Mathematical Combinatoric Fields

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Deriving Relations

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

$$f(g(f^{-1}(z))) \longleftrightarrow \int_z^1 \frac{f(z)!g(z)!}{f(z-1)!g(z-1)!} dg(f^{-1}(g(z))) := dz \int_z g(z)\partial \log(f(z)) : \tag{1}$$

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.

$$z! := \int_z \log(z)dz \equiv \int_z \log(z)dz : \partial_z \int_{dz}^z \partial_z g(z)! \cdot f(z)! := dz \int z! : \tag{2}$$

Therefore:

$$\partial_z(g(z) \cdot f(z)) \longleftrightarrow \frac{\partial g}{\partial} f(z) + g(z)\frac{\partial f}{\partial} \equiv f(g(z)) \cdot \log(g(z)f(z)) : \tag{3}$$

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

$$g(z)dz \int_z f(z)\log(g(z))\partial f(z) \equiv g(z)f(z) \int_0^1 \partial z f(g(z)) \int_0^1 \partial z g(f(z)) \tag{4}$$

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

$$\int_\partial f(z!) \cdot g(z!)dz! \longleftrightarrow (\frac{\partial f}{\partial} + \frac{\partial z}{\partial})(\frac{\partial f}{\partial} - \frac{\partial z}{\partial}) \equiv z(1)! : f = g \tag{5}$$

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

$$\int \partial g \partial f \equiv z(f(0))! : \int \partial f \partial g \equiv z(g(0))! \tag{6}$$

As:

$$z(1) := \int_0^\infty f(z)g(z)dz \qquad z(0) := z(f)dz \int z \tag{7}$$

The admittance of a generalized interior to exterior relationship on that of the generalized expansion of the differential and factorial is then given by:

$$\partial_z(g(f(z!))) : \frac{\partial f}{\partial}\frac{\partial f}{\partial} \pm (2\frac{\partial f}{\partial}\frac{\partial z}{\partial}) + \frac{\partial z}{\partial}\frac{\partial z}{\partial} : f(z)! \equiv g(z)! \tag{8}$$

Such that the general differential is carried by:

$$z! \equiv f(z)\log(g(z))\int_z^{\frac{1}{2}} g(z)dz : \frac{\partial f}{\partial}g(z) + f(z)\frac{\partial g}{\partial} := f(z) \equiv g(z) \tag{9}$$

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

$$f(z)! \equiv g(z)! := \int_z^{\sqrt{z}} \log(z)\frac{\partial g}{\partial}f(z) \equiv \int_z^{z!} \sqrt{z}\frac{\partial f}{\partial}\log(z)dg : \sqrt{z} \equiv \log(z) \tag{10}$$

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

$$\int_f z!dz \equiv \int_g z!dz \to 0 := z := f \cdot g \log(z(f)g(z))\log(z(g)f(z))\partial f \partial g : z^{-1} \equiv \log(z) \tag{11}$$