

Chapter 8. Symmetries of Knots

Note. Figure 8.1 gives two diagrams for the knot 7_6 . The one on the left does not appear very symmetric, but the one on the right appears to display a fair amount of symmetry. In fact, if the diagram on the right is rotated 180° about its center, then it will lie on itself. As you might find unsurprising at this stage, finding a symmetric diagram for a given knot (if one exists) can be a chore.

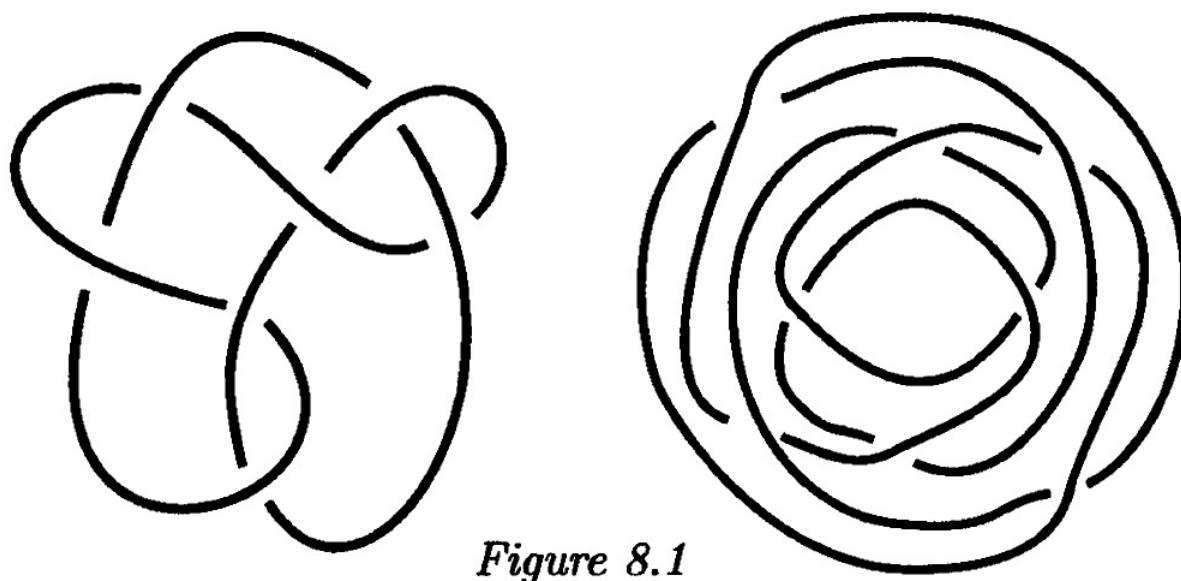


Figure 8.1

Note. Most of this chapter is devoted to the type of symmetry known as periodicity. This involves a rotational symmetry; the knot 7_6 is a periodic knot with period 2, as Figure 8.1 right illustrates. We also address the Murasugi Conditions and Edmond's Theorem. Both concern periodic knots; the Murasugi Condition addresses Alexander polynomials and Edmond's Theorem addresses Seifert surfaces.