is used to refer to the right actions as those that result in the well-being of an individual.

The Ancient Greeks resolutely did not believe that the purpose of life was to be happy; they proposed that it was to achieve eudaimonia, a word which has been best translated as ‘fulfillment’. Here, eudaimonia is a state (or condition of the world) that is achievable by fulfilling certain necessarily required conditions.

NOTE: *There are some definitions of eudaimonia as happiness through possession of the greatest “goods” available. How does the society under observation view and define, “goods”? Are goods highly market-State contextualized. Are goods highly defined by human fulfillment (material and informational) and realizing one’s fullest potential.*

Eudaimonic psychology (as opposed to hedonic) conceives of three universal psychological needs:

1. **Autonomy (self-direction, no social coercion)** -

the propensity to self-regulate one’s actions and to endorse one’s own behaviour.

2. **Competence (performance, mastery)** - feeling able to attain outcomes and operate effectively within one’s environment.
3. **Relatedness (connection, sharing)** - feeling cared for, and significant for, others, and a sense of being integral to one’s social organization.

These needs are cross-cultural; all humans require that they be met in order to experience wellbeing (Ryan & Sapp, 2007). Their conclusion is that basic needs are universal and it is possible (in principle and practice) to compare levels of basic need-satisfaction across societies (or cultures).

Another view of the needs of organismal development may be:

1. **Existence** - desire for physiological and psychological well-being (e.g., flavor).
2. **Growth** - desire for continued personal growth and self-development (e.g., exploration and technology support).
3. **Relatedness** - desire to satisfy interpersonal relationships and common flourishing (e.g., life-support).

Fulfilment of these needs is necessary for psychological ‘wellness’, and observable (and felt) consequences follow from their lack of fulfilment.

13.1.2.1 Self-direction (autonomy)

The characteristics (constituent elements) of well-being for a self-directing system are:

1. **Resilience** - the ability to rapidly recover from adversity.
A. “We” can understand survival.
2. **Coordination** - the ability to be in mutual relationship.
A. “We” can cooperate.
3. **Sharing** - the ability to observe all available information.
A. “We” can access a unified information space.
4. **Attention** - the ability to focus (on a problem, a solution, and an evaluation).
A. “We” can shift our attention within the information space to resolve solutions to problems.

There are method, which may be applied, that facilitate the optimal expression of resilience, coordination, sharing, and attention within and amongst systems. Further, Each of these four characteristics is “plastic” (i.e., can be regulated through training).

13.1.2.2 Actualization (competence)

Human beings have capabilities which can be developed [in their potential] and expressed [as an actualization]. It is possible, in a shared life-space, to functionally grow and express oneself. The condition of self-growth and self-expression is otherwise known as functional freedom and economic opportunity (i.e., functional access):

1. To the design and development of the habitat service system through the InterSystem Team.
2. From the habitat service system as an individual human in the Community.

Human capabilities (human potential) conceives of well-being as the ability and opportunity to express desired function (e.g., to achieve goals). A person's capability represents all the combinations of functioning that are feasible to that person - that could be chosen.

13.1.2.3 Wellness (relatedness)

A.k.a., Holistic; integration of 'wellness' into 'being', well-being.

In the literature, wellness and well-being have slightly different meanings. Wellness is more about a personal choice (Read: dimensions of personal choice) that affects someone's well-being. However, in practice, 'well' is essentially synonymous with 'well-being'. There are two sub-views on wellness: wellness may be seen as a precursor (pre-condition) for well-being, based on mental, physical, and emotional health; wherein, health is a state of being while wellness is a process of being. Wellness is sometimes associated with health and freedom from disease, while well-being is more often associated with a state of being happy, healthy and prosperous. Wellness and well-being are highly associated with the practice of health-promoting life-style behaviours.

Integration as the linkage of differentiated parts of a system is a good predictor of well-being. In many studies, integration is the number one differentiator of well-being in every measure of well-being. When there is too much differentiation, then chaos and rigidity are the likely result of impaired integration. Integrations (linkage of differentiated parts of a system) seems to be the root basis of well-being, and as a mathematical perspective, this way of defining integration is the base of optimal self-organization for complex systems.

Here, relatedness means that the individual is related in wellness to all domains of life. Wellness may be contingent upon people going through the process of questioning their current state of being.

Humanity has a common core, integration, that can now be traced as a measure throughout society. Humanity can now look at [very sophisticated] measures of integration identify whether a [societal] intervention creating more integration, or less. And, if it is creating more, then most likely it will be associated with measures

of well-being (no matter what sub-measure), and if it is creating less, then most likely it will be associated with less well-being.

Whether we are looking at individual health or planetary health, we have a common, scientifically grounded proposal that integration is well-being. Is this decision going to promoted more integration (and hence, we'll-being), or less integration (and hence, less well-being).

If there is integration, then there is harmony and a sense of well-being. If there is not well-being, then likely there is chaos and rigidity.

If Integration in the brain is the best predictor of well-being, then (in the context of human health):

1. Bi-lateral integration (laterality integration of body).
2. Vertical integration (up and down aspects of body).
3. Memory integration (impaired memory integration, trauma integration).
4. Narrative integration (make sense and find meaning life, in memories of life, in coherence with own life).
5. State integration (mental states, role integration)
6. Relational integration (looking at relationships with others as integration and linkage).
7. Temporal integration (awareness of change integrated across past, present, and future).

Wellness is a highly encompassing concept around the idea of core need life systems:

1. Well fed (Nutrition; cultivation regeneration).
2. Well sheltered (Architecture; shield regeneration).
3. Well healed (Medial; life-form restoration).
4. Well watered (Water; atmospherics & liquids regeneration).
5. Well sunned (Energy; power regeneration).
6. Well materialized (Cycling; materials cycling-regeneration).
7. Well moved (built-in; recreational).

Wholeness and core felt life experience:

1. The self is happy; in felt life experience.
2. The self is confident; in knowing the defined operation of the life system that contributes to their happy life (i.e., is well-defined).
3. The self is a whole being; not going to go destitute, and has processed trauma (i.e., much flow).

In the context of wellness, flourishing means:

- Healthy, happy, fit (well moving).

Most conceptualizations of wellness include the four conventional dimensions of well-being:

1. Economic - Access and positive experiences with

goods and services, and contribution. Well service systems and their products.

2. Social - Access and positive experiences with social opportunities and social participation. Well social relationships.
3. Psychological - Access and positive experiences with one's cognition and mental state. A well mind.
4. Physical - Access and positive experiences with one's physiology. A well body.

The common sub-factors of wellness often include (which, are also components of well-being):

1. Contribution (team, occupation, vocation) .
2. Intellectual (curiosity and growth, lifelong learning, creative and information stimulation, and lively interaction with the world).
3. Health.
4. Freedom from disease.

Wellness can be viewed as an active conscious process by which someone:

1. Becomes aware of a choice,
2. makes (takes or arrives at) a choices toward,
3. a more successful, positive and well existence.

The characteristics of wellness:

1. Wellness is a choice constrained by an environment: a decision you arrive at to move toward optimal health within a given environment.
2. Wellness is a way of life: a lifestyle you have designed to achieve your highest potential for well-being.
3. Wellness is a process: an understanding that there is no end point, but health and happiness are possible in each and every moment.
4. Wellness is an integration of body, mind, and environment: an awareness that the choices we taken in one area affect all others.

13.1.3 Well-being as 'hedonia'

A.k.a., Happiness as hedonia.

Hedonia refers to pleasure, enjoyment, and satisfaction; and the absence of distress. Hedonia is associated with sensory experience, and eudaimonia is associated with the total state of consciousness, which includes cognition (cognitive attention and intention).

CLARIFICATION: *Hedonic adaptation is the tendency of us mere humans to quickly return to a relatively stable level of happiness despite major recent positive or negative events or life changes. Hedonic adaptation is otherwise known as synthetic happiness.*

Both eudaimonia and hedonia are required elements of well-being; for instance, meaningful experiences can bring about pleasure, and taking care of oneself can add meaning to life. Here, it is important not to equate the pursuit of hedonia with shallowness. However, under aberrant societal conditions, hedonia is likely to become the sole, shallow pursuit (at the expense of fulfillment).

There are societies with an essentially negative view of sensual pleasures. Yet, it's not the sensual pleasures themselves, but the way people are caught up in those pursuits. Tied to, bound to, greedy for, infatuated with, and do not have independent control over their cravings (sense pleasure, physical sensual pleasure).

NOTE: *Happiness and subjective well-being theory (hedonic psychology) may claim to be measuring 'happiness', when only (in fact) measuring 'contentedness' (synthetic happiness).*

13.1.3.1 Well-being as happiness

INSIGHT: *What distinguishes happiness from suffering is pain. When "your" happy, "your" not anxious, nervous, depressed, or otherwise internally oppressed, and that means "you" can make the most out of your life, and what "your" life's purpose is.*

Well-being incorporates several separate, but related concepts. This raises concerns regarding the tendency of well-being to be conflated with happiness, which is only one element of well-being. Today, when most people try to articulate the purpose of their life, it is often the term 'happiness' that is used. Importantly, a happy life is enjoyable, not [only] because of what the happy person possesses, but because of the way the happy person reacts to his/her life circumstances. Incorporated in this subject's view/definition of happiness are the conceptions of disposition, pleasure, satisfaction, and subjectivity. Although happiness is desirable, people want to feel happy for the right, appropriate, and actually fulfilling reasons.

NOTE: *The human organism innately synthesizes happiness (even in experiences of deprivation); hence, people's positive evaluations of their lives (subjective feelings of happiness) can be corrupted by this innate function to return to a stable moving psychological baseline, even during times of suffering.*

As a state, it could be said that happiness and peace of mind refer to mental patterns and environmental dynamics that uplift embodied consciousness.

It is easy to experience the aim of human life as growth and happiness, which consists of pleasure defined as satisfaction of the needs (and wants/preferences) "we" feel. From this perspective, self-determinism is seen as leading naturally to harmony. Each person pursuing their own interests within recognized appropriate limits.

QUESTION: *Why do we all smile against gravity*

when happy and not frown?

If the aim of human [system] life is happiness and exploration, which consists in pleasure defined as satisfaction of needs (life cycles) and opportunities (potentials). From this perspective, a sense of self-purpose, self-interest, and self-integration are seen as leading naturally to harmony. Each person pursuing their own interests within recognized appropriate limits in a coordinated habitat service system of satisfiers (goods and services).

People are happiest (given what is known), when they are (at least):

1. Healthy.
2. Well fed.
3. Comfortable.
4. Safe.
5. Prosperous.
6. Knowledgeable.
7. Respected.
8. Non-celibate.
9. Loved.

13.1.3.2 Well-being as life-satisfaction

Life satisfaction is (generally) a self-report measure. Self-reports of subjective well-being vary considerably in their complexity. One of the most common that asks on a 1-10 scale, "How satisfied are you with life, from 1 (terrible) to 10 (ideal)?" How much life satisfaction is reported is highly determined by how someone feels when (at the very moment) they are asked the question. In this sense, life satisfaction is a synonym of mood - the present moment psychological state. Satisfaction, then, is the label for a "cheery", "inquisitive", "joyful", "happy", "uplifting", etc., mood (i.e., an excellent, or highly ideal, mood state). Other terms for cheerful states of psychology include, but are not limited to: hedonic, cheerful, happy, positive psychology, etc.

Life circumstances, physiological and psychological health do highly influence life satisfaction scores, as we would expect. Satisfaction with life is a reflective question. Satisfaction with life measurements are evaluative measures. "You" are asked to think about how things are going in your life. Because individual life experiences influence individual decisions, and are useful in understanding and predicting behavior.

There are subjective and objective views to 'life satisfaction'.

1. Subjectively, there are 'affect' evaluations, because 'affect' correlates to a person's ongoing evaluations of the conditions in his or her life.
 - A. Individuals can examine the conditions (resources, access, opportunity, etc.) in their lives, weigh the importance of these conditions,

and then evaluate their lives on a scale ranging from 'dissatisfied' to 'satisfied'.

2. Objectively, 'self' assessments (prompted or not) may be contrasted with evaluation based upon global objective 'life' [flourishing/wellness] thresholds concerning the quality of a person's life.
 - A. Together, individuals can organize a unified information system that computes [algorithmically] the conditions in their lives, weigh the importance of these conditions, and then evaluate their lives on a scale ranging from dissatisfied to satisfied, as well as from a service quality perspective, to provide a decision service to support the intentions of everyone for the next designed iteration of the societal service system.

INSIGHT: *Cognitive evaluation is assumed to require cognitive processing. Computation is the direction (and automation) of data processing; cognition is the direction (and automation) of meaning processing.*

13.1.3.3 Well-being as health

The health of a person is understood as positive physical, mental and social well-being, and it may be evaluated objectively and/or inter-subjectively (in reference to the optimal performance observed by other human beings). Health can be conceived as resulting from the fulfillment of the human needs, and from the persons internal structure and processing, including factors such as age, genetic structure, and psychological composition.

