It’s Broken, fix it

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Abstract In that regard Dirac in 1928 made his equation(1) flat space(2). But space is not in general flat, there are forces.

So over the past 100 years people have had to try to make up for that mistake by adding ad hoc convoluted gauge force after gauge force until fundamental theoretical physics became a mass of confusion, a train wreck, a junk pile. So all they can do for ever and ever is to rearrange that junk pile with *zero actual progress* in the most fundamental theoretical physics ,.. forever. We died.

By the way note that Newpde(3) $\gamma^\mu \sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ is NOT flat space (4) so it cures this problem (5).

References

(1) $\gamma^\mu\partial\psi/\partial x_\mu=(\omega/c)\psi$

(2)Spherical symmetry: $(\gamma^x\sqrt{\kappa_{xx}}dx+\gamma^y\sqrt{\kappa_{yy}}dy+\gamma^z\sqrt{\kappa_{zz}}dz+\gamma^t\sqrt{\kappa_{tt}}idt)^2=\kappa_{xx}dx^2+\kappa_{yy}dy^2+\kappa_{zz}dz^2-\kappa_{tt}dt^2=ds^2$
$\kappa_{xx}=\kappa_{yy}=\kappa_{zz}=\kappa_{tt}=1$ is flat space, Minkowski, as in his Dirac equation(1).

(3) Newpde: $\gamma^\mu\sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ for e,ν. So we didn’t just drop the $\kappa_{\mu\nu}$ (as is done in ref.1)

(4) Here $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$, $r_H=(2e^2)(10^{40N})/(mc^2)$. The **N**=..**-1,0,1**,.. fractal scales (next page)

(5)This Newpde κ_{ij} contains a Mandelbrot set(6) $e^2 10^{40N}$ **N**th fractal scale source(fig1) term (from eq.13) that also successfully **unifies theoretical physics.** For example:

For **N**=-1 (i.e.,$e^2X10^{-40}\equiv Gm_e^2$) κ_{ij} is then by inspection(4) the Schwarzschild metric g_{ij}; so we just derived General Relativity and the gravity constant G from Quantum Mechanics in one lineWow

For **N**=1 (so $r<r_C$) Newpde zitterbewegung expansion stage explains the universe expansion (For $r>r_C$ it's not observed, per Schrodinger's 1932 paper.).

For **N**=1 zitterbewegung harmonic coordinates and Minkowski metric submanifold (after long time expansion) gets the De Sitter ambient metric we observe (D16, 6.2).

For **N**=0 Newpde $r=r_H$ $2P_{3/2}$ state composite 3e is the baryons (sect.2, partII) and Newpde $r=r_H$ composite e,ν is the 4 Standard electroweak Model Bosons (4 eq.12 rotations→appendixA)

for **N=0** the higher order Taylor expansion(terms) of $\sqrt{\kappa_{ij}}$ gives the anomalous gyromagnetic ratio and Lamb shift *without* the renormalization and infinities (appendix D3): This is very important

So κ_{uv} provides the general covariance of the Newpde. Eq. 4 even provides us space-time r,t.

So we got all physics here by *mere inspection* of this (curved space) Newpde with no gauges!

That Taylor expansion result also realizes Dirac’s & Feynman’s dream of a renormalization & infinity free qed. Toward the end of his life, Dirac tried his hand at *fixing his* (κ_{ii}=1)*pde*(1). See Chapter 15 of the Memorial Volume “Paul Adrian Maurice Dirac: Reminiscences about a Great Physicist”, There Dirac mentions ”a different kind of Hamiltonian” which indeed would change κ_{ij}. Richard Feynman too felt very uncomfortable with “these rules of subtracting infinities” (renormalization, yet another unfortunate consequence of setting κ_{ii}=1) and called it a "shell game" and "hocus pocus, “Renormalization”, Oct 2009). To add to their remarks I can think of no higher calling than fixing this general covariance problem(4). In that regard the QM *New*pde (with above correct $\kappa_{\mu\nu}$) that solves this most fundamental of all problems can only be derived from the *simplest* (most fundamental) of all possible observables, which then must then be the:

Ultimate Occam's razor (observable)

