

THE ENNEAGRAM MAP OF THE HUMAN PSYCHE

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Abstract

This article presents proof that the Enneagram topology constitutes a map of the human psyche.

The significance of this finding is that it elevates the Enneagram from being merely one of a number of psychological models to a true map of the human psyche. The main insight gained is that just like all moving creatures need limbs like arms, legs, fins etc. to propel them, intelligent beings, need functions corresponding to the nine Types for mental processing, and secondly, that the functions are derived from two basic abilities, namely to create and connect new ideas, and to connect one's ideas to the ideas of other beings.

Introduction

In 1514 Copernicus formulated his theory of heliocentrism—i.e. that the planets revolve around the sun. One hundred years later, Galileo Galilei went to Rome to persuade the church authorities not to ban Copernicus' ideas and was incarcerated because the ideas were not accepted. Another seventy years later, Isaac Newton finally published the principles of gravitation that provided the necessary support for Copernicus' profound ideas.

Students of the Enneagram believe that the Enneagram is a true model of human behavior. Theories built on the three centers provide explanations for the variations between the nine Types – similar to Copernicus' model of *how* the planets move relative to one another. More than half a century after the current formulation of the Enneagram Types, it is still not the dominant model of reference in Psychology, though.

This article describes the underlying mechanisms that explain the Enneagram topology—similar to the way the laws of gravitation explain *why* the planets move the way they do. In doing so the article shows that nine functions corresponding to the nine Types are essential for all communicating mental beings and thus presents proof that the Enneagram topology constitutes a map of the human psyche.

It explains that the Enneagram model differs fundamentally from other psychological models, and discusses related work.

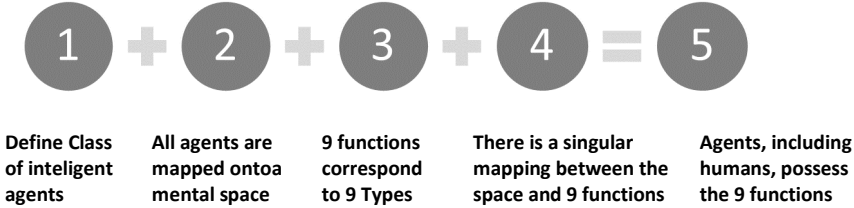
Approach

In order to prove that the Enneagram topology is a true map of the human psyche, I will define the concept of an *intelligent agent*.

I will then explain that:

1. The behavior of intelligent agents can be mapped onto a two-dimensional space defined by spectra of adaptability and connectedness. Inclusion in the space is a necessary and sufficient condition for all intelligent beings.
2. Each of the nine Types of the Enneagram is associated with a function that covers a part of the two dimensional space, and collectively, they cover the whole space.

In other words, each behavior of an intelligent agent is mapped onto a point in the space, and thus to a function of the Enneagram. Conversely, the nine Types of the Enneagram are each associated with a function—necessary for the functioning and, ultimately, survival of not only the human species, but of all intelligent agents.



A Theory of the Enneagram Topology

Intelligent Agents

To ensure clarity, I will use the term *intelligent agent*, applying a definition that is narrow, but sufficient for our purposes.

I will use the term *intelligent agent*, or simply *agent*, to include three kinds of entities that share the following capabilities:

- They can reason
- They display choice (free will) (i.e. agents are so-called *purposeful systems*, according to Systems Thinking)
- They can communicate

The three entities are:

- Human beings,
- Entities like organizations—typically referred to as legal entities - encompassing teams of human beings who voluntarily collaborate towards a common goal (so-called *social systems*)
- Intelligent computer systems (including intelligent robots)

The reason for defining the term *agent*, is to prove the universality of the model, by using a spectrum of entities which includes, in addition to human beings, more complex entities (organizations, teams) as well as simpler ones

(computer systems). Furthermore, computer systems extend the principle to non-biological systems and provide handy metaphors to explain some of the concepts.

The explicit intension of our examples and explanations is to convey that the principles apply equally to biological and non-biological systems.

Personality Types versus functions

A personality type refers to a set of traits characterizing a personality type or style, which allows:

- Identification of an individual as being of the type, or not, and also allows
- Predictability in the sense that the certain behavior patterns can be expected once a person has been identified as being of a type.

The word *function* is used here in a similar sense as functions like the internal audit function, training, or legal functions of an organization, or the cardiovascular or digestive functions of the human body. The crux of this article is the realization that the nine Types can be generalized to nine definitive functions for intelligent agents—i.e. they are the *essential* functions and they are *necessary* and *sufficient*. Don Riso (2011) opted to express the generalizations as nine sets of *core principles* of *Nine Domains*, but the broad concept is similar, and played a major role in the development of the ideas presented here.

When we think of an Enneagram Type, we picture a complete little behavior model including movement in the direction of integration and disintegration, behavior at different levels of healthiness, behavior of other Types—as captured by the Hornebian groupings, and discussed in detail by Riso Hudson when they discuss, for example, Type Six:

Sixes have two modes of functioning: one is the thinking mode, the other is the “duty mode”. When Sixes are in duty mode,—when they are driven by some combination of their Feeling and Instinctive Centers—they resemble Ones and Twos. They are active, service-oriented, committed, and highly responsible to that they feel they must do. (Riso & Hudson, 2000)

The latter superego related behavior stems from the association with the Feeling Center and contributes to Type Descriptors of Type Six like *The Loyalist*. A function is just that, a *function*. A function can be strong or exhaustive, for example, but not unhealthy. One should, therefore, think in terms of the descriptions of healthy behavior of the Enneagram Types when reading the following sections, rather than so-called *average* behaviour. However, the dynamic of the Enneagram model as a whole remains intact.

