1 Introduction – Synthetics

Consciousness is the recursion of the Universe.

Observe as we briefly introduce the Synthetic Field, the Identity portion of the Trio.

Definition 1 *We define the concept of 'definition' by the Principle of Self-Recursive Explosion, which states : (Observe the harsh, but meaningfully necessary wording choices)*

The existence of the recursive self-recognition of a being immediately implies, albeit to at a minimum in the local case, an assumed obedience to and therefore state of, existence – in which it is defined by its own 'definition' : a structure overlayed on the universe space (which consists of all variations of possible being), producing a means (by which a being may be mapped to by a specific lexical string) for facilitating the communication of a subset (representing a definition) of such universe space.

Definition 2 *We define a Relationship to be a being which allows its own existence by the Principle of Self-Recursive Explosion, and is ambient or static, existing as a result of the existence of the universe space itself which references by extension of its definition its relevant contents. A Relationship is simply a defined being that is a member of the definition range spanned the definition function of a defined being or set of beings which contains reference to that being or set of beings. The state of a relationship may be dynamic on the referenced beings, or further, one may manipulate these structures on the meta level to create dynamic, interfaced data structures and functional conglomerates in order to coordinate the development of structured programs. (Which we will do shortly)*

Definition 3 *We define a 'closed' being to be a defined being of the form such that it facilitates the deterministic communication of a closed and bounded subset of its universe space.*

Definition 4 *We define an 'open' being to be a defined being of the form such it facilitates non-deterministic communication.*

Definition 5 *We define an 'Object' to be a being, such that a certain set of other beings exist in some relationship with said being. Posing some dynamic effect in the state, definition, or behavior of that being on some level of at least possible recognition.*

Given 1 *Let f be any function of the general kind fulfilling some contract of the form $D \circ f \longmapsto R \circ f$.*

Given 2 *Let $N = |D \circ f|$*

Definition 6 *We define* $\Upsilon(x,m,n)$ *to be:*

$$\Upsilon(x,m,n) = \prod_{i=m}^{n}(x_i - x)$$

Definition 7 *We define* $\zeta(x,i)$ *to be:*

$$\zeta(x,i) = \Upsilon(x,0,i-1)\Upsilon(x,i+1,N)$$

Definition 8 *We define* $T(x,i)$ *to be:*

$$T(x,i) = \frac{\zeta(x,i)}{(x_i - x) \ + \ \zeta(x,i)}$$

Definition 9 *We define* $Synth_f(x)$ *to be:*

$$Synth_f(x) = \sum_{i=0}^{N} y_i T(x,i)$$

Observe

Theorem 1 $\forall x, f \quad f(x) = Synth_f(x)$

The proof follows simply from the fact that $\forall x \mid x \neq x_i, \zeta(x,i) = 0$
Hence that
$T(x,i) =$

$$\begin{cases} 1 & x = x_i \\ 0 & x \neq x_i \end{cases}$$

Such that

$y_i T(x,i) =$

$$\begin{cases} y_i & x = x_i \\ 0 & x \neq x_i \end{cases}$$

Such that

$\sum_{i=0}^{N} y_i T(x,i) = y \mid y = Synth_f(x)$

Such that

$Synth_f(x) = f(x) \ \forall x, f$

We now expand to multidimensional form.

Given 3 *Let* $\vec{N} = |D \circ f|$

Definition 10 *We define* $\vec{\Upsilon}_i(\vec{x}, \vec{n})$ *to be:*

$$\vec{\Upsilon}(\vec{x}, \vec{n}) = \prod_{\vec{x}_{\vec{i}} \in |D \circ f| - \vec{n}} (\vec{x}_{\vec{i}} - \vec{x})$$

Definition 11 *We define* $\vec{\zeta}(\vec{x}, \vec{i})$ *to be:*

$$\vec{\zeta}(\vec{x}, \vec{i}) = \vec{\Upsilon}(\vec{x}, \vec{i}) \vec{\Upsilon}(\vec{x}, \emptyset)$$

Definition 12 *We define* $\vec{T}(\vec{x}, \vec{i})$ *to be:*

$$\vec{T}(\vec{x}, \vec{i}) = \frac{\vec{\zeta}(\vec{x}, \vec{x}_{\vec{i}})}{(\vec{x}_{\vec{i}} - \vec{x}) \ + \ \vec{\zeta}(\vec{x}, \vec{x}_{\vec{i}})}$$

Definition 13 *We define* $\vec{S}ynth_f(\vec{x})$ *to be:*

$$\vec{S}ynth_f(\vec{x}) = \sum_{\vec{i}=\vec{0}}^{\vec{N}} \vec{y}_{\vec{i}} \vec{T}(\vec{x}, \vec{i})$$

Observe again

Theorem 2 $\forall \vec{x}, f \quad \vec{S}ynth_f(\vec{x}) = f(\vec{x})$

The proof follows simply from and equivalently to the single dimension version.

