Phi, R, X, Y, F relations

November-15-09
7:34 PM

Non-relations that require discussion – the well-definedness of the "shielding" procedure.

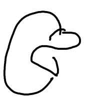
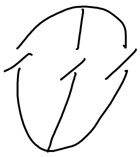
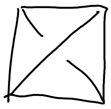
A preliminary: Writing B_+ in terms of T & R. (or T & M)

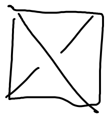
($Y = T$, $M = F$)

Relations:
1. The symmetries of $\underset{(\mathbb{Z}/3)}{T}$ & $\underset{(\mathbb{Z}/2)}{B}$. — 2 rels.
2. Invariance under $R234$. — 3 rels. (there are two variants of R4, though)
3. Compatibility with $d, u, \#$. — 3 rels.
4. Idempotence. — 2 rels.

better, $Rot_{\pi/2} B^{\pm} = B^{\mp}$

10 rels.

$R^+ = R =$  $\overset{?}{=}$  $\quad B^+ = $ 

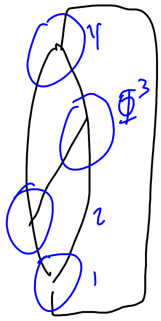
$R^- =$  $\quad B^+ = X^+$ $\quad B^- =$  $\quad B^- = X^-$

Sweedler notation: $\Phi^{123} \cdot (1\otimes\Delta\otimes 1)(\Phi)\cdot\Phi^{234} = (\Delta\otimes 1\otimes 1)(\Phi)\cdot(1\otimes 1\otimes\Delta)(\Phi)$

$\qquad \Phi^1 \qquad \Phi^2 \qquad \Phi^3 \qquad \Phi^4 \qquad \Phi^5$

$$\left(\Phi^1_1\Phi^2_1,\ \Phi^1_2\Phi^2_2\Phi^3_1,\ \Phi^1_3\Phi^2_2\Phi^3_2,\ \Phi^2_3\Phi^3_3\right) = \left(\Phi^4_1\Phi^5_1,\ \Phi^4_1\Phi^5_2,\ \Phi^4_2\Phi^5_3,\ \Phi^4_3\Phi^5_3\right)$$

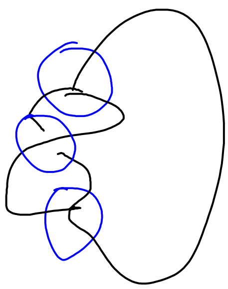
Idempotence for  :



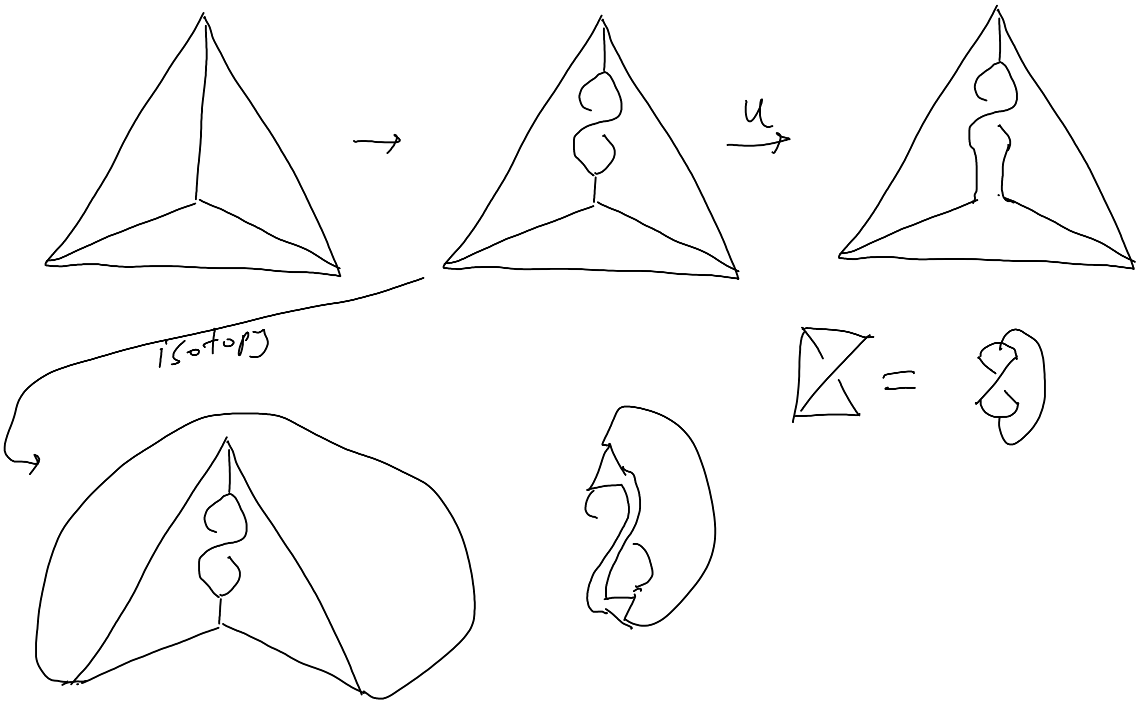
.... Seems like the empty equation, $\Phi = \Phi^3$

