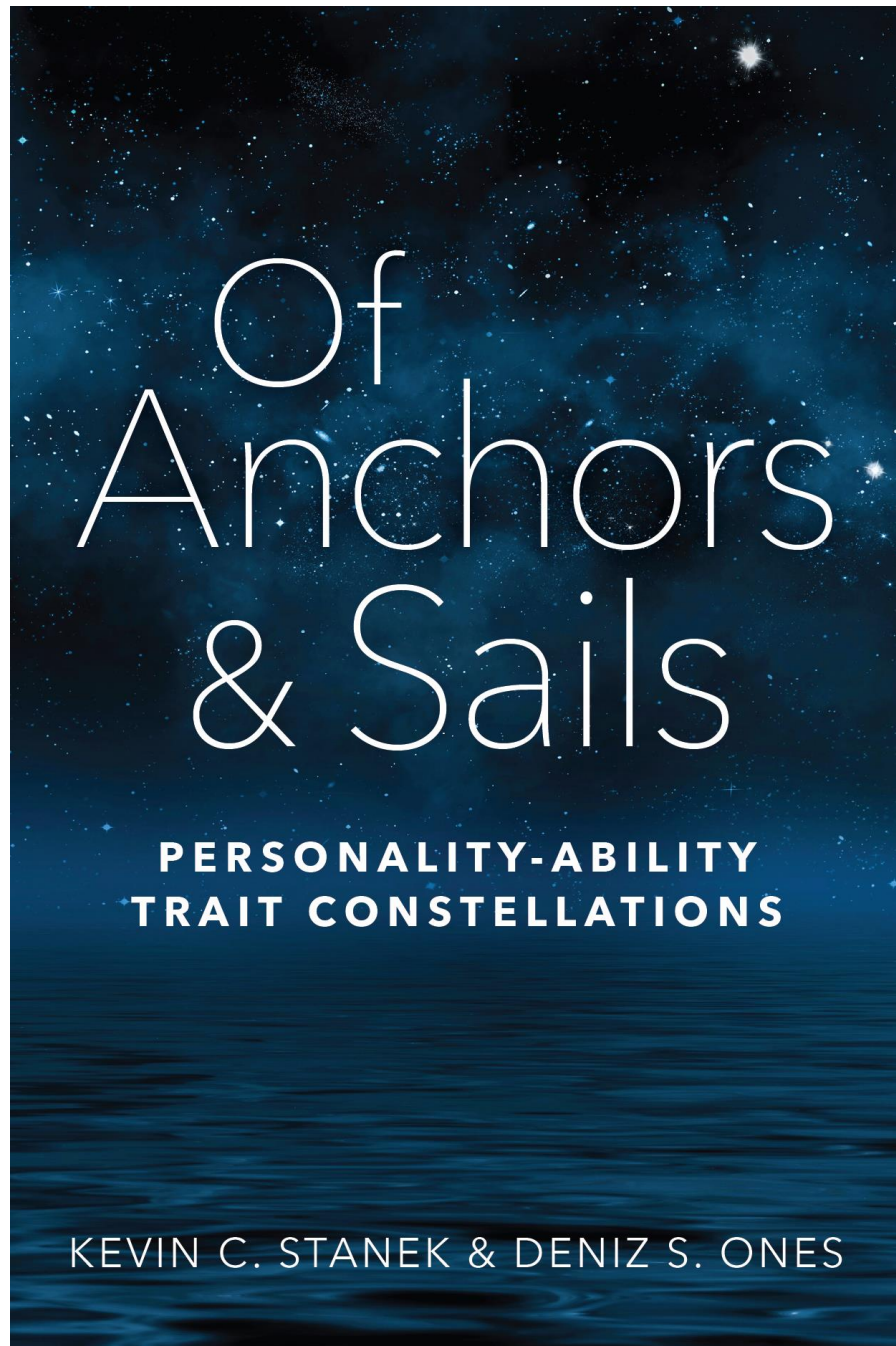# Our Constellations[1]

A Primer for

Preface

Even after more than 12,000 generations, humanity still does not know its purpose. Indeed, many people go through their whole life without ever establishing their own reason for being. Is the point longevity? Procreation?

Material wealth? Happiness? Living in harmony with nature? Following holy precepts?

But if we don't understand our purpose or ourselves, how can we expect to live effectively and attain what we seek? Not only do we need to greatly expand our understanding of these ultimate questions, but we also need to give much more thought to the practical matters of who we are, what we want out of life, and how we will get from here to there.

"Of Anchors & Sails" offers perspective on these enigmas by examining the architecture of individuality and its variations across individuals. The patterns in these designs reflect greater forces, including evolutionary pressures, and harbor clues about our enduring purpose.

Two of the most defining features of an individual are their personality and their cognitive ability. Our personality reflects our typical emotions, thoughts, and actions, defining if we are extraverted, polite, persistent, curious, or anxious. Cognitive ability refers to the array of human capabilities for navigating complexity, be it manipulating visual imagery, articulating language, grasping intricate mathematics, or drawing logical conclusions. Not only do these domains define our individuality, but they also predict important life outcomes from health to divorce to wealth to athletic achievement to work performance to longevity, among many others. Therefore, we ventured to conduct the broadest and deepest analysis of the intersections between these two domains, in order to decipher a core part of the schematic for individuals.

By uncovering hidden connections, we reveal universal patterns that harken back to our evolutionary roots and have profound implications for humanity's present and future. Our research findings have far-reaching implications for psychology, economics, medicine, and education, among others —the beginnings of which we discuss in this brief primer. The findings also have practical applications, from tailoring education to individual needs, to improving mental health interventions, to making workplaces more inclusive and productive.[2] From your own life to bygone societies to the future of our species, this book illuminates deep truths about who—and why—we are.

