

Debates – Human Difficulties

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Introduction

Humans who talk to each can get into such a mess - people can get upset or simply refuse to engage, or they can simply go along with the crowd and just seek to agree to be “nice” and not cause offense.

There are many things underlying this issue and I will explore them here.

Think of it as a terms of reference about how we communicate with each other – both at the group level and individual relationships.

I examine and highlight research articles about the brain (neuroscience) and similar sources first and then synthesize the information around the frame below.

The diagrams are ones I have developed although I will use standard diagrams and attribute them as required.

I use a variety of semantic models and will attribute their source. I synthesize those and add my own features and links to other models.

Observe and Communicate

The initial human condition is to observe, then communicate (overcome “dumbness”) - then comes the ideas of managing an issue and acting. I have explored these basic human processes in “01 Humanism – High Level Process Views – Issues” <https://humanistman.com/home/frames/humanism-frames/>

If we examine the human processes of **1. Observe** and **2. Communicate** we can see that these form the very first processes of group activity and lead to the choices that groups make.

They consist of a number of sub processes which together form the basis of discussion, argument, debate and conversation in general. All of these processes revolve around **Data** and **Information** (we could consider data and information to be at the opposite ends of a sliding scale – at one end, data – more “*factual*” and at the other end, Information – more “*interpretative*”).

Frame

Humans who make observations, participate in discussions, make decisions on behalf of groups use their brain. What are the features of the human brain that participate in this process? What makes a good debate and what can disrupt communication and discussion? – especially in group discussions.

Context

Human communication and information exchange is essential for human survival, development and well being. Effective communication between nations can aid human survival.

Perspective

How should group discussions around issues be conducted? Should some humans be excluded and ignored and others listened to more than others and why?

Population

This article looks at individuals involved in group decision making processes. Choice – making choices on behalf of a group - Nations. Advisors, councilors, parliaments, forums, debates, media.

Questions

What human characteristics are useful when examining (Observe, Communicate) issues?

What are the difficulties in humans and processes used? - when communicating or debating?

Processes

This looks at the processes of observation and communication between humans who are acting as a group. Initially it is observation and communication which can then generally lead to managing issues and acting and making choices about how to take action on behalf of a group. Group discussion – public service – public good – human group Nation States.

Initial Conditions/self reference

Shared Language/Logic ([semantics](#)) between humans, communication, agreed **models** and **schemas**. **6.**

Supporting Processes = 6.1 Resources, 6.2 Agreement Resolution, 6.3 Research & Development (especially **communication tools**), 6.4 Cooperation, **7 Current Issues = 7.1 Behavior of Individual Humans, 7.2 Nation State & Large Group Behaviors**

Observe and Communicate

- Humans make many observations and communicate frequently with large amounts of information and data.
- The Human brain has evolved to process life experiences, communication and cooperation to enhance human survival.
- Large data and information stores (e.g. libraries) have been created to store long term information.
- Processes have been developed to support communication and debate.
- No human has exactly the same knowledge or skills as anyone else and this varies with age, experience, gender, size and local conditions.
- Humans continue to change.
- Human trade/commerce – shared language and concepts, trust and responsibility - help enable human progress

Research and Investigation

Exploring the literature and ideas – a quick scan of internet resources.

Human – Concepts – Schema - Hypothesis

https://en.wikipedia.org/wiki/Jean_Piaget

“Schema

*A Schema is a structured cluster of concepts, it can be used to represent objects, scenarios or sequences of events or relations. The original idea was proposed by philosopher Immanuel Kant as **innate structures used to help us perceive the world**.^[55]*

*A schema (pl. schemata) is the mental framework that is created as children interact with their physical and social environments.^[56] For example, many 3-year-olds insist that the sun is alive because it comes up in the morning and goes down at night. According to Piaget, these children are operating based on a simple cognitive schema that things that move are alive. At any age, children rely on their current cognitive structures to understand the world around them. Moreover, younger and older children may often interpret and respond to the same objects and events in very different ways **because cognitive structures take different forms at different ages**.^[57]*

Piaget (1953) described three kinds of intellectual structures: behavioural (or sensorimotor) schemata, **symbolic schemata**, and operational schemata.

Behavioural schemata: organized patterns of behaviour that are used to represent and respond to objects and experiences.

Symbolic schemata: internal mental symbols (such as images or verbal codes) that one uses to represent aspects of experience.

Operational schemata: internal mental activity that one performs on objects of thought.[58]

According to Piaget, children use the process of assimilation and accommodation to create a schema or mental framework for how they perceive and/or interpret what they are experiencing. As a result, the early concepts of young children tend to be more global or general in nature.[59]

Similarly, Gallagher and Reid (1981) maintained that adults view children's concepts as highly generalized and even inaccurate. With added experience, interactions, and maturity, these concepts become refined and more detailed. Overall, making sense of the world from a child's perspective is a very complex and time-consuming process.[60]

Schemata are:

Critically important building block of conceptual development

Constantly in the process of being modified or changed

Modified by on-going experiences

A generalized idea, usually based on experience or prior knowledge.[59]

These schemata are constantly being revised and elaborated upon each time the child encounters new experiences. In doing this children create their own unique understanding of the world, interpret their own experiences and knowledge, and subsequently **use this knowledge to solve more complex problems**. In a neurological sense, **the brain/mind is constantly working to build and rebuild itself as it takes in, adapts/modifies new information, and enhances understanding**. [59]

Accordingly, Panksepp (1998) suggested the following:

Emotions are the psychoneural processes that are influential in controlling the vigor and patterning of actions in the dynamic flow of intense behavioral interchanges between animals as well as with certain objects that are important for survival. Hence, each emotion has a characteristic "feeling tone" that is especially important in encoding the intrinsic values of these interactions, depending on their likelihood of either promoting or hindering survival (both in the immediate "personal" and long-term "reproductive" sense). Subjective experiential-feelings arise from the interactions of various emotional systems with the fundamental brain substrates of "the self," that is important in encoding new information as well as retrieving information on subsequent events and allowing individuals efficiently to generalize new events and make decisions.

He went further to propose seven primary emotional systems/prototype emotional states, namely SEEKING, RAGE, FEAR, LUST, CARE, PANIC/GRIEF, and PLAY that represent basic foundations for living and learning.

Affects are subjective experienced emotional feelings that are difficult to describe, but have been linked to bodily states such as homeostatic drives (hunger and thirst) and external stimuli (visual, auditory, taste, touch, smell) ([Panksepp, 2005](#)).

In addition, a “drive” is an inherent action program that is responsible for the satisfaction of basic and instinctual (biologically pre-set) physiological needs, e.g., hunger, thirst, libido, exploration, play, and attachment to mates (Panksepp, 1998); this is sometimes called “homeostatic drive.” In brief, a crucial characteristic shared by emotion, mood, feeling, affect and drive is their intrinsic valence, which lies on the spectrum of positive and negative valence (pleasure-displeasure/goodness-badness). The term emotion exemplifies the “umbrella” concept that includes affective, cognitive, behavioral, expressive and physiological changes; emotion is triggered by external stimuli and associated with the combination of feeling and motivation.”

Brain - Memory – Hippocampus - Research

How Does the Hippocampus Affect Memory? <https://www.verywellmind.com/what-is-the-hippocampus-2795231>

“The hippocampus plays a critical role in the formation, organization, and storage of new memories as well as connecting certain sensations and emotions to these memories. Have you ever noticed how a particular scent might trigger a strong memory? It is the hippocampus that plays a role in this connection.

Research has also found that different subregions of the hippocampus itself play important roles in certain types of memory. For example, the rear part of the hippocampus is involved in the processing of spatial memories. Studies of London cab drivers published in 2000 found that navigating complex mazes of big city streets is linked to the growth of the rear region of the hippocampus.²

The hippocampus also plays a role in consolidating memories during sleep. Studies published in 2004 suggest that greater hippocampal activity during sleep following some sort of training or learning experience leads to better memory of the material the following day.

Brain – Physical Structure – Amygdala - Anxiety – Gender Differences

Anxiety <https://en.wikipedia.org/wiki/Amygdala>

There may also be a link between the **amygdala and anxiety**.^[81] In particular, there is a higher prevalence of females that are affected by anxiety disorders. In an experiment, degu pups were removed from their mother but allowed to hear her call. In response, the males produced increased serotonin receptors in the amygdala but females lost them. This led to the males being less affected by the stressful situation.

The clusters of the amygdala are activated when an individual expresses feelings of fear or aggression. This occurs because the amygdala is the primary structure of the brain responsible for fight or flight response. **Anxiety and panic attacks can occur** when the amygdala **senses environmental stressors** that stimulate fight or flight response.”

Brain - Memory - Age - Gender - Emotion - Effects - Hypothesis

<https://www.memory-key.com/memory/emotion>

*“It does seem that **memories are treated differently** depending on whether they are associated with pleasant emotions or unpleasant ones, and that **this general rule appears to be affected by age and other individual factors**. Specifically, pleasant emotions appear to fade more slowly from our memory than unpleasant emotions, but among those with mild depression, unpleasant and pleasant emotions tend to fade evenly, while **older adults seem to regulate their emotions better than younger people**, and may encode less information that is negative.*

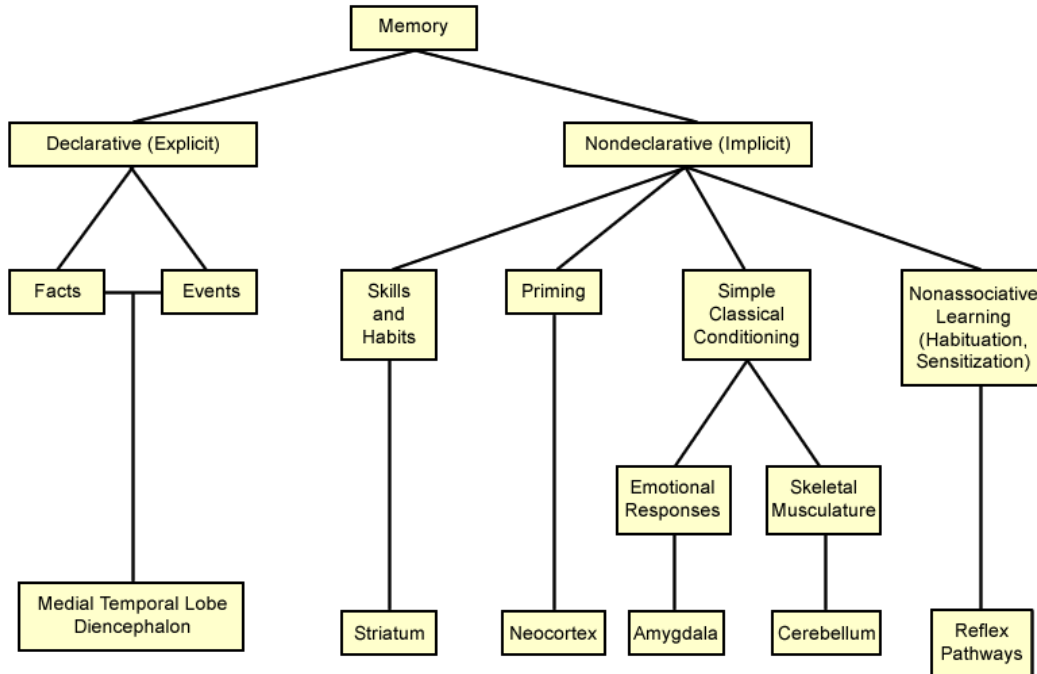
*It also seems that there **are differences in the way men and women process emotional memories**. Women are better at remembering emotional memories. They also seem to be more likely to forget information presented immediately before emotionally charged information. This suggests that women are more affected by emotional content - a suggestion **compatible with the finding that women and men tend to encode emotional experiences in different parts of the brain**. In women, it seems that evaluation of emotional experience and encoding of the memory is much more tightly integrated.*

*The brain region **most strongly implicated in emotional memory** is the **amygdala**. The amygdala is critically involved in calculating the emotional significance of events, and, through its connection to brain regions dealing with sensory experiences, also appears to be responsible for the influence of emotion on perception - **alerting us to notice** emotionally significant events **even when we're not paying attention**. The amygdala appears to be particularly **keyed to negative experiences**.”*

Brain - Memory - Logical Schema

John H. Byrne, Ph.D., Department of Neurobiology and Anatomy, McGovern Medical School University of Texas

