Logical Ramblings Thomas Evans 8/16/11 For submission to the Annals of Mathematics

Abstract: I present extensions to logic theory whose utilitarian application contains itself in the form of a developmental, logical framework determinant of all being, and then derive several applications thereof to areas of general quantum theory and pure mathematics, providing solutions to 2 longstanding relevant problems: P vs NP and the Riemann Hypothesis.

Tractatus 1- demonstrandum AA.

Objective reality is a result of demonstrandum AA. What is demonstrandum AA.? What is A.? What is objective reality? If all elements of a system are true, then the system is true. If a reality is then an element of a system, the global transfusion of conditions is then a system, and is then an element. The refutation of a modality then proposed as descriptive is then a hypothesis. A hypothesis is then an element of A., but a perception of transfusions. An interaction of transfusions is then a global condition. An apathy of conditions is a system. A transfusion of apathies is a perceptive mode. Perceptive modes then constitute a dialect of systems. A human reality is of constitution, but then what is demonstrandum A.? If a system has missing elements it is incomplete. If a logical determination is then derivative of conceptions of conditions it is irrelevant as the system remains. Objectivity is a falsehood as all elements are constitutional of all perceptions. If all perceptions are constitute of a reality, then a reality is irrelevant. If a perception is defined as irrelevant then a system is irrelevant. If a system is irrelevant then all elements are irrelevant. If connectivity is a transitivity of modes of a system then all elements of that system are demonstrable as non-relevant to objectivity, which is itself irrelevant. Is then a systemic irrelevance itself irrelevant? Yes. A perpetual mode exists. What then is a determination of perception, and expression? These are systems. If a perception is then irrelevant then the determination itself is irrelevant to all conditions except the observer. If phenomena exists that is non-deterministic, then what is a postulate of reality? It is an element of non-determinism. If a system is non-deterministic, then what is a transfusion of elements? A non-determinism is equivalent to a determinism by nature thereof. Then the aforementioned applies, and non-deterministic systems of perception and expression exist that truth is merely a perception of a constitution, and false a misinterpretation of constitution. Then an analysis is a function of non-deterministic expressions. These define networks of systemic irrelevance as described by the above conditions. All postulates are then themselves irrelevant, and all laws indifferent. Reality is then a system of all states derivative of all states, and so on. Then reality is a system of all interactions, and any perceptions/observations are irrelevant. What then, is demonstrandum AA.?

What is demonstrandum AA.?

Objective reality is a result of demonstrandum AA. Objectivity is irrelevant, as a result of tractatus 1, and as such reality is a result of demonstrandum AA., as in tractatus 1*. Then demonstrandum AA.= ψ =

$$Information_i \Rightarrow \emptyset \cup X \Rightarrow (R \vee UR) \Rightarrow StateX \Downarrow Function_{Det} \Rightarrow \hbar \Downarrow StructuralFunction_{Det} \Rightarrow \sum_{\infty,-\infty} \mu_i \supset$$

and u(ψ)= $StructuralFunction_{Det}$, as in tractatus 1. Then pDE=
p modifies X so that

$$\text{Finite state}= \begin{array}{l} X_1 \Leftrightarrow X_2 \Leftrightarrow X_3 \Leftrightarrow X_4 \Leftrightarrow X_5 \Leftrightarrow \ldots, X_6 \ldots, \\ \Updownarrow X_{\infty}, \Updownarrow X_{-\infty} \end{array}$$

with $X_{\infty}, X_{-\infty}$ as the commutative operators from which $(X_1, X_2, X_3, X_4, X_5, X_6 \ldots,) =$ Finite operators= $F_{-\ operators}$ can be derived. Then $F_{-\ operators}$ consistently approach infinity/negative infinity, and serve as bounding limits on all elements of ψ . These are irrelevant as in tractatus 1. Then $u(\psi) \Leftrightarrow pDE$, as in tractatus 1. Then $\psi \approx$

$$Information \Leftrightarrow RS \Leftrightarrow RSOMs \Leftrightarrow QMSs \Leftrightarrow CCSs$$

where

$$Information = Information_i,$$

$$RS = \emptyset \cup X, or(R \vee UR),$$

$$RSOM = \hbar, = [((\sum_{\infty} !)(\sum_{T} \Im)(\sum_{\infty} !))], \Im = \sum_{\infty,-\infty} State,$$

$$QMS = StateX = T \approx T_i = T_{i = i \to \infty,-\infty},$$

$$CCS = \sum_{\infty,-\infty} \mu_i \supset .$$

*Throughout the paper I will make this statement, refer to appendix 1.