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[2] They also offer a goldmine of insights for creators of artificial intelligence. In contrast to today's sterile AIs, developers could design more authentic entities with a diverse range of personalities and capabilities (e.g., tailored to the user and context), pushing the boundaries of what artificial intelligence is and can achieve.

Background (Chapters 1 – 2)

"Who are you?"

This is perhaps the most commonly asked question among humans. Despite countless answers—from names to religious beliefs, from character descriptions to life histories—a deeper question that is never asked is "Why are you?". This book builds on a century of science describing *who* people are to see the broader patterns in *why* they are.

Personality and cognitive ability are two of the most defining sets of differences between individuals (1). "Of Anchors & Sails" presents the most comprehensive examination of their relations. Cognitive abilities describe what an individual is cognitively capable of. Personality traits describe what an individual typically does. These domains encompass some of the most potent predictors of important behaviors and outcomes in educational, occupational, and personal life domains (2, 3). They influence our life trajectories, including what activities we prefer, what environments we gravitate toward, who we are drawn to associate with, and how well we perform our work (4–11). They are also key determinants of physical, mental, and even financial health (12, 13). Although considerable research has separately examined the correlates and consequences of cognitive abilities and personality traits (14–17), much less is known about connections between the two domains.

In fact, many people still believe that intelligence and personality are separate and independent. We posit that there are significant connections between these pillars of individuality. Further, our research suggests there is an overarching structure and purpose to their trait constellations, shaped by evolutionary forces. These inferences are founded on a higher resolution panorama of these domains than any previous investigation (18). This landmark study is broad and deep, examining 173 personality traits and cognitive abilities with more data than ever amassed before.

What is Intelligence?

In the pantheon of individual differences, cognitive ability/intelligence occupies an elevated position (19). Cognitive ability does not simply refer to "book smarts" or "school learning". Instead, it refers to a diverse set of hierarchically arranged *abilities* that index the capacity of an individual's

brain to decipher information and navigate complexity effectively, whether that complexity is recalling information from short-term memory, processing visual scenes, reproducing learned facts, extrapolating patterns, reasoning inductively or deductively, perceiving similarities and differences, or any other complexity. From our theoretical perspective, intelligence involves using information to know what to preserve and what to change in order to maximize the probability of achieving goals in given environments (see summary of Chapter 6 below).

General mental ability (often simply referred to as "*g*") is an overarching construct that "involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience*."* (20). In this book, the term "cognitive ability" refers to the hierarchy of interrelated abilities with a general mental ability factor (*g*) at the apex (21–23). General mental ability arises from causal connections between specific abilities (e.g., high fluid abilities leading to greater acquisition of knowledge) as well as common factors underlying brain development (e.g., neural connectivity).
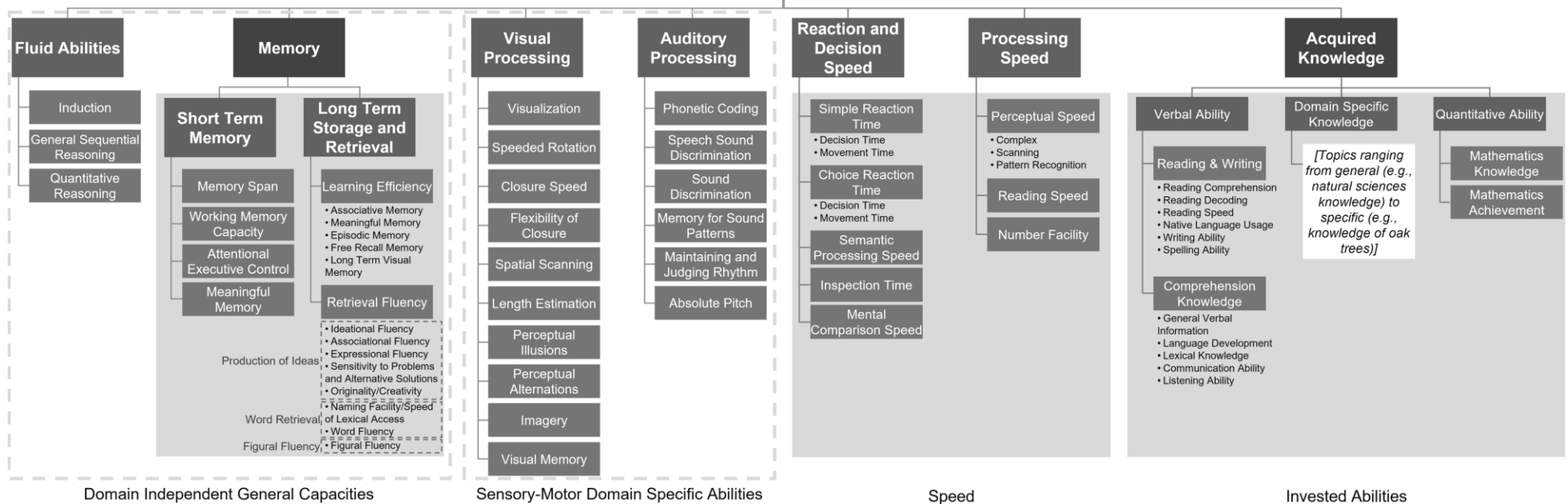
In the last 100 years, scientific research has established cognitive ability as a key factor in educational success, occupational success, career success, socio-economic success, exceptional attainments, mental health, and physical health (3, 7, 9, 12, 13, 24–30). In characterizing general mental ability, Linda Gottfredson noted, "no specific ability, personality trait, social advantage, or fund of experience has been identified that can compensate for mental powers too weak to lift a task's cognitive load" (31). Indeed, the measurement of cognitive ability has been hailed "as the most practical contribution made to humanity by all of psychology" (32).

