before we question spacetime

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Abstract

As a wish to explain the continuity of molecules and their propensity for conformational change - through an interval smaller than time's quantized spacing - we envision a collection of useful components, and their linkages with a temporally forgotten spacetime. We tie in a category space, allowing a one-to-many mapping, usefully to split an invariant into a draw field resembling density and a collection of curious operators resembling spacetime actions. We may also now explore multiple -relaxed - paths simultaneously, collapsing at the end of our computation. We fill our categorical notion with a frame, balanced by set theory, in which our operators may be precisely formed, or left indefinite. Within our computation at least some algorithms must occur, to enforce a continuity and a screening of future space, and others appear readily to do so, giving rise to our observation of molecular bonding.

Keywords: *Non-precise operator algebra*, *maps* and *algorithms*.

BPP is a mathematical space that allows certainty of probabilities, that you'll be certain, but only some of the time. We take it as our hand.

Algorithmic notation mostly python.

At the lightest stage, $\Delta \approx 10^{-43}$, or the Planck time in seconds[1]. At scales shorter than this, time cannot be derived from fundamental physical operators.

We have a moment before time to prompt. And so before our prompt we tell a story.

As the author, being seemingly composed with G, sped along c and one hopes considered with more than a few $\hbar$ in mind, can no-nore step outside of his own system as *time* itself, do propose a non-precision $*$ as a ward on this essay

Warded as such, we may talk about the cosmological titans, patchworks.

In a time of great heat we create the universe, or, having always been created, up till a phase transition, we remark upon t. It is now.

Now it wasn't, which is rather imprecise.

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*Found at max.s.weinhold@gmail, or @GardenWeinhold. This twit shields-by-trit next page's two-star $*$

[1] *M. Planck; Vorlesungen über die Theorie der Wärmestrahlung 1906, p. 164*

In that moment before precision we create a picture, namely of questions.

As many stories go we begin on a foe. Known to let no light pass, though only refract[2]. A lurking in a code, of long fought precision. Of light holes and dark zones, of vantablack, which captures the absolute. Of opposites or linits. This author knits them with a function, *partition*, of a design we nay have already met[3] Of cosmological anchors, around which galaxies precess[4].

Our villian, now appeared, is revealed as foundation, the certainty of space held in long swept winds. A clock, ever[5] present. That form that is now so steady was once instability, maybe in a collapsing what was once star(s), or from potential, brighter than mass. Pulled inward by an action on itself, from a frozen anisotropy in the background[6].

And to be warded against the creation of such, in any detection software capable of saving what smells like burning solder from occurring in ones runtime, we speak no more.

As a curious solution to a nonsensical problem, I present this essay.

t

1 Processes of a curious space

The author felt compelled to patch holes, but of the continuity variety[7], which handily enough served a solution to the cosmic sort. Informally, how does a given dense clustering of matter, heretofore contained in a collapsing or colliding star system (rather blobby in sort), suspect, before time itself decides, that it will be a black hole*? Presumably, when that dense cluster realizes another Planck time - the smallest limit of time defined by physical operators relating to gravity - G - relativity - c - and quanta -$\hbar$ - - it *has become* a *black hole - or hereafter a patch. So what signal propagated through?

In one moment before a *leak* that would be instantly patched, or grow to patch a larger region, a calculation may have occurred, a certain signal of $S \in Q^{-1}(o)$, in the parlance of this paper.

Needing not this signal for regular ol' space unless protection's in mind, can we skim a bit off the top, or yearn for a better world in which to build regular ol' molecules?

Imaginatively, and with some comfort, $\eta\Psi o*$ may float like $\rho V g$.

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[2]e.g. *DR Wilkins et al.; Light bending and X-ray echoes*(..) 2021*

[3]It appears a difficult challenge to give a definition of energy irrespective of time, although now reading *JD Bekenstein; Universal upper bound on the entropy-to-energy ratio for bounded systems 1981* S/E is a clever way to conceptualize.

[4]See: *Hubble observations of M87, 1994*

[5]Deep time, my friends.

