There ought to be a "Conway" (single variable) quotient of $\mathbb{Z}w$!

Is there an "on surface" version of the $w$-theory.

It is curious that in $w$-theory, tail scattering is Alekseev–Torossian while head scattering is Burau. — Perhaps I should study head scattering a bit further.

There is material about the Burau/Gassner representation for pure tangles at

**The Gassner representation for string links**

Authors: P. Kirk, C. Livingston, Z. Wang


Challenge - use the interpretation of the Burau/Gassner representation as head scattering to develop an interpretation of the Alexander polynomial as an "element" rather than as an "order".