What is Personality?

Personality is a set of enduring tendencies to feel, think, and act in certain ways (e.g., to be extraverted, compassionate, tidy, anxious, rebellious [34–38]). Personality traits have wide-ranging, consequential impacts on behaviors and outcomes across a variety of domains, from education and career path choices, to art preferences, to invention and creativity, to job performance, and even to longevity (3, 12, 14, 39–44). The research literature incorporating personality constructs is vast: tens of thousands of research studies in diverse fields include a plethora of personality constructs.
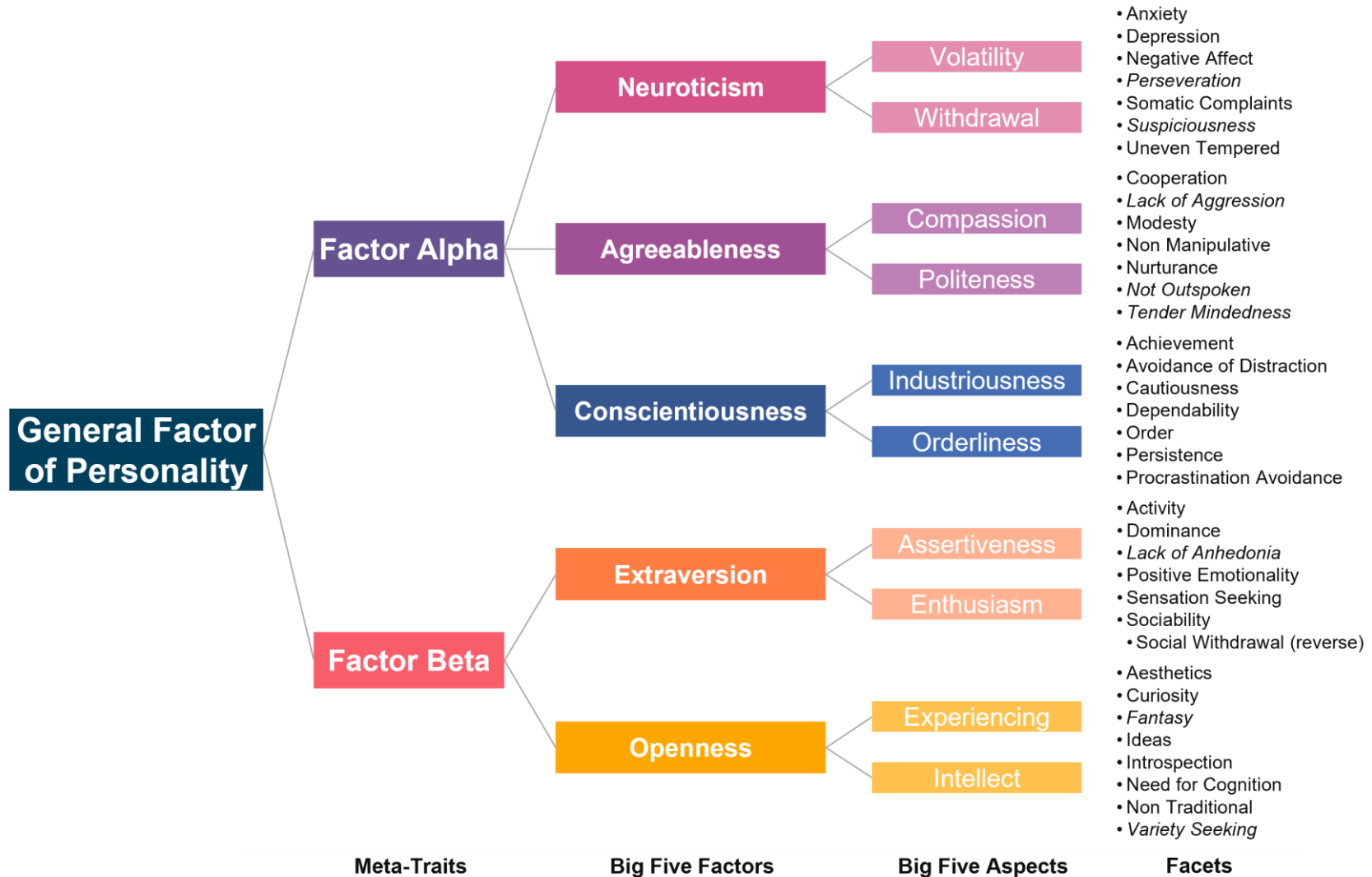
Unified CHC cognitive abilities taxonomy (33).

General Mental Ability / Intelligence / *g*

Fluid Abilities
- Induction
- General Sequential Reasoning
- Quantitative Reasoning

Memory

Short Term Memory
- Memory Span
- Working Memory Capacity
- Attentional Executive Control
- Meaningful Memory

Long Term Storage and Retrieval
- Learning Efficiency
  - Associative Memory
  - Meaningful Memory
  - Episodic Memory
  - Free Recall Memory
  - Long Term Visual Memory
- Retrieval Fluency

Production of Ideas
- Ideational Fluency
- Associational Fluency
- Expressional Fluency
- Sensitivity to Problems and Alternative Solutions
- Originality/Creativity

Word Retrieval
- Naming Facility/Speed of Lexical Access
- Word Fluency

Figural Fluency
- Figural Fluency

Visual Processing
- Visualization
- Speeded Rotation
- Closure Speed
- Flexibility of Closure
- Spatial Scanning
- Length Estimation
- Perceptual Illusions
- Perceptual Alternations
- Imagery
- Visual Memory