Two dilemmas

I now discuss two dilemmas that every intelligent agent is ultimately faced with. I use this as a point of departure to define the two dimensional space for mapping behavior of agents.

By definition the term *dilemma* applies only to entities which display choice!

Dilemma #1:

The evolutionary nature of the universe implies that things are not static. They are constantly changing. In fact, change is happening faster and faster all the time (Ackoff, 1999). Therefore, all living entities have a choice to either “adapt or die”.

The problem is that organisms’ prosperity requires constant maintenance and growth, and adaptation detracts from these activities, because it requires them to invest time and energy in adaptation. In other words, there is a conflict (a trade-off) between adaptation and the regular acts of growth and maintenance.

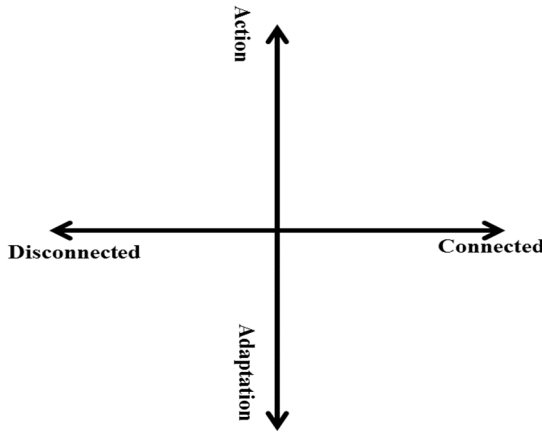


Fig. 1

Dilemma #2:

Entities which display choice, i.e. free will, are faced with conflict of interest, stemming from the fact that they compete for resources or they may have conflicting goals.

This leaves them with a choice between opposing each other or collaborating, i.e. a choice between attending to their own interest, and consideration for the ‘other’.

Two Spectra

These two dilemmas imply that agents can be mapped on a space defined by two spectra (Fig 1):

1. A spectrum from exclusive focus on *action* to exclusive focus on *adaptation*. The term *action* denotes the concept of: normal operation, repetition of previous experience.
2. A spectrum from being *disconnected* to being fully *inter-connected*. On the one extreme are agents “minding their own business,” disregarding the needs and goals of others. On the other extreme, are those displaying constant consideration.

Agents that are connected, normally share the same goals. On the contrary, agents would rarely maintain a relationship, if there is no benefit/pleasure involved. Acting in collaboration, means that agents are aligned with regard to their goals, and are operating as virtual teams.

Since both the two ends of the spectra are the opposite of the other, there is a *trade-off* between the attributes, i.e. the one attribute increases as the other decreases. Since we are concerned with *mental* entities I will refer to this space as the *mental space* (see Fig. 1).

Characterizing the mental space

By characterizing the mental space, I mean finding a credible, if not obvious, partitioning of the mental space. I use the mental space as point of departure and derive descriptions of how agents that belong to particular regions of the mental space might conceptually look or behave like.

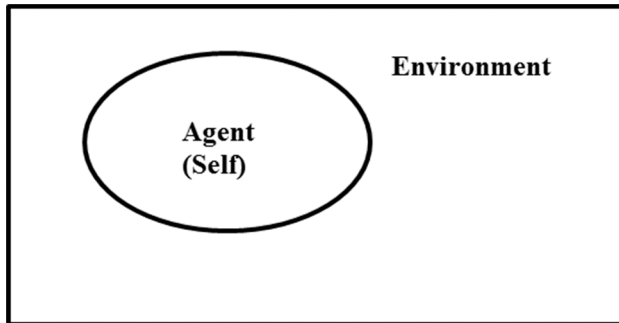


Fig. 2

I start off by employing a basic principle applying to intelligent agents as defined in Systems Thinking (Ackoff, 1999). Assuming that the agent and its environment are mutually exclusive and exhaustive entities (see Fig.2), there are four kinds of adaptation, i.e. there are two kinds of changes that can occur and there are two possible responses to each (which seems fairly self-evident) (see Fig. 3):

1. Environment—Environment adaptation

A change occurs in the environment, and an agent responds by changing the environment. For example, the room is getting warm, and it responds by turning on the air conditioning.

2. Environment—Self adaptation

A change occurs in the environment, and the agent responds by changing itself. For example, the room is getting warm, and the agent goes to another room.

3. Self—Environment adaptation

A change occurs in the agent, and the agent responds by changing the environment. For example, the agent is getting the chills, and it turns up the heat.

4. Self—Self adaptation

A change occurs in the agent, and the agent responds by changing itself. For example, the agent is getting the chills, and it takes a pill.

The four categories are subdivided into finer categories by introducing five intermediary categories in between the above four. The intermediary categories constitute a mix of the kinds of adaptation and connectivity of the initial four, and reflect a transition between them (see Fig. 4a). As a next step, the categories are overlaid onto the mental space and can be interpreted as zones (subareas) in the mental space (Fig. 4b).