[6]In addition to *Guth 1981* now reads *Starobinski 1979*, though reports tell of Soviet scientists hard at work.

[7]And first of mulch beds in potholes, if only a patch.

With the story finished and a cryptic collection of mathematical symbols, we begin.

1.1 We lett our actors; explore on voids

[8]

Soon we may attempt to tile well a frame f, but first it helps to visualize how the tiles look, or fit. As such we land on o, a curious string. An operator or an operation, perhaps a concise cluster or a curiously precise question. Weighty, subject to a tend, given by η or something more intrinsic. Imagine a clever concoction of mathematical symbols, like the Navier-Stokes.

η -our movement - and o - our questions to actions - happen on a global state Ψ, the one invariant we get if Vermeil's theorem and the fourth dimension holds across the gap. The particulars of Ψ may depend on the problem, and be, disappointingly for a lot of curious beings, unknowable. We let Ψ be to set the tides.

Seems fitting to give o an activity, or a presence. When we specify it by a conjugated state $\langle\psi| o |\psi\rangle$ it might even give us a precise answer, to uncertainty standards[9]

We pull o from its comfortable bracings, first '*ket*', then '*bra*' to a place where we might have a hope to -briefly- store all its convolutions. It will find its way home[10]. First, absorb the state reference.

$$\langle\psi| o |\psi\rangle - \nu = \langle\psi| o*$$

Creating an instability $o*$ and letting go of some signal.

Picture before a functional group.

Now, subsume the referent into o, twisting around the braket.

$$*o$$

To create an even shorter-lived state $*o$.

Think on just potential, losing sight of where. Seemingly, when we question in t we reverse the decomposition. In this formulation, all notion of the referent costate $\langle\psi|$ is stored in the handedness of $*$, so that we might include in our operator algebra: $b * o = -o * b$ for a foolish person or a meaningful $-$.

We must remember or perceive a meaningful notion of location, at the very least a cumulative sum of influence, say with richer notation $*_{[x]}o = (|\psi\rangle, \langle\psi|)$ for a perhaps hidden location information $[x]$. This location appears encoded in the signal of ν, and any chance of differences between $|\psi\rangle$ and $\langle\psi|$ notion by

[8] And with a helpful reminder on archaics (https://en.wiktionary.org/wiki/lett), lend a multilingual ear.

[9] In quantum mechanics we frequently collapse an operation by a state shared - to a conjugate - across complex numbers; see *(Dirac 1930)*; noted here as $|\psi\rangle = (a \hat{+} bi)$ and $\langle\psi| = (a \hat{-} bi)$ where our hat $\hat{()}$ represents an array of complex numbers. In the complex plane we may utilize a handy notion of phase ϕ, to allow change irrespective of time: $(t/t)e^{-i\phi}e^{i\phi} = 1$ for whichever functions of ϕ you're clever enough to make.

[10] through *hone*, cheekily

$| - |^2$, which now appears too as signal, though of a tending sort. With this, I note a starred o as a cryptography; responsibly so, as note a pathway in space can lock up if overwound [11]

To formalize a category split, we envision a twain axiom such that there be a void condition, Ω, that links with a vacuum state $|\Omega\rangle$ at t, and a reverse mapping: $\langle\Omega|\, o\, |\Omega\rangle_t \to o * \Omega_\tau$.

$$\exists \Omega; \xi(\eta) : (\Omega)_\tau \to \ |\Omega\rangle_t$$

I create one axiom in the related category space:

$$\exists \Omega_i, \Omega_j; \Omega_i \neq \Omega_j$$

Patchiness!

Now, we allow variation of a background, which seemingly gives rise to the experience of a quantum foam when we localize.

The mapping ξ is tricky in-full, so we give it a useful parameter, η.

Summarily or perturbatively, ξ redirects back to spacetime.

The (categorical) inverse, $\xi(\eta)^{-1}$, seemingly an opposite, we give of the form T, or its (dimensional) inverse. It keeps the whole system warm, and thermodynamically churns from the start; referenced at the end.

