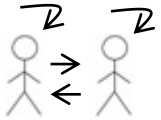
# Humanism – Language Development

## An aid to discussing Human Issues



Author: Jonathan Pearson
Date Created:24/09/2018
Date Update: 15/10/2018
Version:1

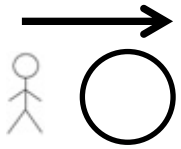
# Context

References: Noam Chomsky, Gordon Pask, Transformational Grammar, Deep Structure Grammar, Theory Of Syntax, Artificial Intelligence, Minimalist Program, Morphology, Temporal Consciousness, Computer Method for Morphological Analysis, Cognition, Cognitive Science, Cognitive Bias, Leibniz' Law, Masked-Man fallacy, UML, Systems Design, Business Process Modelling, Hierarchy, Memory Prediction Framework, Universal methods of reducing complexity, Simplification, Optimization, Cortical Column, Neurobiology, Neuroscience, Neuroplasticity, Systems Thinking, Mental Models, Observing, Complexity (Graphs, Networks, Combinations, Geometric graph theory, Topology),Probability, Gambler's Ruin, Agner Krarup Erlang, Queue theory, Memory, Frontal Lobe of the Brain, Large Scale Brain Networks, Time, Minkowski Space, Parser, Lexicon, Dictionary, Index, Thesaurus, Ontology, OWL, OWL tools, Description Logic Reasoner, Information gain in decision trees, vagueness, certainty, tautology, Alfred Tarksi undefinability theorem, continuum hypothesis, Symbolic Interactionism, George Herbert Mead "Mind, Self and Society", Frege–Church ontology, LEVIATHAN (Hobbes), Actor–network theory

We create language to describe and share information between Humans.

We use many language methods – drawings, sounds, words.

Knowledge of words changes over time.

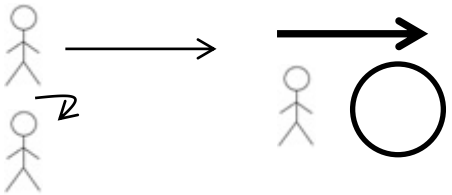


# Start

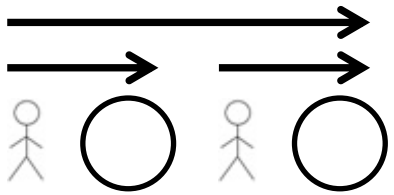
WHAT Came First?

1. Did the Universe Exist? and then Humans Observe it?
2. Did Humans Exist? and then Observe the Universe?

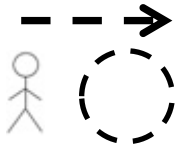
I OBSERVE THING
I THINK WHAT IS THING?



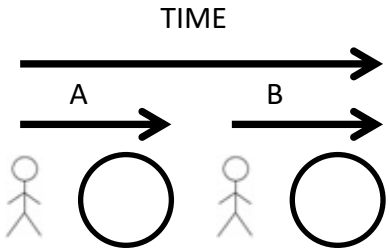
THINK is REMEMBERED is MEMORIES.
WORDS Describe MEMORIES. WORD



MEMORY at different TIME is HYPOTHESIS



# Thing & Different




Something changed in something – is it the same thing or a different thing? (persistence and sequence) What changed?

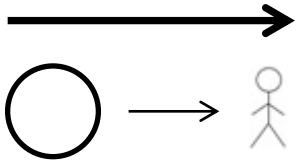
- NOUN is WORD, THING is NOUN
- THING is Different
- TIME is NOUN

- VERB is WORD
- VERB is Description – When we Question What? is THING is Different

Is? it the same thing or a different Thing, Something changed, How did that change? Did Something Cause something change? By doing the same thing (Verb) can we Cause other things to be Different?

NOUN – VERB – NOUN is Description - When we Question How? is THING is Different

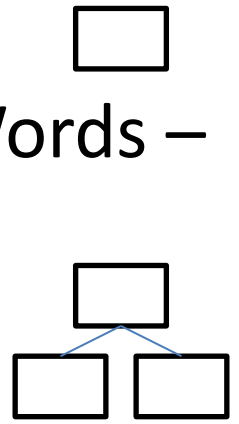
*The Thing that Made Thing different is a Noun. So we get idea that different Things can cause Things to be different. I Move Wood, You Move Wood, Someone Move Wood, Who (what Noun) Move Wood? And then other Things Move as well (like) so the Word Move can be used by many Verb Noun combinations. Tree Move, Who Move Tree? Other questions develop.*



We can model Thing is Different using an arrow between things.

