The cocycle property for div

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8:44 AM

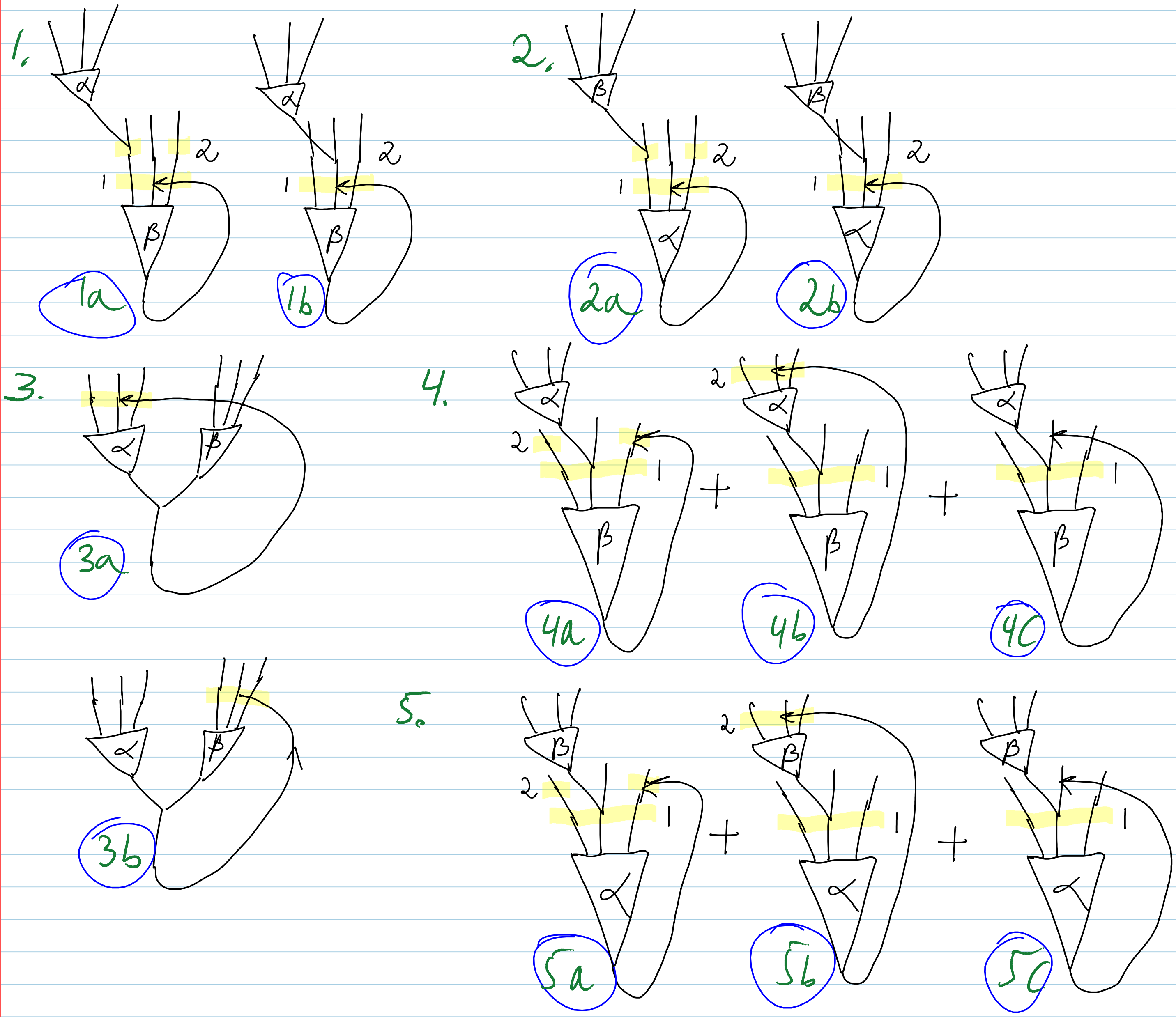
Compare with 2013-04.

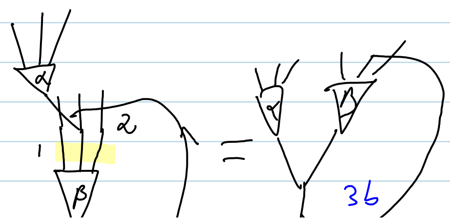
Claim with $ad_u^\gamma := der(u \to [\gamma, u])$,

$$(div_u \beta)//ad_u^\alpha - (div_u \alpha)//ad_u^\beta = div_u\left([\alpha,\beta] + ad_u^\alpha(\beta) + ad_u^\beta(\alpha)\right)$$

1 2 3 4 5

Proof Take $\alpha =$ , $\beta =$  and then



We have: $1b = 4c - 3b \Longleftrightarrow$ 

$2b = 5c + 3a$

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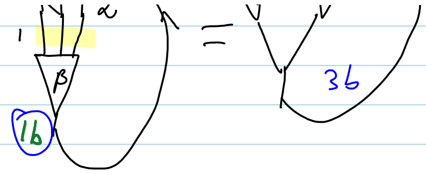

$1a = 4a \qquad 2a = 5a$

$4b = 5b$ — using the cyclic property of CW!

So

$1 - 2 = 1a + 1b - 2a - 2b =$

$= 4a + 4c - 3b - 5a - 5c - 3a + (4b - 5b)$

$= -3 + 4 - 5$