Our creation of Ω notes a curious element τ, which we say exists in a different categorical space to t, but one that may map, alternatively, between.

$$\mathcal{M}(\tau) \to \mathcal{M}(t) \to \mathcal{M}(\tau) \to \cdots$$

For a categorical space $\mathcal{M}$ referenced by parameter τ or t. τ may merely be the 'time-between' steps of t, but may have a different form, such as suggested by this paper.

1.2 A draw of η

To create a slight distinction from o,

$$[\eta] \neq [o]$$

For the units, reference, or action [ ].

We allow compositions of operators, likewise tended by η such as $\eta \in (o * b)$.

For a notion of inclusion $\in$. η seeks justification, but it seems a still universe without it. This ensures its existence:

$$P((o * b)|/\eta) = 0$$

Where P is a probability, of finding a coupling / *sans* or without the activity of an η. b we create as perhaps different from o.

[11] See: a watch shop.

1.3 An odd star

The coupling between operators $*$ we define as a process:

For operators o and b

$$While(*)$$

$$o * b \equiv b[f(a)] * o[g(b)]$$

$$b[f(o)] * o[g(b)] \rightarrow (o + \delta_o^b) * (b + \delta_b^o)$$

$$\vdots$$

Where f and g are functions that receive information of their coupling partner, and add a variation δ_μ^ν, commensurate [12] with downstairs indices μ and parameterized - of an input to an output - with upstairs indices ν. δ_o^b and δ_b^o must compensate each other's existence:

$$|\delta_o^b + \delta_b^o| = k$$

To some exchange weighting k.

When, occasionally or concisely as our variation becomes the kronecker delta;

$\delta_o \delta_b = \delta_{ob}$

o and b may combine.

It'd probably be better to co-define a *sans* coupling, an operation left open.

$$While(*)$$

$$o* \equiv arrange(o)$$

For a reorganization *arrange* on o, that as it runs, tends:

$$arrange(o*) \rightarrow \eta o$$

Where the star between stabilizes at a value:

$$while(\tau) : \eta o \rightarrow \langle \Psi | \, k \, | \Psi \rangle$$

Although $\langle \Psi | \, k \, | \Psi \rangle$ is not reached until at least t.

The *while* here is perhaps closer to $until/\tau$. That seems determinable, given quantum mechanics.

Crutically, and with the first modicum of comfort, the process from *arrange* doesn't always reach a float of η immediately. As in within some, but maybe not all, τ can we get a slight read, lightly ν.

So o, met by η in a coupling, will find a state at the end of a roll[13] of τ. If we envision epochs whereby $o * \eta \neq \eta o$ we may be able to discretize -or count - a starting difference, momentarily ν. To which reconstruct puncta.

[12] Ecological Economics allows for an expansion of definitions. For the starter I used, see *Meadows, 2008*

[13] Granted by BPP

For a simple scalar amplification (or attentuation) of k

And with our distinction t[14] obtain an important pair of *Lemmas*:

$$\forall o, \exists \eta;\ \eta \in o*\ \ and\ \ \eta \notin o$$

1.4 An existence of o

We assume, for posterity, that:

$$\forall o, \exists o*; o \in o*$$

That all operators may be found as an instability composition $o*$, and that $* : \eta = P(o* \to \Omega\Psi_t)$, with a notion of becoming the vacuum condition. Here, I picture $*$ and η as having the relationship of a key and a value. P records a probability that our instability will be indistinguishable from the vacuum result at t, and for the lightest questions may reach $1:1$. This formulation sets up a positive η to tend our null result, which may be $null(<0) = partition$ for a later noted notion.

In curious response I conjecture a curious element, that allows one exception.

$$\exists \left\langle \psi_{t+1} \right| \xi(\eta) \left| \psi_t \right\rangle \neq 0$$

In some envisioning, with Bekenstein in mind, to that the same patch at two different times relates othogonality differently; if a condition, $\xi(\eta)$ is met. This, we screen. As a mathematical preservative, We remember from our manifold-like prior $\mathcal{M}$ mapping that t is two steps from t, and so is safely defined in the second inverse.

$$\left\langle \psi \right|_{\mathcal{F}+1} \left| \psi_{\mathcal{F}} \right\rangle \equiv \mathcal{F}^{-1}\mathcal{F}\mathcal{F}^{-1}\mathcal{F}$$

We associate a signal (e.g. $-+$) with this object, as a prompt on *check*.