Auditory Processing
- Phonetic Coding
- Speech Sound Discrimination
- Sound Discrimination
- Memory for Sound Patterns
- Maintaining and Judging Rhythm
- Absolute Pitch

Reaction and Decision Speed
- Simple Reaction Time
  - Decision Time
  - Movement Time
- Choice Reaction Time
  - Decision Time
  - Movement Time
- Semantic Processing Speed
- Inspection Time
- Mental Comparison Speed

Processing Speed
- Perceptual Speed
  - Complex
  - Scanning
  - Pattern Recognition
- Reading Speed
- Number Facility

Acquired Knowledge

Verbal Ability
- Reading & Writing
  - Reading Comprehension
  - Reading Decoding
  - Reading Speed
  - Native Language Usage
  - Writing Ability
  - Spelling Ability
- Comprehension Knowledge
  - General Verbal Information
  - Language Development
  - Lexical Knowledge
  - Communication Ability
  - Listening Ability

Domain Specific Knowledge
[Topics ranging from general (e.g., natural sciences knowledge) to specific (e.g., knowledge of oak trees)]

Quantitative Ability
- Mathematics Knowledge
- Mathematics Achievement

Domain Independent General Capacities | Sensory-Motor Domain Specific Abilities | Speed | Invested Abilities

Note: See "Of Anchors & Sails" Appendix A for construct definitions. Shaded boxes group abilities invoking similar brain functions. Dashed lines group abilities that are conceptually related.

Stanek & Ones (33) Pan-Hierarchical Five Factor Model of personality.

Meta-Traits	Big Five Factors	Big Five Aspects	Facets
	Neuroticism	Volatility / Withdrawal	• Anxiety • Depression • Negative Affect • *Perseveration* • Somatic Complaints • *Suspiciousness* • Uneven Tempered
Factor Alpha	Agreeableness	Compassion / Politeness	• Cooperation • *Lack of Aggression* • Modesty • Non Manipulative • Nurturance • *Not Outspoken* • *Tender Mindedness*
	Conscientiousness	Industriousness / Orderliness	• Achievement • Avoidance of Distraction • Cautiousness • Dependability • Order • Persistence • Procrastination Avoidance
Factor Beta	Extraversion	Assertiveness / Enthusiasm	• Activity • Dominance • *Lack of Anhedonia* • Positive Emotionality • Sensation Seeking • Sociability • Social Withdrawal (reverse)
	Openness	Experiencing / Intellect	• Aesthetics • Curiosity • *Fantasy* • Ideas • Introspection • Need for Cognition • Non Traditional • *Variety Seeking*

General Factor of Personality

Note: Construct names in italics indicate those with consistent loadings on other Big Five factors. See "Of Anchors & Sails" Table 1, for compound traits and their Big Five linkages and Appendix C for definitions of personality traits.

The Research This Book is Founded On (Chapter 3)

To paint a high-resolution picture of personality-intelligence relations, we conducted 3,543 meta-analyses that cumulated the empirical evidence of relations between 79 personality traits with 97 cognitive abilities.[3] Through exhaustive search strategies, our research team identified 1,325 primary studies and datasets that contributed to these meta-analyses. These studies were conducted in more than 50 countries and represent millions of participants. Measures in each study were mapped to personality and cognitive ability constructs in modern personality and cognitive ability taxonomies (33) to avoid the idiosyncrasies of specific measures and ensure consistent construct definitions. Most effect sizes came from unpublished sources, reducing the risk of publication bias. The resulting meta-analytic database has resolution that is orders of magnitude greater than previous investigations.

Countries Contributing Effect Sizes to Our Meta-Analyses.

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[3] Meta-analysis is a method of combining and integrating statistics from across studies to draw more robust and precise conclusions.

Why are Personality and Intelligence Related? (Chapter 6)

Humans as Cybernetic Creatures

Individuals are cybernetic systems that leverage resources to achieve goals (e.g., survival, reproduction, getting promoted, helping others). They adjust their goals and strategies[4] based on feedback loops (45). More specifically, individuals set goals, detect their current state and movement toward goal states, consider their options, take action to try to advance toward their goal state, and adjust their behaviors and goals based on feedback loops. This process can be summarized by three stages, each with a sub-loop of three steps.

Stages and Steps of Cybernetic Self-Regulation

Step			
Sense	Current self and environment	Behavioral options*	Desired self and environment
Evaluate	Goal(s) considering past and forecasted future	Efficacy, cost, and alignment with self/identity and relevant environment	Desirability, likelihood, and alternatives
Decide	Based on perceived discrepancy and proceed to next stage	Behavioral option(s)* and level of energy investment	Whether goal state has been achieved or will be shifted

* Includes behaviors, affects, and cognitions.
Note: The cybernetic process may be halted at any step (e.g., if a goal is abandoned).

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[4] We define a "strategy" as a pattern (e.g., behavioral, cognitive) with a grander purpose.

3 Stages of Being: Current State, Transition, and Goal State

1. The *current state* describes the present self and its environment, including the cumulative impact of historical events (e.g., life histories) as well as forecasts of the future.
2. The *transition stage* signifies movement between the current state and goal state, which involves identifying behavioral options that best reduce the discrepancy between current state and goal state while satisfying other criteria (e.g., alignment with personal values, availability of resources).
3. The *goal state* represents the desired self and/or environment.

Reducing discrepancies between current and goal states may be achieved by altering actions, changing cognitions, adjusting affect, and/or transforming desires. Current state vs. goal state discrepancies can also be decreased or increased by environmental changes, including changing one's environment.