# Grouping & Hierarchy

- Use the same Word to describe same things – Certain Like
- Create new Words (Exists)
- Group same things together to form new Words – to save time and increase communication
- Use Words to Describe Words
- Hierarchical grouping – it is a good way to communicate complexity and facilitate learning
- Hierarchies and Words are Remembered as Thoughts

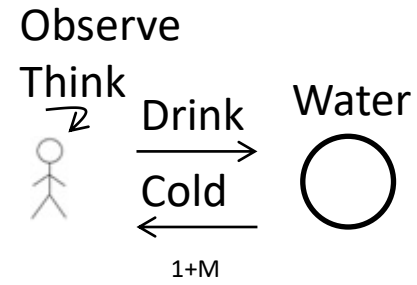


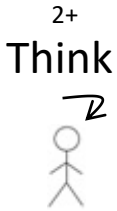
# Word Examples

Really clever thinking shortcuts

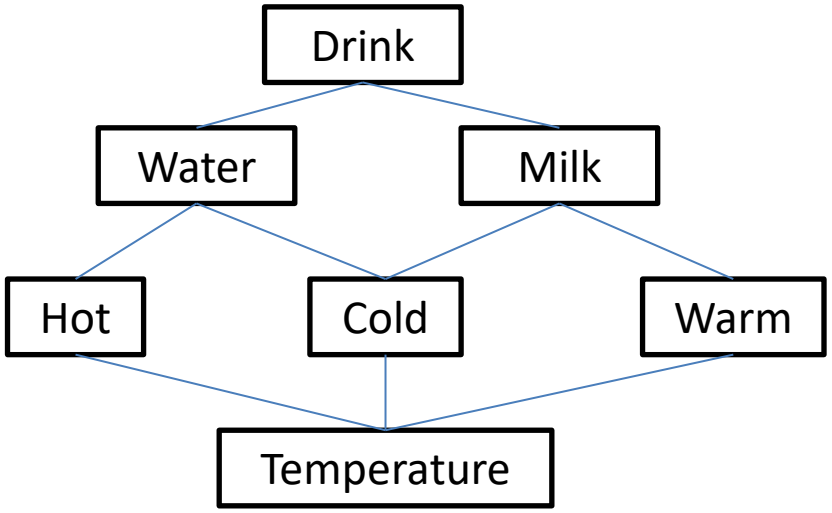
- I Drink Water (NOUN VERB NOUN)
- I Drink (Cold Water)  - I Observe And Think a Thing, Group Word to VERB NOUN
- I Drink (Hot Water) - I Observe And Think a Thing Like And Not Like
- Group Hot And Cold
- Drink Milk is Cold
- Drink Milk is Not Cold And Not Hot - I Observe And Think a Thing Like And Not Like – Warm
- Warm is Like Hot, Warm is Like Cold
- Group Hot And Cold And Warm

# Diagram



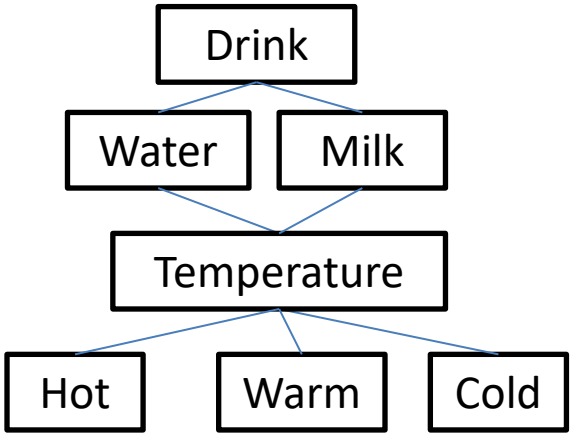




I Remember – Think Memories
I Drink Water Many
Hot And Cold is Like
Milk is Not Water
I Drink Warm Milk Many
I Drink Cold Milk
Warm is Like Hot And Cold
Hot, Cold And Warm is Temperature



# Tidying Up Hierarchies

## Simplifying by sequence, group and level




Language syntax is about how best to present the concepts to other humans – in what Sequence? Do they use Same groups and Hierarchy? Do they have word for Temperature? E.g.