As an interesting notice, η now maps between both, on the order t and $/t$

To demonstrate some rules on o, we helpfully attempt composition and splitting.

$$\forall o; \exists, p, b; o * b = p)$$

and

$$\exists p, b; \forall o; o = b * p$$

As an edge case - or an identity - we let each vacuum condition be an operator:

$$\Omega* \ \ = 1 * \Omega$$

With a signal 1, that reinforces the existence of Ω, maybe with a drink of quantum fluctuation $*$ to yield a variation. Fret not, dear mathematicians,

[14] Of dimensional incongruity.

the pesky notation of $*$ will disappear at t, replaced by your favorite notion of indeterminacy.

1.5 A running algorithm

Now, we define an algorithm *runtime*

$$runtime \equiv while(\oint_\tau \partial_\tau(\eta\Psi o) = 0)$$

and

$$\oint_\tau = |t|$$

Which, we axiomatize to break *while*:

$$|t| \neq 0$$

That a signal of time $|t|$ be different from nothing.

Since $\oint$ at the end must give back t, we must also reduce ν to zero. Prior to the end of our computation, it may vary, and reach a maximum.

$max(\nu|o, \eta)$ is what a clever algorithm, namely *tac*, is looking for.

Now, *runtime* may be concise:

$$runtime \equiv while \;\; not \;\; t$$

Where *not* might be without, not alone.

1.6 An explanation on a path

Our first notation of *runtime* represents a conservation path ($\partial = 0$) We align this path on variables, of which τ might structure. Concisely, an algorithm on τ may read ν to enable backpropagation. Such is the *choice* of computational operators o and a collection of confluences η; who find together localizing on a background Ψ. Could be a trit.

We let the path vary around the loop of τ. When the loop concludes, whereby $\oint$ is evaluated, we *return* - as in similar to a program, a necessary causal step - t. Until then, we have a minimized path, and only need to find which pairings of o and η match our condition, a minimum floating, tethered to Ψ with a base of Ω, on a trajectory.

Quickly, we intertwine ν with an access of Ω

$$\nu \equiv |\eta\Psi o - \int_\tau \partial_\tau(arrange(o))|$$

As the comparison, as a norm, of the in-process arrangement *arrange* on o and the final result. Disappointingly[15], any clever *tac* must take 2Δ or more to

[15] And conjures an equally fascinating question of how the universe manages it in one.

make a change (w/ *pretraining*), given the need for a *read*; though a prestate to Ψ could be considered.

Back to closed-loop integral we perhaps say

$$\oint f(\tau)dt = t$$

With any frame f we may use to construct τ.

1.7 An example on τ

As we draw out a curious clock let us define

$$t \equiv t\sqrt{|\tau|^2}$$

with

$$\sqrt{|\tau|^2} = \pm 1$$

That at each timestep Δ receive a signal $|t|$, after an extension with a handedness $\pm$. We may associate a hand with our cleverest screening algorithm, although Bekenstein may have thought of it first.

As a clock, we let $|t| = 1$. Each patch may create its own clock.

τ 'tau' may be usefully created as such:

$|\tau|^2 \equiv e^{-i\phi}|k|e^{i\phi}$

Where we may use $|k| == 1$ as a check on τ's continued existence, and may let ϕ, phase, tend.

To allow for an algorithm, we must let ϕ, or its reference, τ, change. Let us give a path to ϕ:

$$\int d\phi = (t*, \tau)[++, +-, -+, --]$$

Or, perhaps (or perhaps not) equivalently:

$$\int d\phi = (t*, \tau)[+-, ++, --, -+]$$

Where an unambiguous positive $(++, --)$ or ordered negative $(+-, -+)$ signal describes the instance of a tuple $(t*, \tau)$ at a stage in our algorithm.

As I wish, with I hope you as well, to make an algorithm outside of time we let $t*$ act in a curious way, to provide a signal to convolute, but to let its own characteristic -*t*- stay outside.