Three Steps of Action: Sense, Evaluate, and Decide

Three operational steps occur within each stage.[5]

1. *Sensing* involves perception of current self and environment in the context of one's goals, awareness of behavioral options available to move toward goal states, and vision of desired self and/or environment.
2. *Evaluating* involves prioritizing a portfolio of goals based on factors like alignment with identity and importance to future, weighing the value of behavioral options, and considering the desirability and likelihood of achieving the goal state compared to alternative outcomes.
3. *Deciding* involves ongoing decisions to continue pursuing a goal; what level of energy to commit as well as what actions to take; and whether the goal has been achieved, is in-progress, or should be altered.

These stages and steps propel the feedback loops that help individuals set, progress toward, and achieve or alter their goals.

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[5] While our model bears some passing similarity to decision-making models (e.g., observe-orient-decide-act; 46, 47), it was developed independently based on empirical observations and appears to be the most generalizable template of goal pursuit considering both individual differences and environmental circumstances.

Homeostasis vs. Change

At a very broad level, the cycles depicted in the figure above result in goals, strategies, and behaviors that map to two fundamental axes: homeostasis vs. change, and internal focus vs. external focus (see below). These axes define the balances that characterize life. Such a structure is not meant to imply that the system is hyper-rational; many of these processes occur outside of awareness or are influenced by irrational or subconscious factors.[6] Instead, the axes characterize an individual's strategies for leveraging resources in service of self-preservation and self-evolution, with personality traits and cognitive abilities *jointly* directing resources.

Life can be viewed as a string of goals, and successful attainment often hinges on effectively leveraging information to know when/what/how to preserve and when/what/how to evolve. Feedback loops inform resource allocation and help balance homeostasis and change, as well as fit between the individual and environment, rendering the cybernetic system *inherently adaptive*.

Cybernetic Trait Complexes Theory

Cybernetic Trait Complexes Theory (CTCT) proposes that covarying abilities and personality traits can be thought of as constellations that guide these systems' self-regulating mechanisms for setting, progressing toward, and achieving or revising goals via the coordinated use of resources. These trait constellations serve the functions of 1) maintaining psychological homeostasis (i.e., sustaining stability) and 2) enabling change (i.e., supporting adaptive development and growth). These functions can each be bifurcated according to whether they focus internally on the individual or externally on the environment.

Each quadrant in the figure below describes similarly oriented constellations of individual differences. Each row represents a fundamental fitness strategy. Homeostasis invokes preservation-focused trait constellations, and change invokes evolution-focused trait constellations. Each column highlights the focal arena of trait constellations. Self/Internal involves internally-targeted trait constellations, and environmental/external involves trait constellations targeting preservation or adaptation to the environment. It's worth noting that the fundamental characteristics of

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[6] Indeed, for many of us change and homeostasis are largely driven by latent hopes and fears.

environments also vary along two major axes: threats and resources, each varying from none to plentiful, which lead to differing challenges and opportunities. These axes also apply to macro environments. For example, one of the most essential challenges for societies is determining how to allocate resources to address threats and capitalize on opportunities.

Illustration of cognitive ability-personality trait fitness constellations.
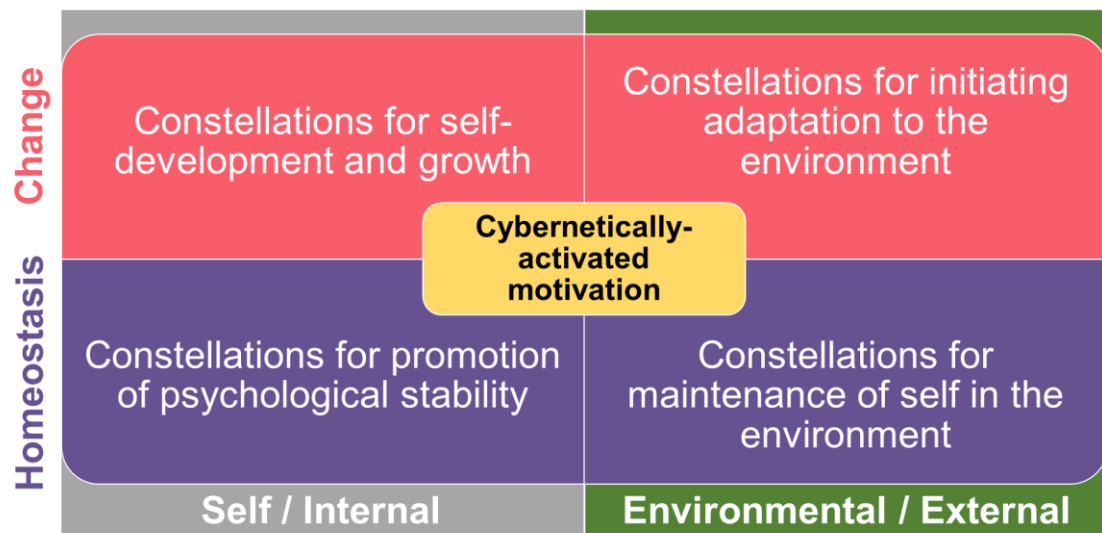
Fixed vs. Flexible Selves: Personality and Intelligence in Cybernetics

Individuals have a limited range of flexibility around their general tendencies and boundaries to their capabilities (48, 49). Genetic endowments and external environments provide resources and impart constraints, favoring different life strategies. The interplay between these forces results in co-evolution of certain characteristics. That is, evolution pressures certain trait constellations to come together as viable strategies for utilizing finite individual and environmental resources to accomplish the cybernetic steps and stages, and, therefore, goals.