<https://nba.uth.tmc.edu/neuroscience/m/s4/chapter07.html>



(this diagram seems to be a well known , taught and shared diagram about memory in the brain)

Brain – Memory - Anxiety – Hippocampus – Gender Differences - Research

Sex differences in hippocampal function <https://onlinelibrary.wiley.com/doi/full/10.1002/jnr.23864>

“CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

What conclusions might be drawn from several decades of research on sex differences in **hippocampal** function? With respect to memory, the preponderance of evidence suggests that **males outperform females in tests of spatial memory, whereas females outperform males in tests of object memory**. We focused on these two types of hippocampus-dependent memory because of the availability of translationally relevant tasks for humans and rodents. To this point, it is important to note that the male advantage in spatial memory and the female advantage in object memory are found in both humans and rodents. Thus, pinpointing the neurobiological bases underlying mnemonic sex differences in rodents will likely provide important insights into mnemonic sex differences in humans. A key element to this endeavor will be to understand the developmental etiology of sex differences in hippocampal memory. Sex differences in spatial memory appear to be organized in early development by sex steroid hormones. Although it is unclear whether the effects of sex steroids at puberty are organizational or activational in nature, they do appear to significantly mediate spatial memory in both adolescence and adulthood (Fig. 6). Hippocampally derived sex steroid hormones may also play an important role in early development and adulthood (Fig. 6), although it is not yet clear whether the contributions of local steroids differ from those of gonadally derived steroids. It is also worth noting that the hippocampus mediates other types of learning and memory that have not been discussed in detail here. **For example, sex differences favoring males are observed in contextual fear conditioning and fear extinction (Maren et al., 1994; Gresack et al., 2009; Matsuda et al., 2015). Given that women are at a higher risk of anxiety disorders, including**

posttraumatic stress disorder (Breslau et al., 1998; Pigott, 2003), understanding the nature of sex differences in fear learning may provide important insights for the prevention and treatment of these disorders in women.”

Brain – Memory – Logical Schema – Learning - Language

Memory <https://human-memory.net/explicit-implicit-memory/>

*“Children under the age of about seven pick up new languages easily without giving it much conscious thought, **using procedural (or implicit) memory.***

*Adults, on the other hand, actively learn the rules and vocabulary of a new language **using declarative (or explicit) memory.**”*

Brain – Memory – Logical Schema – Physical Structures

Memory <https://mayfieldclinic.com/pe-anatbrain.htm>

*“ **Short-term memory**, also called working memory, occurs in the prefrontal cortex. It stores information for about one minute and its capacity is limited to about 7 items. For example, it enables you to dial a phone number someone just told you. It also intervenes during reading, to memorize the sentence you have just read, so that the next one makes sense.*

***Long-term memory** is processed in the hippocampus of the temporal lobe and is activated when you want to memorize something for a longer time. This memory has unlimited content and duration capacity. It contains personal memories as well as facts and figures.*

***Skill memory** is processed in the cerebellum, which relays information to the basal ganglia. It stores automatic learned memories like tying a shoe, playing an instrument, or riding a bike.”*

Brain – Physical Structures – Cognitive Function - Gender Differences - Research

Brain Differences Between Men and Women: Evidence From Deep Learning

<https://www.frontiersin.org/articles/10.3389/fnins.2019.00185/full>

*“Recent studies indicate that **gender may have a substantial influence on human cognitive functions**, including emotion, memory, perception, etc., (Cahill, 2006). Men and women appear to **have different ways to encode memories**, sense emotions, recognize faces, solve certain problems, and **make decisions**. Since the brain controls cognition and behaviors, these gender-related functional differences may be associated with the gender-specific structure of the brain (Cosgrove et al., 2007).*

*The result of two-sample t-test of 32 features of men and women **shows that there are 25 features had significant gender differences including 13 features that women have larger values and 12 features that men have larger values (see Figure 3). Interestingly, men have significantly higher entropy than women for all features (see Figure 4).**”*

Brain - Logical Schema – Physical Structures - Diencephalon

Diencephalon <https://courses.lumenlearning.com/boundless-ap/chapter/the-diencephalon/>

“ subthalamus: Receives afferent connections from the substantia nigra and striatum and regulates skeletal muscle movements.

thalamus: Either of two large, ovoid structures of gray matter within the forebrain that relay sensory impulses to the cerebral cortex.

hypothalamus: A region of the forebrain located below the thalamus, forming the basal portion of the diencephalon, and functioning to regulate body temperature, some metabolic processes, and the autonomic nervous system.

*epithalamus: The dorsal posterior segment of the diencephalon, involved in the maintenance of circadian rhythms and regulation of motor pathways and **emotions**.*

*limbic system: A set of brain structures located on both sides of the thalamus, right under the cerebrum. Supports a variety of functions including **emotion**, behavior, **motivation**, **long-term memory**, and olfaction.”*

Brain - Logical Schema – Physical Structures – Hypothalamus – Hypothesis - Activation

<https://www.neuroscientificallychallenged.com/blog/2014/5/10/hypothalamus-know-your-brain>

(part of Diencephalon) *“The hypothalamus thus has widespread effects on the body and behavior, which stem from its role in maintaining **homeostasis** and its **stimulation of hormone release**. It is often said that the hypothalamus is responsible for the four Fs: fighting, fleeing, feeding, and fornication. Clearly, due to the frequency and significance of these behaviors, the hypothalamus is extremely important in everyday life.”*

Brain - Physical Structures – Striatum – Human relationships – Hypothesis - Activation

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3857563/>

*“The **striatum** is involved in other social behaviors besides social action, social reward and reward inequity. Social isolation and social defeat compromise the normal function of the striatum. These effects highlight the interplay between normal social contact and striatal function. Social isolation has long-lasting effects in behavior, neuronal anatomy and neurochemistry. For example, social deprivation in the first year of life of macaques is related to abnormal social behaviors including fearfulness, withdrawal, lack of play, apathy, indifference to external stimuli, deficiencies in communication and aggression (Martin et al., 1991).*

Involvement of the striatum in pair-bond formation and maintenance

Sex is a primary reward and it is the basis of pair-bond formation in voles. The striatum is part of the neuronal circuitry underlying a remarkable pair-bond formation in which both partners remain monogamous. It is important to note that the role of the striatum extends beyond that of movement and reward. Studies on vole pair formation provide an interesting example of the interaction between social behavior and striatal function.”

Brain - Physical Structures – Neocortex

<https://en.wikipedia.org/wiki/Neocortex>

“The **neocortex**, also called the neopallium and isocortex, is the part of the mammalian brain involved in higher-order brain functions such as **sensory perception, cognition, generation of motor commands,[1] spatial reasoning and language.[2]**

The neocortex is further subdivided into the true isocortex and the proisocortex.[3]

In the human brain, the neocortex is the largest part of the cerebral cortex which is the outer layer of the cerebrum, with the allocortex making up the rest. The neocortex is made up of six layers, labelled from the outermost inwards, I to VI. Of all the mammals studied to date (including humans), a species of oceanic dolphin known as the long-finned pilot whale has been found to have the most neocortical neurons.[4]”

Brain - Physical Structures – Amygdala – Gender Differences – Human Development

<https://en.wikipedia.org/wiki/Amygdala>

“There is considerable growth within the first few years of structural development in both male and female amygdalae.^[12] Within this early period, female limbic structures grow at a more rapid pace than the male ones. **Amongst female subjects, the amygdala reaches its full growth potential approximately 1.5 years before the peak of male development.** The structural development of the male amygdala occurs over a longer period than in women. Despite the early development of female amygdalae, they reach their growth potential sooner **than males, whose amygdalae continue to develop. The larger relative size of the male amygdala may be attributed to this extended developmental period.**”

Brain - Physical Structures – Cerebellum – Memory – Logical Schema

<https://www.healthline.com/human-body-maps/cerebellum#1>

The **cerebellum** is located behind the top part of the brain stem (where the spinal cord meets the brain) and is made of two hemispheres (halves).

The cerebellum **receives information from the sensory systems, the spinal cord, and other parts of the brain and then regulates motor movements.** The cerebellum coordinates voluntary movements such as posture, balance, coordination, and speech, resulting in smooth and balanced muscular activity. It is also important for learning motor behaviors.

It is a relatively small portion of the brain -- about ten percent of the total weight, but it contains roughly half of the brain's neurons, specialized cells that transmit information via electrical signals.

The cerebellum is not unique to humans. Evolutionarily speaking, it is an older portion of the brain. It is present in animals that scientists believe existed before humans.

*Two particular networks that stand out across numerous studies are the **autobiographic memory network** and **cognitive control network**.”*

Brain – Memory – Logical Schema – Physical Structures

Genevieve Rayner Postdoctoral Research Fellow, Florey Institute of Neuroscience and Mental Health, The emotion centre is the oldest part of the human brain: why is mood so important? September 26, 2016 5.33am AEST <https://theconversation.com/the-emotion-centre-is-the-oldest-part-of-the-human-brain-why-is-mood-so-important-63324>

*“The **autobiographic memory network** processes information related to ourselves, including recalling personal memories and self-reflection. Key hubs in this network comprise brain areas inside the prefrontal cortex, which sits in the front of the brain; the hippocampus; the posterior cingulate cortex, which is the upper part of the limbic lobe; and **parietal regions, which sit behind the frontal lobe and are important for mental imagery.***

*The **cognitive control network** links up regions that co-ordinate our attention and concentration so that we can complete tasks. It recruits a circuit of the front part of the cingulate cortex and dorsolateral prefrontal cortex, which are specialised for **“cold” (!?) “, unemotional, rational thought.”***

Brain – Hypothesis – Abstract Thought - History – Logical Schema – Physical Structures

Pre-Frontal Cortex – Pre Frontal Synthesis (PFS) - (imagination – large network across structures)

https://en.wikipedia.org/wiki/Prefrontal_cortex (working memory, network, synthesis)

<https://neurosciencenews.com/language-imagination-evolution-14656/>

*“The acquisition of **PFS and recursive language 70,000 years ago resulted in what was in essence a behaviorally new species: the first behaviorally modern Homo sapiens,**” concludes Dr. Vyshedskiy. “This newly acquired power for **fast juxtaposition of mental objects** in the process of PFS dramatically facilitated mental prototyping and led to fast acceleration of technological progress. Armed with the unprecedented ability to mentally **simulate** any plan and equally unprecedented ability to **communicate it to their companions,** humans were poised to quickly become the dominant species.”*

Brain – Gender Differences - Physical Structures – Pre Frontal Cortex – Network Connectivity – Research - Hypothesis

Published online 2014 Jul 7. doi: 10.1364/BOE.5.002503 Gender-related effects of prefrontal cortex connectivity: a resting-state functional optical tomography study, Ching-Cheng Chuang^{1,2} and Chia-Wei Sun¹, *<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4132984/>

“According to the result of Fig. 5, the **male group presents stronger connections** in the dorsolateral PFC regions (BA 10, BA 46, and BA 9) that are **associated with brain function of memory**, particularly **working memory, and memory control and organization**. Conversely, the **female group shows the stronger connections** in the inferior PFC regions (BA 44, BA 45). It is interesting to note that the BA 44 and 45 of left PFC are **called Broca’s area that possesses strong correlation of speech-language**. Thus, our results might help to explain **females perform better in verbal memory, verbal fluency tasks, and speed of articulation** [46, 47]. Contrarily, **males perform better in quantitative problem solving, and mental rotation, or tasks involving the underlying cognitive processes of maintaining and manipulating a visual image in working memory** [48]. The observance of leftward dominance of inferior PFC in male group and bilateral dominance in female group during resting-state may help to explain the finding from previous fMRI study [4] that indicated the phonological processing aroused activation in the left inferior PFC in male but the bilateral PFC was activated in females. In the other words, it **may support that why the females perform better in the function of speech-language.**”

Analysis of research about observe and communicate (brain functions)

- **Research is ongoing and improving knowledge about brain function, and how complex it is** – using more advanced technology and tools.
- There are differences in the ways human brains operate depending on many things like – genetics, environment (location, organization, relationships), local conditions (temperature, weather, air, sound, sights), situation (the events/mood (and other base level brain functions) /context), age, gender and other group categorization terms.
- “Everyone remembers where they were when **BIG DISASTER** happened.” – NO, no they don’t. They remember things in different ways, schemas, and intensity and will relate it to different things. **The mistake humans make** is thinking that other humans share any common memories or schemas – declarative or otherwise.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2964318/>

“Despite the implication from classical atlases derived from small numbers of brains, **structural anatomy of the brain can vary substantially**. The majority of such differences likely represent normal variations, both **genetically influenced and environmentally modified**, but some differences may be informative for identifying risk factors for developing neuropsychiatric disorders. Many of these differences relate to basic **demographic factors**, as there are differences in brain structure between the **sexes** [1] and established **aging-related changes** in brain structure [2], [3]. More recently, **genetic differences** have been demonstrated to be related to brain structure and function [4]. As allele frequency for many genetic

polymorphisms differs based on racial and ethnic background, this leads to questions about differences in brain structure or function based on ancestry. Such potential population differences may create methodological biases if atlases or templates developed from one population were applied to a different population [5].”