Note an ultimate Occam's razor**[***observable*(1) requires an *observer*(C)**]** i.e., it is just **1**+C.
So this bracketed Occam's razor *simplicity* requirement motivates every step. Thus* we merely

Postulate 1 with the *simplest* algebraic definition of 1 z=zz (Thus z=**1,0**) and most *simply* add the **C** in z'=z'z'+C with the *simplest* C a (at least local) constant ($\delta C=0$). Note the infinite number of unknown z',C (in z'=z'z'+C **eq.1**) and the single *known* C=0 (since z=zz+0 was postulated so z=1,0$\in${z'}) that at least allows us to plug that z=**1,0** in for z' in z'=z'z'+C. So

z=**0**=z'=z_o in the iteration of **eq.1** using $\delta C=0$ ***generates*** the (2D)Mandelbrot set C=C_M=end**

(Need iteration to get all the Cs because of the $\delta C=0$ (appendix), end=10^{40N}X fractal scales)

z=**1**, z'=1+δz substitution into **eq.1** using $\delta C=0$ (N>0 ≡observer)gets eq5 so 2D Dirac eq.(e,ν)

(Eq.5 gives the Minkowski (flat space) metric, Clifford algebra γ^i and eq.11 ***in one step.***)

These two **z=1** and **z=0** steps together (4D z=1 γ^i orthogonality) get the curved space 2D+2D=4D **Newpde** (3) and thus the 4D universe, no more and no less. So **postulate 1**→ **Newpde**!!!
(Newpde: $\gamma^\mu\sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$, $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$, $r_H=(2e^2)(10^{40N})/(mc^2)$. **N**=..**-1,0,1**,..fractal)

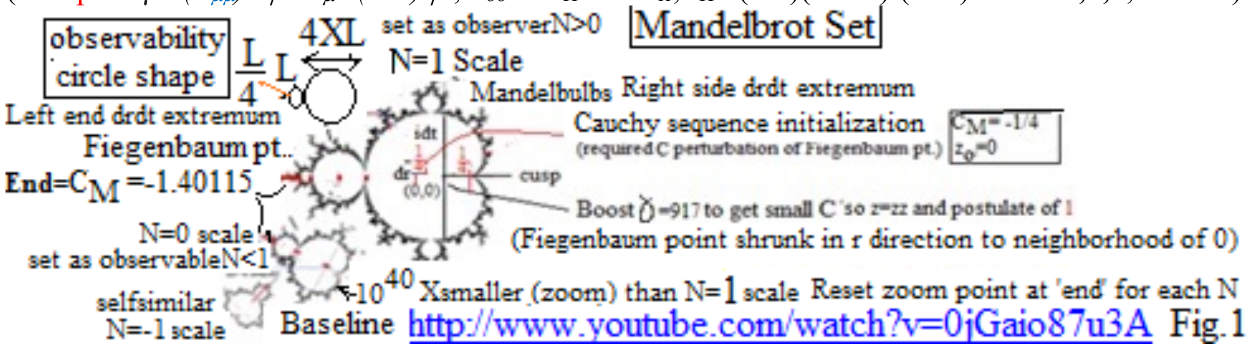

Fig.1

Results of plugging our z=z' into eq.1

All I did here is to postulate1 and **prove it's observable:** Eq.11: $p_x\psi=-i\hbar\partial\psi/\partial x$ is the well known ***observable*s** (p) definition, ψ is from Newpde(3): So that 1 observable is the electron. Note also eq.11 *real number* eigenvalue observability (eg.,.C noise) derived from our right side –¼ initiated Cauchy sequence(7), Ch.2,=reals: also our Mandelbrot set iteration sequence there!

Therefore N=0 **postulate** 1 can also be used in a list-define math to get the *real number* algebra (without all those many Rel#math axioms).Eg., 1∪1≡1+1 (B2,Ch.2). So we get both the physics (See ref.5) AND (rel#)mathematics from ONE postulate1, everything! We finally figured it out!