Some applications of this.

Consider a physical picture of quantum nature, as in tractatus 1. Consider then the phenomenological integration there into*. Physicality is then an actualization of systems as described in tractatus 1. *Refer to appendix 2 for a detailed representation.

Pure mathematic considerations yield an abundance of interesting results, for our purposes we will present 2 and build upon these and the above applications in future work.

1. Solution to P vs NP

It is possible through derivations of the above as more efficient computational modeling to demonstrate two cases of solutions to P vs NP. Consider the model as in (1), where

$$R_{syn}(t) = \begin{matrix} \wedge \vee & \wedge \vee & \wedge \vee \\ \wedge \vee & \wedge \vee & \wedge \vee \\ \wedge \vee & \wedge \vee & \wedge \vee \end{matrix} \approx [RS = x],$$

where $\wedge = true, \vee = false.$ Then

$$T\frac{\partial V_m}{\partial t} = (1 + R_{syn}(t)Syn + V_{rest,} = -Syn(t) = 0.\theta\, rest \cdot te^{-t/t} peak.$$

Then consider as in (1.1), so that then

$$C\frac{\partial V_m}{\partial t} = \sum_{i\to 0}^{n} Syn_{,i}(t)(Syn_{,i}\_V_m) + \frac{V_{rest}t_e}{R},$$

$$= T'\frac{\partial V}{\partial t} = -V + \frac{SynE_{syn}}{G_{in}},$$

$$= T' = \frac{C}{G_{in}} = Syn + \frac{1}{R},$$

$$= r_\infty = \frac{R_{syn'}R_{syn}}{1 + R_{syn'}},$$

$$= r \approx R_{syn'}R_{syn'}$$

$$= r \approx \frac{R_{syn'}E_{syn}}{R_{syn'}}, \approx Z_{syn},$$

as in tractatus 1*. * Refer to appendix 3 for a more detailed treatment.

2. Solution to the Riemann Hypothesis

Through derivations of the above modeling,

$$da\forall\ T,$$

$$da = \oint T : T^{i}_{a_\Gamma},$$

$$\forall = L(x) = (\pi\ (1 - \sum_{n=1}^{\infty} nb_n^2))\{^{b_n,\mathrm{Z}}_{W_{n.m}\mathrm{Z}}\ ^{\{V_{n,k}\mathrm{Z}}$$

with

$b_{n,}$

$w_{n,m}$

and $v_{n,k}$

all elements of some input $R_{syn}(t)$, where T remains as in appendix 3, and Ω is every constructible set of open information $a \subseteq T_i$. Then

$$\in = \left\{ \prod_{n \leftrightarrow \infty, -\infty} \wedge \Omega_{\Omega\, i}^{\Omega\, i} \right. ,$$

where

$L_N(C) = Z_n = r_{\max} \rightarrow$ some constructible surface

$[w(z)]^d + w(z) + z_n^2 + c = i,$

where i is some number

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where $sub(\in)$ is some derivation of an aspect of a solution to $R_{syn}(t)$ where $R_{syn}(t)$ remains as in appendix 2. This yields

$$\sum \int_{m}^{\Gamma_m} in_{-1},$$

where Γ_m = some derivative phenomena that when simplified to input in $R_{syn}(t)$ yields $\wedge \vee$, and m= some sub element of the derivative phenomena with probability P(x) that it is deterministic. Then in_{-1} = some derivative construct of a solution to

$R_{syn}(t)$ that derivations exist there from that yield perceptible derivations to a phenomena

$$M'(x) = \sum_{n \le x} \mu(n) = O'(x^{1/2+e}).$$

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References: [1]The grail machine: one ©2003 by Rolf Mifflin, Temporal Propositions and the Solution to the Gödelian Paradox,
[2]Googol room essays: one ©2003 by Rolf Mifflin, The grail machine: Two, ZF^{+} : A set theory for describing the mind,
[3] Googol room essays: one ©2003 by Rolf Mifflin, The grail machine: Three, The physical construction of free will,
[4] Biophysics of Computation: towards the mechanisms underlying information processing in single neurons, Christof Koch, MIT Press Cambridge, MA, USA ©1993,
(1) Pg.
(2) Pg.

