

A Pattern PreLanguage Model for Ecological Intelligence:

Ecological Intelligence is a combination of instinctive, emotional, and intuitive intelligence. The Ecological Intelligence model is based on the assumptions that you and I are conscious entities with physical bodies, and that we communicate with each other using language. In this case we will use the English Language and shrink it down to the simplest form we can. The purpose of the model is to help us understand how Nature works, how we work instinctively, emotionally, and intuitively in our daily lives, and how this is consistent with science.

We start by identifying eight fundamental concepts or presumptions. Because these concepts precede both natural languages and mathematics we will call them Clues. They will serve as guides to our understanding Ecological Intelligence. Each Clue concept will be illustrated with a simple diagram which represents its meaning. These will be identified by the single letters U, I, E, A, O, Q, Y, H.

The first four will represent the Reals; actual personal experiences we have with ourselves and our external physical reality.

U	●
I	
E	T
A	H

The second four will represent Ideals; ideas which may or may not have anything to do with the Reals and our personal experiences. As follows:

O 

Q 

Y 

H 

The diagrams for the eight foundational clues are extremely important and useful because the diagrams themselves are excellent examples of what they mean. In the rest of this text each diagram will be represented by a capital Roman Alphabet letter in bold. Thus the **U** clue is me, or you, or others. A single point consciousness in the universe. Then the **I** clue, a single line, is representative of linear thinking patterns which are dominant in most Natural Languages and basic math and science. They successfully describe actions, what actually happens in most of our personal experiences in our external reality. They comprise a rational description of personal experience.

In contrast the **E** clue can be viewed as an emotional reaction to our personal experiences and the language representation of those experiences. Emotions can't be measured with the tools of math and science and hence are not fully describable with linear thinking models. Show this by connecting another line to a linear thinking line. The connected line is a linear representation of a non linear thinking line connected to a linear thinking line.

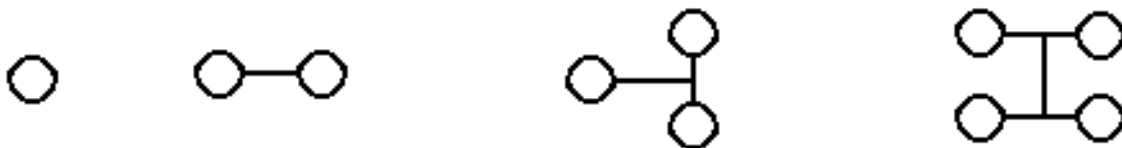
The **A** clue takes this one step further by connecting lines only with other lines. It doesn't matter if these are **I** lines, or **E** lines, or even other **A** lines. Thus **A** represents the development of intuition and understanding, creativity, imagination,

morality, complexity, ethics, aesthetics, and reflection. It considers all of our personal experiences and the linear and nonlinear connections between and among them and the emotions which they generate. As we have more personal experiences and remember them they will generate and expand our intuitions and understanding will grow. This will include the linear analyses that science has used so successfully in some areas but will temper that with the realization that this is only a part of our universe and experience.

The next four diagrams share this foundational relevance. In a sense they are reflections or evolutionary extensions of the first four, but they introduce a fundamentally new step in development. The first four clues involve our personal experience, who we are and what we know. The **O** clue establishes a boundary between me, or you, and the universe. Thus it introduces experience beyond the personal. What we don't know and may or may not directly experience. We can think of this boundary as a form of self relation, in which our initial point clue is related to itself, but it clearly establishes that there is a universe out there that is different from us. We can represent this in a variety of ways, but start with just a circle.

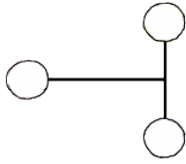
At this point it will be useful to refer to the Relational Systems Formalism. This was developed by Jon Ray Hamann and Jere Northrop starting in the late 1960s to 1970s. See [Math 4 Wisdom. "Mathematics for Wisdom" by Andrius Kulikauskas. | LanguageOfWisdom / Welcome](#)

This formalism looks at everything in terms of systems, shown as circles, and relations, shown as lines. Thus the **UIEA** concepts could be represented as;