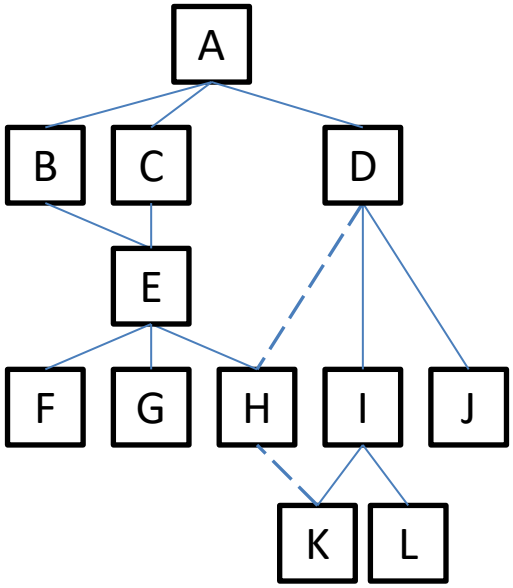
- I water drink cold
- cold water drink I
- I drink cold water

9 Relationships have been reduced to 6.
Aim to reduce complexity for Level based on Sequence, Number of Groups.
Sequence temperature if we Thought it is a continuous scale or based on some other value system.

Water and Milk have acquired a new Group relationship (Description) of Temperature without us having to drink it. We think that Milk can be Hot and Water can be Warm.
Temperature may apply to other things which we do not drink. (eat, touch, feel)
This model records many past events and helps us choose future actions.

# Developing Hierarchies

## Class, Network, Hierarchy




There are some issues about organizing this model and many ways to describe this sort of thing

This mixed model is like a network and a hierarchy.
Each box is a classification of things (things which have been grouped together) – a Group, It is also called a Class (from being Classified) in many existing Human Frameworks.
Inheritance of Class through the hierarchy.
(e.g. wood burns, trees burn, things is burn is hot.)
Inheritance descriptions are words like (is, is like)

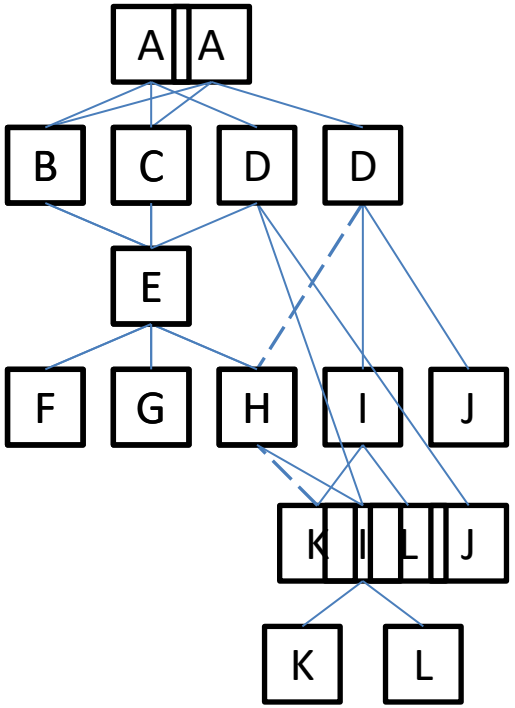
Should D be connected to H or E to inherit F & G?
Should H be connected to I from above and inherit L?

We like to Simplify And Improve by:

1. Minimizing number of connections
2. Minimizing number of layers
3. Expand the model (information) for future choices

# Developing Hierarchies

## Test, Validate, Change, Share




We tend to explore and learn about whether :

1. D has the characteristics of F & G and could be connected to E.
2. H has the characteristics of L then we would connect H to I.