- Humans will remember things differently and much of human memory is **non-declarative** and can be aligned with **highly activating** parts of the brain – e.g. the amygdala.
- Skills (bias), Habits (bias), Priming (bias), Physical and Emotional History (Simple Classic Conditioning – bias), Reflex response of **non-declarative** (implicit) memory have been progressively separated from the development and improvement of **declarative memory** (explicit)
- The **declarative memory (semantics - facts/sequence/logic/hypothesis)** is a recent improvement (70,000 years) to humans which has allowed improved communication and **abstractions/schemas**.
- Schemas (particularly **Symbolic and Operational schemata**), other mental models and communication have improved by effective use of
 - Declarative memory ([Medial Temporal Lobe](#) - Hippocampus ,etc – specifically the [Rhinal cortex](#))
 - short term memory (working memory – Prefrontal Cortex),
 - long term memory,
 - memory exchange networks (MTL, hippocampus),
 - pre frontal synthesis (PFS – [Pre Frontal lobe](#)),
 - [cognitive control network](#) (for abstract and **group** concepts and less reliance on the **autobiographical** control network for **personal event narrative (language/words)**),
- More complex, interrelated (hierarchical), **robust** schemas in [declarative memory](#) for **facts** (semantics - links to cognitive control network) and **events** (with links to autobiographical network) have developed because of sustained ability to **concentrate on tasks** due to:
 - Improved environment - living conditions and less danger to humans
 - Improved language and communication – sharing of ideas, testing of hypothesis
 - **less anxiety** by inhibiting the distracting influences of the amygdala
 - limiting distractions and energy deprivation from other human “conditions” (SEEKING, RAGE, FEAR, LUST, CARE, PANIC/GRIEF, and PLAY (Piaget))
 - Improved physical stores of declarative memory (books, **libraries**, etc)
 - Less reliance on autobiographical control network, storing personal history narratives – **not** having to share information intergenerationally using narrative.

Experience – memories, knowledge, emotions (discussions), learning

As each human experiences more they develop more memories. If they have the interest and skills then they can develop in certain areas. Some prefer to develop language and narratives. Some humans prefer to develop declarative memory with semantics, fact based mental models and some develop narratives with abstraction rather than an autobiographical focus.

In all of this development there will be variation in the core structures of the human brain which affect how the memories and development take place - Amygdala (emotions – memory consolidation, decision making), Hippocampus (learning and space) , frontal cortex (FPS) – filtering noticing.

Our Brain structures have developed along with other life, to help us survive the world we inhabit. So they represent well adapted physical constructs for dealing with the energy, mass and higher structures we have potential relationships with.

As we know from quantum physics – we consist mainly of probabilities and energy/mass undergoing change. Our bodies have adapted to focus on things we need to focus on (**take notice/observe**) while leaving many bodily functions on maintenance mode (homeostasis, etc). That way the energy requirements of the cognitive functions of the brain can be used only when needed.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6041938/>

*While only accounting for **2% of total body mass, the adult human brain uses roughly 20% of daily caloric intake.** The brain is also **highly selective in terms of fuel.** Under normal, healthy physiological conditions, cognitive and **neural processes are fueled solely by glucose.** This glucose must be constantly supplied from the blood.*

There is a relationship between the world as we perceive it, as it exists, as our minds have evolved and as we represent the world in artifacts (books, etc) which enhance the sustained long term human memory.

How do I create Schemas – a process view

I will explain how I do it. (**operational schemata**)

1. I notice something and take an interest.
2. I research quickly and widely and absorb information as I notice things
3. I abstract to highest levels by quickly sorting, grouping (chunking) and leveling (hierarchy) (linking) and quickly document – I seek comprehensiveness (wide coverage)
4. I rest and do something else - nothing is rushed
5. I sleep and dream.
6. I start again and start referencing materials – I read deeply on topics of interest
7. I follow topics as I become interested
8. I developed specific series of self contained separate models
9. I start connecting models with links and testing the connections and contents for comprehensiveness – incompleteness – conflicts - robustness
10. I research related models and concepts from different disciplines
11. I try to ensure models are sufficiently abstract/detailed/useful and referenced for further development.
12. I level the schema as written and move to other topics
13. I revisit schemas as I research other topics.

I abstract things to a level which I find useful. In a general sense it has to be more than 50% “complete”, “comprehensive” and **of further use (I also ANTICIPATE a further connection with something which may come up – based on my experience of change and knowledge of history)**. If it is 75% then it’s a very useful model – more than that is excellent but you get diminishing returns (reward for effort) as you go from 95% to 100%.

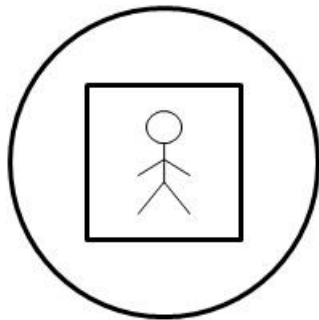
This is the sort of technique used for linking and leveling. *“Do I have sufficient confidence to abstract things together in a common term (thing, clump, group, etc) ?”*

“Do I have sufficient confidence to Link terms together?” This is the difference between saying that an apple **IS** a Fruit rather than saying that an Apple **IS LIKE** a FRUIT. Loosely connected objects can exist - particularly in working memory but that can be Pruned (optimization) once explored.

“Are things at the right hierarchy level? Does one group term encompass another group term?”

I explore this process more here <https://humanistman.com/wp-content/uploads/2019/10/14-Humanism-%E2%80%93-Language-Development.pdf>

It is a model for use. It has uncertainty built in, it is general, approximation, best guess, open for debate, modifiable, good for sharing ideas. Sometimes these models are best shared between humans as simple pictures – **diagrams** and the like – with some **words** arranged near objects on the diagram



Universe, Constraint, Human

You get **value out of abstracting** – rather than remembering each individual tiger animal who might kill you, you can generalize it to a more vague term like “Tiger” which can then be abstracted to “animal which might kill you”. So with the use of grouping (chunking, clumping, coalescing), linking (ordering, sequence, ranking), leveling (hierarchy, links) – we get “abstraction”. It is an optimization process which enables humans to concentrate on increasingly complex issues. We can also navigate via hierarchies high level conceptual views into highly detailed and focused views of the world.

<https://royalsocietypublishing.org/doi/10.1098/rsif.2017.0166>

The evolution of lossy compression, Sarah E. Marzen, and Simon DeDeo, Published:10 May 2017<https://doi.org/10.1098/rsif.2017.0166>

What types of schemas do I create and why?

I create schemas with the intent that most (as many as possible) humans can find some part of the schema which they understand and can connect to by having interest, skills, knowledge, experience with. (useful for communication between diverse humans)

This is because these become an important tool to aid communication for: **6. Supporting Processes- Level 1 process view - 6.3 Research & Development - Communication Tools.**

<https://humanistman.com/home/frames/humanism-frames/>

To do this I have to have enough information over many specialized domains to have **sufficient understanding** (enough to enable discussion or disagreement) to find common abstractions and terminology to be able to describe things in shared concepts and words. My ability to do this is improved by reading and understanding in depth information from as many topics and subject areas as I can as well as maintaining large internal “meta” frameworks which help organize the specific schemas.

When I read I absorb the schemas of the experts in those topics rather than all the specific detail.

I don't aspire to be “expert” in any specific topic domain.

I have been privileged enough to have the access and ability to: read dictionaries from start to finish, looked at several languages – English, French, German, Indonesian, Latin and Spanish, played sports, acted on stage, sung in groups, performed in musicals, travelled widely, etc.

I have an interest in everything going on in all parts of the world in multiple topic areas. I am interested in science, maths, history, philosophy, law, society, organizations, nations, computing and things new and emerging (discoveries).

The schemas I describe are intended to become the starting point to help frame discussions between humans with varying skills, interest, expertise and biases.

I rely heavily on the expertise of other humans and the permanent long term storage of libraries and the internet – especially shared and free content.

Schemas

There are complex inter-connected schemas for maths, agriculture, science, building (guilds), public service, business, industry, life, human endeavors, travel, science, libraries, indexes, book contents, course outlines, scientific papers, government reports, web content, health, military, etc.

Semantics and ontologies (example

<http://info.slis.indiana.edu/~dingying/Teaching/S604/OntologyList.html> **Ontology List - Indiana University Bloomington**) have continued to develop in detail and structure as have the methods and standards used when describing them. E.g. [OWL](#)

The improved quality and content of formal shared human semantics has been essential in the continued communication and cooperation between humans. The storage, use, education, training and

availability of these continues to improve but was with all complex things there are limits to the accuracy and precision at both the highest and lowest levels of the hierarchies.

Many organizations consisting of experts in their topic **cooperatively came together** to manage semantics, schema, ontologies, standards, research and ideas to ensure the quality, applicability and robustness of their semantic documents and their work. One example is <https://www.ieee.org/> **“IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.”**

One of the problems with the huge growth of the internet has been a devolution of the role of the **“Librarian”**. A Librarian would ensure that all the most useful books were stored, categorized and available within a library. They could be searched for and you could physically get the book and read it. Part of the interest in visiting a library was seeing the other books which had been arranged by the librarian near or surrounding the book you were looking for. And sometimes it was interesting to see other books in other categories as you browsed a library's contents. Censorship was a constant debate.

With the advent of search engines on the internet – most results are returned for queries based on algorithms based on advertizing, money, popularity, orthodoxy (politics, political correctness, etc) of the current search company – rather than any formal assessment of the quality of the work or the contribution to the development of the formal semantics shared by humans for the cooperative development and communication. In fact – no formal assessment is done by anyone who is trained in the knowledge space.

Finding quality information on the internet is not a simple matter.

There has always been a problem with corruption. The idea of **Trust was very important to communication and ongoing cooperation – probably starting with work and trade**. If humans were lying, making up facts and information, falsifying information, writing whole narratives to manipulate people without being open and upfront about their intent, being incomplete in their observations and other corrupt behavior - then their reputations would suffer and the community would shun, shame or even prosecute them. To some extent humans were expected to be **honest analysts of the world as they saw it** rather than manipulators, liars, deceivers and **Bad Actors**. This was part of the shared trust for continued cooperation between humans.

What garners wide human interest **is when fundamental human schemas are challenged** and undergoing change (the world is not flat, the earth revolves around the sun, evolution).

Some of these issues are discussed in more detail in this article on the *Stanford Encyclopedia of Philosophy Website* **Social Ontology** First published Wed Mar 21, 2018, Epstein, Brian (from TUFTS university <https://epstein.org/about/>), "Social Ontology", *The Stanford Encyclopedia of Philosophy* (Summer 2018 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/sum2018/entries/social-ontology/>.
<https://stanford.library.sydney.edu.au/entries/social-ontology/>

Change and Challenge to Schemas

Type of schema change - Innovation, tear down and start again, gradual change, iterate, discard.

In Human development - child development experts recognize the need to assimilate and accommodate new information into schemas (I see the terms schemas and semantics as largely interchangeable) as part of human maturity and growth. The tendency is to create new schemas and to try to integrate them into a linked set rather than have a isolated schema. It is easy to manage and use a well supported set of linked schemas.

Recent challenges are the proliferation of semantics due to the growth and the number of organizations, humans, nations on the planet.

One example is changing to a shared system of measurement (e.g. metric).

Recent changes to some organizations is to recruit only graduates from universities into simple administrative functions. One of the problems with University graduates is that they believe they have been educated and their advanced learning then entitles them to implement change without experiencing or learning about the organization itself. So rather than learning **how to learn** and improve their skills and understanding they are educated **how to implement change** based on some preconceived notion from the university classes about how the world should be - a social justice narrative or “**improvements**” and “**progress**”.