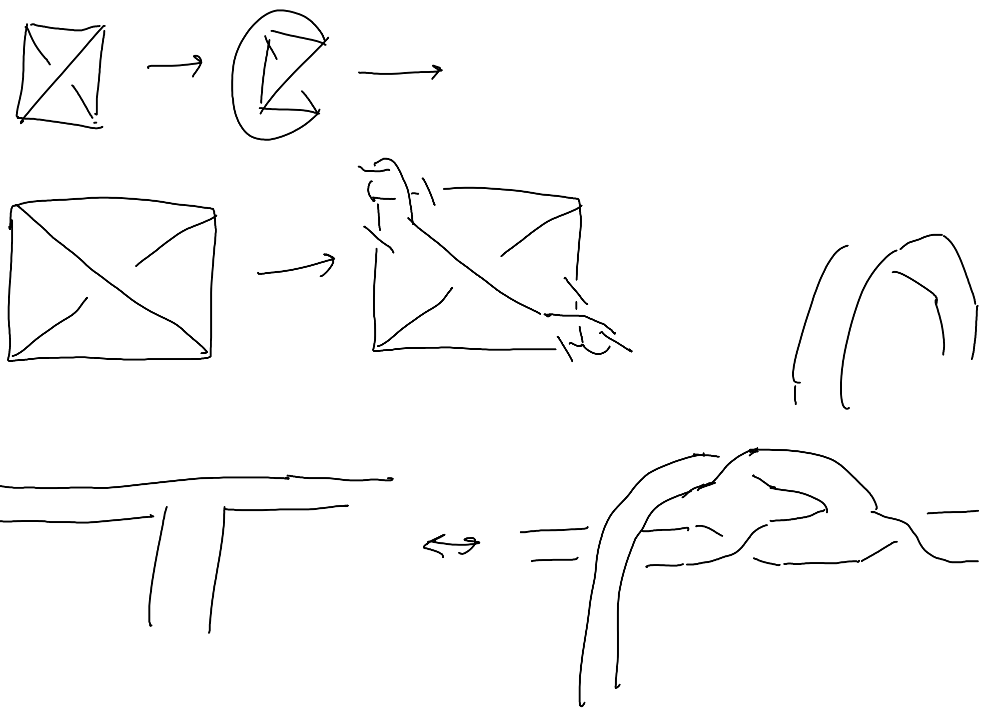
(In the presence of non-degeneracies)