INSIGHT: *Brains love to learn; to prepare for and optimize themselves in a dynamic and adaptable environment. Everybody wants and needs their brain to work better, and certainly when coordinating together as a society, everyone needs their brains to work at its best. The brain exists among an adaptive physiology, and thus, the overall health is equally relevant.*

13.1.3.4 Well-being as need fulfillment optimization

To optimize human well-being, global human need fulfillment must necessarily be optimized. Hence, optimizing the well-being of human beings requires optimization of:

1. The environmental[ly understood] system.
2. The [earth] ecology.
3. The [habitat] city.
4. The [social] cohesion (in a habitation).
5. The [food] nutrition (basis of an base organismal economy; habitation).
6. The [power] technic (basis of a socio-technical economy; habitation).
7. The [shelter] life-radius (basis of a social economy; habitation).

8. The contribution duty (basis of a trusted society; habitation).
9. The education and childhood discovery - basis of an equitable society (upbringing in a community habitation).

13.2 Well-being in the market

Market economists (marketists) typically indicate well-being by income and material asset acquisition (“wealth”). Market economists generally track (i.e., focus on) opulence (acquisition, growth, use without regard to need) and subjective control over objects (ownership). Market economists generally pre-suppose (inaccurately) that choices fully reflect preferences, and therein, that preferences are equivalent to needs. The presumption that choices fully reflect preferences is empirically mistaken, the implied or sometimes explicit stance is that well-being lies in making choices, whether or not these prove to fulfill predicted preferences or have other results. Preference fulfillment is often central to market economists. In practice, however, this is reduced to well-being as simply having the presence of a choice or activity.

From the market viewpoint, well-being (if it exists) consists of the fulfilling of [predicted, ex ante] preferences without accounting for outcomes.

NOTE: *Well-being is not simply a subjective experience of affect positivity, but is also an organismal function in which the individual detects the presence or absence of vitality and wellness.*

In the market, well-being is often defined as the satisfaction of consumer preferences (a market conception), where individuals are the best judges of their own preferences (or wants), and what is produced and consumed should be determined by the private consumption and work preferences of individuals. This argument for the satisfaction of consumer preferences appeals to intuitions of personal autonomy and freedom.

Preference satisfaction theory (the satisfaction of consumer preferences in the market) is biased because markets and other capitalist institutions themselves influence and shape values, tastes, preferences and even personalities, generating a “circularity of evaluation” (open system without feedback). Individuals are not necessarily the best judges of their wants if their knowledge or rationality is short of sufficient data.

In the market, objective indicators of well-being have traditionally been measured by indices such as the Gross Domestic Product (GDP) and the Human Development Index. Under market conditions, income has been one of the factors most extensively researched (by market economists), and together with age, sex, race, health education and marital status is reported to account for 8%-20% of the variance in subjective well-being.

NOTE: *In the market-State, often abstract*

indicators rather than human indicators are used to track and measure well-being. Outcomes are highly dependent on what is measured, because what is measured affects, and often controls for, outcomes.

Humans should not be looked at as markets. Instead, society should look at what humans need, and then, there is no need to market, because humans would contribute to have access.

13.2.1 Life wellness and the “Blue Zones”

There are places on the planet where people live happily and healthily for a very long time. A long-lived population is defined as a cohort of individuals who share genetic, environmental, or socioeconomic characteristics that facilitate aging for over a century. These locations and their common lifestyle habits were popularized by Dan Buettner (2012) in *“The Blue Zones: Lessons for Living Longer from People Who’ve Lived the Longest”*. Therein, Buettner identified five places in the world where there is a high concentration of humans over age 100 who also express disability-free and disease-free life expectancy. Note that the word “blue” in the term ‘blue zones’ has no relevance – blue was simply the color ink initial researchers used to identify these locations on their map.

NOTE: *Recent research has found significant issues with the longevity attribute of so-called “blue zone” populations. In fact, blue zones have the highest levels of life expectancy, in large part, because they also have the highest levels of tax documentation fraud and poor record keeping, which why so many people “live” so long there. These recent findings call into question Buettner’s original longevity-associated hypothesis. However, there is still evidence for Buettner’s claim that long lived and healthy groups of people live in cultures that make all the right choices without them noticing (i.e., the people don’t have to have super self-discipline, organized exercise routines or purist diets, but instead, their cultures and environments facilitate right choice). “None of these people try to live to be 100”, says Buettner; “They are just products of their environment.”*

The term ‘blue zone’ has come to mean a demographic and/or geographic area of the world where people live measurably longer lives in excellent health and happiness. “Blue zone” populations consist of individuals living in a defined geographical region who achieve extreme longevity in comparison to the average human lifespan. Identifying long-lived populations, such as “blue zones”, can assist in highlighting factors that promote longevity. The people inhabiting ‘blue zones’ share common lifestyle characteristics that contribute to their longevity. The geographic locations themselves, besides being outside of industrialized regions, are relatively unimportant. However, it is the case that genetic,

socioeconomic, geographical, climatic, dietary, socio-political, and other general lifestyle factors all have been identified through observation as being associated with longevity.

INSIGHT: *Putting the responsibility of curating a healthy environment on an individual amongst an antagonistic environment is highly unlikely to create long lived wellness for the individual. It is the determinant environment of community that increases wellness, and consequently, life expectancy.*

Longevity, health, and happiness are phenomena related to individuals, as well as to populations as a whole. By identifying areas where people live the longest, Buettner and other researchers identified a set of common lifestyle-oriented longevity determinants/factors.

INSIGHT: *As humans, we are not biologically programmed for longevity. We are programmed for procreative success.*

Those with health and longevity in these locations had some of the following factors in common during their lifetimes. Not all locations had all of the factors in common, but all locations had some of the factors/determinants in common:

1. Natural movement – Throughout the course of your day, do you exert yourself physically without having to plan for exercise? In general, movement is a natural part of their day. The world's longest lived people create an environment that guides them into moving without having to think about it. They do not have to seek out other sources of regular daily exercise; rather, in order to live their lives, they have to do physical work. In other words, most of them enjoy physical activity incorporated naturally into their daily lives (like gardening or walking). None of them were found to exercise. They setup their lives so that they are constantly nudged into physical activity. Significantly, they walk through the majority of their life space. When they do intentional physical activity, it is things they enjoy. Presently, walking is the only scientifically proven way to stave off cognitive decline.
2. Life purpose – Why do you wake up in the morning? Do you engage in meaningful work and find purpose in what you spend your time doing? In general, those with long and healthy lives wake with a purpose (larger than themselves) every day, such as caring for grandchildren, volunteering, or other forms of social contribution. They know how to setup their lives so that they have the right outlook; they have a purpose in life. Further, they have vocabulary (a linguistic orientation) for a sense of purpose. They know their sense of purpose, and it is active in their life. The whole idea of getting up and living each day in a meaningful way is driven by this sense of purpose.
3. De-stress and relax (down shift) – Do you spend time every day relaxing and de-stressing? Stress leads to chronic inflammation, associated with every major age-related disease. In general, the world's longest lived people have routines (or, strategies) to shed that stress (a.k.a., “down shifting”). There is a very clear moment or time when they “down shift” in their mental and physical exertion, which happens daily. Longer lived individuals utilize different ways to “shed stress” (to relax, rest, and rejuvenate), and each society has had its own traditions that translated into community embraced habits. These have varied from the religious who pray, to the Ikarians napping, or the Costa Ricans staying in synch with their natural peninsula habitat, the Sardinians enjoying their alcoholic “happy hour”, or the Okinawans intentionally remembering (i.e., meditating on) their ancestors during specially set aside time each day. Typical de-stressing activities include: alcoholic happy hour; a daily nap; daily meditation/prayer/contemplation; and spending time in nature (e.g., forest bathing).
4. Mindful eating and the 80% feeding rule – With each meal, do you eat mindfully and stop when 80% full? In general, the longest lived people eat mindfully/wisely, and stop when 80% full. They engage different strategies to keep from overeating. In other words, they stop eating when stomachs are 80 percent full (primarily, due to the way in which they interact and/or arrange their environment). Different societies use different strategies to keep from overeating. The Okinawans say the “hara hachi bu” mantra before meals as a reminder to stop eating when their stomachs are 80% full. Other societies serve themselves on reasonable sized plates (not large plates), and then put the food away for storage so as not to return for another serving. Those who live long lives enjoy their meals and do not rush the feeding process. They eat with a sense of appreciation and enjoyment. As a result of this mindfulness, they realize while eating when their hunger has been addressed, and they stop themselves from pushing the limits of eating. It is estimated that they stop when ~80% full. They are comfortable disposing of food that remains on their plate after they are sufficiently fed (this food is composted). In addition, these groups eat their smallest meal in the late afternoon or early evening, largest meal midday

and they don't eat after the evening meal. They fast for the rest of the day and overnight, until they break their fast in the morning (with break-fast). While it may not be necessary to follow this exact pattern, it speaks to the importance of fueling oneself well during the day and honoring hunger and fullness levels. Avoid skipping meals, which can lead to getting overly hungry and possible overeating.

5. Whole, nutrient dense foods – Do your meals consist primarily of a diversity of whole, nutritionally sufficient foods? It's estimated that about 75% of the food of these people comes from the ground. They eat high fiber meals that are rich in antioxidants, phytochemicals, vitamins and minerals. They consume a whole foods diet with sufficient diversity to ensure sufficient nutrition. They follow a flavorful and healthy dietary pattern. Virtually all food is grown in the locale, or harvested/cultivated nearby. The diet is characterized by moderate caloric intake. They consume a lot of plants and fish, and the meat most often consumed is pork. Of note, they do not take any supplements or track their food/calories in any way. They aren't overly preoccupied with what or how much food they consume. Also, meals are a time to rest and connect with food and loved ones; they aren't rushed through or multi-tasked. These dietary patterns tend to be high in anti-oxidant and anti-inflammatory substances. The Sardinians and Ikarians have embraced some version of a (valid) Mediterranean style diet.
6. Moderate alcohol intake with friends (especially wine) – If you enjoy alcohol, do you enjoy it moderately and regularly with friends? In general, they drink 1-2 glasses of unadulterated alcohol (generally wine) per day, with friends and/or with food. Scientific research has found that moderate, regular drinkers outlive non-drinkers, especially if they share those drinks with friends. They didn't binge on food or drink - they simply lived each day for its own merits.
7. Social/familial engagement including belonging and social integration – Do you spend a significant amount of your time nurturing and supporting those who you love? Spend time and expend energy with those who you consider love. Put your family ahead of your egoic/subjective concerns. Strong family and community connections. Ultimately, feeling a part of something bigger than yourself can increase quality and length of years. They "invest" time and energy in supporting and nurturing those they love.
8. Healthy behaviors and support – Do you surround

yourself with people who are also oriented toward their highest potential selves? In general, those with the greatest longevity engage in healthy behaviors while surrounding oneself with people who support, and also engage in, healthy behaviors.

9. Aesthetic environment – Maintain a beautiful environment that includes beautiful architectural interiors and exteriors and a cultivated garden of plants and animals.

The data we have on "blue zones" shows us that we can create our own "blue zone". It shows us that health and vitality is multi-factorial and encourages a holistic approach.

13.3 Well-being through societal engineering

i.e., The engineering of a state of well-being for humanity.

It is possible to structure and cultivate well-being into society at the system's level through a coordinated habitat service system (HSS) that functions through the contribution of individuals in community to InterSystem teams. It is possible to design a society where well-being is available to everyone; where well-being has been designed to be highly accessible to every individual.

A controlled engineering approach to well-being - interprets and critically analyzes the data on the state of people's lives that affect their daily existence, causing their current state of well-being and to determine if a re-orientation is necessary. In community, it is easy to assess the degree of specific need fulfillment across individuals (and HSS', cities) due to having a transparently unified resource-based (access-based) information system.

Together, human needs and well-being explicitly introduce moral criteria into the conception and appraisal of society. Genetic and biological constraints distinguish a category of needs. The recognition of genetic and biological constraints distinguishes human need from alternative approaches to wellbeing. But 'constraint' must not be confused with 'determination'.

Human mammalian constitution shapes its population's needs for such things as food and warmth in order to survive and maintain health. Human cognitive aptitudes and the bases of the organisms' emotionality in childhood shape many other needs - for supportive and close relationships with others, for example. It is a non-controversial observation that all living things need nourishment, and greater states of harm and lower states of well-being result when this is not available.

Because human needs are conceived to be universal to all peoples, a operational definition of need enables inter-personal (and inter-societal) comparisons of well-being, including comparisons between significantly different cultures/societies and time periods.

The universality of human need strongly underpins

obligations to ameliorate serious harm across the globe. In the inherently interconnected real-world, such a commitment to meet the global needs of humanity facilitates a perception of the world that sees the entire population of humanity, and its ecology, as a potential moral and social community.

13.4 Well-being and harm

In part, harm is prevented from coming to well-being, at the societal level, through a decision system's effectiveness inquiry (i.e., harm inquiry). A decision system's effectiveness inquiry examines potential harms as the result of a decided solution's selection.

In order to examine the applicability of effective decisions in the design of a societal system, it is essential to identify several core functional human questions (Robertson, 2019):

NOTE: *The term "service system" can be replaced with "robot" within some of these questions.*

1. Can a human designer codify conditions under which a specified action will benefit a human?
2. Can a human designer codify relevant issues which a representative person would perceive as harmful (physical harm, privacy, humiliation, and embarrassment), and quantify/categorize these to a degree that could allow decisioning?
3. Can a human designer codify relevant environmental conditions that will modify perceived levels of harm?
4. Can a human designer quantify relevant situations where a service system action will cause differing types and degrees of harm to more than one person?
5. Can the service system identify/quantify all relevant human harms and harm-levels? Does the service have, within its construction and computational abilities, the capacity to identify all relevant types of harm?
6. Can the target service system predict, from alternative actions, the levels and types of harmful effects that those actions will cause for each potentially affected person?
7. Does the human designer who constructs/programs the service system have the capability to imbue these recognition capabilities?
8. Is the service system capable of autonomously choosing to carry out actions that could potentially cause various "harms" to one or more persons?
9. Is the service system capable of examining choices available to it, including choices to terminate its own existence? And to determine levels of

identifiable harms likely to arise for each of the full range of potentially affected persons, from each alternative robotic choice?