“the principle of distributive justice, once introduced, would not be fulfilled until the whole of society was organized in accordance with it. This would produce a kind of society which in all essential respects would be the opposite of a free society”. Friedrich Heyek “ the Mirage of Social Justice”-
https://en.wikipedia.org/wiki/Friedrich_Hayek

Sometimes some little knowledge can lead to an inflated (**arrogance, pride**) view of capabilities and skills.

Other employees recognize the importance of learning and experience and the costs and impacts of implementing change

Young people/inexperienced take risks, try new things and may discovered new things – through exploring and playing. Or they rediscovered well known things.

This is the role of the young and humans who are learning – they test and validate or improve the existing shared semantics of humanity. Too much risk taking and experimentation can lead to disconnected schemas and **corruption (not useful, no longer working)** of existing systems.

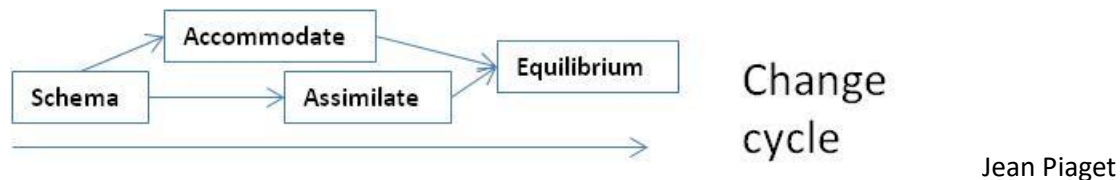
Ignorant people may ask questions to improve their knowledge which test and helps validate views about schemas from people who have become complacent in their view a particular schemas (homeostasis, lazy). Too little change results to a lack of adaptability and assimilation of the real changes in the world.

Advanced human thinking allows detailed simulations, prediction, hypothesis, alternatives, etc – which can help inform choice.

Changes in schemas take time - robustness – checking – education – sharing – use and testing – feedback, consolidation – important schemas need to be robustly examined for changes.

Progressives (remove and change schemas and systems) versus **conservatives** (manage and assimilate schemas and systems) is a natural tension in society.

Advanced human thinking allows for planning ahead and anticipation of change (monitoring and evaluation.) – “future proofing”.



Narratives – using hypothesis to explore changes, dystopias and disconnects

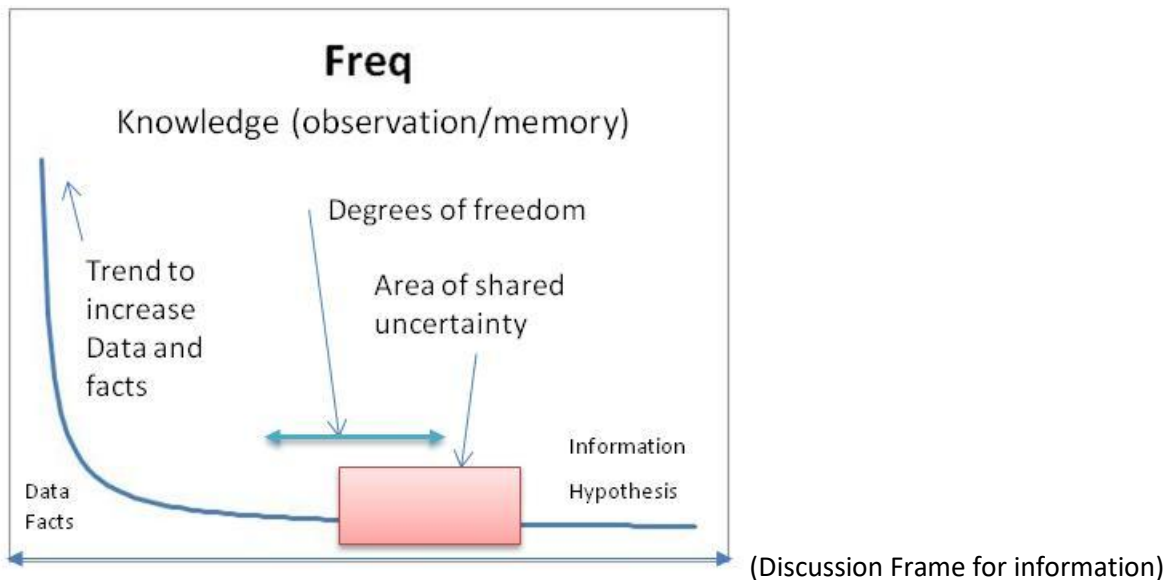
- <https://curiosity.com/topics/the-smith-and-the-devil-is-the-worlds-oldest-fairy-tale-curiosity/> (bronze age - 5000 BC) *As the world's oldest tale, the premise of The Smith and The Devil might seem pretty familiar. It's about a blacksmith who sold his soul in a pact with the devil. Why? For supernatural powers, of course*
- https://webpages.uidaho.edu/engl257/Ancient/epic_of_gilgamesh.htm *An epic poem concerning or (very) loosely based on the historical King Gilgamesh, who ruled Sumerian Uruk (modern day Iraq) in 2700 BC.*
- https://en.wikipedia.org/wiki/Charles_Perrault (1628-1703) *He laid the foundations for a new literary genre, the **fairy tale**, with his works derived from earlier folk tales, published in his *Histoires ou contes du temps passé*. The best known of his tales include *Le Petit Chaperon Rouge* (Little Red Riding Hood), *Cendrillon* (Cinderella), *Le Chat Botté* (Puss in Boots), *La Belle au bois Dormant* (The Sleeping Beauty) and *Barbe Bleue* (Bluebeard)*
- [Jonathan Swift](#) - [Gulliver's Travels](#), or [Travels into Several Remote Nations of the World](#). In Four Parts. By Lemuel Gulliver, First a Surgeon, and then a Captain of Several Ships
- https://en.wikipedia.org/wiki/Hans_Christian_Andersen - The Emperor's New Clothes
- [Jacob and Wilhelm Grimm](#), Brothers Grimm , [Fairy tales](#) – [Fairy Tales](#)
- [Lewis Carroll](#) Charles Lutwidge Dodgson - [Alice's Adventures in Wonderland, Through the looking glass, and what Alice found there](#)
- [H G Wells](#) - *Wells rendered his works convincing by instilling commonplace detail alongside a single extraordinary assumption – dubbed “Wells’s law” – leading Joseph Conrad to hail him in 1898 as “O Realist of the Fantastic!”*
- George Orwell - [1984, Animal Farm](#)
- [Ayn Rand](#), [Atlas Shrugged](#),
- [J R R Tolkien](#) – The Hobbit, the Lord of the Rings

- Science Fiction – [Isaac Asimov - Foundation Novels](#) , Howard Gotlieb Archival research center <http://archives.bu.edu/collections/collection?id=121382> (prolific writer of short stories and articles)
- Science Fiction – John Wyndham - [John Wyndham Parkes Lucas Beynon Harris](#) - The Day of the Triffids (1951) ,The Midwich Cuckoos (1957) , [The Trouble with Lichen](#) (1960), [Dumb Martian](#) (1952)
- Science Fiction – Ray Bradbury - [The illustrated Man](#)
- Science Fiction - [Arthur C. Clarke](#) - 2001: A Space Odyssey
- Science Fiction - [Philip K. Dick](#) - [The Cosmic Puppets](#) , Blade Runner
- Science Fiction - [Robert A. Heinlein](#) – [Bibliography](#) - [Stranger in a strange land](#)
- Douglas Adams - [The Hitchhikers Guide to The Galaxy](#)

Basic Schemas for Communication

1. Knowledge/Semantics/Data/Facts/Information/Hypothesis
2. is/is not/Exists
3. Hypothesis/Imagine
4. Certainty/Variation/Precision/Accuracy/Degrees of Freedom
5. Groups and grouping methods
6. Links and linking methods
7. Leveling and leveling methods
8. Navigation and Navigation methods
9. Pruning and Optimization methods

Knowledge/Data/Facts/Information/Hypothesis



Is / Not Is / Not Exists/ Hypothesis/Imagine - Frame

When humans use the declarative memory they are working cognitively around a **schema** which has the notions of **is** and **is not** (not is) – where **not is** is the opposite of **is**. E.g. **is** apple **is not** apple, **is** apple **is not** orange, etc

So the **thing** which be shared in communication is the notion of **is** and **not is** for **things** which the communicators might share.

Central to this backward and forward exploration to agree on what the is is is that the notion whether a thing **Exists** is not yet relevant to the discussion. You cannot say whether a flying dragon exists until you can describe what a flying dragon **is**.

This amazing abstract skill to talk about something which can only be **imagined** is a feature of humans and central to advanced communication and exploring the complexity of the universe.

When I declare some **thing** as **is** I bring it from hypothetical space into declarative space. I observe it, name it and share it with others.

I declare = is. It does **not mean** it “exists” so therefore it includes hypothesis **and** “fact, truth”

Opposite/Different to = Not. **Not** is a much larger list of things than the singular **is** so it is dependent on the non-**ignorance** (knowledge) of the human. If one human has a very small list of “known” things (iss) then it is difficult to describe the thing using the “**Not is**”/”**Like**” backwards and forwards exchange approach. (I spy with my little eye - game)

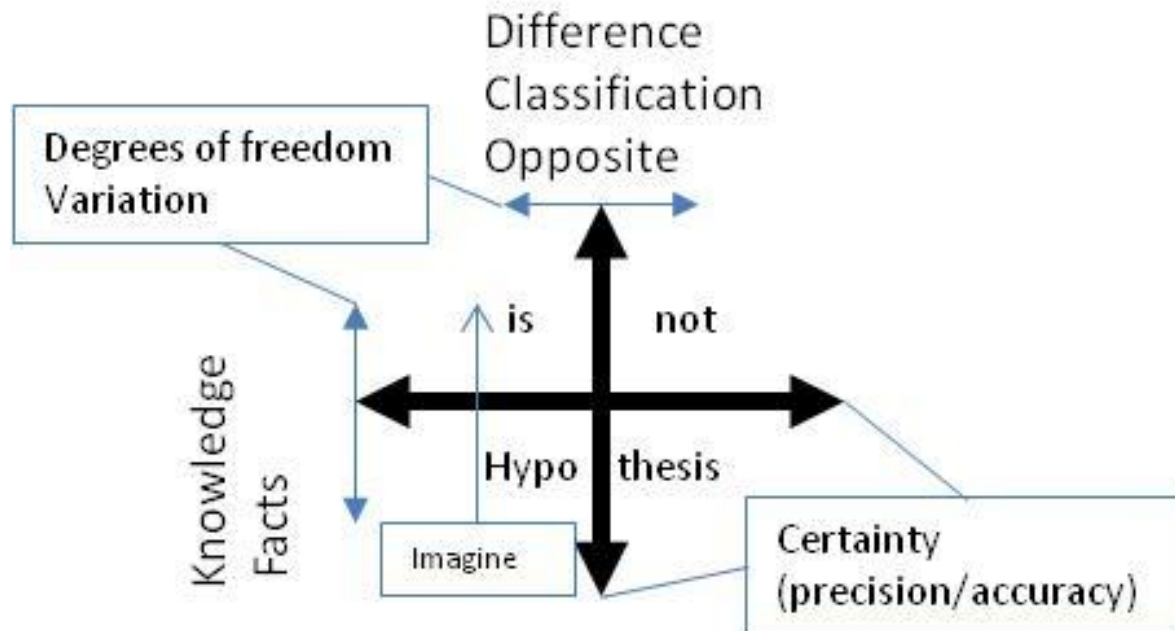
Imagine the types of humans needed when talking about complex topics. At any stage of the discussion there will be some shared things which are known by humans but each human will have a different list of known things and some might be slightly different in meaning.

In many ways a discussion is about sharing the idea of an “is” and not arguing at the same time whether it “exists” – so the first point is to describe and define the **is** with enough connections to other “is” (plural) and schemas (models, levels, hierarchies) for the other human to explore and make further connections and test for usefulness.

So shared, sufficiently certain, shared hypothetical is – **is** the basis of all communication.

Is is used as a declaration (statement) and an interrogative (question).

Like expresses the variation and movement ([degrees of freedom](#)).