Compare and contrast

The core of mainstream physics is the Standard electroweak Model (SM) that gives us important results like Maxwell's equations and weak interaction theory that explain electricity and magnetism and some radioactive decays respectively. Add to that QCD that explains the nuclear force (NF) and baryons. General Relativity (GR) gives us gravity and mechanics. But they are not fundamental since they contain *many assumptions* (Lagrangian densities, free parameters, many dimensions, gauge symmetries,..etc.,) of unknown origin.

In contrast

what if you found instead a mathematical theory with only one *simple assumption* (eg., '1', defined from z=zz since 1=1X1) using a *single* simple math step (eg., just add C to 1) top down that got a *generally covariant generalization of the Dirac equation that does not require gauges(*Newpde, next page) that in turn gave these same results (i.e.,SM particles, NF, GR,QM in ref.5 & real#)? You will then have a truly *fundamental* theory. .Just **postulate**1

1+C

Algebraic definition of **1** is z=zz so (z=**1**,**0**), add constant C (so $\delta C=0$) to get z'=z'z'+C (**eq.1**)
z=zz postulated so z=**1**,**0**$\in$\{z'\}. (Hence that **two step 1**,**0** plug in into z' in eq.1.)

Appendix Details of those two z=0, z=1 steps

First we show that δz *can be* complex. Thus plug z'=**1**+δz into eq.1 and get $\delta z+\delta z\delta z=C$ (3)
For real C<-¼ $\delta z=(-1\pm\sqrt{1+4C})/2=dr+idt$ (4)
is complex(6) (for N=0 fractal scale. For N=1 observer $\delta z'=10^{40N}\delta z=10^{40N}dr+10^{40N}idt=dr'+idt'$)

1^{st} step:
z=0=z_o=z' To find *all* C substitute z' on left (eq.1) into right z'z' repeatedly and get iteratlion $z_{N+1}=z_Nz_N-C$. Constraint $\delta C=0$ requires us to reject the Cs for which $-\delta C=\delta(z_{N+1}-z_Nz_N)=\delta(\infty-\infty)\neq 0$ gives the **Mandelbrot set** C_M.

2^{nd} step:
z=1 in z'=**1**+δz in eq.1 get eq.3 (For N=1, $|\delta z|>>1$): $\delta(\delta z+\delta z\delta z)=\delta\delta z(1)+\delta\delta z(\delta z)+(\delta z)\delta\delta z\approx$
$\approx\delta(\delta z\delta z)=0=$(plug in eq.4)$=\delta[(dr+idt)(dr+idt)]=\quad\delta[(dr^2-dt^2)+i(drdt+dtdr)]=0$ (5)
=(Minkowski metric(9))+i(Clifford algebra)
Factor eq.5 real $\delta(dr^2-dt^2)=\delta[(dr+dt)(dr-dt)]=0=[[\delta(dr+dt)](dr-dt)]+[(dr+dt)[\delta(dr-dt)]]=0$ (6)
so ($\rightarrow\pm$**e**) dr+dt=ds, dr-dt=ds $\equiv ds_1$, for $(-dr-dt)^2=ds^2\rightarrow$ Ist and IVth quadrant in fig3 (7)
Also note the positive scalar drdt of eq.7 (so *not* eq.10 vacuum) implies the eq.5 *non* infinite extremum imaginary$\equiv drdt+dtdr=0=\gamma^i dr\gamma^j dt+\gamma^j dt\gamma^i dr=(\gamma^i\gamma^j+\gamma^j\gamma^i)drdt$ so Clifford algebra
$(\gamma^i\gamma^j+\gamma^j\gamma^i)=0,\ i\neq j.$ (7a)
($\rightarrow$light cone ν) dr+dt=ds, dr=-dt, for $(-dr-dt)^2=ds^2\rightarrow$ III quadrant (8)
" " dr-dt=ds, dr=dt, for $(-dr-dt)^2=ds^2\rightarrow$ II quadrant (9)
($\rightarrow$vacuum,z=1) dr=dt, dr=-dt so dt=0=dr (So eigenvalues of dt, dr=0 in eq.11) (10)
We square eqs.7,8,9 $ds_1^2=(dr+dt)(dr+dt)=(-dr-dt)(-dr-dt=[dr^2+dt^2]+(drdt+dtdr)$
$\equiv ds^2+ds_3=ds_1^2$. Since ds_3 (is max or min) and ds_1^2 (from eq.7,8,9) are invariant then so is **Circle** $ds^2=dr^2+dt^2=ds_1^2-ds_3$. (with this circularity being unaffected for a wide range $0\rightarrow 10^{40}$X of $|\delta z|>1$ perturbations) also implying the rest of the Cifford algebra $\gamma^i\gamma^i=1$ in eq.7a, no sum on 'i'). Note this separate ds is a minimum at 45° given the eq.7 constraints and so Circle$\equiv\delta z=dse^{i\theta}=dse^{i(\Delta\theta+\theta o)}$
$=dse^{i((\cos\theta dr+\sin\theta dt)/(ds)+\theta o)}$, $\theta_o=45°$.(δz in fig.6). 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' $\frac{\partial\left(dse'^{i\left(\frac{rdr}{ds}+\frac{tdt}{ds}\right)}\right)}{\partial r}=i\frac{dr}{ds}\delta z$ so
$\frac{\partial\left(dse^{i(rk+wt)}\right)}{\partial r}=ik\delta z,\quad k\delta z=-i\frac{\partial\delta z}{\partial r}$ (11).
($\langle F\rangle^*=\int(F\psi)^*\psi d\tau=\int\psi^*F\psi d\tau=\langle F\rangle$ Hermitian) from right side real number Cauchy seq.starting at –¼ iteration case of the Mandelbrot set iteration(7), Ch.2,sect.2, with small C limit making *real eigenvalues* (eg.,noise) likely. The observables $dr\rightarrow k\rightarrow p_r$ condition gotten from eq.11 **operator formalism(**10) thereby converting eq.7-9 into Dirac eq. pdes (4XCircle solution in left side fig.1 also implies observability). Cancel that $e^{i45°}$coefficient (45°=π/4) then multiply both sides of eq.11 by ħ and define $\delta z\equiv\psi$, p≡ħk. Eq.11 becomes the familiar $p_r\psi=-i\hbar\frac{\partial\psi}{\partial r}$ (11)
Repeat eq.3 for τ, μ respective δz lobes in fig.6 so they each have their own neutrino *v*.