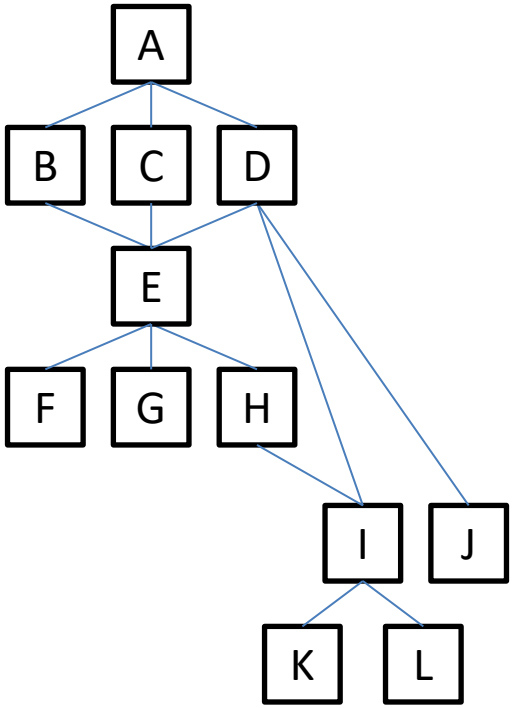
We follow a very general process of discovery and model improvement.

After we have tested, validated then
we change and share the model.

14 Relationships (same), 12 Classes (same)
H inherits L through I, D inherits D & G through E
(3 new relationships via inheritance)
1 additional level added to hierarchy (another line for exploration)

# Developing Hierarchies

## Difficulty of Change




Change is difficult when:

1. High level classes change (lots of things are inherited from it)
2. Multiple levels of class change at the same time

Change is easier when:

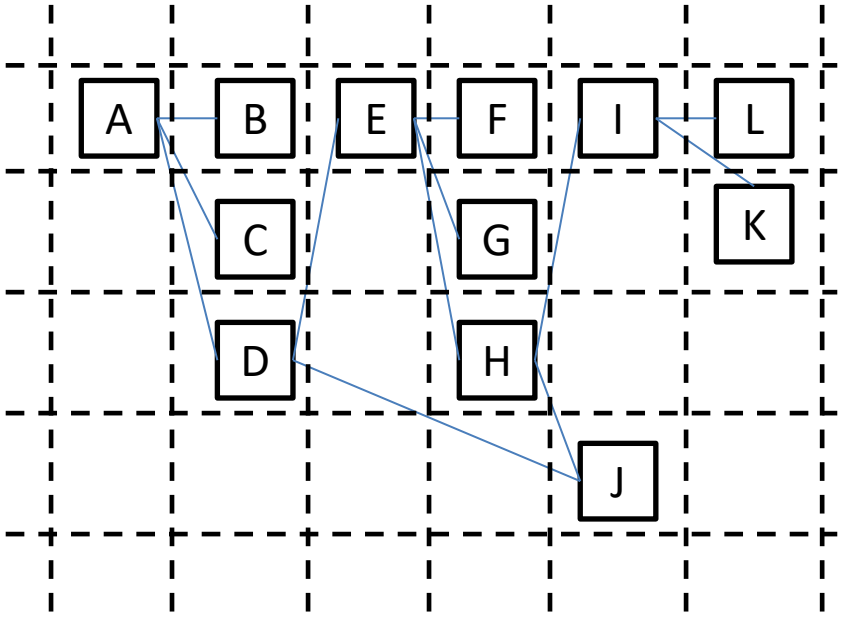
3. Low level classes change
4. One level of classes is changed

By changing to this new model new questions arise.

Is there undiscovered classes at level E and H?
What level should J be?
Is there undiscovered classes for F & G at the same level as I?
How can the model be improved?