<p>Env - Env Act upon stimulus from environment Change the environment</p>	<p>Self - Env Act upon feelings Change the environment</p>
<p>Env – Self Act upon stimulus from environment Change Self</p>	<p>Self - Self Act upon feelings Change Self</p>

Fig. 3

The outcome is interesting: the (discrete) subareas, derived from first principles in Systems Thinking, matches the (continuous) mental space. This will become more clear in the section on “function definitions” when nine functions are defined, corresponding to the nine Types, which fit into, and exhaustively cover, all the areas in the mental space. But first some of the descriptions used in Fig. 4a need to be clarified.

Interpretation of the descriptions

Acting upon feelings: Internal changes are referred to as *feelings*—to capture the fact that the internal changes manifest as physical and emotional changes. These physical or emotional stimuli are alarms triggered by the agent’s physical and mental faculties, warning the agent of changes in its internal status. We are

focused on mental processes and, therefore, consider an alarm of a physical change that is triggered in the mind (i.e. a pain signal) as a feeling.

Self: As one moves from left to right in the mental space, the term Self includes the feelings communicated by or to the agents a given agent is connected to. Connectedness thus implies an extended Self. At the left extreme of the disconnected-connected spectrum we find totally isolated agents, and on the right hand extreme would be agents who are connected to each and every other agent which share the same goals.

Changing Self: Making a mental change can basically mean only one thing: that the mind is updated with new information, i.e. “changing one’s mind”. The term updating (or “downloading”) can be used to describe this, but what happens effectively, is that either (1) new information is received, (2) or information the agent had is updated/corrected. Technically both are a form of learning and may include changing the agent’s behavior. The changes in the bottom row, therefore, all comprise of analysis and learning. Adaptation is a kind of learning.

<p>Env - Env Act upon stimulus from environment <i>Change the environment</i></p>	<p>Both - Env Act upon both <i>Change the environment</i></p>	<p>Self - Env <u>Act upon feelings</u> <i>Change the environment</i></p>
<p>Env - Env/Self Act upon stimulus from environment Change environment and/or Self</p>	<p>Both - Env/Self Act upon both Change environment and/or Self</p>	<p>Self - Env/Self <u>Act upon feelings</u> Change environment and/or Self</p>
<p>Env - Self Act upon stimulus from environment CHANGE SELF</p>	<p>Both - Self Act upon both CHANGE SELF</p>	<p>Self - Self <u>Act upon feelings</u> CHANGE SELF</p>

Fig. 4a

I use different fonts to help the reader track the different ‘themes’ as one goes top-down or left to right in Fig. 4a. I will use the word *template* to refer to the abbreviated descriptions of the kinds of adaptations as shown in Fig. 4b. For example, “Env –Env” is one such template.

Function definitions

I composed a set of function definitions (i.e. *domain* definitions, *a la* Riso) – one for each Enneagram Type.

This was done with input from the following sources:

- Descriptions provided by Riso & Hudson in Chapter 7 entitled “The Centers” which explains how the imbalances of and interferences between the Centers influence behavior (Riso & Hudson, 2000).
- Descriptions developed by Don Riso (2011) and provided as part of a Nine Domains training course, offered by the Nine Domains Group.
- Descriptions that I developed by using the characteristics of the mental space as a guide.
- Input from the intersection between the fields of knowledge representation and Genetic learning (Oosthuizen, 1987)¹.
- Concepts from so-called *concept lattices* (Oosthuizen, 1989).

The list of nine function descriptions are listed in nine shaded frames below. I list them in an order reflecting a logical reasoning process while assigning descriptions to sub-areas of the mental space one by one (similar to completing a puzzle).

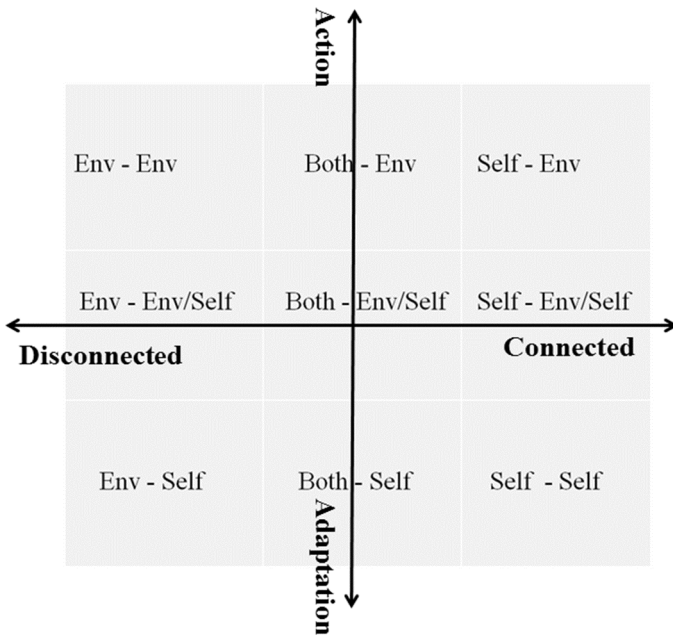


Fig. 4b

¹ The concepts from these last two sources are of an interdisciplinary nature. They are included by reference only since meaningful coverage would not be feasible. A brief overview is provided under *related work* in Section 3.

The goal is

- to interpret the meaning of each of the templates in Fig. 4b against its position in the mental space, and
- to determine which one of the function descriptions of the Enneagram match the meaning of the sub-area in the mental space (Fig. 4b), referring back to the descriptions in Fig. 4a.

