Proving the P-property

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4:03 AM

I only understand the P formula at formula level. I should develop a genuine understanding.

The P h-condition:

$$P_u(bch(\lambda_x,\lambda_y))//CC_u^{\lambda_x} = P_u(\lambda_x)//CC_u^{\lambda_x} + P_u(\lambda_y//CC_u^{\lambda_x})$$

Using $\lambda_x = s\lambda$, $\lambda_y = \epsilon\lambda$, infinitesimal ϵ, get

$$\left(\frac{d}{ds}P(s)\right)//CC_u^{s\lambda} = div_u\left(\lambda//CC_u^{s\lambda}\right)$$

So $$P_u(t\lambda) = \int_0^t ds\, \underbrace{div_u(\lambda//CC_u^{s\lambda})//u\to C_u^{-s\lambda}}$$

Can this be simplified? Even better, can I simplify

$div_u(\theta//CC_u^{\lambda})//u\to C_u^{-\lambda}$?

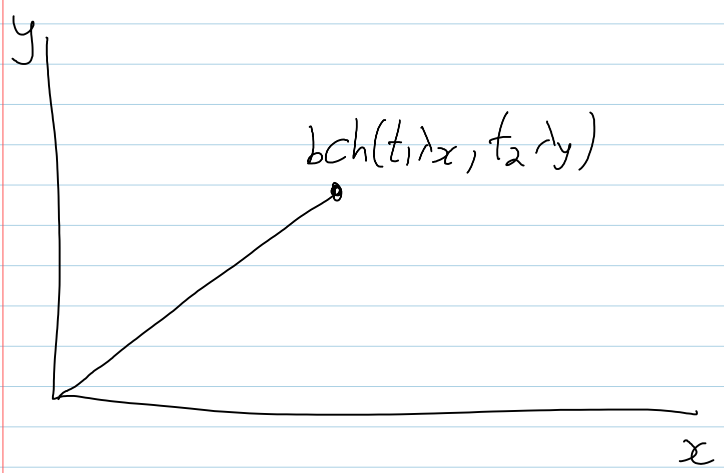
Looks like much cancellations should occur.

Is this related to

$div_u(\theta//der(u\to C_u^{\lambda}))$?

($div\,\lambda$ ought to appear too)

Test that! Prove that!



One useful thing would be to compute dJ.

Clearly a good start is $d\,div$ — but div is linear.

I should be able to do it!

.... time for some experiments.

$$\int_0^1 e^{as}ds = \frac{1}{a}e^{as}\Big|_0^1 = \frac{e^a-1}{a}$$