# Organizing Hierarchies

## Tables




We tend to organize Words and their relationships to other Words

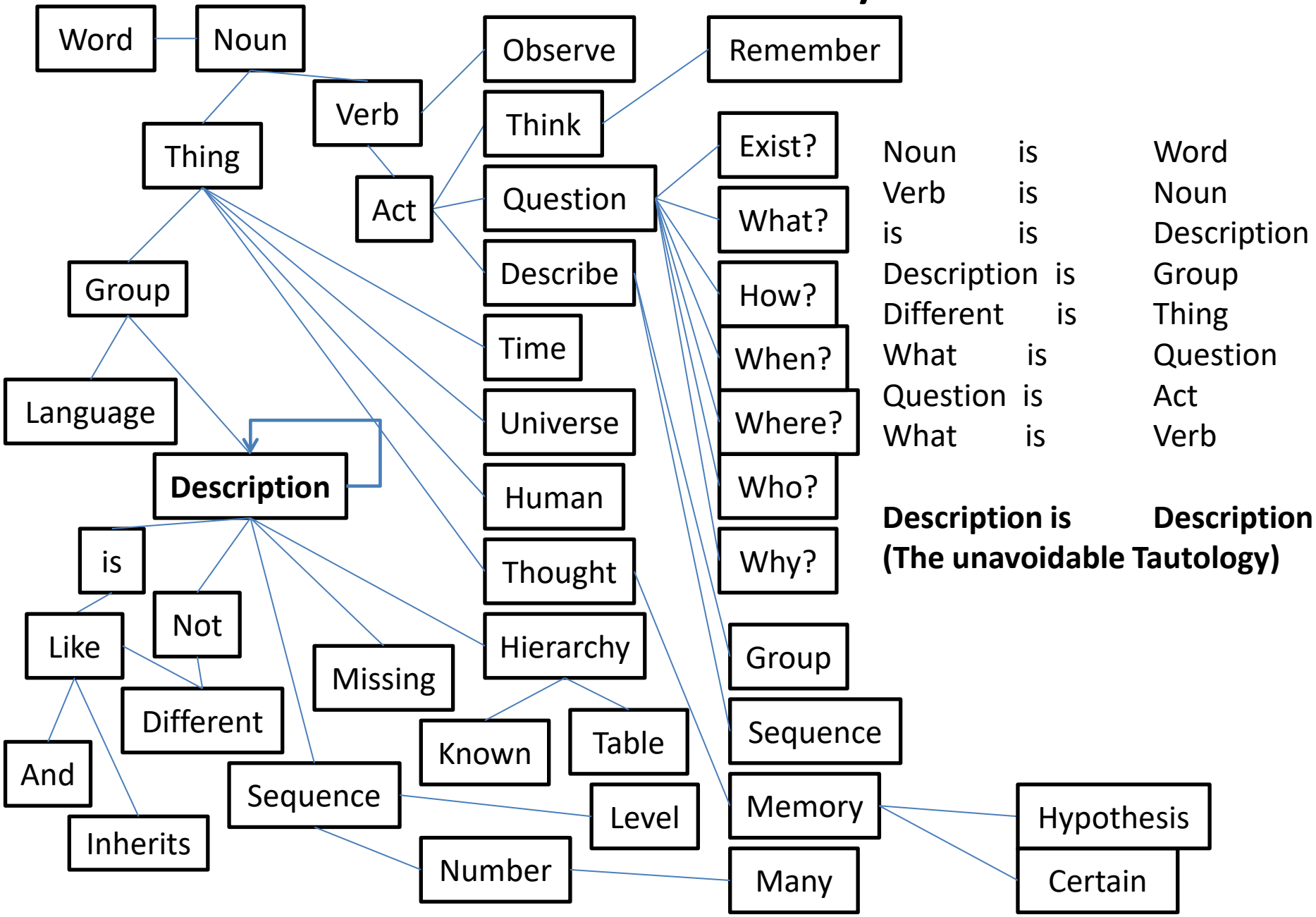
- Left to Right or Right to Left
- Top to Bottom or Bottom to Top

This can then help communication between Humans.

What do we call places where there are no Words? (Nothing, Null, Missing)

What do we call the places to the left or right or top or bottom? (Type, Class, Missing, Unknown, Bounds, etc)

# Word Hierarchy



# Certain, Known, Hypothesis, Not Known

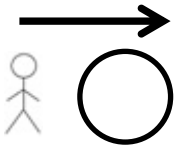
| Knowledge | Certainty |
|---|---|
| Known | ***sufficiently*** Certain<br><br>Not Hypothesis |
| Not Known | Hypothesis<br><br>Not Certain |

1. A Thing is either Certain or a Hypothesis. This is where the boundaries get interesting in language and concepts. This is the point where discussions can get difficult.
2. If a Thing is ***sufficiently*** (a range to a limit) Certain we can give it a word and describe it. It is then a Known thing.
3. If a Thing is Hypothesis (Not ***sufficiently*** Certain) we can give it a word and describe it. It is then a Not Known thing (and it has been described).
4. We can describe many Things that are Not Known using words. Thinking , imagination, visualization, dreams, planning, remembering – are ways to **discover Not Known things**. This is important.
5. Many methods, techniques and technology have been developed to improve and validate our Certainty of Things to make them either Known instead of Not Known or Known with better Certainty.
6. We can include Not Known concepts in Models and Choices we make and we sometimes do if they are useful and remain fit for purpose.