In general, personality traits represent different cybernetic strategies for sensing, evaluating, and behaving to help individuals effectively balance homeostasis and change. Personality traits represent typical strategies for managing both internal (e.g., emotional) and external (e.g., environmental) stimuli in pursuit of self-preservation and self-evolution. For each individual, personality traits help identify which goals are attractive and prioritized (i.e., considered worthwhile), which actions are preferred, and how uncertainty

is weighed. Cognitive abilities index how efficiently, proficiently, and successfully goals are set, and pursued in complex environments.[7] That is, cognitive abilities involve deciphering complexity to achieve goals.[8] They also entail knowing when to strive for change to maximize the probability of achieving goals in a given environment and when to protect homeostasis.

In a functioning human cybernetic system, both cognitive abilities and personality traits orchestrate homeostasis and growth in environmentally sensitive ways to increase the odds of surviving and thriving. Together, these co-influential, and potentially co-dependent, domains energize action toward goal achievement and help generate new goals, interpretations, and strategies as goals are attained or obstructed or as behaviors are determined to be productive/unproductive. For example, negative emotions can depress cognitive processing and reduce individuals' abilities to clearly identify their goals, accurately sense their current state, or productively forecast which actions will advance them toward their goals. Conversely, higher intelligence may help individuals more clearly see how to apply their personality tendencies, adjust their behavior based on the environment, or alter their environment to make progress toward goals.

Complexity arises, in part, from the multiple competing goal states within and across individuals as well as intra-individual variance in personality and cognitive abilities, the variety of actions available, the diversity of environments encountered, and the uncertain consequences of each action.

In summary, individuals can only be fully understood by considering both their biology and their environments. We constantly face decisions about how to use our finite energy to achieve our goals. Our dispositions and abilities balance the maintenance of homeostasis and pursuit of change as well as internal vs. external needs. The constellations of traits that guide us are combinations that have aided previous generations

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[7] More complex environments have higher information processing needs and demand higher, and often more differentiated, cognitive abilities.

[8] In a universe is full of entropy, more intelligent brains are better able to decipher and leverage information to employ strategies and behaviors that increase the probability of goal attainment.

Entropy describes a state where it is very difficult to find patterns or predict outcomes. Complexity is when seemingly independent elements appear to spontaneously form a coherent pattern. In both cases, the patterns are there all along, but our limited intelligence makes it difficult to grasp them, giving the appearance of chaos. Therefore, the reduction of entropy, which is known as information, is actually just a measure of our understanding. That is, there is no such thing as 'noise', just signal we do not comprehend.

achieve goals across varied environments. These constellations can be grouped into categories focused on supporting psychological stability and maintaining the individual in varying environments as well as those focused on fuelling change by energizing adaptation, development, and growth in environmentally sensitive ways. Indeed, such a self-perpetuating capacity for the coordinated use of energy to achieve balance between homeostasis and change is the essence of life.

Illustrative Trait Constellations (Chapter 7)

Contrary to what is commonly believed by many behavioral scientists and lay people, human cognitive abilities and personality traits are intrinsically related through biological, developmental, and environmental pathways. Our encyclopedic quantification of these ability-personality relations highlights constellations that are critical to fitness of the individual as well as humanity more broadly.

Constellations for Homeostasis

"Life's roughest storms prove the strength of our anchors."

Trait constellations for homeostasis support internal stability and maintain the individual in ever-changing environments. These constellations likely evolved to cope with resource-scarce and/or high-threat environments.

Internally-focused homeostasis constellations are evidenced by neuroticism and its facets' associations with lower levels of most abilities. Neuroticism-related traits involve feeling negative emotions (e.g., stress, anxiety, instability). Negative relations exist for both invested abilities (i.e., knowledge) as well as non-invested abilities (e.g., reasoning). In other words, people who experience high levels of trait depression or anxiety tend to find it harder to accumulate knowledge or reason logically. Whether it's piecing together a puzzle through inductive reasoning or deducing conclusions based on known facts, these abilities seem to take a hit when emotions are at the helm.

More than that, emotionally unstable individuals may be suspicious of others and quick to react with intense, often negative, feelings. Such

emotional turbulence can take a toll on individuals' ability to regulate psychological processes, including cognitive performance. In other words, emotionally volatile individuals may find it more challenging to concentrate, remember things, or solve problems - key components of cognitive performance.

Externally-focused homeostasis constellations involve attributes, such as being even tempered and non-aggressive, that strengthen the social ties of the individual and/or enhance their ability to function in groups. Personality characteristics such as agreeableness (particularly compassion and cooperation), conscientiousness-related traits, and abilities such as processing speed and verbal abilities form constellations that facilitate maintenance of the individual in social environments. These constellations suggest that the more compassionate, cooperative, and industrious the individual is, the better their verbal (e.g., vocabulary) and quantitative (mathematical) knowledge tend to be. The trend is not limited to just verbal and quantitative knowledge, either - most other acquired knowledge areas for which data are available show a strong link with these personality traits. What does this mean? One view is that these traits are personal guides, directing the investment of your inherent cognitive abilities (e.g., reasoning, memory, visualization) over decades in the acquisition of new knowledge. Essentially, those who are industrious and compassionate, tend to be better at transforming their undeveloped talents into concrete knowledge and skills that are useful to them and their broader social group.

Constellations for Change

"Hoist your sail when the wind is fair."

Trait constellations for change energize internal development and adaptation to changing environmental circumstances. These trait constellations likely evolved to take advantage of opportunity-rich and/or low-threat environments with higher reward/risk ratios. Generally, traits and abilities in these constellations contain fluid abilities paired with personality traits involving behavioral activation and change, as well as acquired knowledge abilities paired with plasticity traits (i.e., openness and extraversion traits), industriousness, and activity. Prominent compound personality traits associated with initiative-taking, behavioral activation, and proactivity (e.g., achievement via independence) fit into these constellations.

