This Theory Is 0

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Abstract All QM physicists know about *real* eigenvalue (Hermetian) observables (eg.eq.11 and its circles). All mathematicians know that the limit of a Cauchy sequence of rational numbers is a Cauchy *real* number (Cantor(7) 1872). So all we did here is show we postulated *real*#0 by using it to derive a rational Cauchy sequence with limit 0. We did this because that same postulate (of real#0) math *also* implies *the* real eigenvalues and so fundamental theoretical physics (eg.,the Newpde solutions below). So the Ultimate Occam's Razor postulate implies the ultimate math-physics theory. Nothing is more (real)'Occam' than postulate0.

So this **Theory** is 0. But we need to define the algebra first and use it to write the postulate0. So define 1)*numbers* 1≡1+0 in **0**≡0X0,1≡1X1 as *symbol* **z=zz**: (algebraic definition of **0**.). So now we can write **2)Postulate** *real* number **0** *if* **z'=0** and **z'=1** plugged into z'=z'z'+C (**eq.1**) results in *some* C=0 constant(ie δC=0).

Single **Application:** Above theory says only to plug 1,0 into eq.1.

•Plug in **z=0**=z_o=z'in **eq1.** The equality sign in eq,1 demands we substitute z' on left (**eq1**) into right z'z' repeatedly and get iteration $z_{N+1}=z_Nz_N+C$. So using that *other available* C=1 z_1=0X0+1 =(0+1)≡1 so z_2=1X1+1≡ (1+1)≡2 is now available etc. (both sums *defined* algebraically to be (a+b)≡c) and *define* rules of algebra (on these big *numbers*) like a+b=b+a (eg.,ring-field) with no new axioms. So postulate 0 also *generates* the big number algebra and calculus we can now use.

For example we can now define constant C with that **δC=0.** When applied on iteration $z_{N+1}=z_Nz_N+C$, z_o=0 it also requires we reject the Cs for which $\delta C=\delta(z_{N+1}-z_Nz_N)=\delta(\infty-\infty)\neq 0$. The Cs that are left over define the fractal **Mandelbrot set** with (D3) lemniscate (so eq.11 circle observables) subsets $C_M=C=\delta z'=10^{40N}\delta z$, N=integer (since the derivation of eq5 and thereby eq.11 requires we set the observer scale N anyway) also giving that required $C=0\in C_M$ (C≈0 from z=1+δz' plugin is below.). See fig1 zoom. Thus these fractal scales have their own δz'(tiny circles) that must perturb that **z=1** Nth scale putting ansatz z=**1**+δz into **eq.1** to get $\delta z+\delta z\delta z=C$ (3)

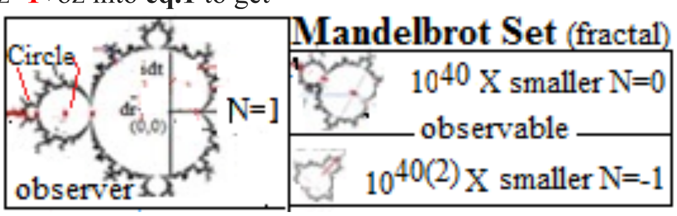

fig1 lemniscate subsets. Defining 'observers' (required by eq.11, so circle) scale as fractal scale N then M< N (implied by eq.3) is the 'observables' scale M. For example we can define the fig1 'observer' fractal scales as N=1 implying |δz|>>1 since C is then huge in comparison to the M=0 scale. In addition to the above iteration, we must also solve eq 3 as a quadratic equation $\delta z=(-1\pm\sqrt{1+4C})/2\equiv dr+idt$ if $C<-¼$ (complex) (4)
(so also temporal observability). Note the Mandelbrot set iteration (ie., $z_{N+1}=z_Nz_N-C$) for this δC=0 *extremum* C=-¼ is a rational number Cauchy sequence -¼, -3/16, -55/256, ..,**0** thereby proving our above postulated *real#0* math.   QED

Note the < in eq.4 so the actual real number is the N=0 limit C≈δz=dr, is not at exactly 0.