Imposing a temporality, we might see.

$$t \to + \to +\tau \to -\tau \to - \to +\tau \to -\tau \to t$$

Where perhaps our starting signal $+$ carries alongside a (delayed) opposite $-$ to initiate a second round of $+\tau \to -\tau$, after which our algorithm concludes.

Or maybe

$$t \to + \to +\tau \to inv \to +\tau \to - \to t$$

With perhaps a clever inversion inv preset is created inherent with a bias to flip, once the lovely ++ is created. The author finds this formulation rather appealing, potentially allowing us to hide the requirement for τ's parity in inv. Before we find which (if either) formulation minimizes the cost, we rely on the first for the curious next section.

1.8 A related metaphor

To a conjured chick f which we unhelpfully refer to as a frame we give two states: yolked $*o$ and primed $o*$, for which denote two epochs:

$$yolked, primed : +, -$$

And let $yolked*, primed* : (+ \to -)$.

Where the star $*$ is a process in our original states, leaving its signal alone. We link the two states:

$primed[primed* == +] = yolked[yolked* == -]$

That in the instance [] that our starred yolk returns a negative[16], it is the same as the starting signal for $primed$.

Now we have four stages $(yolked, primed)(1, *) = [++, +-, -+, --]$, where our tuple $(1, *)$ acts wholly on the states $yolked$ and $primed$. Let us create some creative stages.

1. graining
2. yolking
3. leaking
4. priming

and with a greek letter commonly seen in strained tensors and honed efficiencies 'eta' η, roughly define each stage as such:

$$graining(\ read(t : T \to Q + h, partition)_\Psi))$$

$$yolking(\ init(f(Q)), gen(o), draw(\eta|\Omega*), check(S(\eta\Psi o)))$$

$*o$

$$leaking(\ while(o.sway() : bring(sway \to \eta\Psi))$$

$$priming(\ while_{(t*,\tau)\neq --}((o\Psi).partition), loc(o, Q), link(h \to h_{t+1}, write(t))$$

$o*$

[16] $==$ checks the value of a condition

This deserves some explanation.

h is an enthalpy, and it allows for degrees of freedom. We let it be a persistent signal across the gap, threaded by *link*. Q powers our algorithm, and is otherwise waste. Entropy, S, who giveth and taketh away, will tend to increase. We must consult it once, and luckily find a formulation irrespective of time. *check* looks to the Bekenstein bound, which if it runs ($S > \frac{2\pi kRE}{\hbar c}$) forces a clever solution on *partition* (skipping *leaking*) that creates a patch over spacetime, referenced in the following step, as in *graining*. Otherwise, partition may merely drip molecules from the background, and let them act differentially. Our curious operators, all with a characteristic soon-to-be energy, are formed (*loc*) from the primordial soup of Q, in a way we may influence, cautiously to avoid *check*. *sway*() represents the ongoing action of η, which is merely the bias that tends operators to appear a certain way, like cohesively as a functional group. η is extracted (*draw*) from a patch of indeterminate vacuum $\Omega*$, which subsumes information on the local energetic environment. *init*, maybe this paper, creates our frame of operators from Q. The algorithm runs up to our composed signal $(--)$, whereby we get back, or create, t.

As one perhaps helpful link,

$$\bigcup(\Omega * o)\Psi_\tau \rightarrow |\Psi\rangle_t$$

That a coupling in a particular sort of union $\bigcup$ - truncated with a *runtime*-of operators with vacuum conditions on a background will resemble (a slice of) spacetime $|\Psi\rangle_t$.

As for Ω, we finally give it a tentative definition.

$$\Omega\Psi \equiv min(\eta\Psi o*)$$

The lightest tended path for a given o, with a characteristic indeterminacy found alongside $*$.

1.9 An explanation on T

We may need another axiom to get this process started.

$$\exists T; T_t \rightarrow h_{t+1} + Q$$

That there exists some mapping component T that gives rise to a dispersed heat Q and an enthalpy[17] h.