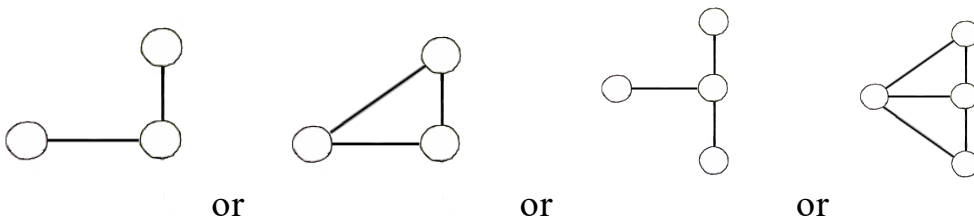


In its initial formulation it was presumed that there were only four types of relations in the universe; self relation, linear relation, relational relation, and interrelational relations. Everything else could be considered as systems comprising relations and other systems. Thus Relationalism was described as; “Personal Experience is the Essence of Relational System. By Presumption, this is the Essence of Existence Beyond the Personal.”

Here is how the Relational Systems Formalism can help illustrate the Ecological Intelligence Symbolic Formalism. Here is the representation of the **E** emotional clue.

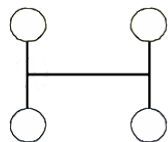


The scientific or linear or mathematical ways of illustrating this might include;



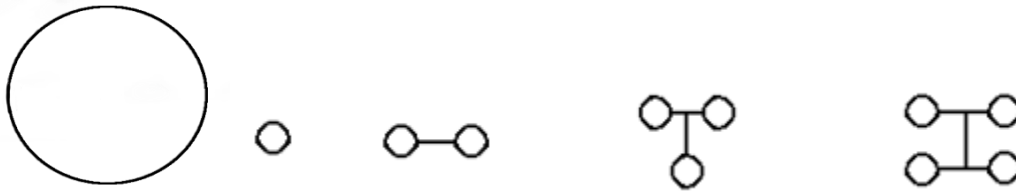
But these are not the same as the first diagram. You can't get there by just connecting the dots. The **E** clue is a fundamentally different concept, not measurable with real numbers or combinations of the **I** clue. Emotion is different than logic.

The **A** clue takes this one step further by connecting lines only with other lines. In its simplest Relational Systems Formalism depiction it is;

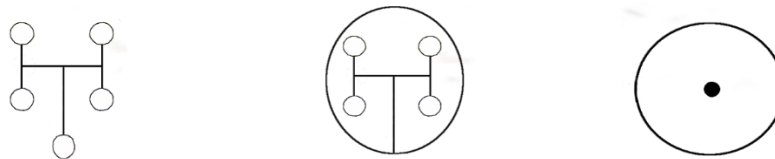


It is obvious that even simple diagrams formulated with linear and emotional elements become enormously complicated when **A** type connections are introduced. This further emphasizes that these are fundamentally non computable aspects of our experience. However, they are still very real and a crucial component of our intellectual functioning. We just need to recognize that we need different ways to create and utilize them. These involve observation and study of how our environment works, a pragmatic and cooperative approach as to how we can function in this environment in a compatible manner rather than using computed brute force.

Return now to the **O** diagram.

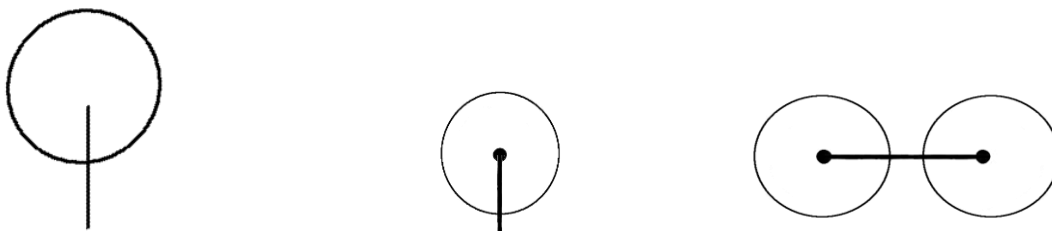


An interesting way to look at how these fundamental clue diagrams can evolve into succeeding fundamental clues shows how the **E** and **A** clues can generate the **O** clue. Shown as;



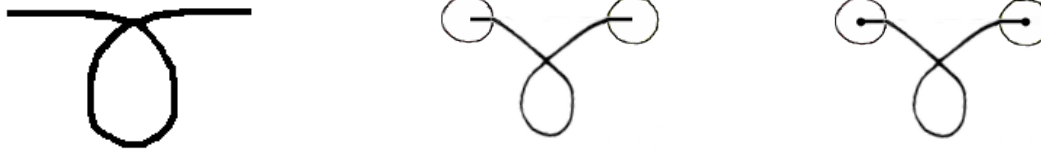
This **O** clue can now serve as the system in the Relational Systems Formalism.