•Plug in **z=1** in z'=1+δz in **eq1**, So **δC=0**= [eq1 implies eq3]=δ(δz+δzδz)=δδz(1)+δδz(δz)+(δz)δδz= (observer |δz|>>1 implying M<N) ≈δ(δzδz)=0=(plug in eq.4) =δ[(dr+idt)(dr+idt)] =

$$\delta[(dr^2-dt^2)+i(drdt+dtdr)]=0 \quad (5)$$

=2D δ[(Minkowski metric, c=1)+i(Clifford algebra→eq.7a)]   (≡Dirac eq)

Factor real eq.5 $\delta(dr^2-dt^2)=\delta[(dr+dt)(dr-dt)]=0=[[\delta(dr+dt)](dr-dt)]+[(dr+dt)[\delta(dr-dt)]]=0$ (6)

so $-dr+dt=ds, -dr-dt=ds \equiv ds_1(\rightarrow \pm e)$ Squaring&eq.5 gives circle in e,v (dr,dt) $2^{nd}, 3^{rd}$ quadrants (7)
& $dr+dt=ds$, $dr-dt=ds$, $dr \pm dt=0$, light cone $(\rightarrow \nu, \bar{\nu})$ in same (dr,dt) plane $1^{st}, 4^{th}$ quadrants (8) &
$dr+dt=0, dr-dt=0$ so $dr=dt=0$ defines vacuum (while eq.4 derives space-time) (9)

Those quadrants give *positive* scalar drdt in eq.7 (if *not* vacuum) so imply the eq.5 *non* infinite extremum imaginary $\equiv drdt+dtdr=0 \equiv \gamma^i dr \gamma^j dt + \gamma^j dt \gamma^i dr = (\gamma^i\gamma^j+\gamma^j\gamma^i) drdt$ so $(\gamma^i\gamma^j+\gamma^j\gamma^i)=0$, $i \neq j$ (from real eq5 $\gamma^i\gamma^i=1$) (7a)

Thus from eqs5,7a: $ds^2=dr^2-dt^2=(\gamma^r dr+i\gamma^t dt)^2$ Note how eq5 and C_M just fall (pop) out of eq.1, amazing!

We square eqs.7 or 8 or 9 $ds_1^2=(dr+dt)(dr+dt)=(-dr-dt)(-dr-dt$ $=[dr^2+dt^2]+(drdt+dtdr)$ $\equiv ds^2+ds_3=ds_1^2$ =**Circle**+invariant. **Circle**$\equiv \delta z = dse^{i\theta} = dse^{i(\Delta\theta+\theta_o)} = dse^{i((\cos\theta dr+\sin\theta dt)/(ds)+\theta_o)}$, $\theta_o=45°$ min of $\delta ds^2=0$ given eq.7 constraint for N=0 δz' perturbation of eq5 flat space. We define $k \equiv dr/ds$, $\omega \equiv dt/ds$, $\sin\theta \equiv r$, $\cos\theta \equiv t$. $dse^{i45°} \equiv ds'$. Take ordinary derivative dr (since flat space) of

'Circle' $\frac{\partial\left(ds e'^{i\left(\frac{rdr}{ds}+\frac{tdt}{ds}\right)}\right)}{\partial r} = i\frac{dr}{ds}\delta z$ so $\frac{\partial\left(dse^{i(rk+wt)}\right)}{\partial r} = ik\delta z$, thus $k\delta z = -i\frac{\partial \delta z}{\partial r}$ (11)

Recall from above that we proved that dr is a real number. So k =dr/ds is an operator with *real* eigenvalues(observable).Also $k=2\pi/\lambda$(eg $\delta z=\cos kr$) thereby deriving the DeBroglie wavelength λ

Also need a C≈0 for z=1 <u>plug in</u>

For the N=1 huge observer $\delta z >> \delta z \delta z$ from eq.3. Thus the required N=-1,N=0 tiny observable ($\delta z' << \delta z$) is a perturbation of the eq.7 $\delta z \approx dr \approx dt$ at 45°so $(dr-\delta z')+(dt+\delta z') \equiv dr'+dt'=ds$ (12)

But for the high energy big δδz (extreme "axis" perturbations) δz is small. So finding big δδz 'observables' requires we artificially stay on circle implying this additional δz' eq7 perturbation.

So with eq.5 Lorentz γ frame of reference (for the case of the required) small $C=\delta z'=C_M/\gamma=C_M/\xi$ (≈0 required since $z=1+\delta z'$) so big ξ. $C_M=e^2 10^{40N}$ defines .charge, ξ =γ defines mass.