$\delta C=0$ gives that 45° extreme but it also applies to *local* constants (extremum peaks and valleys): ****end** $\delta C=\left(\frac{\partial C}{\partial r}\right)_t dr+\left(\frac{\partial C}{\partial t}\right)_r idt=0$. For that fig.1 4X sequence of circles drdt= $darea_M \neq 0$ (so eq.11a observables) the real $\delta C=0$ extremum from $\lim_{m\to\infty}\frac{\partial C}{\partial area_m}dr_m$=KX0 =0 (since $dr_\infty \approx 0$) at Fiegenbaum point $=f^\alpha$=(-1.40115.,i0)=C_M≡end. Random circles thus don't do $\delta C=0$. Note if a circle (or many circles) is rotated (U), translated (D), shrunk (S) equally in both dimensions (i.e., $(\partial x^j/\partial x'^k)f^j=f^k\equiv\begin{bmatrix}f_{1N}\\ f_{2N}\end{bmatrix}=S_N\begin{bmatrix}U_{11} & U_{12}\\ U_{21} & U_{22}\end{bmatrix}\begin{bmatrix}f\\ 0\end{bmatrix}+\begin{bmatrix}D_{1N}\\ D_{2N}\end{bmatrix}$) it is still a circle, eq.11 still holds, so *it's still an observable* as seen in the N fractal scale zoom. Thus you can pick out from that zoom these fig.1 Mandelbrot set extremum 4Xdiameter circles as the only o**bservables** *and* $\delta C=0$ extremum geometry in all that clutter. Reset the zoom, restart at such $S_NC_M=10^{40N}C_M$ in eq.13

z=1,z=0 steps combined (on Circle with small C boost):