10. If a service system is able to select from a range of actions (including a selection of inaction that could potentially cause varying levels of types of harm to one or more persons), are the definitions of harm and the numbers of persons and the environmental modifying issues sufficiently quantifiable to allow decisions that would be acceptable to society?
11. Can the service system apply these principles statistically, i.e., taking the view that it will make "correct" decisions 90% of the time, and for 10% of the time its decisions will prove to be incorrect and harmful?"

In general, an effectiveness (harm) inquiry may identify a service, service object, or positive condition ("good") as belonging in a human access standard if and only if it satisfies conditions (1) AND (2) AND (EITHER 3 OR 4):

1. It satisfies at least one basic need or capability (that is, it either helps fulfill a dimension, or prevents harm to people's own fulfillment);
2. It doesn't harm the fulfillment of anybody's needs or capabilities;
3. It is a satisfier of at least one basic need/capability.
4. It is one of many competing satisfiers, but it is overwhelmingly preferred at a global scale for at least one dimension.

A human access standard limits the risk of harm to achieving basic human wellbeing to an acceptable threshold. The standard constituents may be included because they prevent harm to meeting basic needs, such as good health. However, the assessment of potential harm is not straightforward. The ambiguity lies in at least two aspects: what is the risk of an effect (which in turn is the product of the severity of an effect and its likelihood); and one's vulnerability to it.

The assessment of potential harm includes two elements:

1. What is the risk of an effect (which in turn is the product of the severity of an effect and its likelihood).
2. What is someone's likelihood of not being resilient to the harm of the risk's actualization (i.e., what is someone's vulnerability to the harm caused by the actualization of the risk).

It is the combination of these that together define the risk of harm. Different resources would be required to mitigate risk depending on the extent of risk aversion one chooses, as is well known in risk analysis. Because of this dependence, a standard eventually would need

to define such risk thresholds, notably for different types of people, who have different levels of risk tolerance. For instance, the average person may tolerate a few days of extreme heat or muggy weather, particularly with adequate access to fluids and shade, but the elderly may have a much lower tolerance for the same conditions. A standard in practice would be contingent on the establishment of such risk thresholds.

It is possible to actualize qualitative boundary conditions for setting human life access thresholds. Therein, there exist, for example, safety thresholds for protecting humans from unrequired potentially fatal conditions. Furthermore, harm should also include prolonged exposure to extreme discomfort. Freedom from 'extreme discomfort' in a city, for example, can be defined as freedom from prolonged exposure to air pollution, inappropriate lighting at night (dis-abling - not having white when necessary; or en-abling (healthy) - having red/amber when necessary).

Human existence gives rise to informational and material requirements at the:

1. Individual (self).
2. Technical (contribution, the habitat systems).
3. Social (global social participation).

A global human access standard for any individual in a community-type society is typically organized such that people share material resources, information, and embodied socio-conscious connection, at different levels of habitation. It is possible to identify three scales of global access:

1. Personal - household, family (e.g., dwelling, personal computer).
2. Common - families share homes and neighbours (others in the local habitat) share services and local access; commonly accessible objects (e.g., tennis court).
3. System - utility access (e.g., electricity connections, hospital service, transport services)

NOTE: *The complexity of interaction in relationship to object possession and social engagement. For example, in the context psychological well-being (e.g., self-esteem), once humans have other elements life and technology, such as good health and education, are likely to depend far less on material possessions, than on how people treat each other. In other words, people will consider how one another are treated as of greater interest than object possession, which in the sense of ownership may become increasingly disdained. Infrastructural and contribution coordination do not require political institutions to provide "decent" political/ social rights.*

A hierarchy of questions concerning the hierarchical inclusion of requirements includes:

1. Individuals - Do the individuals have the tools of well-being in their own hands?
2. Habitats - Do the city systems fulfill the demands of their populations.
3. Network - Does the network fulfill the needs of the global population.
4. Society - Does the information standard, data standard, and computation standard orient the next iteration of society toward greater flourishing (and well-being).
5. Material - Do the material city systems, their conditions and infrastructure at the city level, share their mechanisms of function as a unified (~informational)/integrated (~material) system?
6. Survey - Do materially carried out surveys (objective and subjective) provide a whole picture of what is, what is required, and what is available?

13.5 Well-being and ecosystems

The interwoven relationship of ecosystems and human well-being is insufficiently acknowledged in the wider philosophical, social, human, innovation, and economic well-being literature. Material and energy transfer flows and cycles occur between humans and their biosphere that affect human well-being.

13.6 Well-being and the city

The essence of living in a city lies the fulfillment of human need at population scale. In the fifth century BCE, Socrates stated that the main purpose of constructing a city is to provide the people living their with vitality and prosperity (i.e., quality of life). Such statement demonstrates the firm, long-standing relationship between the two concepts of "city" and "liveliness". From this viewpoint, every city (or habitation) is essentially a means or medium of achieving happiness and vitality. One constructive component, therefore, is the overall quality of the environment. For vitality, there are various concepts developed in the West, including vitality, viability, livability and liveliness to mention a few. Except for "vitality", however, the rest of the terms are rather closely tied to the concept of livability and living together.

13.7 The evaluation of well-being

As a deliverable, the evaluation of well-being is an ("intelligence") assessment of overall human fulfillment. There are two main approaches to the evaluation of one person's life well-being:

1. **The subjective (subjective well-being, SWB) - the person states as part of a scientific sample. The**

individual (as the subjective) communicates their experience - someone internal assessment of their current state-dynamic of well being. Subjective expression primarily involves feeling features of a persons life. Feelings can, and can not, be based on systematic and deep reflection of self and the environment. Satisfaction questions, because they are reflective, cause people to think and feel about their own life.

2. **The objective (objective well-being, OWB) - the calculated data shows.** Others observe that which is self-evident from the situation given an objective information space - commonly, external assessment of someone or some group of individuals state-dynamic of well being. Primarily involves non-feeling features of a persons life (like food cycle and morbidity, health, longevity, autonomy and access to desired opportunities).

More simply, indicators can be of two types (note that a complete understanding of a situation requires both types):

1. Objective: Observable, and thus, directly measurable (quantifiable).
 - A. Observed criteria alignment (e.g., life expectancy, food intake, etc.)
2. Subjective: Self-reporting, and thus, subjectively measurable (qualifiable).
 - B. Survey (e.g., flourishing survey, happiness questionnaire, etc.)

Here, there are four criteria for constructing measures of overall well-being:

1. Can the measure be constructed from available data?
2. Does the measure enable spatial and temporal comparison?
3. Is the measure applicable to multiple scales, thereby addressing idiosyncratic, group-up, and regional dimensions of well-being?
4. Does the measure possess both objective (independently observable) and subjective (participant views) elements.

The Organization for Economic Cooperation and Development (OECD) Guidelines on Measuring Well-being include three types of indicators:

1. Subjective-based or survey-based indicators of well-being (SWB).
2. Objective indicators of well-being (OWB).
3. Composite indicators (indices that aggregate multiple metrics) of well-being. Aggregate metrics combine subjective and/ or objective metrics to

produce one measure.

13.7.1 Assessing the presence of well-being

Etymological note: *'Welfare' can be traced back to the fourteenth century, when it meant 'to journey well' and could indicate both happiness and prosperity. Isn't this what it should mean, that we are traveling the our planetary and cosmic existence well, that we are flourishing? But, in early 21st century society, the term has been adopted by the State to mean giving service to those without through force and coercion.*

To have a state of well-being is to have a loosely bounded assessment of positive physical, social, and mental states; it is not just the absence of pain, discomfort, and incapacity. The objective presence of well-being requires that:

1. Basic needs are met.
2. That individuals have a sense of purpose.
3. That individuals feel able to achieve important personal goals and contribute to (participate in) society.

In other words, people feel fulfilled when they experience certain conditional states of the world, when there is:

1. Fulfillment of human needs.
2. Development and expression of human capability.
3. Growth toward the achievement of meaningful goals.

The multiple dimensions of well-being include, but are not limited to:

1. Economic access - human material needs met.
2. Physical vitality - no dis-ease or dis-abilities.
3. Emotional purpose - direction and goals in life.
4. Social cooperation - coordinated and contributed HSS (habitat service system) opportunities.
5. Personal autonomy - freedom to actualize potential.
6. Environmental stability - ecosystem material needs met.
7. Aesthetic appearance - harmonious sensory environment.

The assessment of the presence of well-being is enhanced by conditions that include supportive personal relationships, healthy and inclusive organizations, actions having effects upon the environment, good health, physical safety, enjoyable (rewarding) work, and a healthy attractive environment and diet. In this sense, well-being is not a perspective (personal or otherwise), but an approach to life whose optimization includes the fulfillment (satiation) of these different states of a person's life system.

Well-being is an abstract concept that refers to the [positive] states of a person's life. When someone

is said to have well-being, then that person's life is highly satisfactory to themselves. Well-being answers (positively) the question, "What is the state of your life?" Well-being is the communication of personal experience that captures a mixture of their life circumstances, including: how they feel and how they function. Well-being involves peoples' positive evaluations of their lives include positive emotion, desirable engagements, overall satisfaction, and meaning/purpose. From a branded perspective one could match people's common expressions of well-being with the quality-of-life variables present in "Blue Zone" locations (where well-being is highly common).

13.8 Quality of life indicators of well-being

A.k.a., Quality-of-life, quality of service, quality of habitat service system, quality of life experience, vitality, livability, etc.

In general, quality of life is the extent to which objective human needs are fulfilled in relation to personal and/or group perceptions of subjective well-being. Quality of life is an integrator of the access that is provided to meet human needs in the forms of built, social, and natural services. A high quality of life may exist when there is fulfillment (or satisfaction) of needs, desires and aspirations. Human needs are objective (universally self-evident) and desires are intentional and through action upon create resonance patterns in the environment (orientational).

INSIGHT: *As a procedural problem, knowledge is central to the solution of an optimal quality of life.*

Quality-of-life and well-being are concepts that express the degree of [cyclically completed] need fulfillment, and determine which are the most critical requirements for a given situation. Quality of life, a concept referring to persons, can be considered at the same time the ultimate goal of human development, and the central criterion that helps to characterize the intentional design of human living environments.

Note here that "human development" indices (such as, UN Human Development Index, HDI-UNDP, 1998) are a collation of objective market-State indicators and measures. Here, "objective" indicators of quality of life include, for example, indices of economic growth rate, profit rates, life expectancy, and other data, some of which would be relevant in community, and others of which would not be relevant. For example, objective measures (as metrics that matter in community) include indices of economic production, dis-ease rates, literacy rates, life expectancy, and other "Blue Zone"-type data.

Quality of life (QOL) is a general term meant to represent the two domains of well-being:

1. **Objective well-being**
 - A. **[Materialization] Need fulfillment** - How objectively well human needs are met? How are needs prioritized? The degree to which each identified human need is objectively met, known as 'fulfillment'.
 1. Objective is something observed.
2. **Subjective well-being (happiness)**
 - A. **[Self and social perception] Life satisfaction**
 - The extent to which individuals or groups perceive satisfaction or dissatisfaction in various life domains. Perceived satisfaction with material and social life, given what is possible and what is current.
 1. Subjective is a question that is asked.

These are Indicators of fulfillment quality (i.e., indicators of well-being, quality-of-life). For example, the current temperature of a human body (a.k.a., body temperature) is an indicator of objective well-being of that human body. More simply, body temperature is an indicator of well being, measured in some unit(s). For example, a rise in the population of mites is an indicator of decreasing health.

Well-being can be viewed from several perspectives:

1. **Objective [quality] measures** - human needs, wants and preferences fulfillment.
2. **Subjective [objective] measures** - question formulation through to response delivery.
 - A. Perception is the self report by an individual about their situation. The question here is the request for a self report.
3. **Market measures** - job satisfaction (subjective) and income (objective).

Or, viewed another way:

1. **Objective indicators** are usually based on the counting of occurrences, events or activities, while subjective indicators are based on reports or descriptions from individuals on their feelings and perceptions about themselves and the world around them. Objective indicators measure include, but are not limited to: access and participation opportunity, contribution opportunity, [habitat] service quality; autonomy (and presence of coercion), bodily health, etc.
 - A. The objective approach makes comparison possible, but at the potential risk of denying the inherently subjective nature of quality of life.
2. **Subjective indicators** (a.k.a., the subjective approach) are measurements of life satisfaction and happiness.
 - A. The subjective approach takes personal

and preference ("cultural"/environmental) differences seriously, but under complex aberrant conditions subjective indicators have proven difficult to determine the statistical correlation between subjective feelings and objective indicators (the correlation between health and life satisfaction, as well as flow and happiness, are notable exceptions).

A holistic view requires an integration of the objective and the subjective to form an integrated understanding, and therefrom, a mutually beneficial and optimized decisions.