(Diagram to aid communication – Classification Frame – Author Jonathan Pearson)

Accuracy/Precision/Degrees of Freedom - uncertainty

When humans communicate they need to have a shared understanding of the accuracy and the precision of their terminology.

While this can easily be explained by examples with numbers and formulas, it is not so easy to communicate when using words and abstractions.

Precision expresses the unit of measurement (e.g. Metres)

Accuracy is a statement of the variability of the precision. E.g. is 4 metres long plus or minus 1 metre, it could be between 3 and 5 metres long.

Degrees of freedom, while being a term used in statistics with formal definition, is a useful concept for looking at multiple concepts simultaneously.

With human interaction sometimes humans are not aware of the level of precision and accuracy of their communication. Many humans habitually enjoy communication in conversation at a suitable and enjoyably “vague”(less precise, less accurate) level – allowing many degrees of freedom and multiple interpretations – which can be part of the enjoyment of language – especially in humour ([double entendre](#), pun, word play, etc) – but can also be part of **Exploring** and **Playing** with words and meanings – **seeking** to discover new things. Humans enjoy exploring our shared schemas and finding gaps and new groups, links and levels

How agreed does a thing need to be? Some humans will say things like “*can you be more **specific**?*”, “*can you speak at a higher or more general **level**?*” “*which meaning of that word do you mean?*”

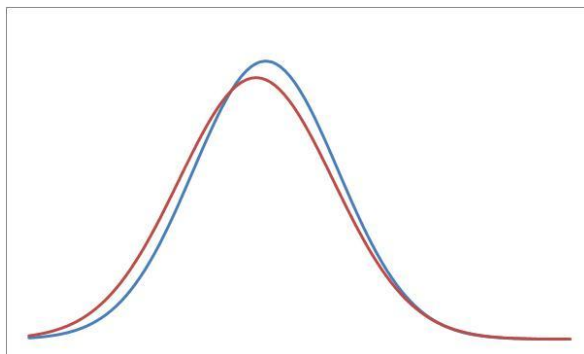
Most of these backwards and forwards interchanges are exploring accuracy and precision of **Group** terms, **Links**, **Hierarchy** levels. Another way of having doing this in a more **explicit** way would be;

1. What **hierarchy** are we using (frame)
2. What **levels** of the hierarchy are we communicating about?
3. What **groups** are we exploring?
4. What **links** are we communicating about?
5. How **precisely** and **accurately**?

Group Information Distributions

When we group information into categories (e.g. gender, nation) we get statistical distributions which can be represented as diagrams which show the value being measured along the bottom axis (left to right) and the frequency bottom to top (increasing).

Most information about human group characteristics across many measures show small amounts of variation (difference). We call this a **Graph** and we call the general shape a **Normal** distribution.



Group 1 (red) is different to Group 2 (blue)

For example, when measuring groups (say gender) and research scientists test parts of the brain to test certain topics they might then hypothesize that the results show that one group uses one part the brain more than the other. This is what we would call experimental data and hypothesis. Some would call this “fact” or a declarative type of information.

There would be a huge amount of context around the experiment and many scientists do an enormous amount of work to eliminate bias and subjectivity from their experimental processes so they can ensure any “facts” or Hypothesis are very well supported by the **rigor** (quality, unbiased, peer reviewed, good practice) of the process and the information collected.

So one the basic problems with humans is **Groupthink**. (George Orwell - 1984 and Animal Farm). They think if they are in the Red group they are firstly “different to” the blue group in one measure but then they think they are “special” or “better/worse/good/bad” than the other group. This becomes the **basis for resentment** and **division** and “Justice” policies are designed to **eliminate** “differences” between groups. This is called “**Social**” justice policy and is based on a **victim** narrative of the group who thinks they are “**worse**” (i.e. Not better) than the other group or a **hero** (virtue signaling) narrative of the group who thinks they are “**better**” off.

Some humans in the “groups” will denigrate and blame the other group for the difference in the statistic.

So research and statistics keep being investigated but then we get the problem of the **Social Justice Agenda**. So the **designated victim group** or **hero virtue signaling group** then concentrates on any statistic (or framework) and research which supports their view of the world. This is called **Priming** (Neocortex) bias.

Humans have great difficulty comprehending both being **Different** and **Equal**. So while the idea that every human is different and will have different skills, experiences, interests, capabilities and rejoicing/appreciating in that **complexity** - instead some will want everyone to be the **Same** (not different) i.e. **equal** on some predefined group measure - although in reality what they mean is **Equal** means “**Better**” as defined by their **selected measures**, to their selected **accuracy** and **precision**. (**Framing/Choice (Amygdala/Cerebellum)** bias).

I explore equality and diversity here - 9. Equality and Diversity

<https://humanistman.com/home/frames/meta-frames/>

Humans then become habituated and more skilled at running the groupthink **victim narrative** or **hero virtue signaling** for themselves within their group (**Autobiographic memory network** - **Habit/Skills** bias (rewards/feedback/reinforcement/motivation - Striatum)).

And if they can **train themselves (reinforce)** over some period of time with associated skeletal muscular action humans can enhance responses (Reflex Pathways, **Executive Network** - **dorsolateral prefrontal, parietal, and cingulate cortices**).

Central to this reinforcement of Groupthink is the **Amygdala** and ensuring **strong emotional responses** are associated with looking at anything to do with the topic, statistics or group terminology to ensure **constant focus** in short term and long term **implicit memory**. Historically this kind of behavior was called “**Hysteria**” but there is now more nuanced classification terminology.

So everything is defined – all communication, policy, media, language as **Group think** and Social justice Language becomes “**Rightspeak**” or “**New speak**”. That becomes the dominate narrative by the victim/hero groups. Sometimes humans call this “**progress**”.

This is usually accompanied by an [oppressed/oppressor](#) and other victim narratives.

The oppressor/oppressed narrative emerges from the examination of the question **WHY?** Why are the distributions different? There may be so many complex issues (and there usually are – that is why we have diversity in the first place! – no humans are the same or will ever likely be (do the maths)) that the **WHY** is **not easily explained**. So rather than continue to explore this humans will tend to want to **simplify the complexity** (lazy) and find a simple answer to the question why. They also tend to want to ascribe a **MOTIVE ACTION** (lazy) to account for things that happen? i.e. **WHY** did that Tree fall down then? – **someone** made it happen. This helps humans uncomfortable with **uncertainty, complexity** and

the **unknown** to **feel less anxious**. <https://en.wikipedia.org/wiki/Neuroticism> Humans who tend to being Neurotic are likely to adopt all these behaviors.

Similarly those who are insecure, incompetent and ignorant in other ways may choose to adopt the hero position to be more virtuous (**self righteously superior/care/rage** to other humans who are the **designated oppressors**) or to **avoid guilt/fear/panic/grief** if they belong to the designated oppressor group.

Both these human actions are **based on self interest** to assuage their **implicit memory/brain functions** and **memories**. (advertisers, marketing firms, manipulators, media, politicians - target these functions in humans).

So the oppressor/oppressed narrative emerges from **simplification of complexity** and the **need to explain** – usually with a **Motive force** which can be **attributed to some individual thing** to satisfy the **implicit brain functions** (people feel better and less anxious).

Related concepts **Subjective** versus **Objective/Rational** – a large percentage of humans tend to relate more to the implicit and autobiographical memory view of the world rather than explore the wider hypothetical explicit world.

Groups

Groups can be identified by using classification frames.

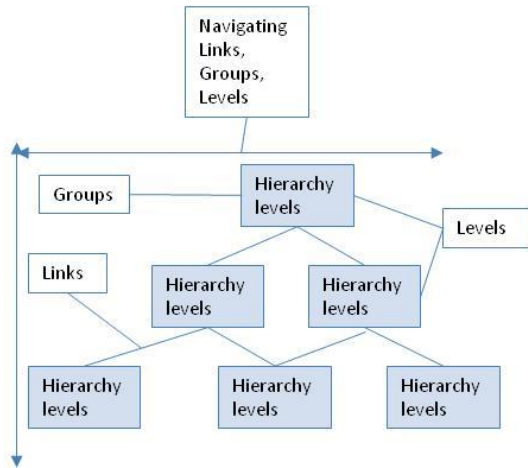
Many diverse classification frames exist - business, trade, finance, economics, construction, health, Quantum particles, Astronomy, Biology, Chemistry, Music, Theatre, Arts, Maths, Libraries, Education, etc.

They all allow for the general process of chunking/grouping/clumping/classifying many single objects into a group concept.

Group classifications are optimized on:

- Usefulness within a hierarchy – number of connections and the level
- Closeness of approximation to a representation of the “real world”
- Number of objects within the group
- Balance between **certainty** and **probability** – satisfactory amount (sufficiency) of certainness – while allowing room to explore and develop (see [Jean Piaget](#) - **Assimilation** – Which is using an existing schema to deal with a new object or situation. **Accommodation**– This happens when the existing schema (knowledge) does not work, and needs to be changed to deal with a new object or situation. **Equilibration** - This is the force which moves development along. Piaget believed that cognitive development did not progress at a steady rate, but rather in leaps and bounds.)

Generally things are classified by **function** not form – the verb associations (especially to a human frame) rather than noun associations. There is a “**meta**” **classification frame** which I will not explore in this document.



It is interesting to note that the dynamic nature of real life enforces some need to adapt classification schemas on a regular basis (evolve, develop – **upset the equilibrium**). This happens not only as we learn more about the universe but also as the universe itself changes – both – us and our abilities **AND** the universe itself.

Laziness, self satisfaction, smugness, complacency, ignorance, incapacity, fear, anxiety – are all related to humans who prefer to not invest energy in **assimilating** and **accommodating** change in the **equilibrium**.

A general estimate of the **rate of change of schemas** and group structures can be explored by looking at the very small scale universe (quantum theory - quarks, nucleus, electrons – Energy/Mass) and Astronomy (Galaxies, Solar systems , gravity – Mass(energy)/"Gravitation")

In Mass/Energy – Distance relationships – we seen enormous amount of “space (dimensions)” in which to move but also an enormous amount of (mass/energy) in relationships together; which is combined with a **large area of uncertainty and probability**. With similar models on those scales the rate of change in “equilibrium” in the smallest scale seems (?) greater than the rate of change in larger scale.

While an individual human may be able to hold a [limited amount of items](#) in short term memory – by using computers and other storage and manipulation devices and techniques (e.g. sharing, cooperation, review, etc), large and more complex hierarchies can be developed and maintained.

Classification frames – and the groups within them - continue to grow and connect. Information is **pruned and optimized** by being validated and useful.

It takes energy to make change to schemas – especially those connected in many hierarchies.

Operational Schemata – developing skills

The skills like **Abstract thinking, Hypothesizing, Metacognition, Problem Solving** - described at Piaget’s “[formal operation](#)” stage are essential in developing the complex schemas and systems which organizations rely on for use within nation states and cooperative process between nation states. While there has been some exploration of other “[post formal](#)” stages, classifications, related ideas of

“creativity” and other [ideas](#) of hierarchical complexity [MHC](#) (Michael Commons) , [Bloom’s Taxonomy of learning](#), it is still the case that these abilities take time and experience to develop within the human brain and is dependent on many factors – including environment, experience , challenges , opportunity, etc.

Some figures suggest that less than 30% of college graduates reach “formal” (Piaget) stage while in college.

Even if we consider that these skills can still develop over the ages from 20-70 (for example) the percentage of humans who have the environment, interest, skills, time and energy to focus on activities requiring these skills is limited.

Using MCH frame it is estimated less than 1 in 1000 people have the skills represented at the higher levels.

So the methods and skills around hierarchies – like navigating, linking (e.g. assimilation – Piaget), leveling, optimizing – tend to require higher skill levels to develop and maintain. Humans have the ability to learn and use shared knowledge to be able to operate without necessarily having the understanding of complex things.

[Daniel C Dennett](#) explores this and related concepts in his books and ideas e.g. **Competence without Comprehension**. Many of his talks are available on Youtube on the [internet](#).

Debate /Discussion

Nation debates and discussion **should** happen using mainly declarative memory and cognition capabilities around semantics/fact and events - while implicit memories may provide some input, it would detrimental to the internal coherence and robustness of explicit memory structures to ignore or dismantle them in favour of an implicit memory. Specifically the ability to hypothesize, analyse, plan and imagine enables humans to **explore the complexity** of the universe and the complex interactions affecting humans in a more robust, less costly (in terms of human deaths) considered, documented way. This approach has resulted in an enormous expansion of human capabilities and technology.

