Ockam's Razor-Postulate 1

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Abstract: $z=zz+C$, $\delta C=0$ (eq.1)
is a very powerful expression that gives both the Dirac equation*(**A**) and Mandelbrot set*(**B**) together resulting in the New pde(eq.8) and physics(sect.2).
But eq. 1 also has the small C limit of the z=zz algebraic definition of 1,o.
So eq.1 implies (the ultimate) Occam's razor **postulate** 1 gives us the physics,fig.1

*(**A**) Plug $z=1+\delta z$ into eq.1 and get $\delta(\delta z+\delta z\delta z)=0$ (eq.2) which splits into a real component Minkowski metric and imaginary component Clifford algebra. These both imply the (Hermitian) operator observables formalism, eq.6 (thus **QM**), and a 2D Dirac equation for e,*ν*.
*(**B**) Plug in the left side (of eq.1) z into the right side zz repeatedly and use $\delta C=0$ and get the Mandelbrot set iteration formula fig.4)
The eq.6 real eigenvalues (i.e., so needs Cauchy sequence from Mandelbrot iteration) makes (A)&(B) the ONLY possible '*observable* 1' eq.6 derivation(fig.3) from postulate 1. That Clifford algebra extremum implies the Mandlebulb real Fiegenbaum pt neighborhood on the next smaller fractal scale. This perturbation ofthat Dirac eq. gives a 4D New pde eq.8 $\gamma^\mu\sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ whose composite e,*ν* gives the **SM** and composite 3e the **baryons**, and whose *non*operator iteration on the next larger fractal scale is the Schwarzschild metric getting **GR**(gravity,sect.2).

1 Fill in algebra steps of above points *(A) and *(B)

*(**A**) So from eq.2 $(\delta z-K)+\delta z\delta z=C$ (constant C and K) which is a quadratic eq. with in-general complex solution $\delta z=dr+idt$. Plug that back into eq.2 with $K=\delta z$ to initialize to flat space and get $\delta(dr^2+i(drdt+dtdr)-dt^2)=0$ since $dr^2-1^2dt^2=ds^2$ is special relativity (Minkowski metric given 1^2=natural unit constant speed$^2\equiv c^2$) invariance. The imaginary extremum is the Clifford algebra $dr'dt'+dt'dr'=\gamma^r dr\gamma^t dt+\gamma^t dt\gamma^r dr=0$ since $2drdt\neq 0$ here for *non*vacuum (see eq.5 below). Factor the real component and get 3 equations (eg.,**e**; $dr+dt=ds$,$dr-dt=ds$ (eq.3),etc.,dr-dt in IV quadrant so $ds>0$ ($e^\pm$only nonzero proper mass), Eq.4 $dr\pm dt=ds$, $dr=\pm dt$ light cone $(\nu,\bar{\nu})$ and eq.5 $dr=0=dt$ is vacuum. (Note complex *unknown* K for $K\neq\delta z+\delta z'$ ($\delta z'$)perturbation adds 2 degrees of freedom.)
We just derived space-time (r,t) and special relativity here!
Square eq.3 to get $+ds^2=(dr+dt)^2=(dr^2+dt^2)+drdt+dtdr$ implying $dr^2+dt^2=ds^2$ circle invariance at 45° since dr+dt and drdt+dtdr are invariant. So circle $\delta z=dse^{i\theta}=dse^{i(45°+(\sin\theta dr+\cos\theta dt)/ds))}$. Define $dr/ds\equiv k$, $\sin\theta\equiv r$, $\delta z\equiv\psi$, take the r partial derivative, and multiply both sides by $i\hbar$ and define momentum $p\equiv\hbar k\equiv\xi v$ to get the operator formalism: $p_r\psi=-i\hbar\partial\psi/\partial r$ (so *observables* p) (eq.6)
All three invariances imply the Dirac equation(2) for **e**,*ν*. (e=electron, *ν*=neutrino).
We just derived quantum mechanics(QM)!
*(**B**)That Clifford algebra small drdt area extremum is at the Mandelbulb Fiegenbaum pt. C_M fig4)on the *real* axis where the Mandelbrot iteration sequence has that Cauchy seq. subset giving the real numbers. Postulate 1 (So small C in eq.1.) then requires a new (boost γ (fig.1)) frame of reference togive *small* fractal baseline $\delta z'\equiv C_M/\gamma\equiv C_M/\xi\equiv r_H=C$ in eq.1 deriving large mass$\xi.\equiv\tau+\mu$
So $K\neq\delta z+\delta z'$ perturbation is of flat space eq.3 at ~45°: $(dr-\delta z')+(dt+\delta z')=ds\equiv dr'+dt'$. (eq.7)

derivative rotation $\delta z'$ since ds invariant. Plugging $\kappa_{rr}\equiv(dr/dr')^2=1/(1-r_H/r)+.$, r≡dr, into that (local Minkowski metric) $ds^2=dr^2+dt^2+..$ and using invariant Clifford alg. drdt=dr'dt'= $\sqrt{\kappa_{rr}}dr\sqrt{\kappa_{tt}}dt$, we obtain $\kappa_{rr}=1/\kappa_{tt}$ and thereby get that **4D GR** quadratic form and so a global curved space.
So the Fiegenbaum pt neighborhood perturbation $\delta z'$ of that Dirac equation implies that generally covariant **new pde** $\gamma^\mu\sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ (8) with that fractal r_H (by10^{40}Xr_H scale change). Also note 4D **GR** $\kappa_{\mu\nu}$ tensor. Hermitian operators on these new pde ψs are observables

