13-Aarhus Day 2: KZ, PaT, Associators

May-26-13
9:29 AM

Optimistic Rough Tentative Plan. Micro-introduction: Knot theory as an excuse and it's all about Taylor. Then KZ, Kontsevich, parenthesized tangles, associators.

Pasted from <http://www.math.toronto.edu/~drorbn/Talks/Aarhus-1305/>

0. μ-introduction.

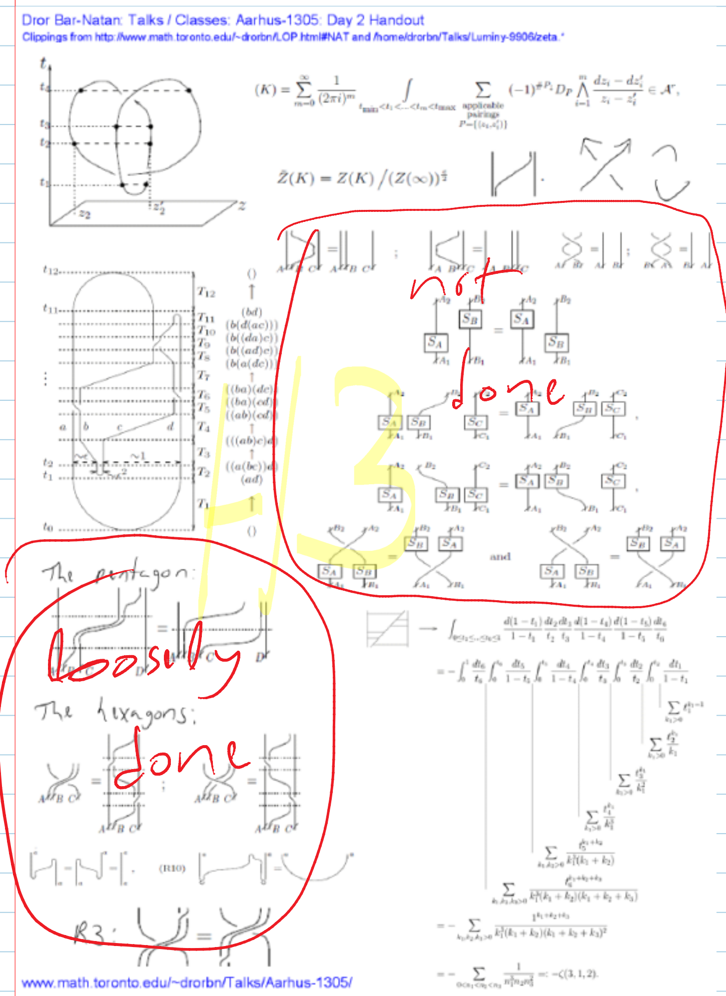
1. $\mathcal{A}$ inherits from $\mathcal{K}$: $\mathcal{A}(\bigcirc) \cong \mathcal{A}(\uparrow)$ and both are commutative algebras. [Much more to follow]

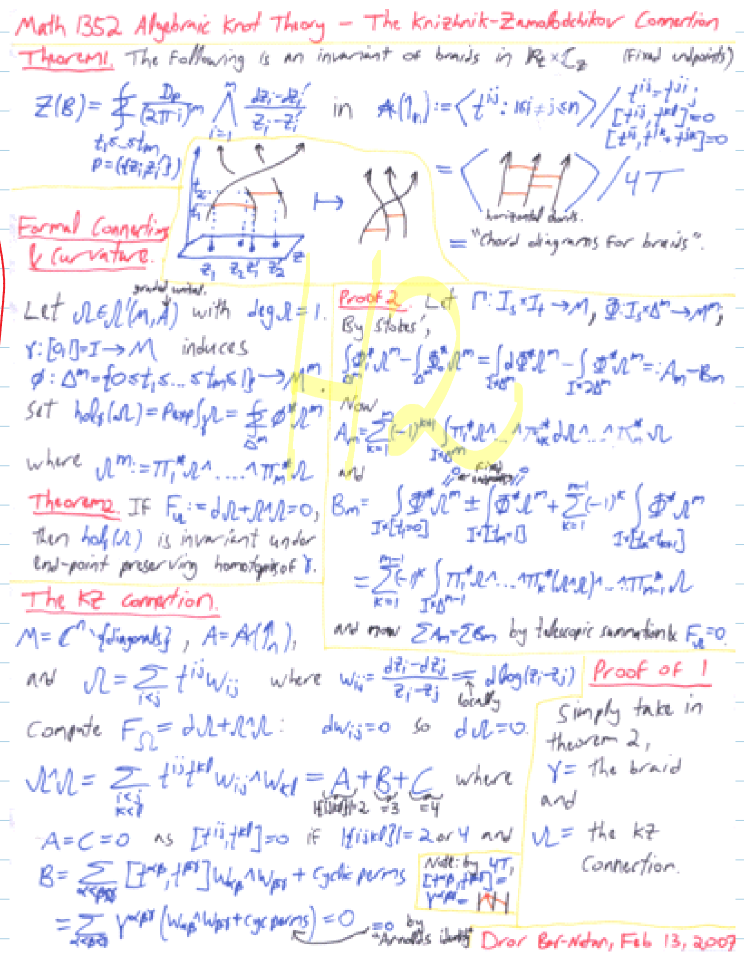
2. Thm [The Fundamental Thm] For every $W \in (\mathcal{A}^r_m)^*$ there is $V \in \mathcal{K}^*$ s.t. $W = W_V$

claim $\Longleftrightarrow$ $\exists\ Z: \mathcal{K} \to \hat{\mathcal{A}}$ "an expansion/UFTI"

$K \in \mathcal{K}_n \Rightarrow Z(K) = D_K +$ higher order terms.

From http://drorbn.net/index.php?title=07-1352/Class_Notes_for_February_13, though better at http://www.math.toronto.edu/~drorbn/Talks/Aarhus-1305/KZ.html





3. $F : \mathcal{A}' \to \mathcal{A}$ by

$$F(D) = \sum_k (-\theta)^k \frac{s^k D}{k!},$$

then $$Z(K) = e^{sl(K)\theta} \cdot F(Z(K^-))$$

4. A restart: From PaT to pent & hex ≠ the right way.

5. what do these things mean in the Lie world?

not done