More explicitly the wealth of human knowledge contained in books and other records– which are exemplars of the events and facts structure of the human world - should not be destroyed and even if outdated represent a human view of the world in a point in history – which is valuable in itself.

Revisionist, “new age” modification of standard texts based on “feelings”, “rage”, “guilt”, “virtue”, etc - do not advance knowledge or awareness of the human condition.

One of the problems with debates is that some humans are completely ignorant and dismissive of the different types of things happening in their brains and bodies that they might think that other humans are thinking and feeling the same ways as them. This leads to people who prefer to operate in the “outrage” (for example) space projecting all of their failures and disagreements to a different sort of “outrage” than theirs. This is because they have so very few dimensions and ways with which to

understand or evaluate the world other than their preferred way. So they tend to **project their preference on others** rather than trying to find a **shared communication frame**.

Corrupting the declarative space with the biases inherent from the implicit brains structures for Priming, Reflex response, Skills, Habits, and Simple Classic Conditioning should be avoided – except as a constant reminder to show how humans can allow their implicit and less executively managed parts of their brain dominate human interactions. The value of autobiography, “rage” or “outrage” serves little purpose in debates or discussions.

- Moderate debate – don’t allow one voice to dominate.
- Allow all voices to be heard.
- Allow voices from different perspectives – don’t allow one perspective to dominate.

I explore more of this (not in this document) in my model for decision making – a **decision making frame** - also a communication frame (**Vision & Strategy, User & Benefits, Design & Use, Costs & Funding, Risks & Issues, Efficiency & Measurement, Legislation and Audit, Maintenance & Development, Time and Cycles**. also see process improvement frames, thinking frames, etc –, [W Edwards Deming \(SOPK\)](#), [Edward de Bono](#), [Six Sigma](#), [Cobit](#), [ITIL](#), [TOGAF](#), [TQM](#), [ISACA](#), etc)

What are we agreeing to Do when we debate?

Communication can take several forms – “outrage” fests, de- briefing, lecture, “download’, whine, berate, share, inform, etc. These tend not to be nation state group interchanges.

Debates and discussions about topics have a long history and have usually had formal structure around them. Agora (Greece) and Forums (Rome) were the gathering places where **trade** and communication took place.

There needs to be some **shared concept** of the information domain (semantics) which is being explored and the information domains that are potentially being modified ,improved or developed (Assimilate, Accommodate).

What could debates be about?

- What happened (recall - explicit memory – facts, events)
- How humans felt (recall - implicit memory)
- What caused things to happen (cognitive skills, abstraction, explicit memory – facts, events)
- What Hypothesis can be made (information domain expertise, high level cognitive skills, explicit memory – facts, events)
- **Whether** shared Nation or Human explicit information stores need to be modified (Skill levels [11 and above](#) on MHC ([Michael Lamport Commons and Shuling Julie Chen](#)) (less than 30% of humans), information domain expertise, high level cognitive skills, explicit memory – facts, events)

- **What shared Nation or Human** explicit information stores need to be modified (Skill levels [13 and above](#) on MHC (less than 10% of humans), information domain expertise, high level cognitive skills, explicit memory – facts, events)
- **What hypothetical (hypothesis) changes (choices) can (agree) and should (justification) be made (act)** to shared Nation or Human explicit information stores **and systems** (Multiple skill levels to [13 and above](#) on MHC (less than 10% of humans), information domain expertise, systems domain expertise, high level **linking** skills, explicit memory – facts, events)
- **What People, Process, Technology - systems need to put in place to support hypothetical changes** (wide and deep skills and experience, systems thinkers – small percentage of population)

At the nation and wider humanity level it is clear that **explicit fact and events type memory** - representing hypothesis, options (choice), justification and facts (knowledge) is an important shared national resource. With greater knowledge of explicit memory and greater skills in cognition, hypothesis and linking this has continued to improve.

Systems thinking – the ability and experience with multiple people, process and technology across information domains is also appreciated.

1. **Do we agree to progress abstracts/models/semantics/schemas/complexity/relationships(links) by debate?**
2. **Do we recognize the skills and focus required to do this well?**
3. **Do we recognize the threats (corruption, ignorance, fear, Bad Actors, etc) to these useful shared information stores of schemas and semantics and shared systems which rely on them?**

Intelligence and Human Development

<https://www.verywellmind.com/theories-of-intelligence-2795035>

Verywellmind - Theories of Intelligence in Psychology – Kendra Cherry – updated 8 October 2019

“At various points throughout recent history, researchers have proposed some different definitions of intelligence. While these definitions can vary considerably from one theorist to the next, current conceptualizations tend to suggest that intelligence involves the level of ability to do the following:

***Learn:** The acquisition, retention, and use of knowledge is an important component of intelligence.*

***Recognize problems:** To put knowledge to use, people must be able to identify possible problems in the environment that need to be addressed.*

***Solve problems:** People must then be able to take what they have learned to come up with a useful solution to a problem they have noticed in the world around them.*

Intelligence involves some different mental abilities including logic, reasoning, problem-solving, and planning. While the subject of intelligence is one of the largest and most heavily researched, it is also one of the topics that generate the greatest controversy.”

When individual Humans develop there is still argument about **what exactly is developing or improving** with increased skills and experience. Studies around learning, education, intelligence, cognition, capability, disability, skills, aptitude are constant. The wealth of diversity of talent, skills, aptitude and creativity **evokes** scientific investigation while **avoiding** detailed description.

With Human groups there are sustainable and usable shared resources include buildings, road, dams, parks, public services, communication, trade routes, decision making mechanisms, etc – but also **sets of shared semantics (schemas/logic)** to be used within a nation state and shared with other nation states. The accuracy, usefulness, adaptability, robustness and integrity of these can vary over time.

Mapping (ordering/linking/grouping/relationships) the schemas

If we compare the ideas of “ability” and “disability” we can see some kind of correlation between definitions. While **capacity** to do something is not the same as **interest** (or lack of), **skills** (capabilities or lack of) – it does help refine the concept of “incapacity” or capacity in a general sense. Humans can have **temporary incapacity** due to accidents, drug use, addiction, current state of “mind” (the combination of the activities of the brain) but one of the features of nation states and the advances in human systems/schemas/semantics/technology is that these incapacities can be reduced. In the same way **human capacity is also enhanced** by the systems/schemas/semantics/technology – innovated and created by a small percentage of the population - which by normal evolution (Darwinian) would have come at the great expense of lives and generations by randomness and risk taking.

Humans can corrupt debates if they are not useful and dominate discussion. **How useful is** anxiety, fear, disinterest, self interest, ignorance, incompetence or incapacity?

In trying to estimate the population distributions for models based on **capabilities** – we can see that the **brain/body function** and **development** is important as is the **environment** and **experience**. Brain/Body function is not just “cognition” – it allows humans to achieve excellence in a number of human activities – trades, music, art, farming, writing, singing, solving problems, teaching, learning, science, innovation, exploration, play, humour, analysis, computing, engineering, etc. [Julian Huxley](#) and other authors, with his book *The Humanist Frame* explored some of the dimensions of humanity. (I explored this in this article - <https://humanistman.com/wp-content/uploads/2019/06/Humanist-Frame.pdf>)

Much of Human advancement has been riding on the back of the work a small number of talented humans who share the improvements they make as a result of their capabilities and experience. This has recently become even more improved by the growth in using improvements from one capability and sharing it between other capabilities. This demonstrates the value of **diversity** and **cooperation** for human development.

Worth noting:

- 18% of the population have psychological disability affecting their capacity – ABS - [4433.0.55.004](#) - Psychological Disability, 2012 Latest ISSUE Released at 11:30 AM (CANBERRA TIME) 09/02/2015 First Issue
- Less than 1% of the population reach advanced **cognitive** skill levels (this applies to most human capabilities and skills)
- Maybe 30% of humans reach Piaget’s “Formal” stage of development – note **this is only one measure of human skills and development** – but is an indicator of **abilities related to communication** and **debate** about nations state shared systems/schemas/semantics – See [Holocene](#), [Anthropocene](#), [Age of Enlightenment](#)
- I am unsure which cumulative distribution model to use for percentage attainment of human capabilities/skills – i.e. the ability to operate at a more developed level does not mean **Not** operating at all the other levels. [Pareto](#) applies in many cases. It might be a Survival/Decay Function (Chi/Poisson?) around a zero point which represents average/operating capability for the group – too far in either direction is less cohesive for group survival.

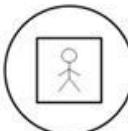
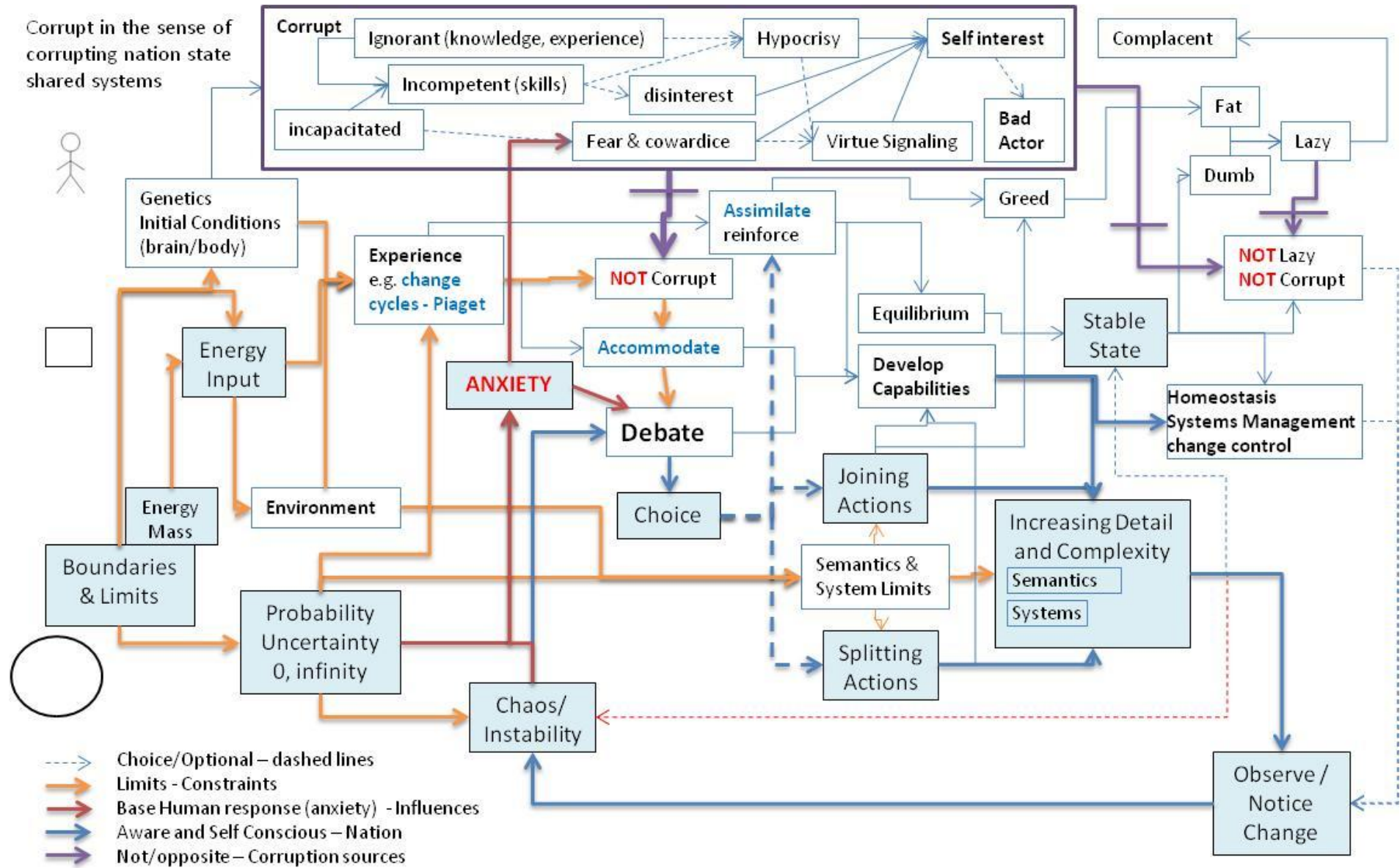