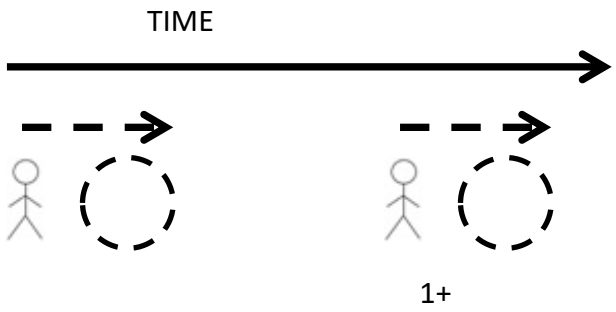
- E.g. I don't have sufficient certainty to call that a Known thing, I know it as a Hypothesis which is a Not Known thing. It might be useful to include the Hypothesis in some Choices to see if it works – particularly if there is not a Known thing which can provide a better Choice.

# Time

Now



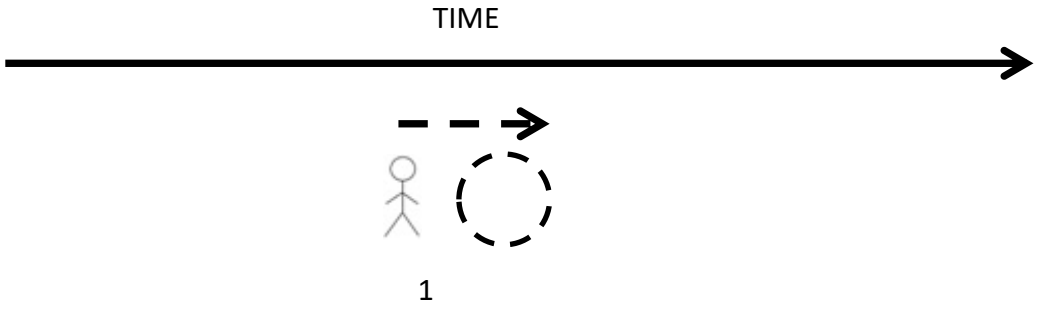
## Past & Future




When?

Should?

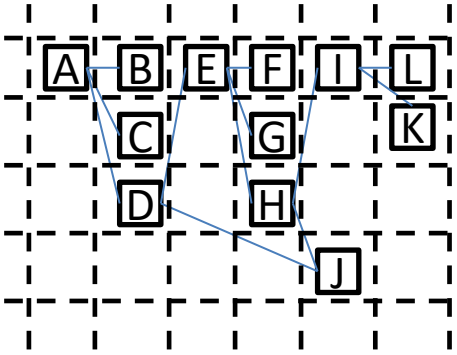
Could?

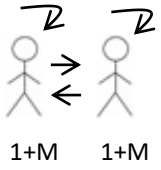


# Communication

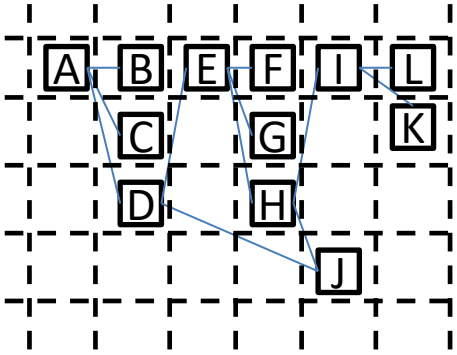
No two Humans remember exactly the same mental models. They will contain similar features of Hierarchy, Tables and Networks with differing strength of relationships. See Gordon Pask - Entailment Mesh.
Humans will operate on subsets of their hierarchies while communicating

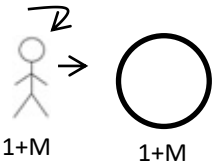
Human Talk




Human Create Book,
Movie, Media, Paper, TV




Human Observe and Think
Book, Movie, Media, Paper, TV