13.8.1 Subjective [indicators of] well-being

A.k.a., Feeling well-being, well-being as the data from an expressed feeling, quality of life survey, life quality assurance inquiry.

Subjective well-being (SWB, subjective satisfaction, now) is data based on individuals' reports of what makes their lives good (Read: well, happy, optimal). Subjective well-being sciences in which people's evaluations of their lives are studied. SWB includes diverse concepts ranging from momentary moods to global judgments of life satisfaction, and from depression to euphoria. The overall subjective well-being of individuals includes the multiple dimensions of well-being that impact an individual's evaluation of his or her current [felt] state. These dimensions include, but are not limited to: economic, social, psychological, physical, and personal autonomy (Ryff, 1995).

More fundamentally,

1. From the awareness threshold of [conscious] pain:
 - A. **Suffering** (lowest happiness, and degrees thereof, **pain states**),
2. To the awareness threshold of [conscious] flow:
 - A. **Flowing** (highest happiness, and degrees thereof, **flow states**).

Here, there is a subjective reports of perceptions, and then, an informed assessment of that report (as it is integrated into the unified information space). The assessment is one of people's experiences and feelings. The subjective well-being literature relies on how to optimally collect and track people's perceptions of their life circumstances and mental states. There are different techniques to measure subjective well-being. Subjective well-being is a multidimensional evaluation of life, including cognitive determinations of life satisfaction as well as affective evaluations of moods and emotions.

NOTE: *Under aberrant conditions it is likely some people might be unable (or unwilling) to adequately articulate their level of well-being. The inclusion of a human evidence-based objective criteria (as the tool in the approach)*

can "give a voice" to those who are unable to adequately articulate their level of well-being.

Of note, inequality in [socio-economic] access is one of the greatest determinants of poor subjective well-being.

Subjective well-being simply refers to subjective life satisfaction. In other words, satisfaction with life domains, which may be different depending upon the specific societal configuration in which a subject expresses their state of well-being (e.g., social, decision, lifestyle, material, marriage, work, income, housing and leisure, etc). In order to capture SWB, researchers usually rely on questions about happiness or life satisfaction, self-reported adequacy of life domains and/or frequency of good and bad feelings. All those aspects are usually taken as independent constructs, but show to be significantly correlated.

1. Are there feelings of positive affect (pleasant emotions and moods) most of the time?
2. Are there experiences of conflict, aggression toward others, or negative affect?
3. Are there feeling of happiness, or its absence. Are there feelings of depression, or its absence.
4. Are there feelings of living a meaningful, purposeful life?
5. What is a "good" life experience to you, and what would a "better" life experience than yours now look like?

Subjective well-being (or personal well-being) asks people directly how they think and feel about their own well-being, and includes aspects such as life satisfaction (evaluation), positive emotions (hedonic), and whether their life is meaningful (eudaimonic).

Here, a personal-subjective assessment captures a personal analysis and assessment (as best as can be communicated) of one's own circumstances, as what one thinks and feels (a self-assessment), and why (self-analysis). How happy you are?

In the subjective, quality of life is a multidimensional term that expresses how a person evaluates his/her own situation in society, and how that expression is communicated to the rest of the population and input (as feedback) into our unified information system. After a person evaluates his/her situation, this information must be translated by the information system (scientist or other data collector-computer), given what is known about the human linguistic system, and input into an overall Quality of Life assessment.

The subjective quality of life category depends upon factors such as:

1. The psychosomatic state of the individual.
2. Age.
3. Access [economic] situation).
4. Social situation.

5. Felt need fulfillment.
6. Felt fulfillment of personal desires and preferences.
7. History (background and trauma).

Subject well-being (SWB) is assessed by individuals' or groups' responses to questions (prompted self-report) about happiness, pleasure, fulfillment, life satisfaction, contribution, and welfare or financial success (market only). The relation between specific human needs and perceived satisfaction with each need can be affected by mental capacity, social context, ecological context, cultural context, information context, education context, temperament context, health context, and the like, often in quite complex ways.

An individual's current quality of life could be assessed on the following basis:

1. Personal fulfillment - the need to reach one's potential in all desired areas in life.
2. Identity - goes beyond psychological "Sense of self". Identity as a sense of self in relation to the outside world. Identity becomes a problem when one's identity is not recognized as legitimate, or when it is considered inferior or is threatened by others with conflicting identifications. Hence, for some psychological sets (belief sets) cultural security as the need to maintain past conceptions.
3. Freedom is the condition of having no physical, political, or civil restraints; having the capacity to exercise choice in all aspects of one's life.
4. Distributive justice is the need for the fair allocation of resources among all members of a community; the global mutual access [via open standards] as a matter of justice (Read: distributive justice).
5. Participation - is the need to be able to actively partake and participate in and influence society (psychically and informationally).

The following questions are survey data on, and facilitate a greater understanding of, [personal] states of subjective well-being:

1. Overall, how satisfied are you with your life nowadays? (answer on a 7 point scale from 'completely satisfied to completely dissatisfied, Andrews and Withey, 1976)
2. Overall, to what extent do you feel the things you do in your life are worthwhile?
3. Overall, how happy do you feel? Taking all things together, would you say you are: very happy, quite happy, not very happy, not at all happy? (Inglehart, 1997)
4. Overall, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead? (Eurobarometer survey)

5. Overall, how anxious do you feel?
6. Overall, how much aggression or depression do you feel?
7. Overall, if you had more money, would you be doing something different with your life (in terms of work, activities, contribution)?
8. Overall, do you feel like you belong and are deeply connected to those around you, and those with whom you spend the most time?
9. Overall, are you able to maintain strong social bonds throughout life?
10. Overall, are you able to benefit from environmental opportunities?
11. Overall, are you able to access necessary resources, services and products?
12. Overall, are you able to contribute to the fulfillment of others.
13. Overall, are you able to participate societal decisioning that affects yourself?
14. Overall, are you having adverse life experiences?

Subjective well-being inquiry techniques include, but are not limited to (questions and evaluation criteria):

1. Positive and negative affect scale (PANAS) - a questionnaire that asks someone to identify the extent to which any of ten mood types (10 positive and 10 negative) has been felt through a five point scale within a period of time, and how frequently. During the interview, the same day of the interview, during the past few days, the week before the interview, the past few weeks, the past year and in general. The twenty items describing the mood types are (there are variations): interested, distressed, excited, upset, strong, guilty, scared, hostile, enthusiastic, proud, irritable, alert, ashamed, inspired, nervous, determined, attentive, jittery, active and afraid.
2. Satisfaction with life scale (SWLS) - a questionnaire that asks someone to compare one's life to the ideal, analyse the conditions of one's life and achievements and one's satisfaction with them, along a scale. The five items are: 'In most ways my life is close to my ideal', 'the conditions of my life are excellent', 'I am satisfied with my life', 'so far I have gotten the important things I want in life', 'if I could live my life over, I would change almost nothing'. From 'strongly disagree' to 'strongly agree' representing the level of agreement of the respondent with the statements defining each of the five items.

In assessment of subjective quality of life (or, SWB) reports, one possible goal is to create a tool that will capture the weighting (i.e., value system) that is being

used by a particular person (or group of persons) at a particular time and place. The value system may be explicit, as is the case with Community (because it is openly designed), or it may need to be determined (because it is not explicit or it is secret) through the following process, which community does naturally as it iterates:

1. Determine relationships among needs, their importance, and their fulfillment. Determine possible between fulfillment and importance.
2. Determine and group types of requirements, deliverables, tasks, and resources (and amount of capital, market only) required to fulfill each need.
3. Determine variation in weights (between #2) by population characteristics.
4. Determine variation in overall from one city/zone system to another.
5. Determine variation in overall behavior (subjective) and biometrics (objective).

13.8.1.1 *Happiness (subjective happiness; indicator of well-being)*

APHORISM: *We hunger for happiness that sustains us.*

'Happiness' can mean pleasure, life satisfaction, positive emotions, a meaningful life, or a feeling of belonging, feeling of contentment, actualizing one's fullest potential, among other concepts. Levels of "happiness" is often established through life satisfaction surveys and scales where people rate the extent of their feelings of 'happiness' on a numbered scale. In surveys of early 21st century society, what is generally called "happiness" (as measured through these tools) is 'contentedness' with life situation (and not 'happiness').

Happiness could be viewed as positive affect, with unhappiness seen as negative affect. Pleasant and unpleasant affect reflect basic experiences of the ongoing events in people's lives. The affective components of well-being described above reflect people's ongoing evaluations of the conditions in their lives.

The experiencing of more positive emotions in relation to negative emotions has been shown to predict subjective well-being (Diener, 2003; Kahneman et al., 1999). Question: Are there positive relationships and challenges in life? If all emotions were placed on a spectrum ranging from pleasant to unpleasant, positive emotions (also referred to as positive affect or positivity) include emotions on the pleasant end (e.g., feeling grateful, upbeat; expressing appreciation, liking), while negative emotions (negative affect or negativity) represent the unpleasant end (e.g., feeling contemptuous, irritable; expressing disdain, disgust, disliking) (Fredrickson & Losada, 2005). Emotions have been explained as arising from an evolutionary perspective because they tend to lead to specific action probabilities.

NOTE: *As with many of these terms, there are a multiplicity of meanings that 'happiness' (or any of these terms) can mean to just anyone in early 21st century society, where the aberrant is often normal and the actual is often obfuscated on purpose.*

Happiness is an emotional response to an outcome, which is emergent and interrelated through space and time. Joy is a high-level felt experience of happiness that comes from doing what "we" are designed to do, no matter the outcome.

NOTE: *The opposite of depression is not happiness, it is vitality.*

Happiness may be considered a subjective outcome metric; it results from pursuing various goals other than happiness, and isn't directly tied to success or failure of achieving those goals. It can be a response to external inputs and conditions, and it can be synthesized in a neuro-chemical manner involving a conscious shift in intention to be happy (given the circumstances). All humans direct toward (i.e., want or need) happiness, even if the conscious experience is subjective (i.e., means different things to different people).

Fundamentally, all humans *want*, though at a more fundamental level, *need*, to experience happiness frequently in their lives; even, if it is experienced differently by different people. Happiness [at least] involves the fulfillment of human needs. A concrete set of needs exist, and their fulfillment at a global level, which may differ from person to person with electro-bio-chem-psycho individuality, is likely to generate a frequent fulfillment of happiness in the population's personal lives. Here, human needs could be considered the common social environment.

Happiness is always, in part, synthesized through neurochemistry, but it may also be the result of the intention given an otherwise unhappy environment (e.g., given a prison who is serving life imprisonment and experiences happiness).

In practical social application, happiness is a state of [human] being brought about by a set of predictable intrinsic and extrinsic processes that fulfill needs and/or synthesize happiness (electro-biochemical and conscious). In this sense, it could be said that happiness comes from the process of fulfilling need, which involves principles related to human need fulfillment. A happy quality of life does not necessarily come from seeking happiness directly, but instead, striving to live a purposeful and meaningful life is how happiness, as a frequently experienced quality of life, is sustained. In part, the application of strategies to increase [the experience of] happiness is a measure of leading a fulfilled life.

In other words, the experiential state is happiness is likely to be generated through the sufficient fulfillment of human needs, and it can also be synthesized by coming to appreciate one's life experience and the

other conscious entities therein. In other words, the experiential state is happiness is likely to be generated through the sufficient fulfillment of human needs, and it can also be synthesized by coming to appreciate one's life experience and the other conscious entities therein.

Happiness index:

1. What is the person's perception of their own happiness?
2. How do they think they are viewed by others in different social environments?
3. How do they think they compare with others' happiness and unhappiness?

Mathematically, happiness could be expressed as:

- $\text{happiness} = \text{thresholdNeeds} * (1 + \text{otherNeed1} + \text{otherNeed2} + \dots + \text{otherNeedN})$, where thresholdNeeds is either 0 or 1.

In the market, there is an additional abstraction, equating money as the "means" of fulfillment (Note: In community, this abstraction is not encoded):

- $\text{happiness} = \text{thresholdMoney} * (1 + \text{otherNeed1} + \text{otherNeed2} + \dots + \text{otherNeedN})$, where thresholdMoney is either 0 or 1.

13.8.2 Objective [indicators of] well-being

A.k.a., Well-being data without felt bias.

Objective well-being (OWB) is based on a measured criteria of requirements that a human as a member of the species should have satisfied in order to lead a full, self-actualised, or good life, given what is known (i.e., given that which is objective). Objective well-being refers to objective indicators and an inquiry into the linkages between objective and subjective measures. Objective well-being is based on human needs and values.

When determining the objective state of well-being, the subjective and observation reports are analyzed statistically with previous information.

The two primary indicator types are:

1. Social [quality] indicators.
2. Material [economic] indicators.

Well-being may be objectively measured by providing data on the fulfillment of common need (frequency and composition):

1. Measured by access opportunity and actualization.
2. Measured by access quality.
3. Measured by access disparity (distributive justice).
4. Measured by health (psychology and physiology).

The access view could be extended to view well-being as access to:

1. Access to resources (made into useful objects).
2. Access to opportunities (made from useful services).
3. Access to conditions (made from useful experiences).

The concept of human needs can be universalized to the human system, and quality-of-life is the quality of the personal experience therein. Some human "societal" systems account for human needs, resources, and their ecology, and others account for it less. In part, well-being is identified through those services and goods that satisfy substantive individual needs.

