Generations per step

- Per progression step only ONE Qtarget is generated per Qpattern
- Generation of the whole Qpattern takes a large and fixed amount of progression steps
- When the Qpatch moves, then the pattern spreads out
- When an event (creation, annihilation, sudden energy change) occurs, then the enumeration generation changes its mode

Why blurred (1D)?

- Real Hilbert space model ⇛ No problem
  - Progression separated
  - Use rational numbers
  - Cohesion not too stiff (otherwise no dynamics!)
    - Keep sufficient interspacing
    - Lowest rational
  - May introduce scaling as function of progression
  - Fixed progression steps

Why blurred (1+1D) ?

- Complex Hilbert space model ⇛ No problem
  - Progression at real axis
  - Use rational complex numbers
  - Cohesion not too stiff (otherwise no dynamics!)
    - Keep sufficient interspacing
    - Lowest rational at both axes (separately)
  - May introduce scaling as function of progression
    - No scaling at progression axis

Why blurred (1+3D)?

- Quaternionic Hilbert space model ⇛ Blur required
  - Progression at real axis
  - Use rational quaternions
  - Cohesion not too stiff (otherwise no dynamics!)
    - Keep sufficient interspacing
    - Lowest rational at all axes (same for imaginary axes)
  - May introduce scaling as function of progression
    - No scaling at progression axis
- Blur installed by correlation vehicle

Why blurred (1+3D)?

- Enumerated objects (atoms) are not ordered
  - No origin
    - Affine-like space

- Enumeration must not introduce extra properties
  - No preferred directions

Solution (no preferred directions)

- Random enumerator generation at lowest scales
- Let Poisson process produce smallest scale enumerator
  - Combine this Poisson process with a binomial process
  - This is installed by a 3D spread function
  - This generates a 3d "Gaussian" distribution (is example)

  The distribution represents an isotropic potential of the form

$$\frac{Erf(r)}{r}$$

  This quickly reduces to $1/r$ (form of gravitational potential)
  - The result is a ***Qpattern***

Blurred allocation function $\mathcal{P}$

Convolution

- Blurred function $\mathcal{P} = \wp \circ \mathcal{S}$
  - Sharp $\wp$ maps ***RQE*** $\Rightarrow$ ***Qpatch***
  - Spread $\mathcal{S}$ maps ***Qpatch*** $\Rightarrow$ ***Qtarget***

- Function $\mathcal{P}$
  - Produces **QPAD** ψ
- Stochastic spatial spread function $\mathcal{S}$
  - Produces ***Qpattern***
    - Produces gravitation $(1/r)$
- Sharp $\wp$
  - Describes space curvature
  - Delivers local metric $d\wp$

Step stones

- Step stones are placeholders where a selected Qpattern can be
- A coherent collection of these step stones represent the Qpattern
- The step stones are generated by the stochastic spatial spread function $\mathcal{S}$
- At each progression step a different step stone becomes the location of the Qpattern

Micro-path

- The Qpatterns contain a fixed number of step stones
- The step stones that belong to a Qpattern form a micro-path
- Even at rest, the Qpattern walks along its micro-path
- This walk takes a fixed number of progression steps
- When the Qpattern moves or oscillates, then the micro-path is stretched along the path of the Qpattern

Wave fronts

- At every arrival at a new step stone the Qpattern emits a wave front
- The wave fronts are emitted from slightly different locations
- Together, these wave fronts form ultra-high frequency waves
- The propagation of the wave fronts is controled by Huygens principle
- Their amplitude decreases with the inverse of the distance to their source

Wave front

- Depending on a dedicated Green's function, the integral over the wave fronts constitutes a series of potentials.
- The Green's function describes the contribution of a wave front to a corresponding potential
- Gravitation potentials and electrostatic potentials have different Green's functions

Potentials & wave fronts

- The wave fronts and the potentials are traces of the particle and its used step stones.
- Neither the emitted wave fronts, nor the potentials affect the particle that emitted the wave front

- Wave fronts interfere
- Together the wave fronts form a field

Photon & gluon emission

- A sudden decrease in the energy of the emitting particle causes a modulation of the amplitude of the emitted wave fronts
- The creation of this modulation lasts a full micro-walk
- The modulation of the UHF carrier wave becomes observable as a photon or a gluon
- The modulation represents an energy quantum

$$E=\hbar \cdot \nu$$

- The energy is shown in the modulation frequency ν

Embedding continuum

- A curved continuum embeds the elementary particles
- The continuum is constituted by a background field
- On its turn the background field is constituted by the wave fronts that are emitted by ALL elementary particles that until that instant existed in universe.

Photon & gluon absorption

- A modulation of the embedding continuum can be absorbed by an elementary particle
- The modulation frequency determines the absorbable energy quantum
- The modulation must last during a full micro-walk

Photons and gluons

- Photons and gluons are energy quanta
- Photons and gluons are NOT electro-magnetic waves!
- Photons and gluons are NOT particles

Palestra

- Curved embedding continuum
- Represents universe

Embedded in continuum

$$(\{Qpatch\})$$

Collection of Qpatches

The Palestra is the place where everything happens

Mapping

$$\mathcal{P} = \wp \circ \mathcal{S}$$

Quantum fluid dynamics

Space curvature

Quantum physics

GR

$d\mathcal{P}$

Quaternionic metric

16 partial derivatives

No tensor needed

- Continuity equation
  $\nabla\psi = \phi$
- Dirac equation
  $\nabla_0[\psi] + \boldsymbol{\nabla\alpha}[\psi]$
- In quaternion format
  $\nabla\psi = m\psi *$

Navigate

To Logic Systems slides:
http://vixra.org/abs/1302.0122

To Hilbert Book Model slides part 1:
http://vixra.org/abs/1302.0125

To Hilbert Book Model slides part 3:
http://vixra.org/abs/1309.0018

To “Physics of the Hilbert Book Model”
http://vixra.org/abs/1307.0106