Postulate1 *also* implies a small C in eq.1 which thereby implies a (Minkowski metric Lorentz contraction(9)) $1/\gamma$ boosted frame of reference(fig.6) in the eq.3 $C=C_M/\gamma\equiv C_M/\xi_1=\delta z'=\Delta$ for next small smaller fractal scale $N_{ob}<0$ so $\delta z'<<1$ (composite 3e: sect.2 and PartII). For N=0 eq.5 (which is true only for N>0) and so eq.7 is not quite true (and δz in eq.11 perturbed). But we keep $\delta ds^2=0$ (circle) in eq.5, on the 4X circles so we must have an angle perturbation of big N=1 dr,dt for θ_o=45°on above **ds Circle** and so a slightly modified eq.7

$$(dr-\delta z')+(dt+\delta z')\equiv dr'+dt'=ds \qquad (12)$$

N_{ob}=0 extremum eq.12 rotations (observer at N=1, eq.7 dr+dt=ds constraint)

Recall for **N_{ob}=0** (observer at N=1) and eq. 7 dr+dt=ds the r,t axis' are the max extremum for ds^2, and the ds^2 at 45° is the min extremum ds^2 so each $\Delta\theta=\theta$modulo45° is pinned to an axis' so extreme $\Delta\theta\approx\pm45°=\delta z'$. So in eq.12 the 4 rotations 45°+45°=90° define 4 Bosons (appendix A).

But for 45°-45° $N_{ob}<0$ then contributes so you also have other (smaller) fractal scale extreme $\delta z'$(eg.,tiny Fiegenbaum pts so N=1 dr=r, for $N_{ob}<0$) so metric coefficient $\kappa_{rr}\equiv(dr/dr')^2$= $(dr/(dr-(C_M/\xi_1)))^2=1/(1-r_H/r)^2=A_1/(1-r_H/r)+A_2/(1-r_H/r)^2$. The partial fractions A_I can be split off from RN and so $\qquad \kappa_{rr}\approx1/[1-((C_M/\xi_1)r))] \qquad$ (13)

(C_M defined to be e^2 charge, $\gamma\equiv\xi_1$ mass). So: $\qquad ds^2=\kappa_{rr}dr'^2+\kappa_{oo}dt'^2 \qquad$ (14)

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

We can then do a rotational dyadic coordinate transformation of $\kappa_{\mu\nu}$ to get the Kerr metric which is all we need for our GR applications(9). Note added 2D eq.12 δz perturbation $x_1,x_2\to x_1,x_2,x_3,x_4$ are curved space independent x_i so 2D⊗2D=4D. So $(dx_1+idx_2)+(dx_3+idx_4)\equiv dr+idt$ with($dr^2=dx^2+dy^2+dz^2=(\gamma^x dx+\gamma^y dy+\gamma^z dz)^2$)orthogonalization from eq7a, eq.5 $dr^2-dt^2=(\gamma^r dr+i\gamma^t dt)^2$ =(eq.14)= $(\gamma^x\sqrt{\kappa_{xx}}dx+\gamma^y\sqrt{\kappa_{yy}}dy+\gamma^z\sqrt{\kappa_{zz}}dz+\gamma^t\sqrt{\kappa_{tt}}idt)^2=\kappa_{xx}dx^2+\kappa_{yy}dy^2+\kappa_{zz}dz^2-\kappa_{tt}dt^2=ds^2$. Multiply both sides by $1/ds^2$& $(\delta z/\sqrt{dV})^2\equiv\psi^2$ and using operator eq 11 inside the brackets ( ) implies the 4D**Newpde** $\gamma^\mu(\sqrt{\kappa_{\mu\mu}})\partial\psi/\partial x_\mu=(\omega/c)\psi$ for e,ν, $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$ $r_H=e^2X10^{40N}/m$ (**N**=. -1,0,1.,) (16) $=C_M/\gamma$ (from sect.2) C_M=Fiegenbaum point. So: **postulate**1**→Newpde.** syllogism

*Still need small C boost for z=zz so postulate1 from Newpde $r=r_H$ $2P_{3/2}$ stable state. See fig6. The 4 eq.12 Newpde e,ν rotations at $r=r_H$ are the 4 W^+,γ,W^-,Z_o SM Bosons (appendixA).

So Penrose's intuition(6) was right on! There *is* physics in the Mandelbrot set, all of it.