Each frame firstly contains a term identifying the *function* (shown in bold type). The term is selected for the purposes of this discussion only, and used to convey the principle, rather than to be the 'last word' on the matter. Secondly, alternative terms are listed, followed by terms used by Don Riso specifically. A brief explanation is provided for the selection of the particular term, and finally the title used in popular publications—in those cases where the title reflects a function. *Eight(s)* is used to refer to *type* Eight, *function* Eight or agents performing the function Eight, for short.

Two striking correspondences that are noted first, are the function descriptions of Eight and Two.

Eight

Eight fits the Env-Env template, meaning: Act upon stimulus from the environment, change the environment.

Eights have a clear focus on external stimuli and the tendency to initiate decisive action.

Function 8 - Decisive action

Also: execution, production, growth

Explanation: Often associated with leadership, since to lead means to act first. Eights tend to consider information dispassionately, and are driven by their instincts; they rapidly proceed to action. Until tangible action has been taken, nothing has happened in their view.

"Eights are strongly connected with their physical energy, with their vitality, and with the immediacy of their experiences and reactions: they have an impulse and go with it. The instinctual energy is always pushing them into action and makes it difficult for them not to assert themselves." (Riso & Hudson, 2000, p.268)

Popular title: Leader/Challenger

Two

Two fits the Self-Env template, meaning: Act upon feelings, change the environment.

Two's act on their feelings and respond through action.

Function 2 - Compassion

Also: consideration, collaboration

Riso: Nurturance and connectedness

Explanation: Twos tend to be driven by their feelings. “Two’s demonstrate their loving feelings through action – by doing things for people. Two’s begin to ‘do their feelings’ instead of ‘feel their feelings’. The Feeling Center of the Two is interfering with the *Instinctive Center*”. (Riso & Hudson, 2000, p.258)

Popular title: Helper/Enabler

The next helpful clue, is the three *Change Self* templates at the bottom part of the mental space, which are indicative of *learning*, as explained.

Five

Five fits the Env-Self template, meaning: Act upon both (any stimulus), change self.

Five is the most noticeable, known for its tendency to investigate and learn from everything.

Function 5 – Learning

Also: adaptation

Riso: intelligence, contextual awareness

Explanation: Fives are often referred to as investigators. Fives are known to have a preference to gather as much as possible data and analyze it, i.e. make sense of it, learn from it. “Because they do not impose their thoughts on reality, very healthy Fives are able to discover the internal logic, the structure and interrelated patterns of whatever they observe.” (Riso & Hudson, 1996, p181).

Popular title: Investigator

Four

Four fits the Self-Self template, meaning: Act upon feelings, change self.

Four’s introspective approach (i.e. studying and learning from its feelings) is a distinctive pattern.

Function 4 - Self-expression

Also: self-reflection, consciousness, self-individualization

Riso: self-repair, individuality

Explanation: The Four is sensitive to its feelings and analyzes its feelings. Fours, being known for their introspection, fits this description well. “Fours spend much time thinking about their identity and value.” (Riso & Hudson, 2000, p.262)

Six

Six fits the Self-Self template, meaning: Act upon stimulus from the environment, Change Self.

Sixes have a strong tendency to seek structure, process, order; to trouble shoot, organize. They have a quest/bias for obtaining structure, certainty, predictability.

Note that Four and Six are at the same point relative to the action-adaptation spectrum. Both try to find or identify patterns, structure, or form. Sixes apply it to phenomena in the environment. Fours apply this to patterns of behavior observed in themselves and in other agents.

Fours and Sixes do this by applying *generalization* (which is a form of abstraction—technically so-called *inductive inference*).

Function 6 – Structuring

Also: consolidation

Riso: mutual support & interdependence

Explanation: Type Six being one of the analytical Types, is very good at trouble shooting, generalizing, abstracting. Sixes use structure to provide certainty.

For Sixes trust or structure = predictability = certainty.

If one views the disconnected/connected spectrum in the mental space as a continuum, and consider the dynamic as one moves from Eight towards Two, Nine and One both seem to fit in the mental space between Two and Eight. Let me explain why Nine and One seem to be in a certain sense two sides of the same coin. Both of them *change the environment*, but Nine seems to act more upon stimuli from the environment, and One responds more to feelings.

The dynamic of the spectrum moving from left to right—away from disconnectedness—entails adding some degree of consideration; awareness of other beings' needs. From this perspective, performing the role of arbitration (Nine) in the immediate local context seems to be a natural fit.

Coming from the opposite end of the spectrum, high connectivity and, therefore, compassion and consideration, are the central themes—i.e., ensuring the well-being of everybody around. But moving along the spectrum from Two toward Eight introduces imperatives—the hallmark of One. “Principles, strong convictions, and rules about life are, in fact expressions of the Instinctive Center. If we observe ourselves, we will see that strong opinions arise from our ‘gut’”, and “Ones cannot feel their feelings without acting on them.” (Riso & Hudson, 2000)

The following imaginary scenario would reflect this dynamic: A Nine agent living in a rowdy small town attempts to restore the peace by trying to convince the residents to agree to a zoning principle allowing the town to support all three the local butcheries in a more equal way to ensure support of the local farmers. In contrast to the latter approach, a One agent would rather rally the leaders of

the country to close down all butcheries in the country in order to save the planet.

Nine

Nine fits the Both-Env template, meaning: Act upon stimulus from both (environment and self), change the environment.