QUESTION: *What are the indicators of human well-being based on universal characteristics. Here, the human needs are not necessarily viewed as drivers of human behavior, but as human and societal requirements for well-being.*

It is possible for objective (or external) measures to not track with self-reported (or subjective) measures. People may be feeling highly satisfied with a life way that seems poor by objective measures. It is important to remember here that the idea of synthesized happiness is a real physiological effect. Subjective well-being is by definition experiential. Comparing what people think with objective measures about their situation provides valuable and useful data on society. Objective measures of well-being come from observed and actual conditions and do not depend subjectively (circularly) on the respondent's own perceptions. Thus, the goal is to compare a subjective measure of happiness or satisfaction with an objective measure of material well-being (need fulfillment, not GNP per capita).

In the simplest of strategies, measurement would consist of two distinct scales to assess each item regarding a human need; one of the scales would record the degree of fulfillment and the other would record the relative importance (priority) of the need.

The following are common and market-State transposed indicators for human habitat [city] service and quality of life:

1. Economy.
2. Education.
3. Environment.
4. Energy.
5. Finance.
6. Fire and Emergency Responses.
7. Governance.
8. Health.
9. Safety.
10. Shelter.
11. Recreation.

12. Solid Waste.
13. Telecommunication and innovation.
14. Transportation.
15. Urban Planning.
16. Waste water.
17. Water and Sanitation.

Further, it is possible to observe the state of people's lives along the four dimensions of human societal organization:

1. Material (economics, access, aesthetics).
2. Social (moral, understanding, belonging).
3. Decision (autonomy, self-direction, contribution).
4. Lifestyle (flow, education, opportunity).

Analyze the state of people's lives that cause their current state of well-being using the core and stabilizing values of a community-type society (only 3 core shown below):

1. Freedom.
2. Justice.
3. Efficiency.

13.8.2.1 Threshold needs (basic needs)

Threshold needs have two primary characteristics:

1. Threshold needs are things you cannot make yourself and must acquire.
2. After the organism has passed the threshold required to meet (or fulfill) the need, focusing on the need further will yield diminishing returns.

The basic needs of future generations of humans will be the same as those of present humans. To avoid serious harm and to participate and act within future human societies people will require the same logical preconditions: not just survival, but health and autonomy. This stems from the biological, physiological and psychological foundations of human needs. Until the genetic make-up of *Homo sapiens* changes significantly, it may be assumed that the same universal satisfier characteristics will apply.

The most basic of human needs include food, water, and shelter. A major ecosystem provisioning service is to provide food through culturing soil interactions (Daily et al., 1997; Sandhu et al., 2007), pollination (Losey and Vaughan, 2006), and animal and fish stocks (Holmuhund and Hammer, 1999). Similarly, the production of water for human throughput, irrigating, and manufacturing, and other systems is a primary (life) provisioning services of numerous ecosystems (Daily et al., 1997; Wilson and Carpenter 1999). In addition, ecosystem services provide for the production of supplies (wood, peat, fossil fuels, and running water) for heating, electrical production, fuel generation, and hydropower generation (Daily et al., 1997; Guo et al., 2000) and the production of fiber and building materials from ecosystems (Raffestin

and Lawrence, 1990). Human Contribution to harness ecosystem services to habitat services is vital. Basic human requirements are often supported by natural ecosystem services. Relationships between ecosystem services and personal and community security (particularly in the inner city) have been demonstrated through green design projects (Kuo et al., 2001). Aggression and crime reduction has been documented in areas with some natural greenery or parks (Kuo et al., 2001). Ecosystem services have even become a focus in some national security issues involving water resources and poverty and agricultural security (Sandhu et al., 2010)."

While basic needs are universal, many goods, services, activities and relationships required to satisfy them are environmentally (and temporally) variable. Needs for food and shelter apply to all peoples, but there are a large variety of cuisines and forms of dwelling which can meet any given specification of nutrition and protection from the elements (these need satisfiers are distinguished from needs by Max-Neef). Need satisfiers are contextual, whereas the needs are not significantly relative to context.

A conceptual bridge be built to link basic needs and specific satisfiers using the idea of 'universal satisfier characteristics'. If we define 'satisfier characteristics' as that set of all characteristics that have the property of contributing to the satisfaction of our basic needs in one or any context, then we can in principle identify a subset of universal satisfier characteristics (USCs): those characteristics of satisfiers which apply to all human contexts. USCs are thus those properties of goods, services, activities and relationships which enhance physical health and human autonomy in all societies. For example, calories a day for a specified group of people constitutes a characteristic of (most) foodstuffs which has transcultural relevance.

There is a threshold need for water, food, shelter (true needs), and also, contributed-distribute access (i.e., freedom and distributive justice).

Well-being basic indicators:

1. Basic needs (food, shelter, water, sleep, medical, power).
2. Safety.
3. Belonging.
4. Esteem.
5. Self-actualization.

Well-being is a state of being where all members of a community:

1. Have economic security.
2. Are respected, valued have personal worth.
3. Feel connected to those around them.
4. Are able to access necessary resources.
1. Are able to participate in the decision-making

process affecting them.

13.8.2.2 Itemized Indicators of human well-being

The following is an itemized list of indicators of human well-being, used in common parlance (i.e., the indicators of):

1. Physical, psychological, social, cultural, economic, governance.
 2. Rank personal happiness, personal values, personal preferences.
 3. Well-being, health (physical, psycho-sociological), time use.
 4. Physiological [health] attributes to be tracked as indicators:
 - A. Diet.
 - B. Movement.
 - C. Exposure to toxins.
 - D. Disease and illness rates.
 - E. Life vitality duration.
 - F. Joy and depression.
 - G. Example indicators of these above attributes would include consumption rates of local resources for some geographic location, ingestion of toxics through food, or reported participation in outdoor exercise. Although the brain is part of the body, psychological and physical health were purposefully separated to highlight their respective importance to human well-being, mirroring the efforts of more general human well-being frameworks (i.e., GNH).
 5. Psychological [mental] attributes to be tracked as indicators:
 - A. Emotional, spiritual, and cognitive health. The emotional attribute of this domain includes the experience of positive feelings, no depression, or anxiety. The experience or condition which is now known to be positively and negatively influenced by exposure to natural environments, or simply the knowledge that those environments exist (also called existence value). Incidence of depression and anxiety or the capacity of short-term and working-memory.
 6. Social (cultural) attributes to be tracked as indicators:
 - A. The "cultural" is commonly defined as a system of shared beliefs, values, customs, behaviors and artifacts that humans create and pass on to future generations. While social attributes related to natural resources are most commonly associated with indigenous groups, this is not exclusive as all human populations have social components that depend on natural resources to some degree (e.g. fisheries and mining).
- Additionally, as with all the domains, social attributes and indicators are likely to overlap with those from psychological, social and physical domains.
- B. Attributes of culture related to the wild environment include traditional resource stewardship practices, food collection and preparation, language, and natural resource-based legends.
 - C. Social research has found that social interactions where extentionality and belonging exist are among the primary determinants of overall well-being. Social health is most often encapsulated in the concept of social capital, and includes the attributes of strong families and friendships, and community [information-decision] cohesion. The societal environment provides a variety of opportunities for people to develop social ties while engaging in outdoor activities, environmental stewardship, or passing down knowledge. While there are few specific examples of indicators of social health related to the environment, they could include things such as self-reported participation in outdoor activities with family members, the number of generations of family who engage in outdoor activities together, the frequency of social events held in the city environment, or the frequency of participating in parties highlighting locally-collected food or events.
 7. Economic (domain) attributes to be tracked as indicators:
 - A. Economic health is traditionally the most commonly measured domain of human well-being.
 - B. Income, income distribution, purchasing power.
 - C. Access (and access opportunity) distribution.
 - D. Access to meaningful contributions.
 8. Governance (domain) attributes to be tracked as indicators:
 - A. Governance refers not to specific laws or politicians, but to the way that power (over others) and decision-making (subjectively) is structured within society.
 - B. Several studies have explored how people's experience with environmental governance influences their overall satisfaction and sense of empowerment, and thus human well-being. Can someone effect change in their lives, and can they participate in control over their environment? Common attributes from these studies include trust in decision-making processes, social justice, transparency. Indicators for decisioning include self-reported

trust in decisioning as well as objective measures of opportunities for the public to participate in decision-making and the outcomes of public policy differentially affecting diverse demographic groups.

13.8.2.3 Well-being metrics and Interventions

A crucial distinction between well-being metrics and potential interventions [in their use] is that a well-being metric does not dictate an intervention, but is data for developing an intervention that will influence [or control] a metric in a positive/intended direction.

Metrics are a directional requirement for the intentional state change of society. Once well-being metrics are widely recognized as a directional requirement for society, conceptually, one would like such measures to be supported by those with the ability to begin building an integrated habitat service system and underlying community information structure.

14 The criteria for well-being

A.k.a., The elements of well-being, the needs of well-being, well-being needs, well-being elements, composition of well-being, factors of well-being, criteria of well-being, dimensions of well-being, indicators of well-being, measures of well-being, well-being outcomes, measurable categories of well-being.

Well-being is state of successful, satisfying engagement with one's life and the realization of one's full physical, cognitive, and psycho-emotional potential.

The two distal goals of well-being are:

1. Positive affect, emotion, and experience.
2. Cultivation and expression of one's full potential.

The categories (elements, needs) of well-being are describing the outcomes of what a flourishing individual may have or strive (direct) toward.

In general, well-being has five to eight (five or more) measurable elements (in the context of any individual), each with three properties (identified below):

1. **Emotion** of the type *positive* (happiness and life satisfaction).
2. **Engagement** (the flow cycle).
3. **Meaning** (understanding and purpose).
4. **Relationships** of the type *positive* (social connection and belonging).
5. **Accomplishment** (goal achievement).
6. **Competence** (the ability to exert mastery over the environment).
7. **Health** (mental and physical).
8. **Freedom and contribution** (autonomy and responsibility).

These elements of well-being, and the human needs in general, are what a human free of coercion chooses to do for its own benefit (i.e., this is what a free person would pursue). Well-being's five or more elements comprise what free people will choose for their own benefit.

Each measurable element of well-being must have 3 properties to count as an element:

1. It must contribute to and/or optimize well-being.
2. It must be pursued for its own benefit, and not to get other elements (other benefits).
3. It must be defined and measured independently of other measurements (Read: exclusivity).

There exist both subjective and objective variables in computing [the elements of] well-being measures:

1. **Subjective measure** - Positive emotion is a subjective variable defined by what someone thinks and feels.
2. **Subjective and objective measures** - Engagement, meaning, relationships, and accomplishment have both subject and objective components since someone can believe they have engagement, meaning, good relationships and high accomplishment, and be wrong or deluded.

Therefore, well-being is a combination of feeling 'well' (good, excellent, etc.) as well as actually having meaning, good relationships, and accomplishment.

The three subjective and objective data inputs for well-being:

1. **Self-reported** (prompted assessment of self and social) - life-satisfaction and flourishing (indicators of 'happiness').
2. **Quality of life** (observed and prompted quality of conditions assessment) - 'conditions' flow indicators of surviving and flourishing.
3. **Material sufficiency** (observed material resource and distribution assessment) - 'resources' flow indicators of surviving and flourishing.

Martin Seligman (2002) suggested that well-being research could be organized into a framework for individual well-being and flourishing that built upon and added to his initial categories.

QUESTION: *What are the conditions and actions in life that are highly likely to increase current and long-term happiness?*

According to Seligman individual well-being and flourishing encompass [at least] five independent components (PERMA):

1. Positive emotions.
2. Engagement.
3. Positive relationships.
4. Meaning .
5. Accomplishment.

Each of these components was chosen based on three criteria:

1. It contributes to well-being.
2. It is pursued for its own sake.
3. It is independent of the other components.

A simplified view of the elements of *well-being* may be:

1. **Positive feeling** - emotions and relationships that intrinsically generate feelings of wellness, purpose and motion.

- A. **Positive relationships** - an integrated and sustainable relationship with ourselves, others, and the environment. involvement of, and the ability to establish, strong trust, empathy, affection and intimacy.
2. **Flow (optimal engagement)** - engagement in the highest potential [becoming] cycle of life, the flow cycle.
3. **Meaning** - contribution is how one fits into the lives and information systems of all others. Meaning refers not only to belonging and contribution, but also about understanding all information in potential presence in the world.
4. **Accomplishment** (growth in ability to exert mastery over the environment. Accomplishment allows the individual a measurable way to know their actions are meaningful and to allow them to feel efficacious in their actions. Unlike meaning, accomplishment is more focused on the feedback being given back from the environment than it is on what the individual is contributing (Seligman, 2011).

Elements of *well-being* (detailed view):

1. Positive emotions - regenerative synthesis of a happy state of being.
2. Engagement - ability to grow in potential, and restore ability to express potential.
3. Meaning - understanding and purpose in daily life.
4. Positive relationships - positive interrelationships with other consciousnesses.
5. Accomplishment - goal setting and accomplishment.
6. Health - foundational mental and physical constitution/composition to carry about abilities.
7. Contribution - sharing and working with others.
8. Competence - mastery over environment and autonomy (or self-direction) in navigating life.