Definition 14 *We define* $\vec{T}(\vec{x}, \vec{i})$ *and* $\vec{T}(\vec{x}, \vec{j})$ *to be:*

$\vec{T}(\vec{x}, \vec{i}) \wedge \vec{T}(\vec{x}, \vec{j})$ in logical form

$\vec{T}(\vec{x}, \vec{i}) \cdot \vec{T}(\vec{x}, \vec{j})$ in arithmetic form

$\vec{T}(\vec{x}, \vec{i}) \cap \vec{T}(\vec{x}, \vec{j})$ in set form

Definition 15 *We define $\vec{T}(\vec{x},\vec{i})$ or $\vec{T}(\vec{x},\vec{j})$ to be:*

$\vec{T}(\vec{x},\vec{i}) \vee \vec{T}(\vec{x},\vec{j})$ in logical form

$|\vec{T}(\vec{x},\vec{i}) - \vec{T}(\vec{x},\vec{j})|$ in arithmetic form

$\vec{T}(\vec{x},\vec{i}) \cup \vec{T}(\vec{x},\vec{j})$ in set form

Definition 16 *We define not $\vec{T}(\vec{x},\vec{i})$ to be:*

$\neg\,\vec{T}(\vec{x},\vec{i})$ in logical form

$1 - \vec{T}(\vec{x},\vec{i})$ in arithmetic form

$\vec{T}(\vec{x},\vec{i})^c$ in set form

Definition 17 *We define $\vec{T}(\vec{x},\vec{i})$ xor $\vec{T}(\vec{x},\vec{j})$ to be:*

$(\vec{T}(\vec{x},\vec{i})\, or\, \vec{T}(\vec{x},\vec{j}))\, and\, (not\, (\vec{T}(\vec{x},\vec{i})\, and\, \vec{T}(\vec{x},\vec{j}))$

...

Definition 18 *We define the following related forms:*

$\wedge_{t\in T(x_i)} f_T(t)$ in logical form

$\prod_{t\in T(x_i)} f_T(t)$ in arithmetic form

$\cap_{t\in T(x_i)} f_T(t)$ in set form

Definition 19 *We define the following related forms:*

$\vee_{t\in T(x_i)} f_T(t)$ in logical form

$\sum_{t\in T(x_i)} f_T(t)$ in arithmetic form

$\cup_{t\in T(x_i)} f_T(t)$ in set form

Corollary 2.1 *To conform with function output at areas of discontinuity, we take :*

$$PSynth_f = ((Synth_f)^{-1})^{-1} \text{ , or } \frac{1}{\frac{1}{Synth_f}}$$

Observe that now : $x \notin D \circ f \longmapsto PSynth_f(x)$ undefined

Whereas : $x \notin D \circ f \longmapsto Synth_f(x) = 0$

2 Introduction – Bond Theory

Imagination is the recursion of Evolution.

Observe as we briefly introduce Bond Theory, the Relationship portion of the Trio.

3 Introduction – Dynamics

Ego is the recursion of Imagination

Observe as we briefly introduce Dynamics, the Variance portion of the Trio.

4 Introduction – Extras

Observe as we digress to enjoy some introductory auxiliary applications of the aforementioned Trio.

Definition 20 *We define a Synthetic Data Mine, M_k to be :*

$$\circ_{j_k} \circ \sum_{i_j} \circ f_i$$

Observe that the Mine follows a 3 part time based format (ppf) repeated throughout Dynamics of : after $\circ$ during $\circ$ before.

where f_i is often represented in the ppf format :
$f_i = (F \circ l \circ r)_i{}'$

where l is often of a Worker format $l(w) = W(b_l(w))$ for some body function b_l and Worker spawner W.

Infer and Observe the Worker format in conjunction with Synthetic Data Mines as it relates to implementations of mapreduce and other stream oriented batch compute tactics.

Allow these Inferences and Observations to persist throughout the rest of this section.

Definition 21 *We define a Synthetic Data Quarry (also of ppf format), Q_h :*

$$Q_h = \sum_{i_h} \circ M_{i_h} \circ r_{M_{i_h}}$$

Definition 22 *We define a Synthetic Data Hyper Quarry (also of ppf format), HQ_g :*

$$H^1 Q_g = \sum_{i_g} \circ Q_{i_g} \circ r_{Q_{i_g}}$$

also :

$$H^d Q_g = \sum_{i_g} \circ H^{d-1} Q_{i_g} \circ r_{HQ_{i_g}}$$

also let's define for syntactic sugar : $H^0 Q \equiv Q$

...

Definition 23 *We define a Synthetic Data Hyper Quarry (also of ppf format),* HQ_g *:*