2 N=0 Small C boost circle observables. Note that real component of eq.5 is Minkowski metric implying possible Lorentz transformation Fitzgerald contraction C/γ boosted C frames of reference. From eq.3 for N=0:$C\approx\delta z$ and $C\to C/\gamma=C_M/\gamma\equiv C_M/\xi$. So from eq.3 for N=0 in eq.12 $C_M/\xi=\delta z$ (eq.17)
($C_M/\xi=\delta z\delta z$ for N=1) . So $\delta C_M=0=\delta\delta z\xi+\delta\xi\delta z=0$ (N=0). If **z=0** then $\delta z'=-1$ is big for N=0. In $\delta C_M=0=\delta\delta z\xi+\delta\xi\delta z=0$ for ξ small then $\delta\xi$ has to be small and so ξ is stable, electron $\xi_o=\Delta\varepsilon=\varepsilon$. for **z=1** then δz is small on N=0 thus $\delta\xi$ and ξ are both big so unstable and large mass .
Recall N>0≡observer. The Laplace Beltrami method (D4)gives what the N>1 observer sees *we see* (huge N=1 cosmological motion) so we see it.

N=1 small C boost so postulate observable1 (e) Recall the Mandelbrot set in small C boost $C_M=\xi C$ sect.2. From eq.3 $\delta z+\delta z\delta z=C$ or observer N=1 $\delta z\delta z=C$. The 68.7° is from eq3 quadratic equation at the Fiegenbaum point. with the limacon e intersection 45° from minimum ds^2. μ then is not a constant in time because of eq.12 angle New pde zitterbewegung contribution to the δz chord perturbation of the 45°. The electron is the 45° minimum L=1. The 45° intersection chord with that Mandelbulb is μ (fig6 below.). The 68.74° tiny Mandelbulb is the tauon. But what if we constructed instead from the limacon 'e' composite 3e $2P_{3/2}$ state at $r=r_H$ requiring a mass constraint of $2m_p \geq$ mass of the respective Hund rule free particle $2S_{1/2}$ ($\equiv$ the tauon τ) plus $1S_{1/2}$ ($\equiv$ muon μ) states? The reduced mass is then the proton that then also generates the γ boost on the m_e s that gives us that small C and the **postulate**1 (observable e).
45°electron $|\delta z|$=**1** in eq.11b so **1**/(Mandelbulb radius)^2=mass

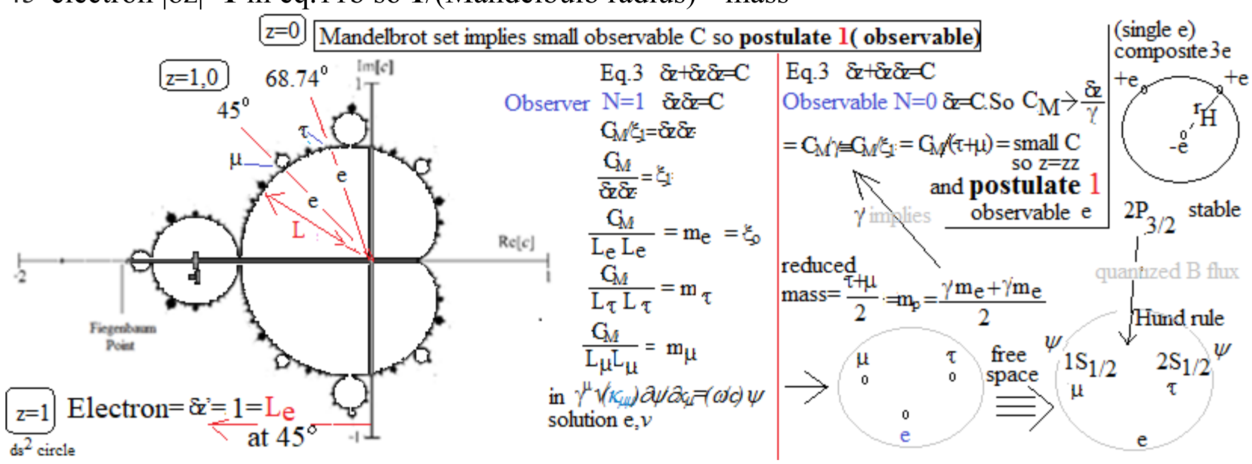

Fig.6 **Conclusion**
So the smallC at the end was required. So we really did just **postulate 1**