The elements of *well-doing*:

1. **Meaning** - Purpose in, and autonomy of, integration.
2. **Sustainability** - Continuity of cycle; regenerability.
3. **Connection** - Understanding; to see and be inter-connected.
4. **Affect** - How you feel; how someone feels.
 - A. **Positive affect** - feelings that "we" want more of for ourselves and loved ones. For example, the feeling of flow and wellness; to feel joy and happiness and pleasure.
 - A. **Negative affect** - feelings that "we" want less of for ourselves and others. For example, the feeling of hate, anger, jealousy, fear.

Elements of self-being; being self-directed and self-empowered (basic view, Tony Robbins needs model detailed in the Social System):

1. Certainty.
2. Variety.
3. Significance.
4. Love & Connection.
5. Growth.
6. Contribution.

Elements of a well self-being (mixture view):

1. Certainty (Meaning & Survival).
2. Variety (Exploration & Discovery).
3. Significance (Accomplishment & Recognition).
4. Love & Connection (Positive emotions & appreciation).
5. Growth (Flow & Creation).
6. Contribution (Positive relations & Participation).

Notes on relationships between the elements of a well self-being:

1. The psychological human needs are different forms of positive feeling (or positive emotions). For instance, someone can feel significant, loved, secure, stimulated, growing, and altruistic.
2. Engagement and flow can represent the interaction between uncertainty and certainty, and can also be represented by the interplay of connection with self, significance, and growth.
3. Meaning and achievement are highly related to significance, but both meaning and achievement can be found with any of the needs.
4. The self-being needs serve as both pathway and gate for the different categories of well-being (Read: PERMA).

The emotional, psychological, and social factors of well-being include:

1. High emotional well-being:
 - A. Positive affect (positive emotions and relationships).
 - B. Negative affect (low).
 - C. Life satisfaction.
2. High psychological well-being.
3. Self-acceptance.
4. Personal growth.
5. Purpose in life.
6. Environmental mastery.
7. Autonomy.
8. Positive relations with others.
9. High social well-being.
 - A. Social acceptance.

- B. Social actualization.
- C. Social contribution.
- D. Social [value] coherence.
- E. Social [information] integration.

When there is high emotional, psychological, and social well-being, then there is highly likely to be thriving. Thriving is a basic sense of feeling that one's life has meaning and that one has what one needs in life to be well.

Eudaimonic psychology recognizes three universal needs (happiness):

1. **Autonomy** - what a human free of coercion chooses to do for its own sake (intention).
2. **Competence** - ability when interacting with an environment, over time and intention, leading to mastery in interacting with the environment.
3. **Relatedness** - what consciousness feeds back as meaning, integration into a larger whole of understandable objects (spatializations) and relationships (conceptualization).

In freedom psychology, freedom is a construct, and only by measuring the elements to a real-world object is there an overall picture (visual, useful meaningfully) of how much (quality/quantity) freedom there is. The measurable elements of freedom are (include), at least:

1. Is there a lack of coercion; is there coercion? Is there the presence of uncoerced choice? Note that this may not be solely observational.
2. Is there a feeling of happiness in one's ability to self-direct their life? Note that this may not be solely self-reported.
3. Is there appropriate challenge in contribution and exploration in life? Note that in concern to self-learning/growth, this is generally self-reported, and that in concern to social-learning/growth, this is generally observational (via standard, common procedures).

NOTE: *In the market where there is a lack of unification and integration, true social-growth (in knowledge of oneself and a material environment that enables well-being) is often mistaken for financial-profit, market and commodity, growth.*

14.1 Happiness measurable elements (categories) of happiness are:

Happiness is a real "thing" (conscious feeling) defined by the measurement of life-satisfaction with three aspects. Positive psychology recognizes three elements of happiness (i.e., the three universal needs of a positive psychological state of conscious-experience):

1. **Positive emotion** - feeling loved and an extensional self-directional state, in the moment). Positive emotion is characterized (represented, signed) by good feelings, and the feeling of being positively energized and self-directed moment to moment [leading to the flow cycle].
2. **Engagement** - being consciously present in the flow of life relationships. Engagement is the actual experience of 'flow', cyclically.
3. **Meaning** - behaving through the awareness of relationships. To have an awareness of a set of relationships is to have belonging [to that set of relationships]. In this sense, meaning is belonging. "To belong" means that "to contribute" will likely feel good, because to contribute to 'the all' means that, at its highest potential, the all can contribute back to "you." contributing to something greater than the individualized self is most likely an act that naturally generates a happy state in individuals among a population engaged in that behavior.

Each of these three feeds into life satisfaction and is measured entirely by subjective report.

14.2 Elements of physiosphere (conscious embodiment):

Elements of the physiosphere (conscious embodiment):

1. **Information** - Informational systems interconnect the habitat, and everyone therein. Humans have information input, process, and output requirements.
2. **Materials** - Spatial materials interconnect all service support systems through the technical service system to becoming architecture that provides appropriate structure to contain the remaining set [satisfiers] of life-support needs. Humans have spatial input, process, and output requirements.
3. **People** - Other conscious embodiments (i.e., other people).

14.3 Survival measurable elements

Elements of survival:

1. **Gravitosphere** (gravity and land for moving on).
2. **Atmosphere** (atmosphere for breathing and moving in).
3. **Water** (*hydrosphere* for planetary life).
4. **Nutrition** (food; *ecosphere* for planetary organism complex).
5. **Shelter** (clothing and building; *archosphere*; architecture; for organism protection).
6. **Power** (energy and temperature; *enersphere*;

electricity; for organism extensionality).

Elements of lifesphere (life service system):

1. **Architecture** (to bound environment).
2. **Water** (to start environment).
3. **Nutrient** (to recycle environment).
4. **Medical** (to restore environment).
5. **Power** (to change environment).

Each element is a mix of materiality and information:

- A. *Material* [re-]cycling coordination and habitat integration.
- B. *Informational* coordination and integration.

14.4 Technical support measurable elements

Elements of technosphere (technical service system):

1. **Data processing** (Computational systems).
2. **Information processing** (Communications & Interface systems).
3. **Materials cycling** (FAIT & Recycling systems).
4. **Transportation cycling** (Distribution & Transportation systems).

Each element is a mix of materiality and information:

- A. *Material* [re-]cycling coordination and habitat integration.
- B. *Informational* coordination and integration.

14.5 Exploratory support measurable elements

Elements of explosphere (exploratory service system):

1. **Technology development** (produce newly applicable, useful spatial-informational systems).
2. **Science and research** (study and discover through to new integrations/conclusions).
3. **Art and music** (social entrainment creations).
4. **Recreation** (social leisure activities).
5. **Learning development** (education and mentoring).
6. **Consciousness** (consciousness exploration, restoration and re-/de-focusing).

Each element is a mix of materiality and information:

- A. *Material* [re-]cycling coordination and habitat integration.
- B. *Informational* coordination and integration.

The conception of 'worthiness' recognizes three universal

needs of living:

1. **Explore** life by exploring what makes life worth living.
2. **Understand** life by understanding what is flourishing, well-being, happiness, life-satisfaction, etc.
3. **Build** life by building the enabling conditions of a life worth living, a 'well' human life.

The conception of life as re-cycling motion involves the universal operationalizable needs of motion: out, in, together:

1. The need for motion to complete.
 - A. To embodied consciousness there is feeling (visceral need).
2. The information about understanding the need for motion to complete.
 - A. To consciousness there is, or is not, informational awareness of need.
3. Together, a spatial-informational system that coordinates our common need to complete motion.
 - A. It is possible to formalize the fulfillment of needs via a habitat service system, brought into existence through the need to contribute itself.

For example,

1. The need for 'nutrition' (material-energy recycling) causes food seeking behavior, and 'flavor' [feeling to consciousness] directs consciousness (...under non-aberrant conditions where flavor may be used to trick consciousness). Can consciousness distinguish between what is optimal.
2. The need for self ('self-development') and social ('contribution') causes information seeking behavior ('exploration').

The conscious conception of real "things" entails three needs:

1. Objects (real objects) - bodily interface
2. Concepts (real concepts) - mental interface
3. Consciousness (self-integration of real objects and concepts) - feeling interface (sensorial-intentional interface)

CLARIFICATION: Possibly, 'reality' to 'consciousness' is the 'chronos' of the combination of 'information'[-alization] (meaning, conception) and 'matter'[-ialization], together. In other words, the conscious moment of 'now' is the integration of space[ialization] and concept[ualization]. The -lization part refers to gaining control (competence and master) over some socio-technical element in the

environment.

The conception of life recognizes three universal needs of conscious existence (What is life?):

**Note that here, consciousness has access to information (a mental/computational state; data-conceptualization), spatialization (a material state; matter), and togetherness/meaning (a social state; relationship-socialization).*

1. **Spatial object** (i.e., space, matter, material, surface) - An entity or type of object? If so, which one?
2. **Informational concept** (i.e., meaning, semiotics, language) - A process? If so, what specific process distinguishes life from all other processes?
3. **Togetherness integration** (i.e., shared method, common process) - The ongoing supra-process of a reality where consciousness expresses through organisms that inhabit environments within biospherical ecologies. Thus, perceptible from the matter side as an entity (an object constructed by matter by natural entities that resists gravity) and the consciousness side as an entity that integrates meaning and is self-directed, and while embodied, can experience greater and lesser states of happiness, pleasure, positivity, flow, etc, and greater on the continuum to lesser states happiness, suffering, negativity, pain, etc.

The elements of human life flourishing:

1. Hedonic well-being - life satisfaction, positive affect.
2. Eudaimonic well-being - meaning, self-expression, growth, accomplishments, competencies, relationships, social participation.
3. Physical health (physical well-being) & energy.
4. Contribution.
5. Domain satisfaction (e.g., work, health, recreation).
6. Relationships, social participation.
7. Impact on ecosystem - accomplishments, generativity, influence.

A basic list of human needs:

1. Physiological needs: breathing, food, water, shelter, clothing sleep.
2. Safety & security needs - health, family and social stability.
3. Love & belonging needs - intimacy with other humans.
4. Self-esteem - confidence, respect of others.
5. Self-actualization - creativity, spontaneity, purpose and meaning, inner potential.

Individual physical "resources" include, in part:

1. Physical health.
2. Physical fitness.
3. Mobility.
4. Energy.

Individual cognitive “resources” include, in part:

1. Ability to focus and concentrate.
2. Memory.
3. Goal setting.
4. Pattern recognition.
5. Problem solving.

Note that physical and cognitive resources influence one another.

15 Additional globally recognized human standards and human development indices

A.k.a., Instruments, human welfare indices, human rights indices, well-being indices, life indices, humanity indices, human scale development indices, socio-economic indices, socio-economic development indices, civil indices, global population satisfaction index, life satisfaction index, global happiness index, etc.

Globally recognized human standards and indices include, but are not limited to the following:

15.1 Common global human standards

Common standards related to human life quality:

1. **ISO 37120** Sustainable Development of Communities — Indicators for City Services and Quality of Life
2. **ISO/DTR 37121** Inventory and Review of Existing Indicators on Sustainable Development and Resilience in Cities
3. **ISO 37151:2015** Smart community infrastructures — Principles and Requirements for Performance Metrics
4. **ISO/TR 37150:2014** Smart Community Infrastructures - Review of Existing Activities Relevant to Metrics
5. **PAS 181** Smart city framework- Guide to establishing strategies for smart cities and communities
6. **PD 8101** Smart cities- Guide to the role of the planning and development process
7. **PAS 182** Smart city concept model. Guide to establishing a model for data
8. **PAS 180** Smart cities Vocabulary
9. **IEEE The happiness screening tool** for business product decisions [https://standards.ieee.org/wp-content/uploads/import/documents/other/ead1e_happiness_screening_tool.pdf]
10. **IEEE The State of Well-being Metrics** from IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems [https://standards.ieee.org/wp-content/uploads/import/documents/other/eadv2_state_wellbeing_metrics.pdf]
11. **IEEE P700** Model Process for Addressing Ethical Concerns During System Design
12. **IEEE Global Initiative on ethics of autonomous and intelligent systems** - Ethically Aligned Design (EAD): A vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems. [<https://standards.ieee.org/wp-content/uploads/import/>]

[documents/other/ead_v2.pdf](#)

13. **NISTIR 7889** Human Engineering Design Criteria Standards. Part 1: Project Introduction and Existing Standards
14. **US Department of the Army Pamphlet 602-2** - Guide for human systems integration in the system acquisition process. (2018). Department of the Army. Washington, DC.
15. **US Air Force AFHSIO-001** Human Systems Integration Requirements Pocket Guide. (2019). U.S. Air Force. Human Systems Integration Office.

15.2 Common global human indices, scales, and surveys

The most valid ("established") indices and surveys include, but are not limited to:

1. Canadian Index Of Well-Being.
2. Bhutan Gross National Happiness Survey.
3. Flourishing In The European Union Survey.
4. Panas (Positive Affect Negative Affect Schedule) Survey.
5. Organization For Economic Cooperation And Development (Oecd) Guidelines On Measuring Subjective Well-Being. [<https://doi.org/10.1787/9789264191655-en>]
6. Great Britain Office Of National Statistics (ONS). [<https://www.ons.gov.uk>]
7. Ryff's Scales of Psychological Well-Being.
8. Rao's Decent Living Standard. (Rao, 2018)
9. Temporal Satisfaction with Life Scale.
10. The Warwick-Edinburgh Mental Well-Being Scale (Wemwbs).
11. World Happiness Report Uses A Cantril Ladder Survey.

