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Alissa S. Crans* (acrans@lmu.edu), Department of Mathematics, Loyola Marymount University, One LMU Drive, Suite 2700, Los Angeles, CA 90045. *Unital Shelves*. Preliminary report.

A shelf is a generalization of a rack whose single axiom,

$$(a \triangleleft b) \triangleleft c = (a \triangleleft c) \triangleleft (b \triangleleft c)$$

algebraically encodes the Third Reidmeister move. A unital shelf has the additional structure of an element “1” that satisfies:

$$a \triangleleft 1 = a \quad \text{and} \quad 1 \triangleleft a = a$$

It turns out that the shelf operation for unital shelves is associative! We will explore properties of unital shelves and their homology in this preliminary work with Mukherjee and Przytycki. (Received August 11, 2015)