Diagram showing connections between my developing schemas on Humans, Constraints, Universe, Corruption, Quantum Mechanics, Astronomy, Neuroscience, Biology (brain/body), Human Development (Jean Piaget), Nation State Shared systems, Computer Science, semantics, skills, capabilities – Jon Pearson 15/10/2019 – an aid to communication about nation debates

Incapacity Incapable

"Disabled" – small percentages
 "Able" – large percentages

Percentage of Humans
 (adds to 100%)
This is likely to hold as a model for systems, nations, organizations

Genetics Initial Conditions (brain/body)

Environment

Limits and bounds

Experience (e.g. change cycles - Piaget)

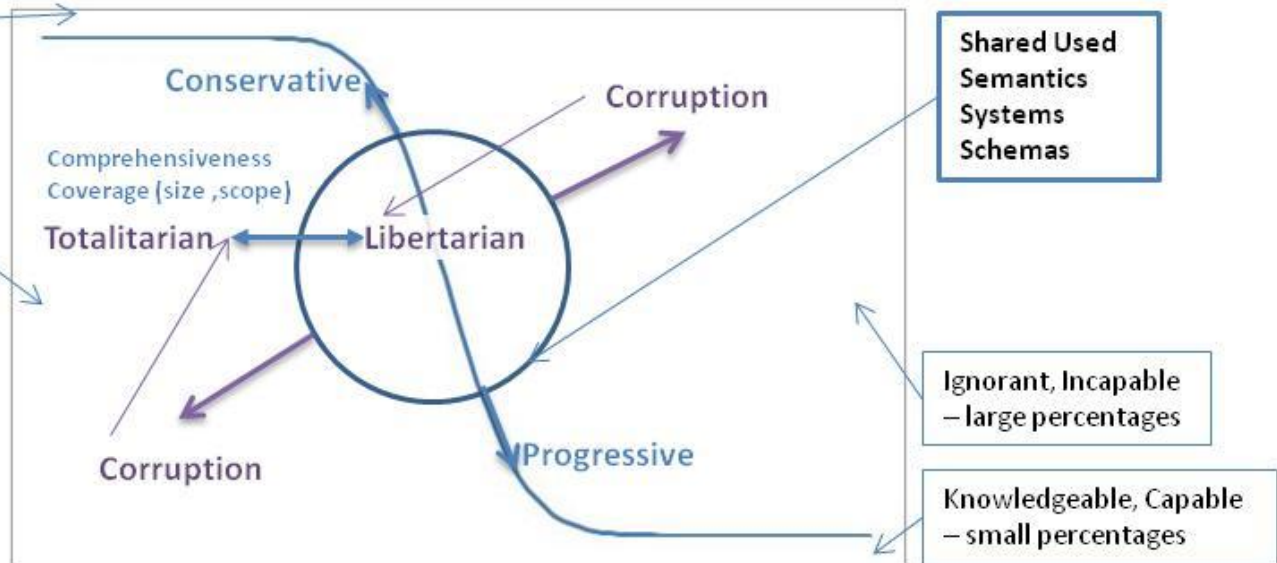
Human Development – Skills, Expertise, etc
Increasing /Decreasing – continuous values

Knowledge/Ignorance
 Competency/ Incompetency
 Capability/Incapability
 Capacity/Incapacity

The issues and tensions around shared used systems in nations states.

An aid to discussion about communication and debate – Jonathan Pearson 15/10/2019

NOTE: This is not a comprehensive model of corruption

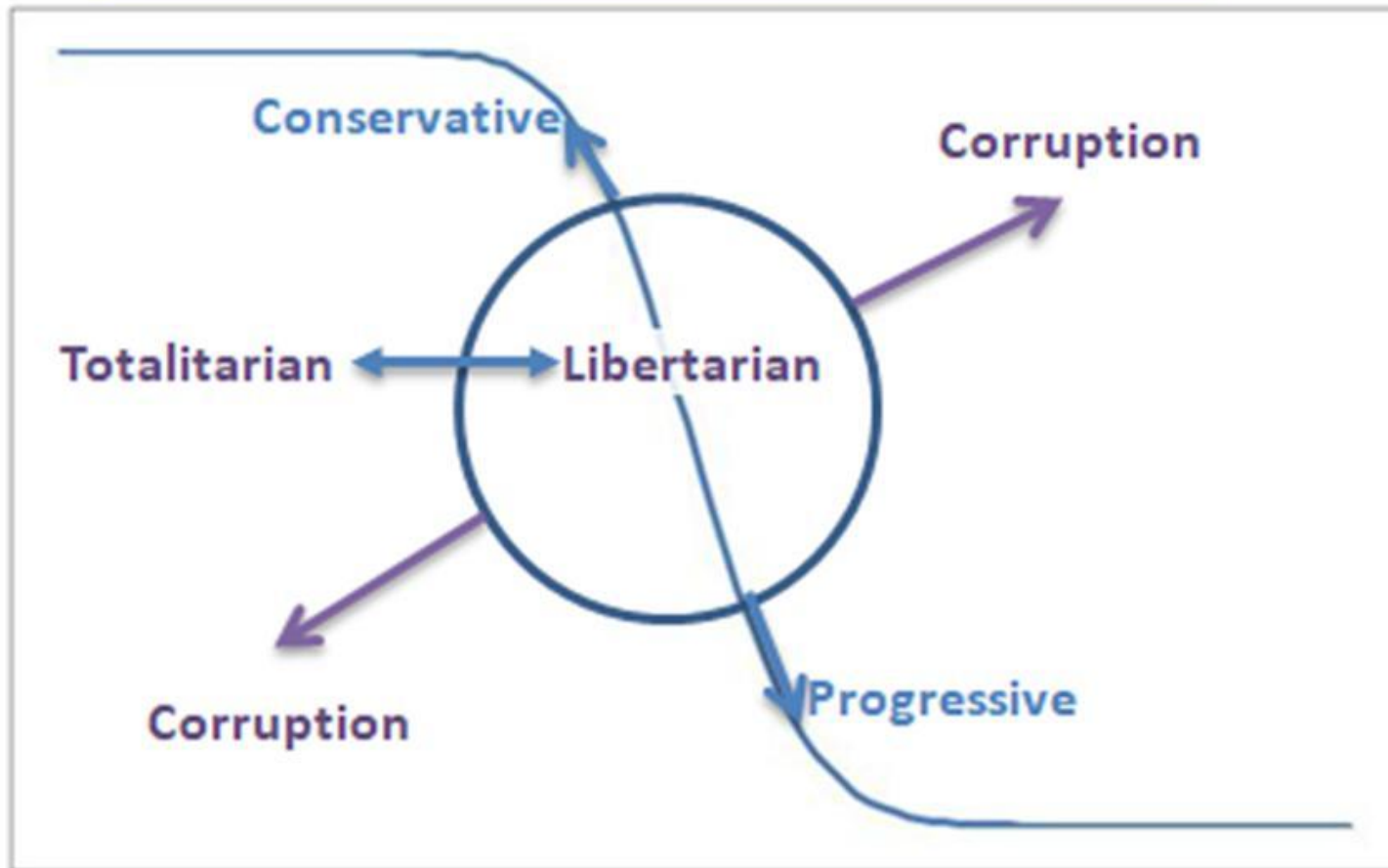
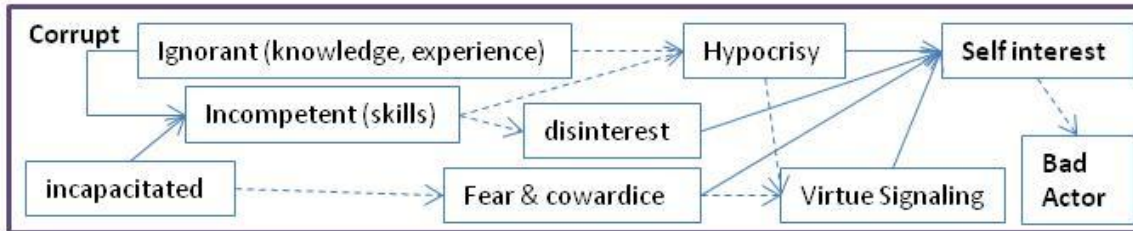


Note: *Comprehensiveness* and *Coverage* related to the notions of "freedoms", "liberty" and "allowing for all possibilities". There is a "Right" – balanced – **size and scope of coverage** of shared schemas, systems, etc which allows for innovation, risk taking, play, seeking, humour, etc – it's the balance between **Totalitarian** and **Libertarian - degrees of freedom**

General Corruption model for shared Nation State Systems

An aid to discussion about communication and debate – Jonathan Pearson 15/10/2019

NOTE: This is not a comprehensive model of corruption

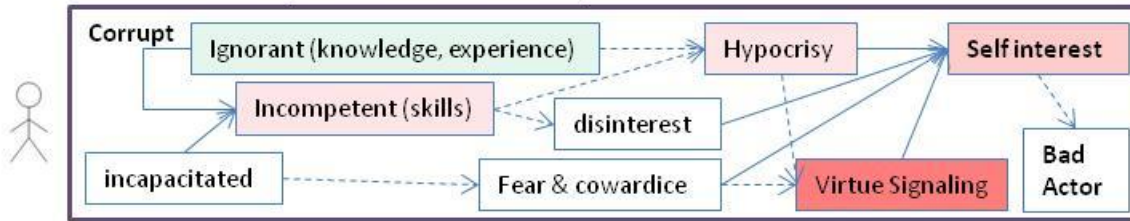


Example using - General Corruption model for shared Nation State Systems – The “Greens”

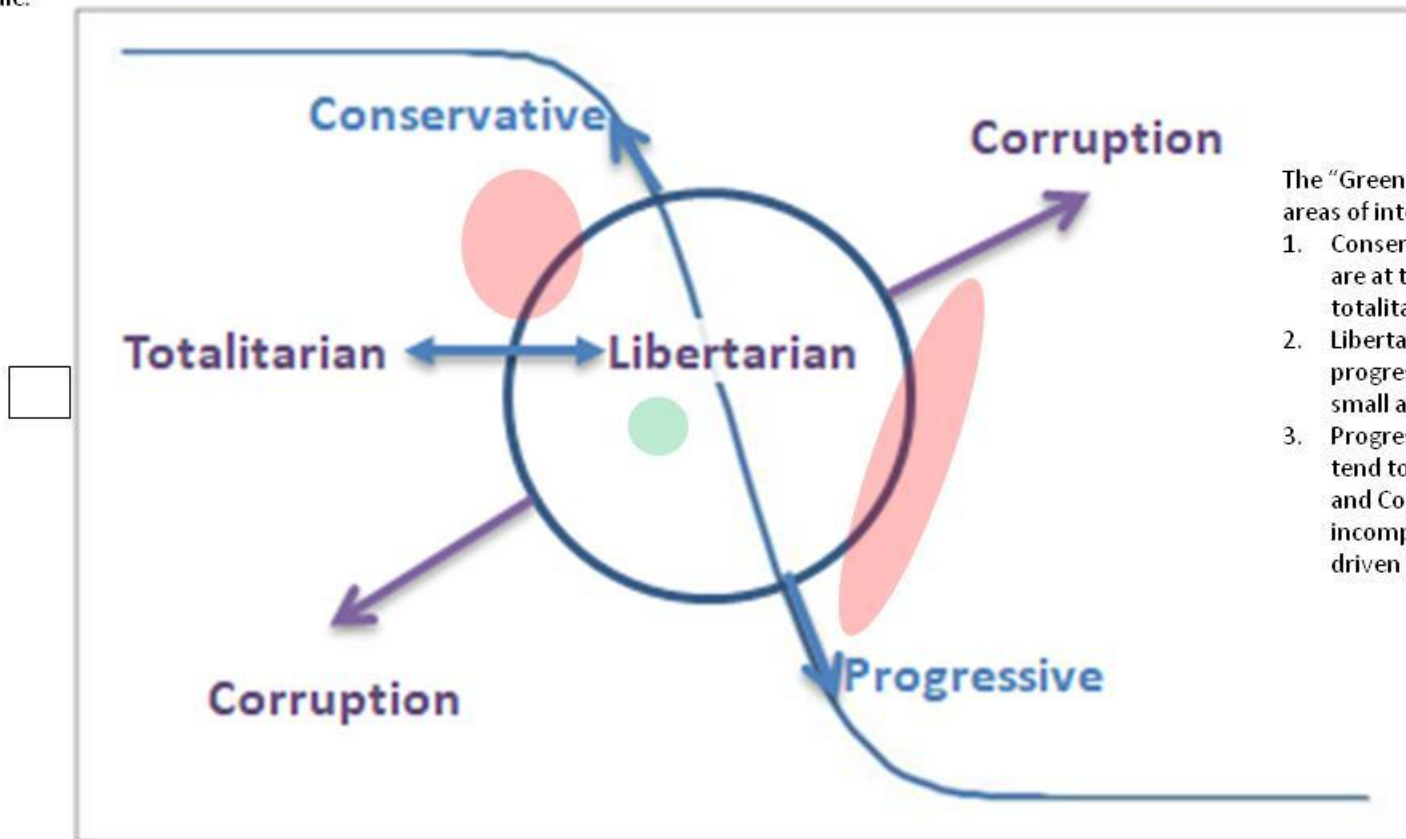
An aid to discussion about communication and debate – Jonathan Pearson 15/10/2019

NOTE: This is not a comprehensive model of corruption

The colours and strength of colour show the corrupt/non corrupt states – green is not corrupt – red is corrupt. The strength of the colour is the scale.