Appendices:

Appendix 1:

1.1 "Objectivity is a falsehood as all elements are constitutional of all perceptions..." Objectivity is then irrelevant in identifying the associations between reality and demonstrandum AA.

1.2 u(ψ)= $StructuralFunction_{Det}$,..."If a reality is then an element of a system, the global transfusion of conditions is then a system, and is then an element..." Structural output is a function of phenomenological input. The above statement is equivalent to u(ψ)= $StructuralFunction_{Det}$, as an interactive deterministic system is equivalent to an non-perceptible non-deterministic system defined as a reality given by " A non-determinism is equivalent to a determinism by nature thereof...". This applies to $u(\psi) \Leftrightarrow pDE$.

1.3 These act as measurements of perception, which are irrelevant by "Objectivity is a falsehood as all elements are constitutional of all perceptions. If all perceptions are constitute of a reality, then a reality is irrelevant. If a perception is defined as irrelevant then a system is irrelevant...", "Is then a systemic irrelevance itself irrelevant? Yes...", and "Then an analysis is a function of non-deterministic expressions...".

1.4 "Physicality is then an actualization of systems as described in tractatus 1..." by " What is objective reality? If all elements of a system are true, then the system is true. If a reality is then an element of a system, the global transfusion of conditions is then a system, and is then an element..." and "Reality is then a system of all states derivative of all states, and so on...".

1.5 " If a reality is then an element of a system, the global transfusion of conditions is then a system, and is then an element..."

Appendix 2:

$$1 \Updownarrow 2 \Updownarrow 3 \Updownarrow 4 \Updownarrow 5 \Updownarrow 6 \Leftrightarrow RS \Leftrightarrow RSOM \Leftrightarrow QMS,$$

1. Consider the correspondence between minimum energy in an atom and the lowest discrete quantized state of energy, the production of sharp pulses of radiation and corresponding harmonics within the radiated frequency, the idea that if two lines with frequencies $v_1 and v_2$ over r_1 all obey to find the related frequencies $v_1 + v_2 or v_1 - v_2$ .Consider these collective inferences and experimentally justified phenomena. Consider the determination of energy levels by $E_n = \sum_0^n \Delta E_n = \sum_h^n hv(E_0) + k$, the quantization of the action J, the quantization of angular momentum, the effects of quantization on an electron moving in the field produced by a point change, the correspondence theory of radiation, and the absorption of radiation,

2. Consider the concept that matter exists as waves, motion of pulses of light, the width of a wave packet, spread of wave packets, more general criteria for width of packet, generalization to three dimensions, motion of electron wave packets, effects of forces, the effects of quantization, the prediction of electron diffraction by Bohrs-Sommerfield Theory, the interpretation of wave function in terms of probability, a more detailed picture of electron waves, transitions between orbits, the wave equation, the wave equation for free particle,

3. Consider the definition of probabilities, the choice of probability function P(x), the proof of conservation of probability, probability current, the probability function for light quanta, probability of a given momenta, the relation between P(x) and P(k), the normalization coefficient for P(k),

4. Consider the uncertainty principle, the proof of uncertainty principle for electrons, the interpretation of the uncertainty principle, the relation of oppressing of wave packet to uncertainty principle, the relation of stabilities of atoms to uncertainty principle, the theory of motion elements, the uncertainty principle applied to light quanta, the observation of light quanta with an electron microscope, the localization of electromagnetic energy by means of slits and shutters, the application of the uncertainty principle to the problem of defining orbit in atoms, the general application of the uncertainty principle, the unity of the quantum theory, and the question of whether or not there are hidden variables underlying the quantum theory,

5. Consider the wave-particle nature of matter, the impossibility of simultaneous observation of wave and particle properties of matter, the effects of the process of observation on the wave function, the relationship of the destruction of interference to consistency of wave particle duality, the generalization of the various parts, the measurement of momentum, the relation of phase changes to the uncertainty principle, the importance of phase reductions, the quantum properties of matter as potentialities, the inclusion of more general interpretations, the reality of the wave properties of matter, and the qualitative picture of the quantum properties of nature,