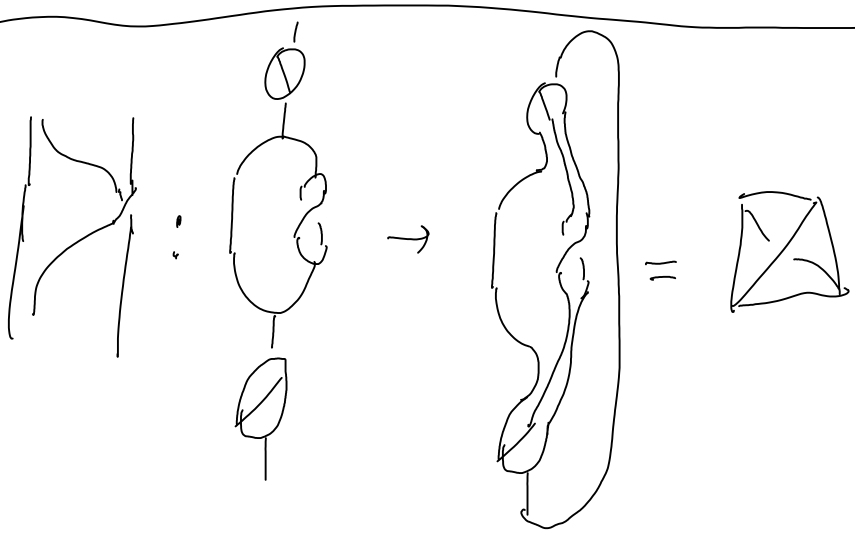
Idempotence for R:

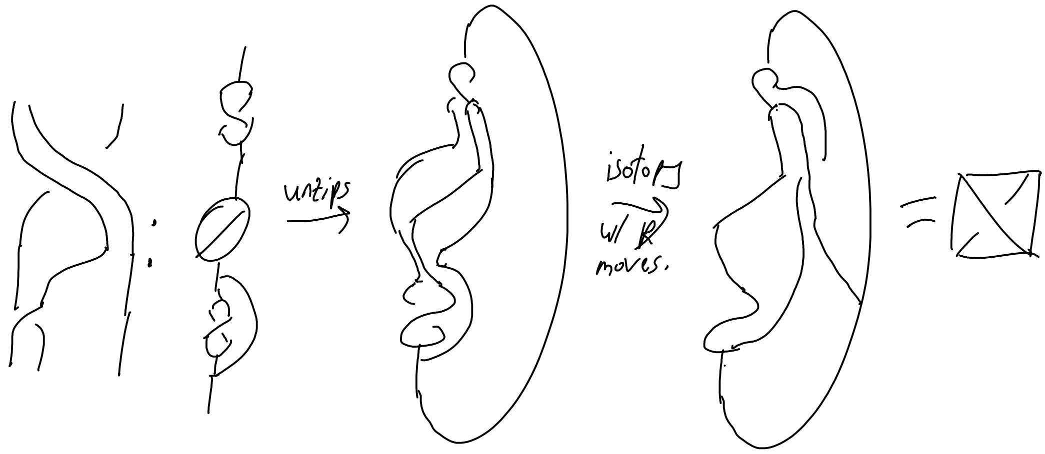


(also trivial)
?

