The Relationship with Alek-Tor

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<u>Claim</u>: 1. $V e^{\widehat{x+y}} = e^{\hat{x}} e^{\hat{y}} V$, 2. $V^* = V^{-1}$, 3. $VW(x+y) = W(x)W(y)$

$$\Downarrow$$

$$F(x+y) = \log e^x e^y \quad , \quad j(F) = a(x) + a(y) - a(\log e^x e^y)$$

<u>Sketch</u>: 1. $F = D_V$ satisfies

$$F(x+y) = \log e^x e^y$$

2. $1+3 \Rightarrow$

$$V1 = \frac{W(x)W(y)}{W(\log e^x e^y)}$$

The non-conservation of the number of equations (3 for me, 2 for A-T) is explained by the non-conservation of the number of unknowns— my V contains more information [one function-worth more] than their F.

<u>Question</u> Is $j(D_V) = \log(V1)$? [No, but it's not far...]

<u>Question</u> Is there a good description for

$$\{V\} / \ker(V \to D_V) \ ?$$

(probably its $A^{w,\text{trees}} = A^w/\text{loops}$)

<u>Question</u> Is there a K-V reason why V must be group-like?

[Group-like V's correspond to flow defined by vector fields, but is there a reason why we must restrict to flows?]

<u>Question</u> In A^w is it true that every unitary is the exponential of a Hermitian?
And how far from primitive might Hermitians be?