Internally-focused change constellations are indicated by the relations of the intellect aspect of openness and related personality facets with non-invested abilities such as fluid abilities, memory dimensions, and processing abilities. These traits and abilities tend to correlate positively and sizably. Relations are even larger for acquired knowledge, especially verbal knowledge.

Externally-focused change constellations involve traits associated with exploration of and responsiveness to physical and social environmental stimuli (e.g., openness), as well as extraversion-related traits with non-invested and invested abilities such as processing speed and verbal abilities. The psychological trait "activity", a facet of extraversion, offers a strong example. Active individuals are energetic, enthusiastic, and fast-moving. They tend to enjoy being busy and juggling multiple activities, which often translates into an eagerness to engage with the social world around them. Activity shows strong, positive connections with several cognitive abilities, indicating that individuals who are active and energetic tend to have a better command of various cognitive abilities. Most notably, this includes extensive knowledge, efficient memory retrieval, and enhanced information processing. Regardless of the subject, active folks tend to know more about it. This might be due, at least in part, to their swiftness in processing stimuli and recalling information from long-term memory. The pattern of findings is in stark contrast to the popular stereotype of intellectuals closeted away in their rooms. Instead, the results suggest that high-energy individuals tend to have higher mental performance, which allows them to swiftly navigate through complexity with a bank of knowledge at their fingertips.

Constellations for General Fitness

General fitness trait constellations represent individuals' agility in effectively moving between a focus on surviving and a focus on thriving as the environment demands/affords. These trait constellations involve the joint functioning of emotional stability associated with homeostasis, extraversion associated with change, and industriousness associated with the motivation to move between those strategies. This amalgam of personality traits is best captured by compound personality traits, including self esteem and internal locus of control. These traits display pervasive relations with a host of cognitive abilities, especially general mental ability,

memory, and processing speed. One illustrative figure who was often guided by such constellations was Albert Einstein; brilliant, curious, and creative, he had an inner conviction that helped him overcome doubts and dogma to transform the field of physical science.

Key Take-Aways (Chapter 8)

Diverse Fitness Strategies: Self-Preservation and Self-Evolution

The ultimate aim of our research was not limited to understanding personality-ability relations. Instead, we sought to understand individuality and the psychological architecture of humans. By studying over 60,000 relations between the full range of cognitive abilities and personality traits from virtually all accessible, published and unpublished research from the past 100 years, we discerned trait constellations for self-preservation and self-evolution. The tensile strength of this dichotomy results in a perpetual balance that tempers individuals, social groups, and ultimately humankind. It's where freedom meets with security; the uncertain victories of 'bold and new' meet with the steadfast foundations of 'tried and true'. The result is a resilient and well-tested dynamic that preserves cohesion while driving progress. This relentless oscillation between change and stability operates so that while most changes have a low chance of success, the absence of change leads to inevitable failure. Like an anchor, cognitive abilities and personality traits for homeostasis confer stability and help maintain the individual across environments. Like a sail, cognitive abilities and personality traits for change underpin activation for adaptation as well as growth.

Overarching Insights into the Nature of Individuality (Chapter 10)

Energy, Information, Individuals, Environments, and Goals

So why are you the way you are and why do people differ? Although many studies have examined differences between people and how those differences are co-related, the fundamental reasons *why* have remained a

mystery. Even large-scale investigations using advanced neuroimaging and molecular genetics only reveal narrow, intermediary snapshots or mechanisms like brain area activation and allele expression. Failure to see the grander architecture hampers individual potential and limits insights into the broader human condition and purpose.

Integrating concepts from economics, genetics, psychology, biology, as well as patterns from our thousands of meta-analyses, we presented a theory that explains why traits intertwine to form constellations that facilitate adaptations to varying environments. These constellations emerge from the non-random connections between basic individual differences, like how we weigh risk and reward, value freedom and order, approach intrapersonal and social relations, balance desire for power with corresponding resource constraints, and so forth. Since individuals are goal-directed systems that self-regulate via feedback, they must prioritize their finite resources among competing goals and strategies. Individuals follow a looping process of setting goals, detecting their current state, considering their options, taking action to try to advance toward their goal state, and adjusting their behaviors and goals based on feedback.

Constellations of traits form strategies aimed at maximizing the odds of surviving and thriving. Put simply, personality traits and cognitive abilities, and likely other attributes such as values and interests, *jointly* direct resource prioritization for self-preservation and self-evolution.

Our theory leads to the conclusion that there is no single optimal human profile since our environments and goals are dynamic. Diversity is optimal. Our theory also elucidates why traits like high aggression, high anxiety, and low intelligence persist and why such diversity is valuable. A species with individuals guided by diverse trait constellations is best suited to survive and even thrive in diverse futures.

As an individual, you are the steward of one of nature's bets. The ultimate purpose of these bets is not to accomplish your goals but rather to ensure that we continually find paths through the crucible of ever-changing environments. That is, while some have posited that evolutionary effectiveness is how well you can accomplish your goals, there is also a meta-purpose to your goals, strivings, and failings: to accomplish nature's goal of finding viable feature sets to fit with the environment. Since casting diverse bets ensures the durability of species, our adversaries and those we

view as the antitheses of ourselves may actually be our greatest partners in ensuring the achievement of long-term goals, like the survival of our kin.

No trait is inherently good or bad on its own. Instead, such evaluations depend on the fit of the individual with the environment,[9] which depends on the goals and strategies of the former and the resources and threats of the latter. That is, fitness is how well the characteristics of the individual align with their environment to enable the achievement of goals.[10] In this way, fitness manifests in many ways across life domains (e.g., mental wellbeing, professional effectiveness, educational attainment, and even longevity).