Common human indices and their reports include, but are not limited to:

1. Australian Unity Well-being Index World Happiness Report. [[worldhappiness.report](#)]
2. Blue Zones comparison criteria. (Poulain, 2013)
3. Dutch Index of Living Conditions.
4. Human Development Report.
5. Individual Deprivation Measure.
6. Multidimensional Poverty Index.
7. Multidimensional Poverty Index.
8. National Academies of Sciences, Social Determinants of Health. (*Social Determinants*, 2016)
9. NOVA SouthEastern University, quality of life assessment tool/instrument.
10. Psychometric instruments to measure flow [the flow state].
11. Social Progress Indicator Report.

Common, human indicators in the market-State environment include, but are not limited to:

1. Objective indicators:
 - A. Better life index. [<https://www.oecdbetterlifeindex.org>]
 - B. Millennium Development goal indicators. [unstats.un.org]
 - C. Global reporting initiative SDG Compass. [<https://sdgcompass.org>]
 - D. B-Corp. [bcorporation.net]
2. Composite indicators:
 - A. UN Human development index. [<https://hdr.undp.org/data-center/human-development-index>]
 - B. Social progress index. [socialprogressindex.com]
 - C. UK Office of National Statistics Measures of National Well-Being. [<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>]
3. Social media sourced data
 - A. The Hedonometer. [<https://hedonometer.org>]
 - B. World Well-being Project. [<https://wwwbp.org>]

The survey-based measurement tools listed below and others are on the Authentic Happiness UPenn Website [<https://www.authentichappiness.sas.upenn.edu/testcenter>]. Note, each model has corresponding self-report measures that indicate the domains of interest:

1. The Satisfaction with Life Scale: a 5 item measure that captures overall satisfaction with one's life. [https://doi.org/10.1207/s15327752jpa4901_13]
2. Cantril's ladder, a single item life satisfaction measure, commonly used in epidemiological studies. [<https://innobatics.gr/en/cantril-ladder>]
 - A. Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time? The steps of the ladder are, from bottom to top: hopeless, depressed, suffering, struggling, coping, just ok, doing well, blooming, thriving, and prospering.
3. The Subjective Happiness Scale: a 4 item measure of overall happiness. [<https://sonjalyubomirsky.com/subjective-happiness-scale-shs>]
4. The Psychological Well-being Scales (Ryff Scales of Psychological Well-Being), 18 to 84 item measure of autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance. [<https://centerofinquiry>].

org/uncategorized/ryff-scales-of-psychological-well-being/

5. The PERMA-Profiler, a 23 item measure that captures positive emotion, engagement, relationships, meaning, accomplishment, negative emotion, physical health, and overall well-being. [<https://doi.org/10.5502/ijw.v6i3.526>]
6. The Meaning in Life Scale, a 6 item measure that assesses the presence and search for meaning. [<http://www.michaelfsteger.com/wp-content/uploads/2012/12/Steger-Samman-IJW-2012.pdf>]
7. Emotional scales from: "Appendix A: Experienced Well-Being Questions and Modules from Existing Surveys" in "Subjective Well-Being Measuring Happiness, Suffering, and Other Dimensions of Experience" [<https://www.ncbi.nlm.nih.gov/books/NBK179226/>]

3. Human development indices
4. Physical quality of life indices
5. National happiness indices
6. Progress indices
7. Vulnerability and poverty indices
8. Peace indices
9. Well-being indices
10. The Fordham Francis index
11. The blue zone index
12. Etc.

As expressed in early 21st century society, many of these societal-type indices contain ideological biases, fail to include ecological considerations, lack an objective and unified understanding of human consciousness, disregard technological development, misunderstand human nature, and conflate social constructs with physical existence (e.g., measuring years in school as 'level of education'). Structural assumptions often make indices biased and of little use outside of the limited structure within which the index was created.

15.3 Human development

In the context of human well-being (welfare), 'development' means improvement of human well-being (i.e., the progression of the state-dynamic of global human well-being from a lesser state/dynamic to a greater, better, or more beneficial. 'Development' refers to an increase in quality of life (standard of living) over time. However, not every index measures what it claims to measure, or even understands what it is measuring. Without connecting an index to a societal specification, there is no usage of the index to developmentally re-orient that society. And, without a societal specification, there can be no accurate formation of an index. Therein, welfare (in the market-State) is likely to replace the actual and objective meaning of fulfillment, masking it with rights and duties as the basis for life and social justice (as opposed to objective human fulfillment).

15.4 Human index

An index is a tool used to measure and rank an environments' (or systems') expressed level of some conception(s). In general, societal indices measure concepts that are valued relative to that society. For example, the "United Nations Human Development Index" (UNDP, 2009) is a United Nations tool to measure and rank countries' social and economic development based upon schooling ("education"), life expectancy ("health"), and income ("standard of living"). Schooling, life expectancy, and income are valued by entities related to the United Nations, and are therefore, are measured by the Index.

Today, there are many societal-level human relevant indices, including but not limited to:

1. Environmental sustainability indices
2. Environmental performance indices

15.4.1 Survey example: The Authentic Happiness Inventory: an instrument

The Authentic Happiness Inventory (AHI, Seligman et al., 2005) is a self-report measurement for the assessment of global happiness and comprises aspects of subjective and psychological well-being that was especially designed for use in intervention studies. The AHI consists of 24 sets of five statements from which the participant has to choose the statement that describes his feelings during the past week best. (Proyer, 2018)

15.5 Human rights

The U.N. Declaration is worth citing in full to recognize their underlying life-value logic:

1. All humans have the right(s) [given by the State and/or supported by market conditions] to
 - A. *Freedom* of speech and belief.
 - B. *Freedom* from want.
 - C. *Dignity* and worth of the human person.
 - D. *Justice* of treatment; not to be subjected to inhuman or degrading treatment and punishment.
 - E. *Equal access* to public service.
 - F. *Political voting* - universal and equal *suffrage*.
 - G. *Social security* [assistance] and [the resources required for] the free development of self/ personality.
 - H. *Working conditions* that are just and favourable.
 - I. *Rest* and leisure.
 - J. *Threshold conditions* representational of a standard of living adequate for the health and well-being of himself and his [sic] family,

including food, clothing housing and medical care.

- K. *Education* and equally accessible higher education.

The underpinning principle of all of these United Nations stated “rights”, is an onto-ethical ground of each individual [human] perceiving and behaving toward other [human] beings as another and complementary aspect of an implied [moral] whole, enables [human] life against its many-sided oppression.

16 Life access

INSIGHT: *The inequality of our experiences sets the limits of our potential.*

In a community-type society, most of the population lives within and travels between integrated city systems. Note here that there are still populations that live outside these city systems, and, there are structures placed in natural environments for discovery and other human activities.

16.1 City parameters

A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life [need] and in developing their maximum potential.

City parameters includes:

1. A clean, safe physical environment of high-quality (e.g., high quality housing).
2. An ecosystem that is stable now and sustainable in the long-term.
3. A strong, mutually supportive and non-exploitative environment.
4. A high degree of public participation in and control by the public over the decisions affecting their lives, health, and well-being.
5. The meeting of basic needs (food, water shelter, income safety, and work) for all the city's people.
6. Access to a wide variety of experiences and resources, with the possibility of multiple contacts, interactions, and communication.
7. A diverse, vital and innovative city economy.
8. Encouragement of connectedness with the past, with the cultural and biological heritage, and with other groups and individuals.

Strategies to achieve city parameters:

1. Planning process based on ecological principles.
2. Varied social and economic opportunities.
3. Minimum intrusion (of freedoms).
4. Principle of closed system (e.g., health is reduced by traffic, so design without traffic, if traffic, then redesign).

16.2 Access to societal structures that enable education (learning; intrinsic life-value needs)

The higher level capacities of human thinking require not

only love and care at a young age, but also, education in the form of access to information and activities by which some has the opportunity to become a self-directed life-long learner. Herein, education is the richer development and more refined application of the mental and physical capacities of human social self-consciousness. Education requires not only access to information, but also the ability to express information freely.

1. To be deprived of education is to be cut off from the essential social condition of living a fully human life.
2. To be deprived of the ability (i.e., an inability) to test the given against the possibly better is to be harmed in human capacity to think and act in creative and novel ways that expand the life-value of society.
3. To be deprived of the ability (i.e., an inability) to access the unified information resources of one's society leads easily to a life reduced to the mindless re-enactment of scripts (belief systems) written for them by the socially powerful and others for the sake of meeting their own needs.

NOTE: *The general research suggests that economic work motivation is a need (or desire) that is goal driven resulting in some action, where a highly motivated person could outperform a more technically competent one.*

16.3 Access to societal structures that enable beautiful expressions (aesthetics)

NOTE: *It is [in part] the life-value of aesthetics that ensures the preservation and care-taking of wild space.*

Human beings are capable of experiencing both the natural and the socially constructed world as aesthetic (or beautiful). Beauty is an emergent property of material organization that requires human experience in the presence of specific patterns of material organization. The relevant material relation is not just between the things in the environment, but between the living being as the subject of experience and the things (configurations of sensation, most notably, the physical) in the environment. Here, there is the idea of creating a biomimetic aesthetic throughout the exterior and interior environmental spaces through which humans pass; the concept of a "resonant biomimetic aesthetic" is on of the creation of physical visual spaces as aligned with nature, inclusive of mineral-crystal and organic forms (biomimetic) forms, wherein similar patterns are expressed using resonant biomimetic-cymatic frequency forms.

It may be argued that there is no universal human capacity for aesthetic experience (or evaluation).

However, the human experience of "awe" in the presence of natural forms has inspired creation and action in people across time and cultural spaces. Further, if the universe has a pattern to its structure, and humans are some sub-set expression of that pattern, then it is likely that expressions of that pattern in objects and spaces will uplift and evoke a sense of beauty (or harmony) in a human observer. The value of beauty cannot be understood reductively, since to reduce the beautiful object to its [abstract] material constituents (e.g., rock and water, tree and hills, sound waves, ink on a page, etc.) eliminates the relationship of the object to the conscious observer.

The life-value of the aesthetic capacity of humankind lies in its potential to uplift (and harmonize) the experience of consciousness, bringing it into greater alignment with its highest embodied potential. There is a physical reality to which consciousness relates through an aesthetic dimension to experience. An aesthetic environment enriches life insofar as it frees thinking and activity from calculating the ways in which things may be useful to itself and others.

An entire habitat can be created to meet the human need for aesthetics throughout. If there are no beautiful objects or spaces, there can be no experience of beauty (the need will not be met). The existence of beautiful spaces and objects can be created or threatened by social processes. The life-requirements that must be satisfied if the aesthetic capacity is to be developed and enjoyed largely involves personal and societal commitments to put effort into the cooperative creation and sustainment of beauty, and the preservation of already existing natural beauty.

The life-requirements involved in the development of the aesthetic capacity is both subjective (aesthetic cultivation) and objective (generation and preservation of natural patterns). The aesthetic sense requires cultivation (self-directed harmonization) more than education (self-directed learning). It requires individual freedom to release trauma and limited conditioning in order to align more greatly with patterns representative of a high degree experiential fulfillment. Or, said in other way, it requires individual freedom to release attachment from artificial limitation in order to resonate more greatly with patterns reflective of a higher potential capability and fulfillment.

Unless these life-requirements are met, the aesthetic capacity does not develop fully, and humans are harmed by losing connection with the environment's potential ability to uplift and inspire, which is not instrumentally useful or commercially exploitable. The harm lies in the impoverishment of an individual's sensibility caused by a one-dimensional relationship with the environment (i.e., only an instrumental, and not aesthetic, relationship).

There is a serial order of priority between physical-organic and social (socio-cultural) life-requirements, these prioritizations are reflected in societal decisioning. Physical-organic life-requirements are basic to human life in a way that social (socio-cultural) life-requirements

for the existence of beautiful natural spaces and social artefacts are not. There is no 30 day fatality from aesthetic starvation.

NOTE: *A society that encodes a monetary-value system is unlikely to express a high-degree of aesthetic capacity due to the sprawl of the system as it inefficiently consumes wild space.*

16.4 Access to societal structures that enable caring and working, together (coordinating)

NOTE: *Future generations don't have to grow in their care through punishment, and then a percentage choosing compassion and appreciation, instead they can grow in their care be experiencing care from their environment.*

Just as there is intrinsic life-value to work ("labour"), beyond its instrumental value, so too is there intrinsic value to caring, in the life of the one who cares. When human beings care about one another, they increase their own life-value by expanding the number of affirmative connections between themselves and other humans, and therein, they increase the life-value of others by acting toward them in such a way as to enable them to express and enjoy more life-value in their own lives. In a caring relationship, others are encountered as people about whom we care, and not as threats to be destroyed [in competition].

The capacity an individual requires to exist in a caring relationship is the capacity to live in reciprocity with others, to care about (i.e., take interest in) others as unique and unrepeatable bearers of self-determined, free life; and also, to allow oneself to be so cared for, and thus, to form social relationships, as far as possible, by the goal of expanding mutually enriching forms of understanding, interaction, and universal fulfillment of life requirements. Love and care enable individual humans to develop healthy dispositions toward other people - to value them as unique life-bearers and to develop mutual relationships with them.

All humans begin life in the state of an organism that requires, for its full development, wise and systematic love and care. A caring-loving experience is a requirement for healthy (fully adaptive) emotional development, from which profound flow states of capability emerge. If people are to be able to form non-violent, non-exploitative, non-instrumental, caring relationships with other people, then they require non-violent, non-exploitative, and non-instrumental care and love from adults while they are young. Healthy emotional development becomes the capacity to interact with others in a way that demonstrates genuine concern for their self-development.