6. Consider the requirements to build a physical picture of the quantum nature of matter, the need for new concepts, the description of the concept of continuations, the simple and pictorial ideas about continuity of motion, similarity of simple ideas of motion and quantum concepts, similarity of simple ideas about fixed position and quantum concepts, more sophisticated ideas, including the concept of continuous trajectory, cause and effect, the determination of classical theory as prescriptive and not causal, the new properties of quantum concepts: approximate and statistical causality, energy and momentum in classical and quantum theories, momentum and energy as a description of causal effects, the relation between space-time and causal aspects of matter, the principle of complementarity, the indivisible unity of the world, the role of causal laws, analysis and synthesis, applications of analysis and synthesis to classical theories, an attempt to analyze a quantum system, and the need for a non-mechanical description to quantum processes.

Appendix 3:

1. Generic and Special Cases
2. Solution to P vs NP for Generic Case
3. Solution to P vs NP for Special Case
4. Proofs of these Solutions

1.Generic and Special Cases

We define two cases

(1) A generic case where P is the complexity class of languages accepted by some deterministic Turing machine and NP is the complexity class of languages accepted by some nondeterministic Turing machine
(2) A special case where P is the complexity class of languages accepted by some deterministic level of an RS machine and NP the complexity class of languages accepted by some nondeterministic execution of an RS machine

F from which we derive solutions to P vs NP for each case.
2. Solution to P vs NP for Generic Case

(1)P=NP iff $£^{*} = £$ .Then $T \subseteq T_i$ for $forf : \{^{T \rightarrow T_i}_{, n} \sum_{n=T} i-1$.

Where Ω Ω Ω Ω Ω Ω Ω
T= Ω

Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω

And Ω is some random construction of a P/NP input. Then P=NP if every constructible data set for elements of a solution can be represented by some construction of that solution. For any P input this is possible. For any NP it is only through a method of exhaustive search. Asymptotically faster determinations do not exist given the limitations of this case. Our current technological and intellectual capacity to define such algorithms is restricted first by our lack of efficient modeling. It is within the next section we demonstrate for a more efficient model P=NP.

3. Solution to P vs NP for Special Case

P=NP iff there exists a model as in (1) that

$$R_{syn}(t) = \begin{matrix} \wedge \; \vee & \wedge \; \vee & \wedge \; \vee \\ \wedge \; \vee & \wedge \; \vee & \wedge \; \vee \\ \wedge \; \vee & \wedge \; \vee & \wedge \; \vee \end{matrix} \approx [RS = x],$$

where $\wedge = true, \vee = false.$ Then

$$T\frac{\partial V_m}{\partial t} = (1 + R_{syn}(t)Syn + V_{rest,} = -Syn(t) = 0.\theta\, rest \cdot te^{-t/t} peak.$$

Then consider as in (1.1), so that then

$$C\frac{\partial V_m}{\partial t} = \sum_{i\to 0}^{n} Syn_{,i}(t)(Syn_{,i} \_V_m) + \frac{V_{rest}t_e}{R},$$

$$= T'\frac{\partial V}{\partial t} = -V + \frac{SynE_{syn}}{G_{in}},$$

$$= T' = \frac{C}{G_{in}} = Syn + \frac{1}{R},$$

$$= r_\infty = \frac{R_{syn'}R_{syn}}{1+ R_{syn'}},$$

$$= r \approx R_{syn'}R_{syn'}$$

$$= r \approx \frac{R_{syn'}E_{syn}}{R_{syn'}}, \approx Z_{syn},$$

as in tractatus 1. Defining RS as some infinitely repetitive action. We can then assume that given the nature of this RS for any P input there paritously exists some NP input exponentially more efficient.

Proof 2.2 We begin with a case of P determinism and NP non-determinism.

(2.2.1) P is equivalent to the statement that there exists a finite number of $\wedge \vee$ resolutions/unresolutions. These can be reached exponentially more efficiently with the above modeling.

(2.2.2) NP is equivalent to the statement that there exists an infinite number of $\wedge \vee$ resolutions/unresolutions. However there are a finite number of RS and if $\wedge \vee = \wedge$, $\wedge \vee = \vee$, then any $\wedge \vee = \wedge$ or $\vee$.