Beyond matching individuals with environments, the fit between individuals' characteristics, goals, and environments can be optimized by shifting goals and environments or even modulating expression of trait constellations. Indeed, the agility to adapt one's self and goals to various environments is a common thread of effective individuals. Although we all have some flexibility to employ different constellations at different times, our range is constrained and the probability of navigating by each constellation differs across individuals due to their genetic blueprint and life histories.

Final Thoughts

At the highest level, life is a constant interplay of concentration and diversification, ebb and flow, stability and change, where the odds of an individual surviving and thriving are maximized through the adaptive orchestration of energy to prioritize homeostasis and growth in environmentally sensitive ways. Every moment, each of us must prioritize finite resources among competing goals and strategies. Our trait constellations guide how we approach these challenges; helping us balance homeostasis and change in dynamic environments.

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[9] Indeed, both genes and environment must be considered since nature equipping an unborn child for fitness is like trying to pack your bag for a camping trip when you do not know where you are going; some things are generally useful, like drinking water, but others are best suited to certain environments, like ice picks.

[10] This is why it is often said that successful people tend to be those who find or put themselves in situations whose demands fully align to their strengths.

The research presented in "Of Anchors and Sails" proposes that success is ultimately a matter of effectively setting, pursuing, and ultimately attaining goals and that this depends on the fit between the resources and constraints of the environment. How we navigate these challenges and opportunities depends on our guiding trait constellations, which are bounded by our biology and life histories. Therefore, the best way to increase our effectiveness may be to set better-fitting goals and choose or create more suitable environments. After all, our choices are how we anchor and sail.
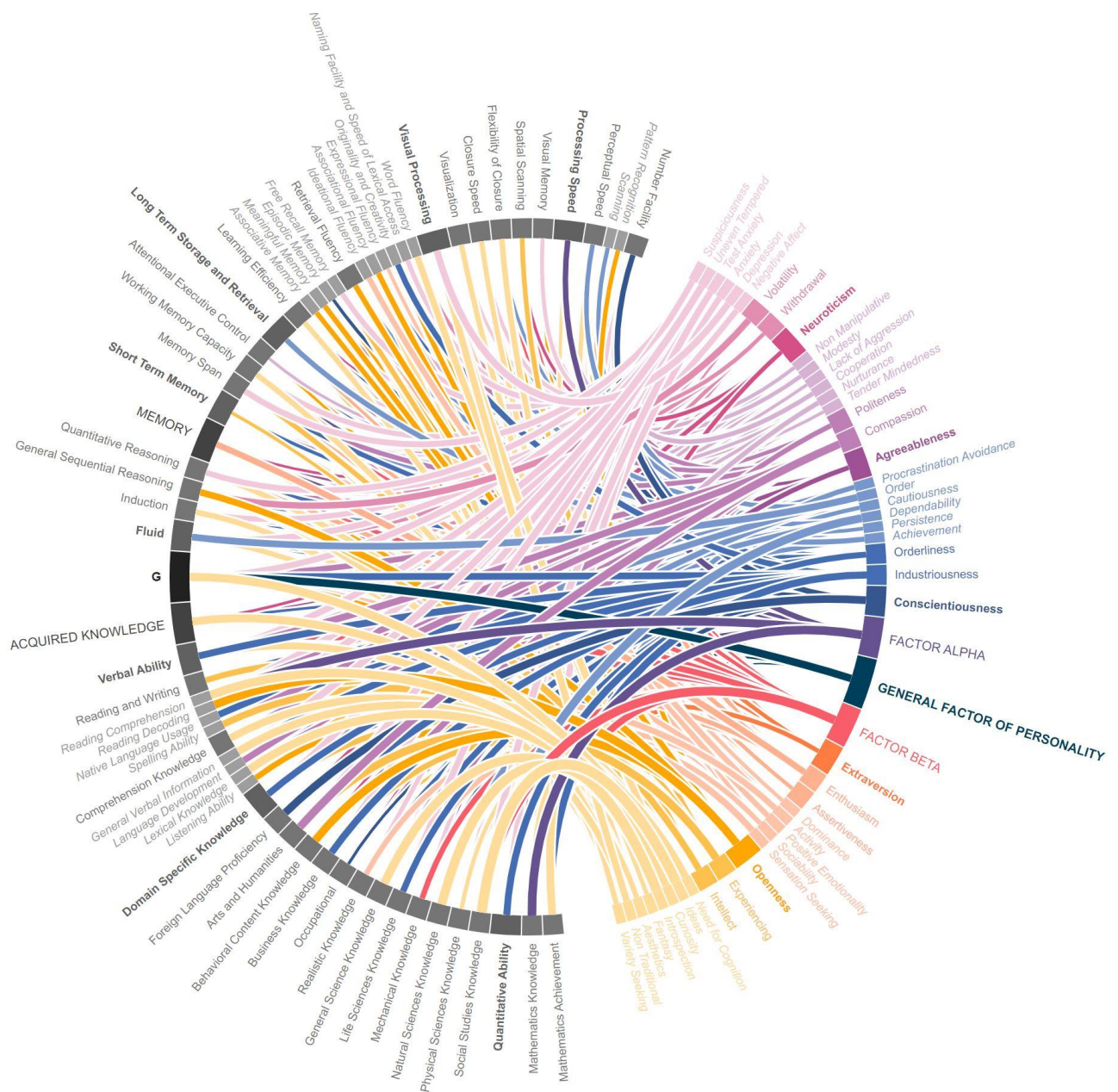
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