Nine: local mitigation, promoting peace applying a moral, bottom-up.

One: promoting universal principles, top-down.

Function 9 – Mediation

Also: arbitration, harmony

Riso: dynamic stability & balance

Explanation: "...they work to create a peaceful, harmonious environment around themselves. ... Nines contribute to their world, but also influence it so that it will support their inner peacefulness." (Riso & Hudson, 1996) There is emphasis that the Nine endeavour to create peace in their *local* environment with a subtext to support their inner peacefulness.

Popular title: Peacemaker

One

One fits the Both-Env template, meaning: Act upon stimulus from both (environment and self), change the environment

Function 1 - Regulation

Also: balance

Riso: integrity

Explanation: "Ones are doers who like practical ideas" ... "Ones, like nines may have a comprehensive philosophy of life, but its purpose is to defend and support their actions, not to open them to new possibilities, let alone to the quiet mind." (Riso & Hudson, 2000, p.272-3)

Popular title: Reformer

Only the three areas in the middle of the mental space are left. Let us first consider the left hand and right hand areas in the middle row.

Sevens and Threes are also on the same position relative to the action-adaptation spectrum. But contrary to Fours and Sixes, which reduce variability, they increase variability. Sevens look for alternative ways of doing and Threes look for alternative ways of being. The underlying mechanism is creating "variety on the theme" (technically *abductive inference*).

Seven

Seven fits the Both - Env template, meaning: Act upon stimulus from the environment, change the environment and/or self.

Function 7 – Seeking and creating variety

Also: innovation

Riso: energy & openness to change

Explanation: Sevens are constantly looking for external stimulation and for creative alternative ways of doing things. One way of achieving this is to combine ideas from different domains. As a result, they “become bridge builders from one area of experience to another. They know a tremendous amount about a wide variety of subjects, particularly practical ones, cross-fertilizing their many areas of interest.” (Riso & Hudson, 1996, p271)

Three

Three fits the Self – Env/Self template, meaning: Act upon their feelings, change the environment and/or self.

Function 3 – Self-projection

Riso: self-development

Explanation: Threes are sensitive to feedback from those they are connected to (their network) looking for approval. Threes are good at presenting themselves in a desired way (changing Self). By gathering information from their network Threes identify the skills and behavior which the majority of the members of their community admire, and then acquire those skills or behaviour in order to raise their esteem and their influence, or they change the environment to enhance their own visibility.

That leaves us with the last area right in the center of the mental space.

I explained that the two spectra of the mental space each creates a continuum, and that properties, as listed in the diagram in Fig. 4b gradually change as one moves along one of the axes. For example, connectedness increases as one moves from left to right. Another implication that was not stressed, is that as one moves away from the center point of the mental space (i.e. the intersection of the two spectra), then in each case the intensity of a particular tendency or the focus on a particular stimulus goes from zero to very high. For example, moving from the center to the left along the horizontal axis, the focus on (or sensitivity to) stimuli from the environment goes from non-existent to very intense. In other words, objectivity goes from absent to prevalent. In the opposite direction (to the right), the focus on and sensitivity to internal stimuli, i.e. to feelings (subjectivity), goes from absent to very strong. The same occurs with regard to the vertical spectrum, where the center presents the

point of neutrality between tendency to act (externalize) and tendency to learn/adapt (internalize).

As a result, the subarea in the center of the mental space can be regarded as a zone characterized by the absence of any particular *bias*, or if any biases do exist (i.e. tendencies/sensitivities), they are insignificant. Alternatively:

IF: we view the mental space as a space characterized by a variety of imbalances between the qualities

- embodied by the space (i.e. connectedness and adaptability),
- where over time we started labeling each particular imbalance as a function,

THEN: the center area can also be viewed as the zone of perfect balance.

This completes our assignment of functions to subareas:

- Each subarea in the mental space has been associated with an Enneagram function.
- The total space has been covered.

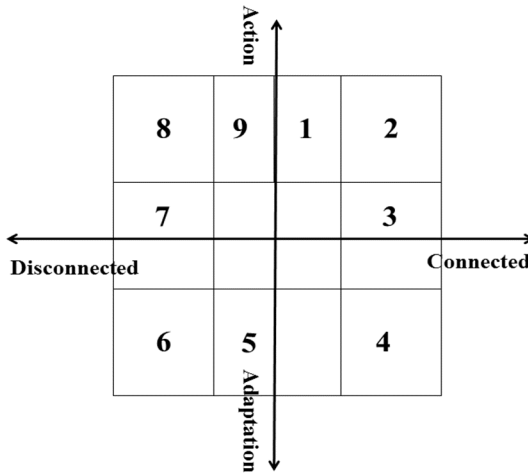
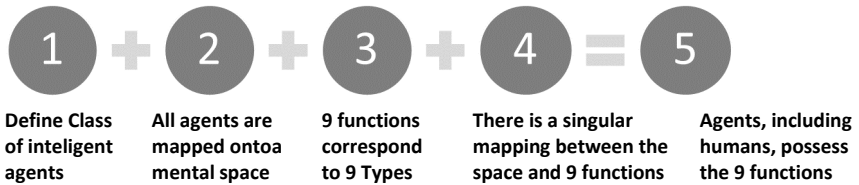


Fig. 5

As is evident by now, the assignment of the Enneagram functions to the subareas of the mental space surprisingly gives rise to a configuration which unmistakably resembles the Enneagram topology, as shown in Fig. 5. This means that there is a singular mapping between the Enneagram and the mental space, which implies that the behavior of all intelligent agents can be interpreted and described in terms of the Enneagram topology.