Being loved and cared for, especially while young, is a shared social (socio-cultural) life requirement, because without it the human capacity to love and care for others

is degraded. Since the degradation of this capacity does not eliminate the existence of others from one's life, the lack of development of this capacity leads to a higher probability of conflict and the social pathologies of violence and the indifference to suffering it engenders. Just as organic life-requirements can be satisfied in multiple ways and with some degree of alignment, so too can this human life-requirement. Since the structures of relationship in which adult care and love are manifested toward children can vary, it follows that the ways in which this social requirement of human life may be fulfilled, can vary, from culture to culture. Human capacities for reciprocal caring are essentially intrinsic life-values, whose development depends on the satisfaction of the life-requirement for loving and caring family and friendship relations.

As a type of society, community encodes structures to generate and sustain caring relationships, as the model of [applied] human relations. The social (socio-cultural) life-requirements for the expression and enjoyment of the capacity to care can be determined by asking which societal structures ("institutions") are involved in the development of a caring personality.

There exists a set of economic relationships ("institutions") between the natural life-support system and human social life-development. Similarly, family organizations ("institutions") connect the instinctual inheritance of human beings and the social cultivation of human emotions.

APHORISM: *No one can flourish who does nothing of value for others.*

16.4.1 Intrinsically life-valuable work

NOTE: *Well-organized societies ensure that only physically necessary and desired labour is performed, so that there is time to fully express our highest potential nature.*

Intrinsically live-valuable work is the second universal social (socio-cultural) requirement of human life. There is a shared human life-requirement for an economic systems that satisfy the conditions for workers ("labour's") realizing its intrinsic life-value. In order to fulfill the requirement for work in a community-type habitat service system, the work that people perform must not only contribute as a function to social continuation, it must also be expressed and enjoyed as an individually meaningful human effort that is consciously chosen and contributes something that others' lives require.

Co-operation and mutual commitment enable the growth of higher-level human thought and creation, becoming the development of more capable expressions of humanity (and that which it is becoming). Here, work is doing what is of value to others and meaningful to oneself. A habitat work structure enables people to contribute to the provision of universal life services (consistent with each person's enjoyment of them). The value of work for others is defined by its contribution

to the provision of the universal services each and all require to live as human.

The “vocation” of each individual is to do what s/he can that is of life-value to others and of life-interest to self. This could be viewed as giving back into what enables the humanity of each. All work involves some degree of transformation of existing materials (some degree of ingenuity, creativity, or just effort). Therein, work can have intrinsic as well as instrumental life-value. Economic work (i.e., “labor”) produces objects and services that fulfill organic and social requirements.

The primary value of work (or labor) is not its “economic” value (as in, the production of exchange values), but its direct ability to effect organized and predictable change in ourselves, our lives, and our environment(s).

Transparency and cooperation are required to ensure that only necessary work is performed. Humans require work to be individually meaningful and consciously contributed.

All economic work in community is contribution-based and part of a larger whole. In community, work is determined through decisioning, explained by the transparently unified societal model, and carried out in the materialized world through coordinated co-operation.

To suffer forms of work that are devoid of intrinsic life-value for oneself and one’s society is to suffer in one’s humanity. Humans alienated in their working lives represents a significant area of insufficient fulfillment in early 21st century society. For any person or group to be reduced in their working (labouring) activity to a mere tool of system-requirements is to be harmed in their human capacity for creative self-realization and productive contributions to the well-being of themselves and others.

To suffer forms of work that are devoid of intrinsic life-value for oneself and one’s society is to suffer in one’s humanity. For any person or group to be reduced in their work (“labor” activity) to a mere tool of system-requirements is to be harmed in their human capacity for creative self-realization and productive commitments to the well-being of others.

Where people are reduced to mere tools, they are objectively harmed in their human capacity for intrinsic life-valuable activity. There is therefore a shared human life requirement for economic decision systems that satisfy the conditions for workers (contributors, labourers) realizing intrinsic life-value. In other words, community is a structure that facilitates individual consciousness in realizing [some of] its life-value by contributing to activities that maintain and advance the community).

Societal conceptions of work, given that extrinsic forms of motivation have been shown to repress or erase intrinsic forms of motivation:

1. A constructive activity to produce life-value for others as a goal - what healthy humans are impelled to do.

2. Adam Smith conceived work as a “dis-utility” - what one has to sell into another’s property to survive.
3. Work is something done for reward.
4. Work is something done to avoid punishment (coercion).

In the market, money is a socio-economic unit (of time) of work, which represents the time someone has completed giving their body over to another for necessary socio-economic exchange (a.k.a., laboring). Money is the object-expression a market-based society uses to represent a unit of power over (or, control over) others (i.e., a unit of potential power over another, authority).

The intrinsic life-value of work is not just the particular capacities developed in work life, but in work being the way in which individuals create and fulfill a sense of belonging [of social well-being] through contribution at all scales of society.

There is intrinsic life-value in:

1. The capacities that work allows someone to develop,
2. The extent to which it allows one to develop them, and
3. The social self-consciousness of oneself as a contributing member of society.

Workplaces may express different conditions given different societal configurations:

1. **Authoritarian workplaces:** Where the primary value of labor in the market is the production of exchange values, *power-over-others protocols*.
2. **Cooperative workplaces:** Where the primary value of work in community is its instrumental and intrinsic life-value, *togetherness protocols*.

Service types by societal configuration:

1. In the market, the top-level human (synthetic, controlled) services are generally called ‘**industries**’, more fully, ‘**corporations**’ (States are corporations), ‘**business entities**’ (private entities), and ‘**State associable entities**’ (government entities, public entities).
2. In community the top-level human (synthetic, controlled) services called ‘**habitat services**’, more fully, ‘**habitat service systems**’.

17 Life Potential

A.k.a., Actualization potential.

Actualization potential is the conscious-self need for actualization upon potential. 'Actualization' is the expression of the potential in oneself (one's life) leading to self-development [through uncertainty]. When these needs are met, the consciousness is likely to experience a [greater] sense of wholeness and fullness as a human being. Per actualization needs, behaviour, in this case, is not driven or motivated by deficiencies, but rather, one's desire for personal growth and the need to become all the things that a person is capable of becoming, social contribution and personal development being two important variables.

Other terms for 'actualization' include, but are not limited to:

1. **Love and belonging and extentionality** - connecting with oneself and all others in togetherness and seeing oneself in others.
2. **Esteem** - the internal combined feeling of self-love, self-worth, and self-ability [to overcome challenge and grow].
3. **Self-actualization** - the internal drive, physical ability, and environment opportunity to fulfill one's full potential as a human.
4. **Transcendence** - *experienced through biology into consciousness as the need (desire) to connect with something beyond one's identified self.*
 - A. *Transcendence subjective measure [of well-being]:* quality of life (subjective well-being) at time of survey data collection.
5. **Cognitive (intellectual, mental)** - *experienced through biology into consciousness as the need (desire) to know and understand, to record and calculate (as sub-processes). Calculation can be automated. A computer is a computational system, which performs calculations. When a society develops a digital computational system, how does it apply this resource? Is it applied commonly to meet everyone's common need for understanding, and for recording and sharing that understanding, or is it applied otherwise? Of note, environmental conditions and conditioning affect an individual's physical ability to do these things on their own.*
6. **Aesthetic (psychological)** - *experienced through biology into consciousness as the need for natural symmetry and order (i.e., beauty), and other structures that promote optimal feelings.*
7. **Environmental aesthetics** - It could be said that there is the study of environmental aesthetics, which explores the meaning and influence of environmental perception and experience on

human life.

8. **Nature** - Natural environments turn out to be particularly rich in the characteristics necessary for restorative experiences. The interactions of natural settings and childhood development are not completely understood but the absence of this interaction has been dubbed nature-deficit disorder. Indigenous peoples have been communicating the necessity of incorporating more nature into the lives of those in early 21st century society for decades. Interactions with nature and its ecosystem services have been shown to enhance cognitive and problem-solving abilities, promote independence, focus attention, promote better environmental awareness, generally benefit early childhood development, and yet, these are obvious results.

9. **Social identity** - as defined values.
 - A. [Social] Identity is defined values.

17.1 Access potential

I.e., Together in a biosphere, a global population requires access to materially regulated space-time; wherein, there is human actualization.

Access potential is the self-conscious desire to gain and sustain a self-conscious access level to materially regulated space-time. In any society there must be a way for individuals to regulate social contact, and have that understood and abided by among each other (a.k.a., personal boundary):

1. **Current personal space** - the immediate space surrounding a person (or individual system), in which he or she feels belongs (sole, discretionary access) to them. This buffer zone is used by the individual to stay comfortable in various situations. The personal space is considered adjusted in size depending on various factors, mostly socio-psychological (e.g. social settings or by means of protection).
2. **Designated personal space** - the space, given location as part of a/the habitat service system, a person feels belongs (sole, discretionary access) to them. A designated personal space (e.g., bedroom with curtains closed, dressing room) may provide someone's current personal space the condition of privacy among a social population. The dwelling, for example, is an intangible location that offers the potential for privacy, a buffer zone, by controlling the closing out of the outer social environment.

In a general city living situation, most people want some people to have access to them some of the time, and it is necessary to control the number of people who

see them in certain contexts. In the context of needs and satisfiers, privacy may serve as a satisfier for the needs of leisure and freedom. The presence of any structure indicates the potential for some potential elevation of privacy. In application, the notion of privacy is most commonly applied to individual's dwellings and personal information spaces. The living environment provides physical separation from the outside world by the use of walls. While separate rooms may provide privacy between persons living together. From the leisure perspective living areas provides privacy in the form of intimacy, spaces of closeness and subjective and/or non-functional (personal) surroundings. Private space and withdrawal from public situations provides a feeling of freedom. The physical barriers play a major role for achieving privacy. As individuals need to withdraw from social situations, the living area may provide such a service. The walls and the doors act as physical barriers that accommodate the privacy as a satisfier. This is seen both from a public point of view, but it may as well be from people living together. The furnishing and room separation plays a significant role in the perception of privacy and withdrawal in a living environment. The exterior walls provide the inhabitant with separateness from the outer environment, while the rooms and the doors provide privacy between the inhabitants. The physical barriers of the home, in particular, offer the opportunity for an individual to withdraw from what is called social observation, or in an institutionalized manner, surveillance.

Privacy is enclosure, and one of its most relatable analogies is a 'door'. A 'door' closes out; the wall encloses. The walls and the doors provide different functions. As the wall is a set perimeter for appraisal or enclosure, the door provide the user with an option of closing people out or inviting them in. The wall is the common, interfaced structure. A similarly idea, 'withdrawal enclosure' may be a significantly necessary function of a dwelling, not only from the outer environment, but also for the co-inhabitants. However, the use of walls can cause an undesired effect in the inhabitants by extreme enclosure.

QUESTION: *Are there sufficient growth and contribution opportunities?*

17.2 Contribution potential (to the intersystem team)

INSIGHT: *When the structure of society nurtures fulfillment, then individuals among that society are likely to nurture the continuation and growth of the society through contribution.*

Contribution potential is the self-directed/self-educated desire to gain and sustain placement on InterSystem Teams. Humans are a social organism in that all individuals have an innate desire to belong and be needed. Work, by creating some thing [of value] for

others, fulfills the feeling of being needed and of desiring a helpful social role in the lives of others.

Community represents a structure that facilitates the full development of individual self-capacity to identify with, and care about, other's [well-being]. Caring relations (versus power-over-others or transactional relationships) as a model for social relations, is likely to increase overall life-value, because the outcome of successful caring (as a goal) is the elevation of the object of care to a better life-state, without loss of life-value of the one caring.

Through contribution individuals reciprocally enrich each others lives, as opposed to the application of exclusivity and gain over others. A contribution-base structure generates a space to care about others as unique and unrepeatable bearers of a similar pattern of life, to allow oneself to be so cared for, and thus to decide material relationships, as far as possible, by the goal of expanding mutually enriching forms of interaction.

When human being care and/or appreciate one another they increase their own life-value by expanding the number of affirmative connections between themselves and other humans, and they increase the life-value of others by acting toward them in such a way as to enable them to express and enjoy more life-value in their own lives. Caring relations as a model for human relations (whether they be familial, sexual, or friendly), such that when we do encounter others, we encounter them as people about whom we care, and not threats to be destroyed.

In contrast, market-based, transactional relationships where zero-sum competition is the dominant mode of social relationship must produce, over time, less, rather than more life-value than co-operation and care; in competition there are must be losers, and to lose when life-value is at stake is to suffer a diminution of life-value.

Work (a.k.a., InterSystem team work, engineering, and economic work) is an activity with the direct potential of doing or creating some thing [of value] for others (or another).

1. In the market, work is an activity that generates money. Therein, leisure is an activity that does not generate money.
2. In community, economic work (i.e., socio-economic work) is an activity with the direct potential of doing or creating some thing [of value] for others (or another) and oneself.

More fundamentally, work (intersystem team engineering, or other) is the societal basis for shared social (socio-cultural) life-requirements and service. Work that is satisfying to those who do it and of value to others. Work as that which is of value to others and of interest to the self.

The social requirement of human-life work includes:

1. Intrinsically life-valuable work (social or economic