Andrew V Yarmola* (yarmola@bc.edu), Department of Mathematics, Maloney Hall, Fifth Floor, Boston College, Chestnut Hill, MA 02467, and Nicholas G Vlamis, 1859 East Hall, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109. Basmajian's identity in higher Teichmüller-Thurston theory.

We prove an extension of Basmajian's identity to Hitchin representations of compact bordered surfaces. For 3-Hitchin representations, we show that this identity has a geometric interpretation for convex real projective structures analogous to Basmajian's original result. As part of our proof, we demonstrate that the limit set of an incompressible subsurface of a closed surface has measure zero in the Lebesgue measure on the Frenet curve associated to an n-Hitchin representation. This generalizes a classical result in hyperbolic geometry. Finally, we recall the Labourie-McShane extension of the McShane-Mirzakhani identity to Hitchin representations and note a close connection to Basmajian's identity in both the hyperbolic and the Hitchin setting. (Received September 22, 2015)