Since the nine Types are specializations of the nine functions, and human beings are intelligent agents, it follows that human beings have the properties of the nine Types, and that the Enneagram is a map of the human psyche.



The nine functions have been assigned to areas of the mental space in such a way that each function appropriately recollects the semantics of a given subarea in the space—as defined by the two spectra, e.g., Eight is “highly disconnected and intense action.” Since the spectra constitute continuums, the functions do not apply to discrete blocks as in Fig. 5, though. Rather, the functions overlap. Each block denotes the area where a given function is the dominant function but there is a gradual transition of dominance from one function to another as one moves across the mental space. For example, as one moves down the mental space from Seven to Six, the Seven function becomes proportionally weaker as one moves down the lower half of the subarea labeled *Seven* and the Six function becomes stronger, such that at the boundary between Seven and Six, Six becomes dominant. This dynamic models an effect similar to the concepts of 7w6 and 6w7 used in Enneagram literature.

I will now explain that there is evidence that the functions in the mental space are arranged in a triangular fashion, and that this is related to the presence of *three* trade-offs, which collectively provide the basis for the three Centers. This constitutes further validation for the material presented.

Please note that all the diagrams are intended to reflect the conceptual relationships between functions and are not intended to be 100% accurate in terms of relative size and position.

The Three Centers

Upon close inspection, one notices that the highest level of adaptability can only be reached in a very narrow area in the middle of the disconnected/connected spectrum. Let us consider this.

The rate of adaptation is determined by the rate at which new ideas, new ways, more efficient behavior can be devised—through innovation. Now, it is known that innovation is at its highest when a balance is struck between diversity and homogeneity. Too much uniformity and conformation stifles creativity, and pursuing too many diverse ideas spreads the effort too thinly between ideas, which lowers the ability to pursue all of them properly (akin to genetics, where homogeneity (in-breeding) leads to inferior off-spring, and too much diversity inhibits proper propagation of good genetic material).

With regard to the connectivity spectrum, then: disconnectedness implies little communication and sharing of ideas between agents, and inhibits rapid propagation of good ideas. High connectivity implies active sharing of ideas,

which (all other things equal) raises homogeneity. Consequently, the closer one moves to the point of high adaptability, the narrower the mental space will become. The areas to the right and to the left of Five are, therefore, infeasible and the mental space looks as presented in Fig. 6. (The reader can verify that at the bottom right hand of Fig. 5, all agents in that area learn and adapt together and share all new ideas. At the bottom left extreme, all agents are isolated and share nothing. Neither of these is conducive to rapid adaptation.)

The above observations led to the realization that there are in fact three trade-offs: there is *third trade-off* between adaptability and connectivity as well. This implies that the mental space has a triangular shape. The moment one moves closer to the end point (“the high intensity point”) of one of the spectra in the mental space (i.e., either

- toward the top left hand of Eight, or
- toward the top right hand of Two, or
- toward the middle bottom of Five),

then both the other two become weaker. Consequently, the correct arrangement of the functions in the mental space is more accurately depicted by Fig. 7. The diagrams are intended to convey the essence of the trilateral trade-off. The straight lines between the corners of the triangle might be slightly curved or s-curved.

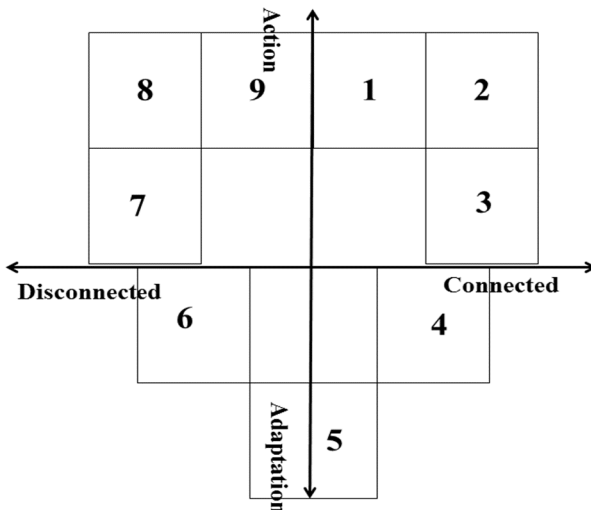


Fig. 6

Note that the goal of adaptation is to optimize/increase efficiency. Adaptability is therefore a proxy for efficiency. Similarly, connectivity is a proxy for fairness, compassion, consideration. See also the next section on the meeting point of action and disconnectedness.

Thus, the mental space can be interpreted from the perspective of mental behavior (see Fig. 8):

Growth - Compassion - Development;

from a process perspective:

Production - Fairness - Efficiency;

manifested in human agents as:

Instinctive - Feeling - Thinking.

Here are a few publications in management science and engineering that discuss some of these trade-offs:

- Efficiency-fairness (proxy for adaptability-connectivity) (Bertsimas et al, 2012)
- Growth-fairness (proxy for action-connectivity) (Thorndike, 2012).
- Throughput-fairness (proxy for action-connectivity) (Wengerter, 2005).

