809*t*. R. H. Fox and J. W. Milnor: *Singularities of 2-spheres in 4-space and equivalence of knots.*

The boundary $\dot{\sigma}$ of a small 4-simplex σ around a point x of an oriented polyhedral surface F in oriented 4-space will intersect F in an oriented simple closed curve C. If C is knotted in the 3-sphere $\dot{\sigma}$ then x is a *singular point* and the knot type k of C is the *singularity* at x. Let k^{-1} denote the knot type obtained from k by reversing the orientation of C and taking its mirror image. Define k and l to be *equivalent* if there exists a polyhedral 2-sphere in 4-space having only two singular points, one of type k and one of type l^{-1}. Then the equivalence classes of knots form an abelian group G under the usual product operation. A collection $k_1, \cdots, k_n$ of knot types occurs as the collection of singularities of some 2-sphere iff the product $k_1 \cdots k_n$ is equivalent to the trivial knot. In order that k and l be equivalent it is necessary that the product of their Alexander polynomials have the form $a(t)a(1/t)$ for some integral polynomial $a(t)$. Consequently G is not finitely generated. G contains elements of order 2; it is conjectured that G also contains elements of order >2. (Received July 15, 1957.)