We let enthalpy be to render a wonderful chemistry. It will be the energy available for bonding, for orbitals and harmonics, for fusion and fision and spallation. It will be made available at t.

T is used to demonstrate the evolution of our global state Ψ.

[17] Since the physics must accommodate T scales prior - or long run ($\Lambda(t)$) - to molecules, early or late enthalpy especially is probably better defined as clusters of energy, or processes.

$$\Psi_t \equiv T_t^{-1} |\Psi\rangle$$

And regard T as a global signal at time t, one that we can index $T[\mathbf{x}]$ for our experimental bounds $\mathbf{x}$.

This axiom is particularly nice to get back physics at the end.

1.10 A relativistic limit, which is only a start

To each simplest γ at $t = 1$ receive a signal $\mathbf{x} = \sum \nu$ from all influences ν. Each influence may be red shifted ν^+ or blue shifted ν^-, denoting a declining or increasing influence.

We define a global Ψ through interaction, in the author's hopes of rescuing the universe.

$\forall (o * o) : \sum \gamma(\nu) \to \Psi$

Where lets say we, all observers, agree on a concept; one featuring innumerable stories, or collections of photons $\sum \gamma$. Maybe Gaia in my tongue. As such onto Ψ.

And with a link to energy as an answer on *runtime* with a soon-to-be further defined function, $Cost$,

$$Cost(o * o)_{runtime} = \gamma_{(\Delta E)}$$

For the bandgap ($|question - vacuuum| = \Delta E$), which is capped by $|t|$, the norm or displacement of our path,

With, if we are allowed to keep one of our physical operators, the most pleasant mapping back to gravity:

$$* \in o * o = [\eta] = [g(G)]$$

That our coupling $*$ is found in reference from our *draw*, which may be referred to as a gravity g subject to a cosmological parameter G. It am at my most uncertain if we may use parts of $\sqrt{\frac{\hbar G}{c^5}}$ in this space, if not the whole, being t - or at least $min(\Delta)$.

1.11 A tack to set

It appears set theory may be quite useful for describing operators, namely due to its recursive nature: sets of sets are sets.

Set theory has a minimal condition, such that

$$\forall \{set\}; \{\emptyset\} \subseteq \{set\}$$

That all sets contain the empty set. For this theory on operators, we may similarly axiomatize, having previously noted the similar organization.

$$\forall o; \Omega \in o$$

Since Ω is itself an operator, we wish for a more formal inclusion than $\in$. So we create a set theory frame f_{tac}. To anchor f_{tac} we may bob it between the empty set and a supremum set, perhaps the powerset of all possible permutations of operations, shorthand $SP(o)$.

$$\{\emptyset\} \subseteq f_{tac} \subseteq SP(o)$$

For $o \in f_{tac}$, we may say that o is a set.

Now for these o it is true that $\forall o; \{\emptyset\} \subseteq o$. And yet $\{\emptyset\}$ appears too floaty (necessarily massless or formless) to serve as a reference for all, with dynamics. Thus I suppose a category link of our vacuum condition into set theory, we create a state functor $s(T)$:

$$s(T) : \{\emptyset\} \to \Omega$$

Which is a one-to-many not-a-function.

Now, with f_{tac} as our frame,

$$f == f_{tac}; \forall o; \Omega \subseteq o$$

With this vacuum condition arising from (a setwise development on) our prior composition rule $\Omega \subseteq (\Omega * b) = o$. Now we may suppose every energy-like promotion is at least identical to the vacuum, and the vacuum may vary.

We can create an inverse mapping, maybe even a function, back into normal set theory

$$s(T)^{-1} : \bigcup \Omega \to \{\emptyset\}$$

To happen at the end.

And define the inverse mapping through a question, *Cost*, one the author hopes to develop. Measured in computational complexity, how does the universe order the operators we - or it - forms to accomplish a very rapid runtime algorithm? For at least in certain cases, like screening a patch, it must.

