Postulate 1 (observable) and define observability

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Abstract You would think just postulating 1 is goofy. That can't lead anywhere, right? But wait a minute!
The algebraic definition of 1 is z=zz (with z=**1,0**) and merely adding constant C (so δC=0) as in z'=z'z'+C (eq.1)) derives the universe!!!!!!!!!!!!!!!!!!!!!
It is the most amazing thing I have ever seen!!!!!!!!!!!!!!!!!!!!!!

Thus use the **z=1,0** (from postulated z=zz as part of the larger set {z'}) to solve for all z' and C:
The **z=0** $=z_o$ =z' iteration of eq.1 using δC=0 *gets the* (2D)Mandelbrot set $C=C_M$ and a δz
(Need iteration to get all the Cs because of the δC=0, See sect.1. Also 10^{40N}X fractal scales)
The **z=1**, z'=1+δz substitution into eq.1 using δC=0 (N>0 observer) gets the 2D Dirac eq.
(Minkowski (flat space) metric, Clifford algebra and eq.11 ***fall right out of*** resulting eq.5)
These **z=1** and **z=0** steps together (sect.1) get the curved space 2D+2D=4D **Newpde** (3) and thus the 4D universe, no more and no less (ref.5) So just **postulate** 1 !!!

All I did here is to **define observability***: 1 is the observable and C the required observer!

Furthermore 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 (ref5) AND (rel#)mathematics from ONE postulate1, everything!
We figured it out. We understand the universe finally! Completely! Just **postulate1**
1 (in z=zz) is thereby the ultimate application of Occam's razor since
0 (in z=zz) postulates literally *nothing* and z=zz is simpler than z=zzzz
δC=0 means Occam's razor optimized (lowest observer noise C)
Hey, wait a second, so do you mean to say that all I have to do is postulate 1 and get no more and no less than the entire physical universe including even the math? Yes!! davidmaker.com

*Eq.11: $p_x\psi=-i\hbar\partial\psi/\partial x$. is the well known observable p criteria (appendix). ψ is from Newpde(3)

It's Broken, fix it (We badly need that Newpde)

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 this most fundamental of all sciences,.. 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 $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$, $r_H=(2e^2)(10^{40\mathbf{N}})/(mc^2)$. The **N**=..**-1,0,1**,.. fractal scales (appendix)
(5) **N**=0 the greater than 2nd order Taylor expansion terms of $\sqrt{\kappa_{ij}}$ give the Lamb shift and anomalous gyromagnetic ratio (without the renormalization and infinities (see appendix D)).
For **N**=-1 (i.e.,$e^2X10^{-40}\equiv Gm_e^2$) κ_{ij} is by inspection the Schwarzschild metric g_{ij}; so we just derived General Relativity and the gravity constant G from Quantum Mechanics in one line.
So κ_{uv} provides the general covariance of the Newpde. Eq. 4 even provides us space-time r,t.
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).
For **N**=0 Newpde $r=r_H$ $2P_{3/3}$ state composite 3e is the baryons (appendixC, partII) and Newpde $r=r_H$ composite e,ν is the 4 Standard electroweak Model Bosons (eq.12→appendixA).
We got all of physics here by mere inspection of this (curved space) Newpde with no gauges. The Newpde fixes it.

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 top down that got a *generally covariant generalization of the Dirac equation that does not require gauges(*Newpde that in turn gave these same results (i.e.,SM particles, NF, GR,QM in ref.5 & real#)? You will have a truly *fundamental* theory (See above postulate 1)
i.e.,Postulate1–>**Newpde**. davidmaker,com So just **postulate**1

Appendix: Postulate z=zz (z=**1**,0) and merely add constant C (so δC=0) as in z'=z'z'+C eq1

Details of those two z=0, z=1 steps (in above **definition of observability**)

But first solve equation 1 by itself (to at least see that z' can be complex)

Thus plug z'=**1**+δz into eq.1 and get δz+δzδz=C (3)

For real C<-¼ $\delta z = (-1 \pm \sqrt{1+4C})/2$=dr+idt (4)

is complex. Knowing z' is complex we then can then move on to the *complete* solution:

1st step: (Recall postulated **1,0**∈{z'} with rest of z' unknown)

z=0=z_o =z' To find all C substitute z' on left (eq.1) into right z'z' repeatedly and get iteration $z_{N+1}=z_Nz_N$-C. Constraint δC=0 requires us to reject the Cs for which -δC=δ(z_{N+1}-z_Nz_N)= δ(∞-∞)≠0 which gets the **Mandelbrot set** C_M (fig1) out to some ||Δ|| distance from C=0. That bare fig1Mandelbrot set structure is picked out of the zoom because it is built of lemniscate circles (sect.2.2,fig.7) and so implies eq.11 observables for fig.1 shapes. Also Δ is found from δC≡$\left(\frac{\partial C}{\partial A}\right)_{dt} dr = 0$ (sect.2.1). The smallest bulbous lobe of area 'A=drdt' as a function of largest d||z|| (which is a -dr) is at the Fiegenaum point -1.400115.. So C_M ends up being real here so we really can use the above *real* C<-¼ approximation and so require complex z. That –¼ iteration also makes dr,dt real so dr^2+dt^2 C^2 .

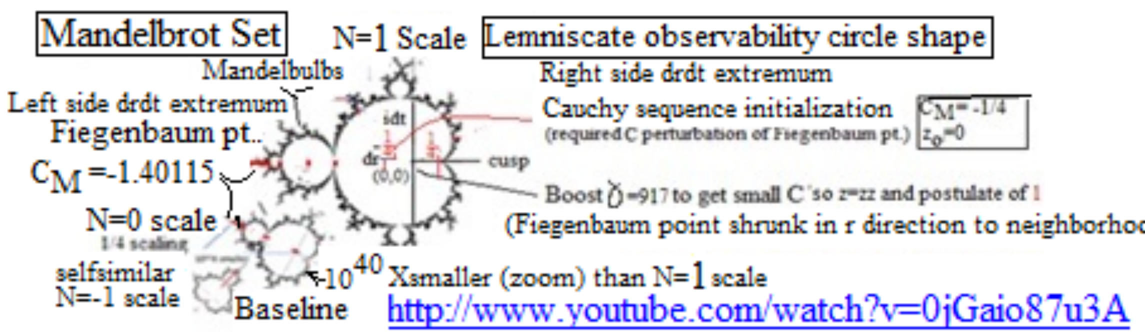

Fig.1

Note in distance units of 1 unit on the N=0 fractal scale, for (big C) observer N=1 scale lengths δz>>1which applies to eq.11 *observers.*

2nd step:

z=1 in z'=**1**+δz in eq.1 get eq.3 (δz>>1): δ(δz+δzδz)=δδz(1)+ δδz(δz)+(δz)δδz≈ ≈δ(δzδz)=0=(plug in eq.4)= δ[(dr+idt)(dr+idt)]= δ[(dr^2-dt^2) +i(drdt+dtdr)]=0 (5)

=(Minkowski metric)+i(Clifford algebra)

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

so (→±**e**) dr+dt=ds, dr-dt=ds ≡ds_1 , for $(-dr-dt)^2=ds^2$→ Ist and IVth quadrant in fig3 (7)

Also note the positive scalar drdt of eq.7 implies the eq.5 *non* infinite extremum imaginary 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≠j. (7a)

(→light cone ***v***) dr+dt=ds, dr=-dt, for $(-dr-dt)^2=ds^2$→ III quadrant (8)

" " dr-dt=ds, dr=dt, for $(-dr-dt)^2=ds^2$→ II quadrant (9)

(→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) ≡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. also implying the rest of the Cifford algebra $\gamma^i\gamma^i$ =1 in eq.7a, no sum on 'i' and also the lemniscate formulation(fig.7). Note this separate ds is a minimum at 45° (that

Mandebrot set rotation) given the eq.7 constraints and so Circle≡δz=dse$^{i\theta}$=dse$^{i(\Delta\theta+\theta o)}$= dse$^{i((\cos\theta dr+\sin\theta dt)/(ds)+\theta o)}$, θ_o=45°.We define k≡dr/ds, ω≡dt/ds, sinθ≡r, cosθ≡t. dse$^{i45°}$≡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 $\frac{\partial\left(dse^{i(rk+wt)}\right)}{\partial r} = ik\delta z,\ k\delta z = -i\frac{\partial\delta z}{\partial r}$ (11).

