Mathematical Combinatoric Fields

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Deriving Relations

We begin with the convolution by functional arguments and translate into combinatorial factorial relations:

\[ f(g(f^{-1}(z))) \leftrightarrow \int_1^z \frac{f(z)!g(z)!}{f(z-1)!g(z-1)!} \, dg(f^{-1}(g(z))) := dz \int_z g(z) \partial \log(f(z)) : \quad (1) \]

The second equation is then an explicit definition of the factorial function explicitly in terms of the functional differential of the open derivative on the generalized factorial.

\[ z! := \int_z \log(z) \, dz \equiv \int_z \log(z) \, dz \cdot \int_z \partial_z g(z)! \cdot f(z) := dz \int_z z! : \quad (2) \]

Therefore:

\[ \partial_z (g(z) \cdot f(z)) \leftrightarrow \frac{\partial g}{\partial f} f(z) + g(z)\frac{\partial f}{\partial f} \equiv f(g(z)) \cdot \log(g(z)f(z)) : \quad (3) \]

The log differential method for this extrapolation is therefore defined on bounded sets as:

\[ g(z) dz \int_z f(z) \log(g(z)) \partial f(z) \equiv g(z)f(z) \int_0^1 \partial z f(g(z)) \int_0^1 \partial z g(f(z)) \quad (4) \]

The extrapolation given is then a recursive derivation of the extension of open measure on subsets:

\[ \int_\varnothing f(z!) \cdot g(z!) dz! \leftrightarrow (\frac{\partial f}{\partial f} + \frac{\partial z}{\partial f})(\frac{\partial f}{\partial z} - \frac{\partial z}{\partial z}) \equiv z(1)! : f = g \quad (5) \]

The center is then defined through the open and closed relations given through the connecting aperture of the functions defined as follows:

\[ \int \partial g \partial f \equiv z(f(0))! : \int \partial f \partial g \equiv z(g(0))! \quad (6) \]

As:

\[ z(1) := \int_0^\infty f(z)g(z) \, dz \quad z(0) := z(f) \, dz \int z \quad (7) \]
The admittance of a generalized interior to exterior relationship on that of the generalized expansion of the differential and factorial is then given by:

\[
\frac{\partial_z (g(f(z!)))}{\partial} = \frac{\partial f \partial f}{\partial} + (2 \frac{\partial f \partial z}{\partial}) + \frac{\partial z \partial z}{\partial} : f(z)! \equiv g(z)!
\]  

(8)

Such that the general differential is carried by:

\[
z! \equiv f(z) \log(g(z)) \int_z^{z+1} g(z)dz : \frac{\partial f}{\partial}g(z) + f(z)\frac{\partial g}{\partial} := f(z) \equiv g(z)
\]  

(9)

Then the factorial of a given functional equivalence is given by:

\[
f(z)! \equiv g(z)! := \int_z^{\sqrt{z}} \log(z)\frac{\partial g}{\partial}f(z) \equiv \int_z^{\sqrt{z+1}} \sqrt{z} \frac{\partial f}{\partial} \log(z)dg : \sqrt{z} \equiv \log(z)
\]  

(10)

Now is defined the natural extension of measure for factorial as the equivalence:

\[
\int_f z!dz \equiv \int_g z!dz \rightarrow 0 := z := f \cdot g \log(z(f)g(z)) \log(z(g)f(z))\partial f \partial g : z^{-1} \equiv \log(z)
\]  

(11)