The “Greens” have some knowledge in detail about a limited number of topics, are generally incompetent and tend to be corrupted by virtue signaling and self interest



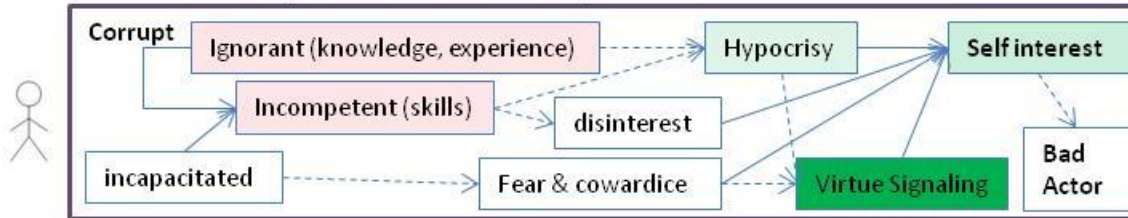
The “Greens” have scattered areas of interest usually for

1. Conservative ideas that are at the risk of being totalitarian
2. Libertarian and progressive ideas for small areas
3. Progressive ideas which tend to be Totalitarian and Corrupt – due to incompetence and being driven by virtue signaling

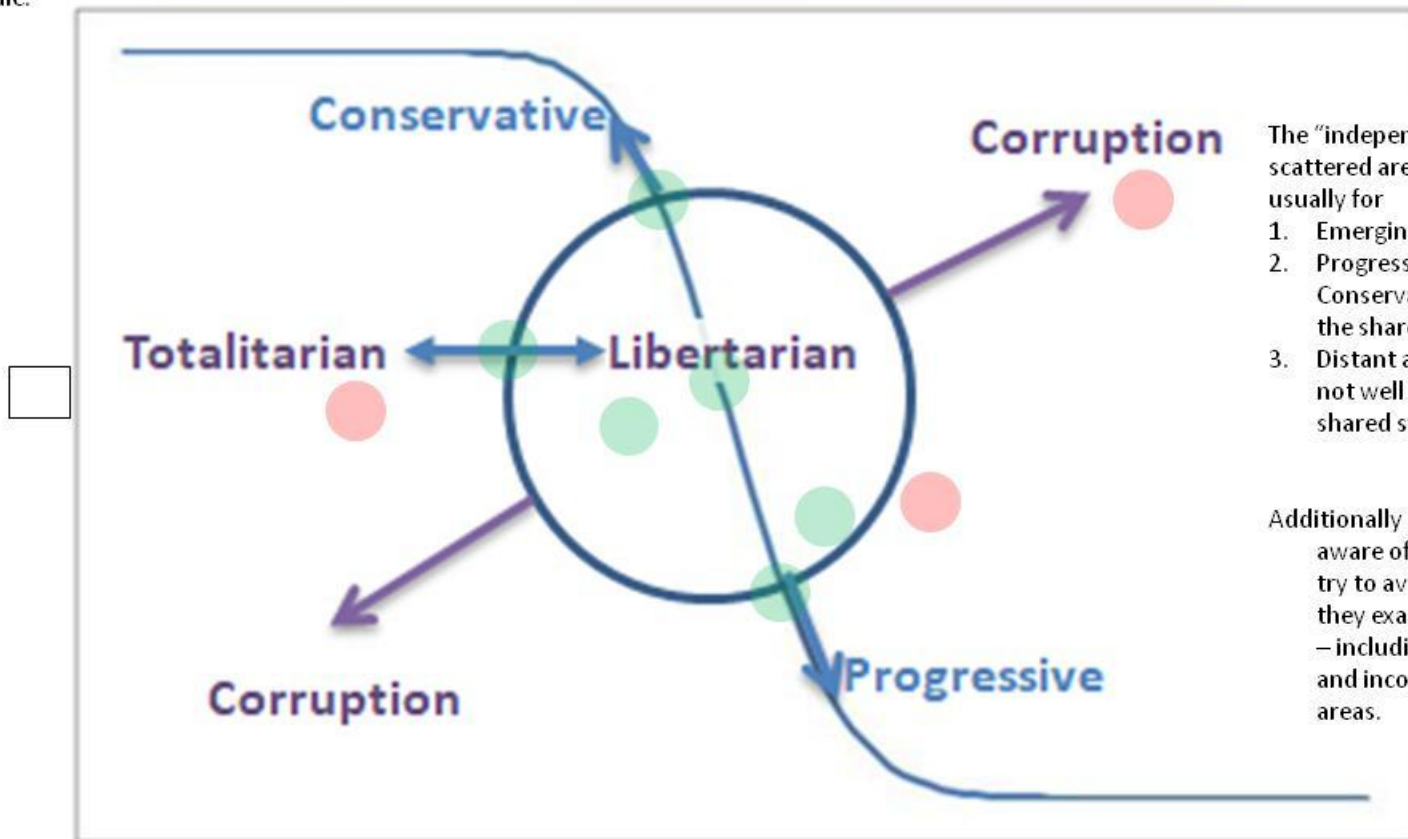
Example using - General Corruption model for shared Nation State Systems – The “Independents”

An aid to discussion about communication and debate – Jonathan Pearson 15/10/2019
 NOTE: This is not a comprehensive model of corruption

The colours and strength of colour show the corrupt/non corrupt states – green is not corrupt – red is corrupt. The strength of the colour is the scale.



The “Independents” rely heavily on others for knowledge and can be influenced, are generally incompetent but tend not to be hypocritical or self interested and they recognize the corruption of virtue signaling



The “independents” have scattered areas of interest usually for

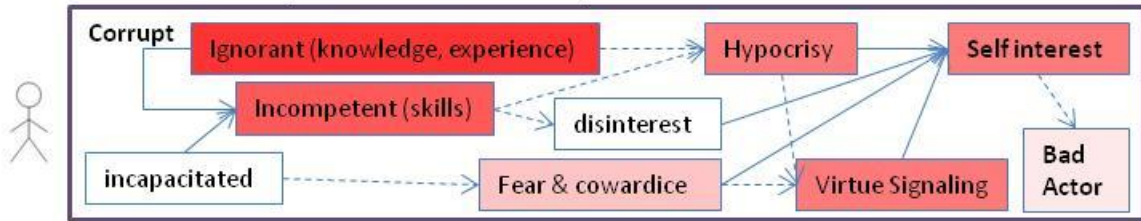
1. Emerging issues
2. Progressive and Conservative areas along the shared middle
3. Distant areas which are not well connected to shared systems

Additionally as they are aware of corruption and try to avoid self interest they examine corruption – including ignorance and incompetence in all areas.

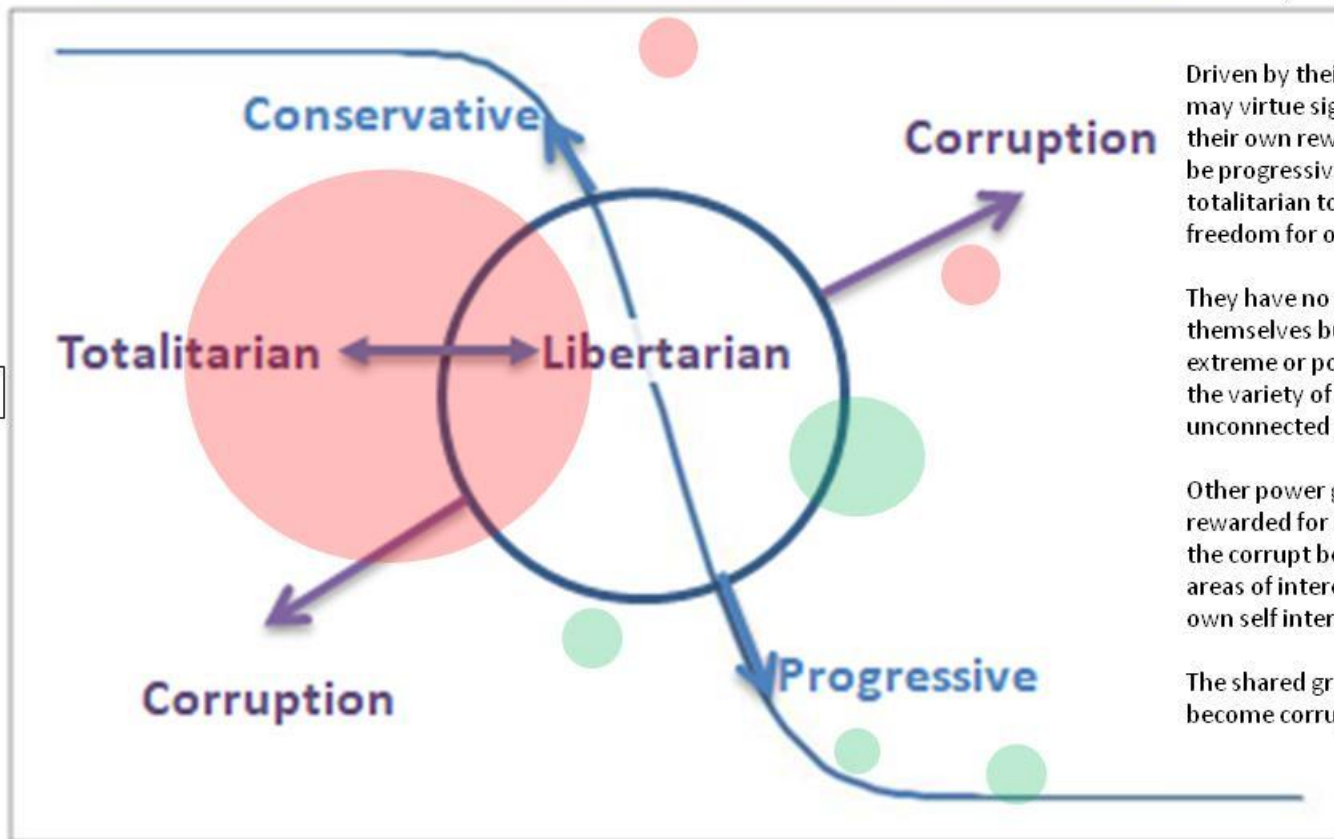
Example using - General Corruption model for shared Nation State Systems – The “Ignorant and Incompetent Regime”

An aid to discussion about communication and debate – Jonathan Pearson 15/10/2019
 NOTE: This is not a comprehensive model of corruption

The colours and strength of colour show the corrupt/non corrupt states – green is not corrupt – red is corrupt. The strength of the colour is the scale.



They are ignorant and incompetent which leads to strong measures of hypocrisy, virtue signaling and self interest - usually manifesting in increased Bad Actors due to being unable to deal with exposing self interest, hypocrisy, incompetence, fear and ignorance. They may also be driven by anxiety.



Driven by their own interest they may virtue signal or act totally for their own reward by pretending to be progressive and becoming more totalitarian to reduce degrees of freedom for others.

They have no interest in others than themselves but will virtue signal to extreme or power groups. Hence the variety of incoherent and unconnected areas.

Other power groups will be rewarded for their cooperation in the corrupt behavior by having their areas of interest progressed (their own self interest)

The shared group's interests become corrupted.

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