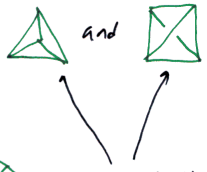
AKT-091110, Hour 25: uHigh, KTGs, AKT

November-09-09
2:44 PM

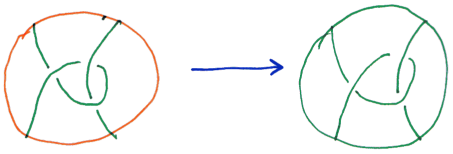
* Announcements at end.
* Huerfano/Kh * Date of final
* What's next? * HW3

On board: on $KTG/\mathcal{A}TG$ we have $d_i, u_i, \#$; we are looking for a UFTI $Z: KTG \to \mathcal{A}TG$ intertwining those.

Aside 1

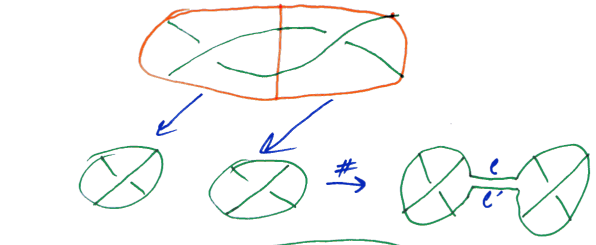
KTG is finitely generated, by  and :

1. "shield" all tangles:



The shielded generators of tangled graphs.

2. Shielded compositions are definable:

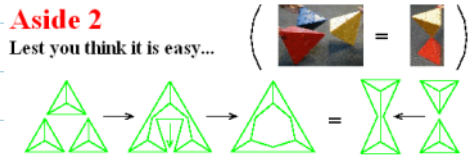


$u_e, u_{e'}$ →  = The shielded output.

3. Relations: 1. whatever makes this well-defined.
   2. The Reidemeister moves.
4. So finding a Z is just a matter of finding/guessing $Z(\Delta)$ & $Z(\boxtimes)$, solving a few relations....

Aside 2

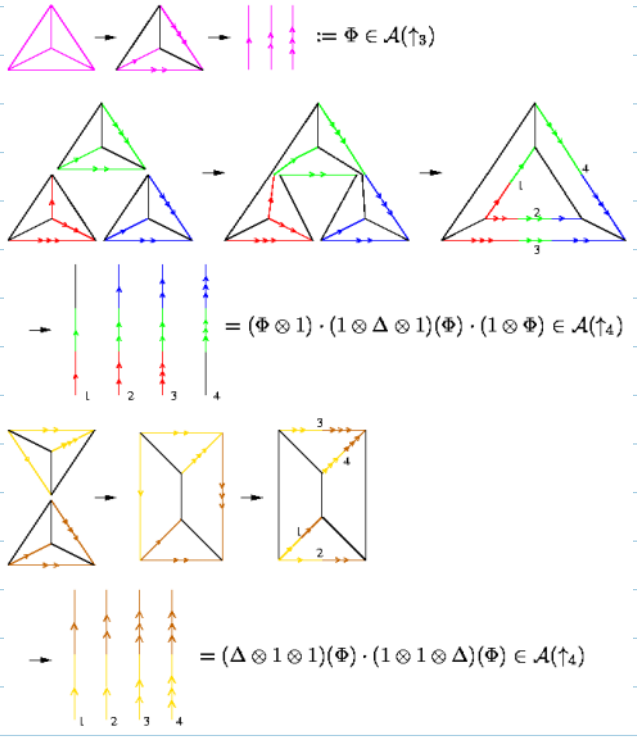
Lest you think it is easy...



(+more)

Claim. With $\Phi := Z(\Delta)$, the above relation becomes equivalent to the Drinfel'd's pentagon of the theory of quasi Hopf algebras.

Proof.



- Homework assignment 3.
- Announce Huerfano and ask about homology - "What is the level of your students? Do they know a lot about categories and functors?", "How much homology theory do they know?".
- Set date for the final exam.
- What's next? / 2/3-term comments.