We create:

$$Cost(s(T)^{-1}) \equiv Q^{-1} - Cost(\sum arrange(o*))$$

The last bit of complexity, to remap back to spacetime. Per the second law of thermodynamics, $Cost \geq 0$. Given that o is excited by a mapping from Q, we assume the cost of $arrange$ is no more than the total $Q^{-1} \geq Cost(\sum(arrange))$ Q is inverted, as seems befitting if we wish to measure $Cost$ with entropy.

1.12 A symphony on o

Let us look at that notion we summed, *arrange*.

The author regards each o as the collection of all mathematical (and as such conformational) representations of the same object. η, the multipurpose modifier I've called a tend and a draw, appears to have the potential to change the likelihoods across the collection.

For example, o's greatest weighting in a patch of space may look like

$$(N \equiv N)$$

A lovely, bean-like, and incredibly stable molecule. However, an unlikely representation of the same o may look like isolated Ns, a dissolute smearing of charge; a distressing lack of order. The environment, or influences, on o may strengthen η, or create an instability of a previous arrangement. Even lovely N_2 may find itself unlike its preferred[18] self as we increase T [19] or say fix it near the ingenious 6-fold delocalization of a Carbon atom surrounded by the arm of a FeMo cofactor.

When we get back to time *arrange* will give us an answer, of a molecule or clumping of light, maybe changed in form from before. It appears mostly in what I noted previously as *leaking*.

Let *arrange* be a process similar to our formulation of a coupled state, where we permissively create two operations $shuffle$ and $conv$ on η and o

$$arrange(o*) = (shuffle(\eta) + \delta^o_\eta) * (conv(o) + \delta^\eta_o)$$

With additional influence terms δ^o_η and δ^η_o.

For separable $o*$, this helpfully reduces to:

$$arrange(o*) \rightarrow shuffle(\eta) + conv(o)$$

Which is perhaps closely analogous to the Born-Oppenheimer approximation, as most tends on that timescale will resemble transient electromagnetism, with the occasional splitting or merger of densities.

$\partial(conv) \neq 0$ for cases where a single vacuum-ordering may not exist [20]. Checks on $shuffle$ may thus be used for the case of Intrinsically Disordered Regions (IDRs), such as, for normalized and commensurate[21] $conform$ and $shuffle$:

$$o* \in f_{IDR} \iff shuffle > conform$$

Where the frame of intrinsically disordered regions f_{IDR} must include non-protein scale assemblages for our 'if and only if' $\iff$ to be always true.

[18] Unstressed, by η, and free to choose.

[19] Or, I think, diminish $T^{-1}[\mathbf{x}]$ for a specific patch

[20] It may never, given Ω evanescence. No worries, we just take the small angle approximation for most cases: $\partial(sin(conv\ )) = 0$ with $sin\phi \approx 0$ for a path deviation of ϕ

[21] As an example, we may find the conditions that let the respective responses of η and o converge, such that $\eta\Psi* = *\Psi o$

1.13 A fine floaty frame named *tac*

Let us make a modification to our frame that may not be so (usefully) constrained as to be properly set theoretic. After all, not all the operators we care about may be described by set theory, but may be approximated as so.

So, we define *tac*:

$$tac \equiv f_{tac} * \delta$$

with a linkage to path-ordering

$$tac(b) = \mathcal{P}_\lambda(b)$$

For a learning λ.

As such, *tac* is our variation frame, subject to a perturbation from our well-defined setwise frame f_{tac}.

We ask that for every epoch, Δ, $tac = setwise(tac)$. For an attempt at matching to our *setwise* frame f_{tac}.

For a sufficiently powerful algorithm for approximation, we may even say:

$$\forall o; o \in (f_{tac} * \delta)$$

For all the operations of interest.

Our perturbation δ, we describe as valued by the magnitude of Q, and parameterized by the influence length of *runtime*, ν:

$$\delta \equiv \delta(|Q|^\nu)$$

Which means $o*\delta = o; \delta = \Omega$ when our ν returns back to 0. At the end of the computation, exchanging a parameter of ν, we enable a wholly light operation. While $\nu \neq 0$, we may get a *read*.