2 New pde Eq.8 applications for z=0 (For small C in eq.1: z=0 then $r=r_H$; z=1,$r>r_H$.)

2.1 Composite e,ν: ±δz' in eq.7 implies (derivative)**iteration** of *New pde*: Bosons

That z=0, **4** axis' 2X45°=θ (derivative operator **iteration** of *New pde*) rotations for e,ν implies the Z,$W^\pm$,γ , the **4** Bosons of the **Standard electroweak Model** SM so **Maxwell's** and **Proca's** equations (PartI, appendix A). Note the *non*operator **iteration** of the *New pde* on the next higher fractal (r_HX10^{40}) scale generates that (above) 4D GR quadratic form Schwarzschild metric (i.e., **gravity**) and so general covariance:
We just derived general relativity (GR) from quantum mechanics in one line! Recall the *New pde* zitterbewegung oscillation on the next higher 10^{40}X larger fractal selfsimilar cosmological r_H scale. With us being in the expansion stage of the oscillation for $r<r_c$ this then **explains the expansion of the universe**.

2.2 Composite 3e and $r=r_H$ stability (i.e., $dt'^2=(1-r_H/r)dt^2$)) and h/e flux quantization effects

That z=0 *New pde* ($2P_{3/2}$ at $r=r_H$) composite **3e** results in rapid e motion Fitzgerald contraction of E field lines thereby deriving the **strong force** and so (the much larger mass ξ/2) **baryons.** PartII

3) Eq.8 New pde $\gamma^\mu\sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ applications for z=1 so $r>r_H$

For z=1 *New pde,* the 3rd order term in the Taylor expansion of the two square roots $\sqrt{\kappa_{\mu\mu}}$ in the *New pde* gets the Lamb shift (2) and anomalous gyromagnetic ratio respectively (PartI, sect.1.2.1 thus eliminating the need for renormalization and the resulting infinite charge, infinite mass, infinite vacuum density, etc.. Thus these square roots **cause theoretical physics to give right answers again** (Infinite everything is 0% right).

4) Note on list-define math (from 1(∪1)) to create real number *algebra*(fig.2)

Given this (postulate) 1 we can use *list-define* (*list* the many instances of a relation e.g., start with **1**∪1≡ 2 , then *define* them all as relation a+b=c) math(appendix B PartI) to *replace* those famous set theory axioms, order axioms, mathematical induction axioms (giving **N**) and the field andring axioms(1) to generate the numbers N and the *algebra* of eq.1. *Only* **postulate**1for math&physics

Conclusion: We finally understand, *everything*. An intuitive notion of the postulate of ONE is Given that 10^{40}X fractal selfsimilarity astronomers are observing from the inside of what particle physicists are studying from the outside, the r_H of that ONE *New pde 'object'* e we first postulated. So at big and small scales *all* we observe is that **ONE** thing (even baryons are 3**e**).

References

(1) Royden, '**Real Analysis',** Pearson modern classics
(2) Bjorken and Drell, '**Relativistic Quantum Fields'**
(3) PartI,PartII,PartII in davidmaker.com for backups

Figures: Equation 1 z=zz+C, δC=0 gets the new pde (eq.8) and physics and yet the z=zz algebraic definition of 1 is also the small C limit of equation 1. So eq.1 hints strongly that the (Ockam's razor motivated) **Postulate** 1⇒Physics is correct:

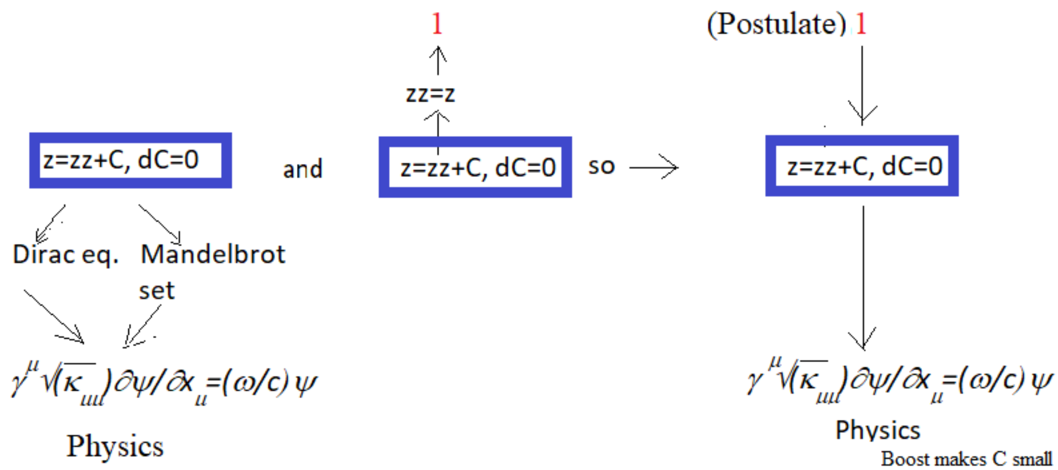

fig.1

Also math (sect.4) from 1:

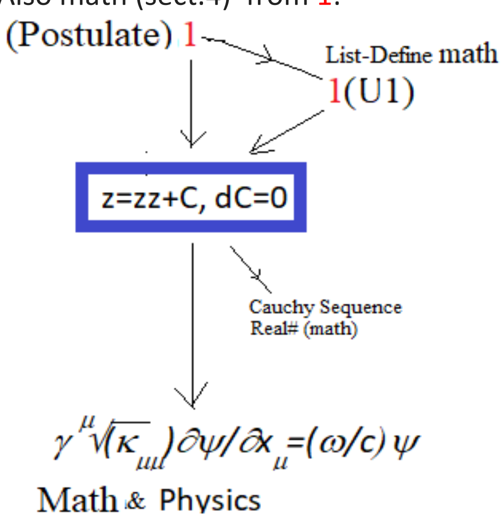

fig.2

Uniqueness: Need at least some measurable "observables" (Hermitian operator formalism **eq.6**) and **Cauchy sequence** of rational numbers to derive real#(*eigenvalues*) math as well.

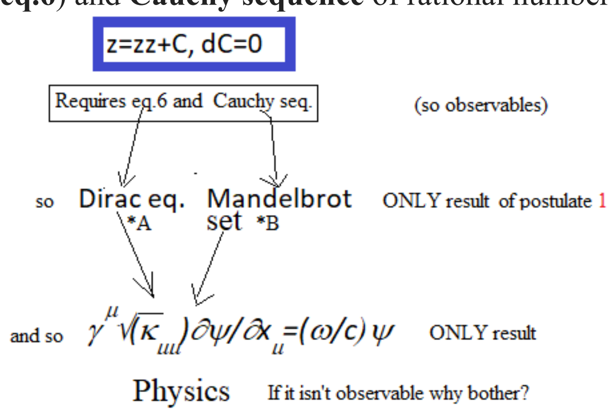

fig.3

Mandelbrot Set

Plug in the left side (of eq.1) z into the right side zz repeatedly and use $\delta C=0$ and get the Mandelbrot set iteration formula.

The Mandelbrot set C_M is (and from the postulate $\delta C_M=0$), $z_{N+1}=z_N z_N+C_M$ (since $\delta(z'-zz)=\delta(z_{N+1}-z_N z_N)=\delta(\infty-\infty)\neq 0$). $z_o=0$

Fiegenbaum point C_M smallest real line Mandelbulb on next smaller (baseline) scale. Mandelbulb areas (drdt) for smallest Clifford algebra extremum drdt. 10^{40}X zoom at Fiegenbaum point http://www.youtube.com/watch?v=0jGaio87u3A

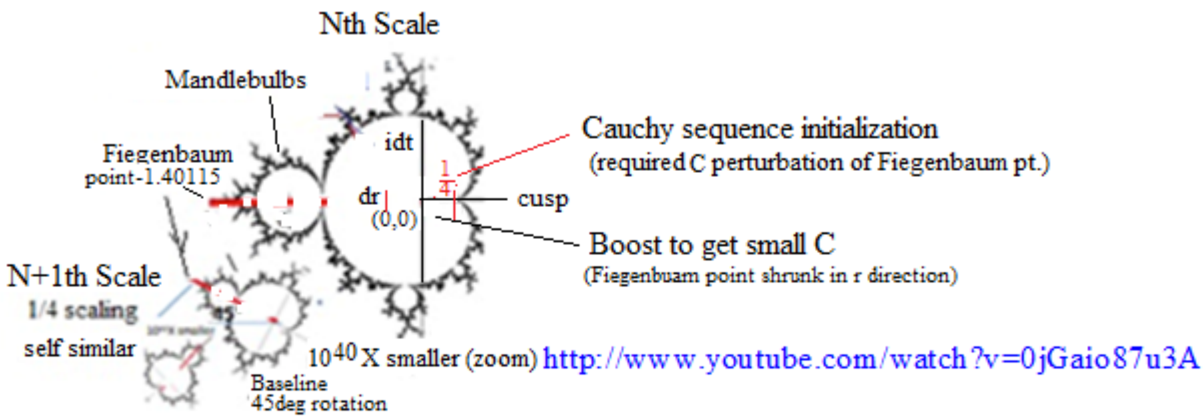

fig.4