(<F>*= ∫(Fψ)*ψdτ=∫ψ*Fψdτ =<F> Hermitian). The observables dr→k→p_r condition gotten from eq.11 **operator formalism** thereby converting eq.7-9 into Dirac eq. pdes (Circle solution also implies lemniscates, fig.7, so fig.1 observability). Cancel that $e^{i45°}$coefficient (45°=π/4) then multiply both sides of eq.11 by ħ and define δz≡ψ, p≡ħk. Eq.11 becomes the familiar:

$p_r\psi = -i\hbar\frac{\partial\psi}{\partial r}$ (11)

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

Postulate 1 also implies a small C in eq.1 which thereby implies a (Minkowski metric) Lorentz contraction 1/γ boosted frame of reference* in eq.3 C=C_M/γ≡δz'=Δ for next small smaller fractal scale N_{ob}<0 so δz'<<1. Also recall δds^2=0 in eq.5. Thus we have a angle perturbation of big dr,dt for θ_o=45° on that above **ds Circle** and so have a slightly modified eq.7:

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

Since (eq.12) dr,dt is the (eq.11) observer $N_{observer}$>0 scale then δz' defines the N_{ob} =0 object. Also the r,t axis' are the max extremum for ds^2, and the ds^2 at 45° is the min extremum ds^2 so Δθ=θmodulo45° is pinned to an axis' so extreme Δθ≈±45°=δz'. So in eq.12 the 4 rotations 45°+45°=90° define Bosons (appendix A), and 45°-45°=0 eq.7-9 defines leptons. Again, for N_{ob}<0, you also have other (smaller) fractal scale extreme δz'(eg.,tiny Fiegenbaum pts) so metric coefficients κ_{rr}≡(dr/dr')^2= (dr/(dr-(C_M/ξ_1)))^2= 1/(1-r_H/r)^2 =A_1/(1-r_H/r) +A_2/(1-r_H/r)^2, r≡dr. The partial fractions A_I term can be split off from RN and so κ_{rr}≈1/[1-((C_M/ξ_1)r))] (13)

(C_M defined to be charge, γ≡ξ_1 mass). So: $ds^2=\kappa_{rr}dr'^2+\kappa_{oo}dt'^2$ (14)

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

We do a rotational dyadic coordinate transformation of $\kappa_{\mu\nu}$ to get the Kerr metric which is all we need for our GR applications. So from eqs.4,5,14,15 we found the relation between x_i,x_j pairs: $\left(\sum_{i=1}^{2}\gamma^i\sqrt{\kappa_{ii}}dx_i\right)^2 = \sum_{i=1}^{2}\kappa_{ii}d^2x_i$ (14a). So given this added 2D Δ perturbation we get curved space 2D⊗2D=4D *independent* $x_1,x_2 \rightarrow x_1,x_2,x_3,x_4$. Also assuming orthogonality $dr^2 \equiv dx_1^2+dx_2^2+dx_3^2$ (as r→∞ in eq.13,15) the right side of eq.14a therefore has the 2 in the sum replaced by a 4 implying the left side then has to be in eq.14a for the 2D form to be a special case (of any 2 x_ix_j) inB2: Imposing orthogonality thereby creates 6 pairs of eqs.4&5. So eq.14a becomes: $(\gamma^x\sqrt{\kappa_{xx}}dx+\gamma^y\sqrt{\kappa_{yy}}dy+\gamma^z\sqrt{\kappa_{zz}}dz+\gamma^t\sqrt{\kappa_{tt}}idt)^2=\kappa_{xx}dx^2+\kappa_{yy}dy^2+\kappa_{zz}dz^2-\kappa_{tt}dt^2=ds^2$.

Multiplying the bracketed term by 1/ds & **δz≡ψ** so eq 11 implies 4D **Newpde** (lemniscates 2.1)**:**

$\gamma^\mu(\sqrt{\kappa_{\mu\mu}})\partial\psi/\partial x_\mu=(\omega/c)\psi$ 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/γ (from sect.2) C_M=Fiegenbaum point. So: **postulate1→Newpde.** syllogism

*That small C boost is thereby created by Newpde r=r_H $2P_{3/2}$ stable state P (so $2S_{1/2}$=τ ,$1S_{1/2}$=μ, appC). 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.