The publications cover legal, social, labor related, and other issues. For example, research conducted at MIT/Harvard regarding airplane take-off scheduling. Fairness implies a first-come-first-serve policy for airplane take-off scheduling, but air control staff are sometimes faced with a jumbo jet with 300+ passengers sitting right next to the runway having to wait for 15 small aircraft each with a few passengers, in which case first-come-first-serve is fair but not efficient.

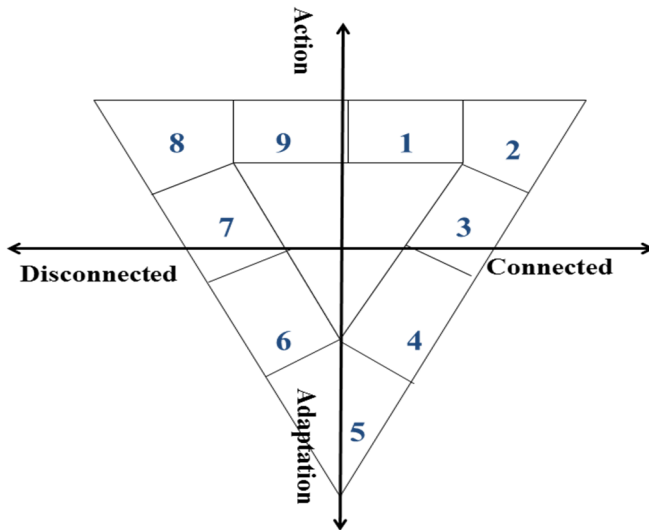


Fig. 7

Thus, we identified a trilateral trade-off between the spectral extremes in the mental space. This finding is of great significance, since, as we already alluded, it provides the basis for a theory of the three centers - a cornerstone of the

understanding and dynamic of the Enneagram. The three centers of the Enneagram can be viewed as three *faculties* (Oosthuizen, 2009), functioning as three components – together creating one unitary psyche as an emergent property.

Since the idea is fairly technical, I provide a very brief high level summary, to give the reader a flavor of what it entails: The three faculties (i.e. the centers) can be thought of as each offering a response to every (internal or external) stimulus the agent receives. As one moves around the perimeter of the mental space (Fig. 8) the relative dominance (i.e. relative strength) of the responses of the three faculties constantly varies. The net effect of the collaborative operation of the three faculties - functioning as three components - is a unitary “intelligence” in which a unique combination of the faculties dominates to produce the properties of each of the nine Types.

The bottom line is that the characterization of the mental space provided is aligned with the aspects of the dynamic of the Enneagram model associated with the three centers.

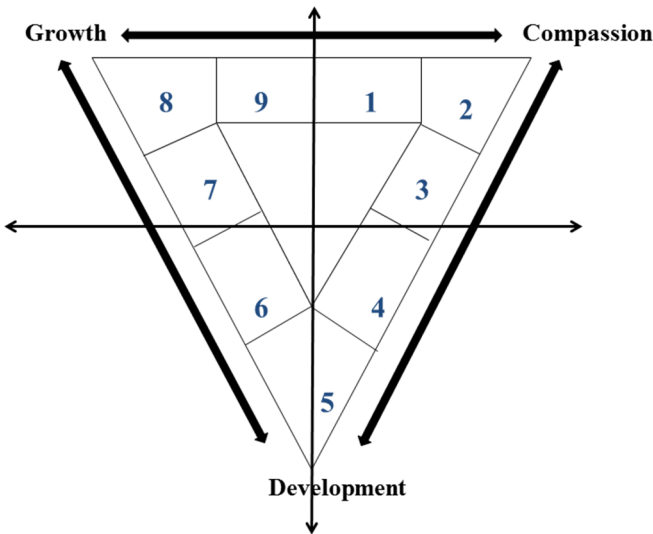


Fig. 8

Disconnectedness and action

The top left hand corner of the mental space is the point denoting *disconnectedness* and intense *action*. The point simultaneously denotes “no adaptation” and “no consideration”. Other concepts that capture the essence of this point would be ones like *normal operation, execution, production, growth*—the behavior where the agent simply repeats what has been learned before (no adaptation) and serves its own purpose (no consideration). It entails reading from

its memory and using repetitively the standard set of ideas or patterns that governs its behavior—what it has been ‘programmed’ to do.

A distinction that is beyond the scope of this article which comes into play, is that agents learn from doing. In other words, normal responses of *changing the environment*, also provides feedback which causes learning. This is part of evolutionary learning, and does not include logic or reasoning. A more accurate characterization of the action-adaptation spectrum may thus have been “learning with no logic versus learning applying complex logic.”

Related work

The difference between the Enneagram and other models

The following fundamental differences set the Enneagram model apart from other psychological models:

1. The Enneagram is a *dynamic model*. It maps paths for developmental change, as opposed to the other models which are static.
2. The Enneagram model is *conditional*. The elaborate theory developed around the levels of development, behavior under stress and the security point implies different behavior under different conditions.
3. The circle of the Enneagram provides two other elements: (i) imposing a universal ordering and (ii) setting the features in an infinite continuum. Multidimensional mapping, as applied in some other models, provides different categories, but the categories are not ordered in a specific way. For example, an attribute like *Sensing* is not adjacent or closer in any sense to *Thinking* than to *Feeling* – i.e. there is no concept of distance. In the Enneagram, the specific order is a distinctive feature.
4. The Enneagram topology is *exhaustive*, in the sense that it covers everything. The circular arrangement by definition rules out the existence of a more complete version containing an additional type. It is true though that, the labels of the points/areas in the circle may in principle be refined over time. Though inconceivable to all of us today, it may in principle not be impossible that future research might point to a more refined model that splits two of the Types into three. Such a refinement would not affect the underlying ordering of the features modeled nor render the model incomplete. It would just mean that the current definition would have been refined.