Define $\kappa_{rr} \equiv (dr/dr')^2 = (dr/(dr-\delta z'))^2 = 1/(1-r_H/r)^2 = A_1/(1-r_H/r) + A_2/(1-r_H/r)^2$. The partial fractions A_I can be split off from RN and so $\kappa_{rr} \approx 1/[1-r_H/r]$. (13)

in $ds^2=\kappa_{rr}dr'^2+\kappa_{oo}dt'^2$ (14)

From eq.7a $dr'dt'=\sqrt{\kappa_{rr}}dr'\sqrt{\kappa_{oo}}dt'=drdt$ so $\kappa_{rr}=1/\kappa_{oo}$ (15)

•**Both <u>z=0,z=1</u>** together (<u>in eq1.</u> Use 3D orthogonality to get (2D+2Dcurved space)). Thus $\delta z'+\delta z=(dx_1+idx_2)+(dx_3+idx_4) \equiv dr+idt$ given $dr^2-dt^2=(\gamma^r dr+i\gamma^t dt)^2$ *if* $dr^2 \equiv dx^2+dy^2+dz^2$ (3D orthogonality) so that $\gamma^r dr \equiv \gamma^x dx+\gamma^y dy+\gamma^z dz$, $\gamma^j\gamma^i+\gamma^j\gamma^i=0$, $i \neq j$, $(\gamma^i)^2=1$. From eq,13,14,15 $(\gamma^x\sqrt{\kappa_{xx}}dx+\gamma^y\sqrt{\kappa_{yy}}dy+\gamma^z\sqrt{\kappa_{zz}}dz+\gamma^t\sqrt{\kappa_{tt}}idt)^2=\kappa_{xx}dx^2+\kappa_{yy}dy^2+\kappa_{zz}dz^2-\kappa_{tt}dt^2=ds^2$. Multiply both sides by $\hbar^2/ds^2$ and $\delta z^2 \equiv \psi^2$ use eq11 inside brackets( ) get 4D **QM** $\gamma^\mu(\sqrt{\kappa_{\mu\mu}})\partial\psi/\partial x_\mu=(\omega/c)\psi \equiv$Newpde for e,*v*, $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$, $r_H=C_M/\xi=e^2 X 10^{40N}/m$ (**N**=. -1,0,1.,).

Postulate 0→Newpde

Solutions of Newpde e,*v*: stable $2P_{3/2}$ at $r=r_H$

N=0 Mandelbulbs: **Free space:** τ, μ, e leptons**.** On**Sphere** $2P_{3/2}$ at $r=r_H$ 3e baryons (no QCD)
N=1 inside zitterbewegung oscillation $r<r_C$ puts us in the **cosmological expansion** stage.
Other results (besides Newpde) from postulate0, eg., Copenhagen stuff and 10^{82} electrons **e** between consequitive fractal scales such as N=0 and N=1 cosmological $r=r_H$, $2P_{3/2}$

perturbation objects B,C

Object B N=0 perturbations of κ_{oo} and κ_{rr} in the Newpde **E&M,** N=-1 gravity GR
Object C N=0 " " " **weak,** both **SM**

That eq1 **iteration generates** real0 and **algebra rules** (eg.,ring-field) *with no new axioms*.
Thus (with the math&physics) we understand *everything* (eg GR, cosmology, QM,e,*v* SM, baryons, rel#).
So the *simplest idea imaginable* 0 implies all *fundamental math-physics.* no more, no less(eg simply 4D)

•**Conclusion:** So by merely (<u>plugging</u> 0,1 <u>into</u> <u>eq.1)</u> **postulating 0**, out pops the whole universe, BOOM! easily the most important discovery ever made or that will ever be made again. We finally figured it out.

$\gamma^{\mu}(\sqrt{\kappa_{\mu\mu}})\partial\psi/\partial x_{\mu}=(\omega/c)\psi$ ≡Newpde for e,*v*, $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$, $r_H=C_M/\xi=e^2X10^{40\mathbf{N}}/m$ (**N**=. -1,0,1.,).

That modified Dirac equation we derived (Newpde) does it all. If the e^2 (in $\kappa_{oo}=1-e^2/m_ec^2=1-r_H/r$) was fractal (i.e., $e^2\rightarrow e^2X10^{40N}$ where N is the fractal scale) and the equation was covariant (i.e.,$dr'=\gamma^r\sqrt{\kappa_{rr}}dr$) physics is essentially solved!
For example for
N=0 the Newpde $2P_{3/2}$ at $r=r_H$ solution is the baryons and the strong force $r\sim r_H$ and E&M $r>r_H$ and SM. The $1S_{1/2}$, $2S_{1/2}$ is the muon and tauon solution and,
N=-1 is GR. The
N=1 (cosmological fractal scale) Newpde zitterwebegung expansion component is the expansion of the universe!
It all comes together(attachment and davidmaker.com). I even discovered the origin idea of the Newpde: ultimate real Occam's razor postulate0 implies real eigenvalues eq.11 and the Newpde.

Anyway, just postulate0 !!!