1.14 A refinement on *tac*

We allow *tac* to *hone* using a notion, *choice*

$$choice(\eta\Psi o) \equiv |\eta|^2(\Psi\Omega)$$

And

$$tac.hone(|\eta\Psi o - choice|)$$

With

$$hone(|shuffle|^2 conv) : choice \to \eta\Psi o$$

Or

$$min(|\eta\Psi o - choice|)$$

Regarding $|shuffle|^2$ as a weighting on our merging-splitting *conv*.

Thus, alongside $tac[Cost(tac) + \nu] = tac.hone()$ - where we power an index of *tac* to enable *hone* - we may shape operators to our choice. We may simply ask *tac* to minimize the computational overhang of composing a collection of operators.

As an answer, we only need look to an amplification $|\eta|^2$ on the vacuum result.

As a guess on a formulation of *tac* without regards to both $shuffle$ and *conv*,

$tac(\tau) = tacparcel().hone(conv(\eta)_o)$

With a splitting prompt

$$parcel(*) = \nu(*)o * o * o * o \cdots$$

To capture the cumulation of o in a parcel's cryptography, where we value *conv* via η but commensurate to o, which may not break our axiom of difference $[\eta] = [o]$ if the lost intersection $(conv(o) \bigcap shuffle(\eta))$ is placed in $parcel$.

It seems we may now picture *hone* as a improvement on *tac*, powered by our initial signal of influence through our timeless parameter τ.

1.15 A s$\sqrt{|t|^2}*o$ry of *tac*

A warm moment with a bit of breeze, the air seems buoyant. As clouds condense conduits of rainwater form like ore vein.

Hello, *tac*.

Within the two sentences before the greeting and perhaps including the subsection header, collect all physical operators associated, even loosely. Do not resolve this collection, and encode it sparsely. Enforce a cutoff of operator runtime on a massively parallel apparatus. Convolute operators via a weighting on a preserved notion of a vacuum. Link with space and formulate a concise question. Screen singularities.

1.16 Soon to come

We need some notion of time to truncate the chain of variation, which may have been staring at you when we defined coupling using imposing *while* loops.

So we hide a theorem, per a global condition, in the depths:

$$\forall o; o\Psi \to \Psi$$

And immediately receive an important *Lemma*:

$$\forall o; o\Psi[t] \to \Psi[t+1]$$

And something even bolder:

$$if\ not\ \ o\Psi_t[x] \to \Psi_{t+1}[x]; o \notin \Psi$$

That we have stitched out the operators in the patch $[x]$. Those to-be-stitched operators are tagged with a symbol from $\xi(\eta)$.

1.17 Cones on dice

A dear colleague suggested to me, with wine, that a selection of water district would tile 3d space well.

To which, I broke bread, and offered a solution of silks and spikes, perhaps neuronal, as I'd once been trained. Small pockets of energetic clusters, separated by mostly potential. A reorganization.

Don't fret, in my heart, that each path tends true.

1.18 To what I hope closes this argument

And, having linked each operator with a void Ω, we map the path to a photon via a localization $\Omega * \Psi$, and then process honing on a pre-computed set approximation, f_{tac}, which yields, similarly at the runtime limit to a process linking operators to an energetic reorganization of newfound space γ. o may enable a richly-encoded photon indeed.

And as such having created a meaningless argument, as an unnecessary check, does ones runtime not portend doom.

$\mathcal{O}(N)$

Just as a recall, a notation like $o*$ appears at the end.

2 A madness(T) on clusters before the close

We opened with a time. Now we imagine it driving a fantastical heat engine, to yield us the form:

$$T|t \to Q$$

Where at the beginning of an epoch we promote a temperature T into a now-useful step of flux Q. We take advantage of Q to drive an immense convolution of soon-to-be particles, before the next step.

$$Q \to \Gamma(\bigcup q)$$

$$q \to f(o)$$

$$runtime(o * o)$$

Where a phenomena resembling a turbidity - Γ - forms with the union of all quantized packets q in our waste-heat conversion, Q. Each quanta is allowed to become operators o, which are given a buoyancy to bob and fly. As we structure operators we may obtain clusters c_μ^ν - on analogous - and build say chains, twists, weights, clumps, holes, strings, and nooks. Or, molecules.