The crossing of the **O** boundary is represented by the **Q** clue as follows.



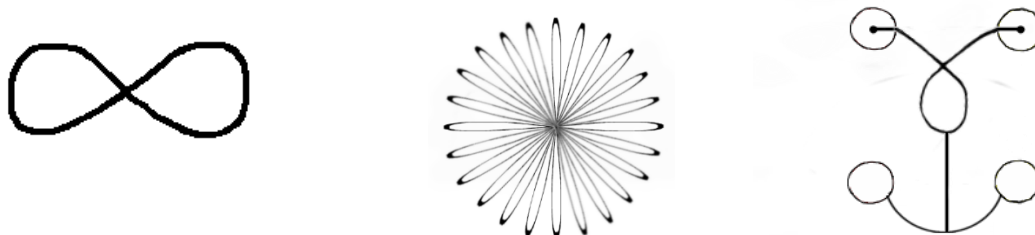
This can also represent the communication between two systems, or between you and I, by crossing each of the respective boundaries.

When this is applied to our personal communications this generates a different form of the **Y** clue relation. We can show this version as:



This adds an additional element to any communication. In contrast to a straight linear relation which can be measured with real numbers this **Y** relation cannot be so measured but can be described with a complex number. Thus it can be viewed as being a complex number which can help represent other non measurable clues such as emotion or entropy.

And finally we connect everything with everything else in the simplest way we can possibly imagine, the **H** clue diagram; two loops, or many loops. It also can represent other configurations interrelating the **O**, **Q**, and **Y** diagrams.



Given the eightfold pattern and diagrams of Ecological Intelligence, what would be your choices of words for the meaning of each letter. What makes the most sense to you. Better yet, make up diagrams and patterns for your fundamental concepts of the nature of yourself and the universe. Do the diagrams relate to each other and do they help in your understanding of your foundational beliefs?

The diagrams presented here suggest that there are at least three aspects of intelligence, rational linear thought, emotion, and intuition. This could correspond to the three minds of Andrius Kulikauskas. What do you think? Do you use all

three minds to help make a decision or create a new work of art or a song? Can you picture that?

Finally, here is a way to use the PreLang as a PreMath. First consider a possible representation of **O** as an oval as shown below.



Now take the pages with all the diagrams shown above and hold them in front of a mirror. You will notice that all the diagrams are reflection invariant. They look the same in the mirror as they do to you. But the person holding the diagrams is not reflection invariant. If you are right handed the person you see in the mirror is left handed. The diagrams are the same but you are not.

Rotate all the pages with diagrams by 45 degrees. You will notice that the only diagrams that are reflection invariant now are the dot **U** and the circle **O**. Everything else, including the oval, is either left or right handed. Call the reflection invariant unitary, and the left or right handed reflections as complex. We do this because the left and right handed reflections are the essence of the concept of a complex number, where the square root of minus one has two separate values, each of which squares to minus one. Thus our personal experience of looking in a mirror has both a real value (us), and an ideal imaging value which is an image or idea of us.

We can place each of the first four symbols, **UIEA**, at the corners of a tetrahedron. Do the same for the second four, **OQYH**. Both of these diagrams look like quaternions in that they have a unity and three complex components.

Place all eight symbols at the corners of a cube. If the **U** and the **O** are facing each other on the opposite sides of the cube this looks like two quaternions facing each other. However, if we replace the circle diagram for **O** with an oval, then it will no longer be reflection invariant and will become complex. Then the cube will have on unitary symbol, **U**, and 7 complex ones, **I, E, A, O, Q, Y, H**. It will then look like an octonion.