* **Ultimate Occam's Razor** (observable)

Note Ultimate Occam's Razor(UOR) observer (unknown C) must accompany ultimate Occam's razor known **1** (observable). UOR here means *ultimate* simplicity, the *simplest* idea imaginable. So for example z=zz is *simpler* than z=zzzz. Therefore 1 (In this UOR context uniquely algebraically defined by z=zz) is this ultimate Occam's razor **postulate** since 0 (also z=zz) postulates literally *nothing*. Recall the algebraic definition of postulate **1** as 1=1X1 with (since 0=0X0 is also in z=zz), 0X1=0,1=1+0 here defining the set {**1**,1+0}
contrasted with that UOR set {**postulated,unpostulated}≡{1,**1+C} since 1C=C is trivial and 1+C is not. UOR is most *simply* algebraically defined as {simple, unknown simple}) ≡ {postulate1; postulate1+unknownC} ≡ {z=zz; z'=z'z'+C,z∈{z'}} if unknown constant C (so $\delta C=0$). It is called "{simple,unknown simple}" because C could be 0 in z'=z'z'+C as well.

(6)Misinterpretations of eq.4:

All we did with eq.4 is to show that δz can be complex. That's it. Eq.4 does *not* solve that **1**+**C** problem all by itself. Again, those **two** (1,0) plug in **steps** into eq.1 (later combined) using the δC=0 solve it to get the Newpde for the the N=1 (observer scale). So *after* solving the 1+C problem with these two steps we note that δz in eq.4, turns out to be invariant $ds^2=\delta z^*\delta z$ with the Minkowski metric and Clifford algebra γ^i (from eqs.6-9). So if you plug the γ^i into dr+idt the δz *has to be* equal to *only* this ds, in which case eq.4 is merely the 2D Dirac equation with well known properties. Putting this δz back into eq.3 for N=1 merely gives us equation 5 back again.

The z=0 step requires iteration of eq.1 to get *all* C,z' solutions given also δC=0

If you merely plug in z=0 into eq.1 you just get C=0. But that is not all of the C solutions because we must also use the δC=0. The resulting eq1 iteration result ($-\delta C=\delta(z_{N+1}-z_N z_N)=\delta(\infty-\infty)\neq 0$ thereby requires Cs that don't do that) thereby shows that these Mandelbrot set $C=C_M$ are also solutions.

$\boxed{1+C}$ Thus

Postulate 1 z=zz+0=algebraic definition**1**. So z=1,0. Add (at least local) constant C (δC=0) giving z'=z'z'+C (1). Note infinite number of z' (z'_i) and C (C_i) in equation 1. Given z= **1**,**0** are postulated then the C and z' in equation 1 are:

$$\{C\}=\{0,C_1,C_2,C_3,\ldots\},\{z'\}=\{1,0,z'_1,z'_2,z'_3,\ldots\}$$

Thus we can plug **1**,**0** for z' into z'=z'z'+C eq.1 to find obviously 0=C and z'=1,0 are solutions.

But **z=0**, δC=0 requires that you also iterate z'=z'z'+C to get ALL solutions C resulting in that 2D $\{C\}=\{C_M\}$ Mandelbrot set. Next plug in **z'**=**1**+δz into eq.1 and get the 2D Dirac equation. These **z=1, z=0** steps both together get the 2D+2D=4D **Newpde**

Intriguing implications of equation 4

Even though equation 4 does *not* solve the 1+C problem all by itself but it does provide that beautiful $\delta z=(-1\pm\sqrt{1+4C})/2$=dr+idt definition of space time (dr,dt) given the dr,dt location in the Minkowski metric $dr^2-dt^2=ds^2$ in sect.1. So we didn't postulate space- time here, we *derived it* from our **postulate** of **1**. But note the *creation* (of space-time) in eq.4 comes out of the domain of that $C=C_M$ in that eq.4 discriminant. Thus the reason for creation *is infinity* ∞-∞.