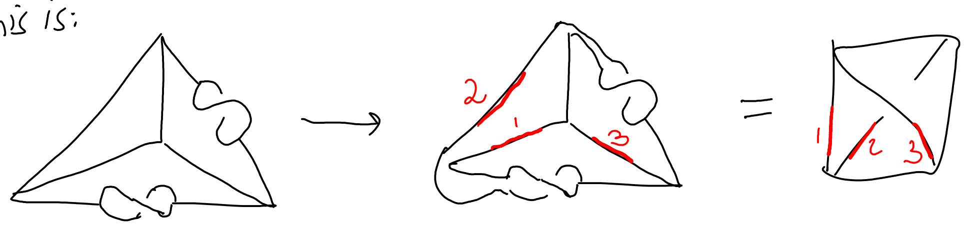

u
isotopy

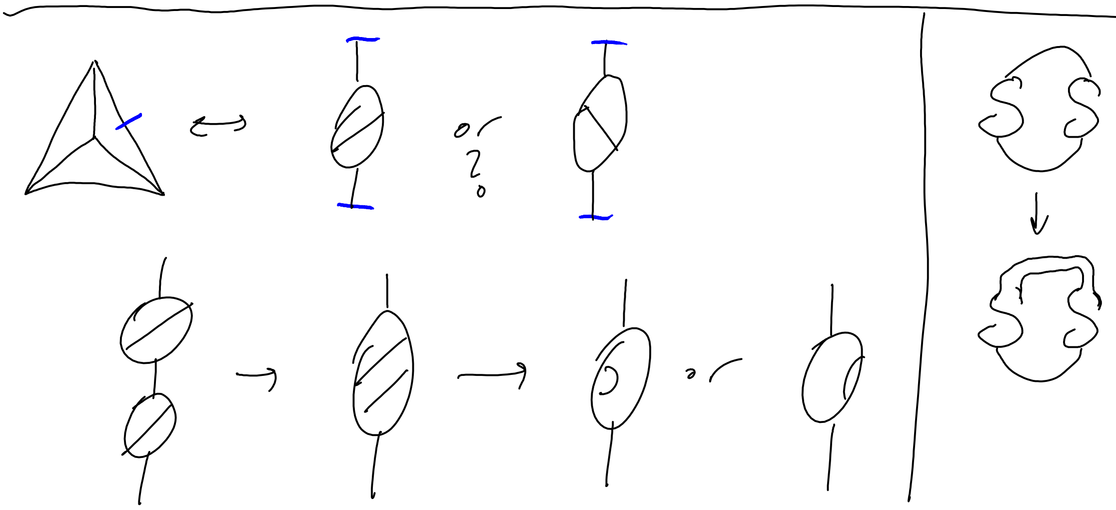


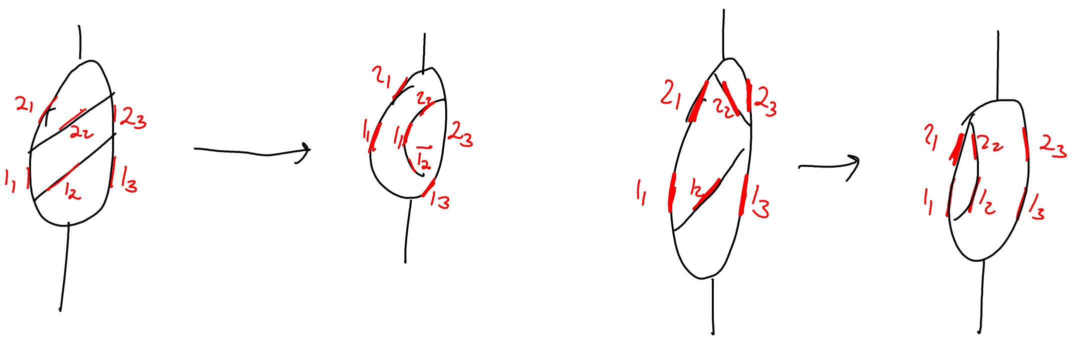




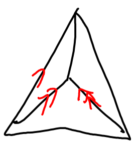
This is:



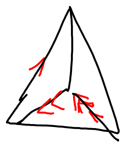




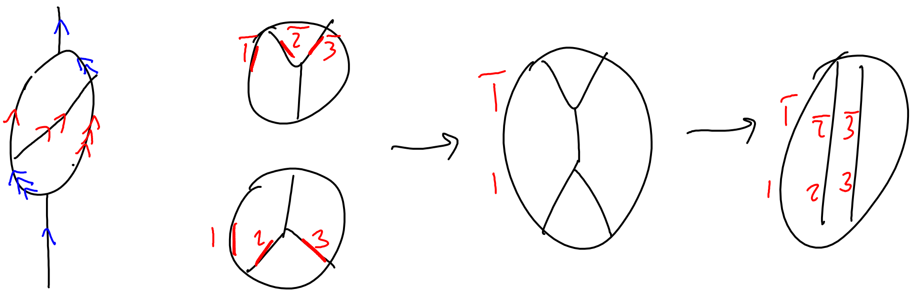
<u>claim</u> there is no automorphism of tet that carries



to



pf obvious.



Aside: Can I generate A_4 using elements of order 2?

$(12)(34)\cdot(13)(24) = (14)(23)$ No.