A final note regarding multidimensional scaling: From a statistical point of view, some psychological systems like Big Five and DISC apply so-called *multidimensional scaling*. The developer of the model selects dimensions of personality, for example, *openness, conscientiousness, extraversion, agreeableness, and neuroticism* in the case of Big Five and represent a person’s profile according a value in each of the dimensions. The dimension values effectively map people onto a multidimensional space, characterized by the dimensions the user selected.

These kinds of systems are popular for analyzing data. The dimensions provide an abstract view of the entities analyzed (in this case people), and the partitions categorize them within each dimension. It is worth noticing that the dimensions are often selected on the basis of their *utility*. In other words, the creator of the model sets out with a specific goal in mind (e.g. a model that aids recruitment) and chooses the attributes/dimensions that relevant to the goal. Thus, not all models are based on fundamental principles psychology as in the case of Myers-Briggs, for example, which is based on the work of Carl Jung.

Ackoff and Churchman's work

Ackoff and Churchman (A&C) (Ackoff, 1999) applied the concept of four stimulus-response combinations to the work of Carl Jung. According to Carl Jung, the categories of Environment and Self are mutually exclusive and exhaustive categories. This means the complement of the effect of the environment on the agent is the effect of the self on an agent, similarly, the complement of the effect of an agent on the environment, is the effect of the agent on the self.

In his work Carl Jung used the terms *externalizer* and *internalizer* to refer to people who react to stimuli (i.e., to change) by changing the environment or changing themselves, respectively. A&C performed empirical tests and found that some people are more sensitive to changes in the environment, while others are more sensitive to changes in themselves.

They performed some tests that confirmed that the former group would have a non-linear response to the intensity of a stimulus from the environment. In other words, a fairly small external stimulus would typically generate an extraordinary strong response. A&C call them *objectiverts*. Similarly they found that in the case of the latter group (more sensitive to internal changes) a fairly small internal stimulus (a physical or emotional change) would generate an extraordinary strong response. A&C called these *subjectiverts*. A&C came to similar conclusions as reported here regarding the profiles of the individuals that fall in these categories. They also considered the idea of adding intermediary categories—and influenced my thinking.

Genetic learning and concept lattices

Concepts from the fields of genetic learning and concept lattices helped form the basis of the conceptual framework presented in this article. I provide a brief overview:

A *concept lattice* (Oosthuizen, 1989) is a mathematical structure that stores each idea at its optimal point in a multi-dimensional space, based on all its connections to other ideas. The ideas (i.e., patterns of concepts) in an agent's mind can be represented as a lattice. Complex and simple ideas (and special ideas called *rules*) are situated at different *levels* in the lattice, which correspond to the vertical arrangement of the areas in the mind space, on an abstract level. Mid-level ideas are specializations of higher level ideas or abstractions of lower level

ideas. This enables one to make inferences regarding the functions in the mid-levels of the mind space.

Genetic learning applies the principles of natural selection to learning processes. Oosthuizen (1987) showed that by storing and presenting the concept patterns generated through genetic learning in a concept lattice, logic inference can be combined with evolutionary development of patterns of ideas. It was observed that moving down the vertical axis of the mental space corresponds to shifting from exclusively evolutionary learning (excluding any logic inference) to exclusively logic inference at the bottom, and that this shift corresponds to the transition from instinctive to thinking behavior. This dynamic provided clarity regarding the arrangement of functions Eight, Seven, Six and Five in the mental space.

Conclusion

This article provides evidence that the Enneagram is a true model of the human psyche. A class of entities (which includes human beings) was defined that clearly specifies what we mean by intelligent life. A two dimensional space, called the *mental space* was then defined – one dimension for change and one for sharing ideas (measured by the level of connectivity). Membership of this space is necessary and sufficient for intelligent life.

General function descriptions were then generated for each of the nine Types of the Enneagram. These functional descriptions were plotted on the mental space, and it was found that the arrangement resembles the Enneagram topology and covers the mental space. Since human beings are, by definition, a form of intelligent life, they therefore possess the nine functions.

The beauty of the above finding is that the ordering of the nine functions, and nine Types of the Enneagram therefore, is explained in terms of two underlying spectra (two variables) based on the two most fundamental properties characterizing mental processing, and thus intelligent life:

- The ability to change—i.e., to create new ideas and make connections between ideas, and
- The ability to share ideas—i.e., create connections to other intelligent life's ideas.

This makes the Enneagram topology, arguably, the most fundamental model of the human psyche, rendering it a candidate for a model of reference to psychology similar to the way the Periodic Table is to chemistry (Oosthuizen, 2009).

As explained, the findings of this article do not in any way detract from the value of other models used in psychology: each model is designed on the basis of given properties that are specifically selected to measure certain behaviors (dimensions) and the interaction between them, i.e. they are selected for their utility with regard to identification and prediction of one or more characteristics.

Given its foundational nature, the mental space may constitute a common denominator between the Enneagram and other models.

“A man may be quite alone in the desert and he can trace the Enneagram in the sand and in it read the eternal laws of the universe” – Ouspensky

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