1049-57-62 **Kenneth C Millett*** (millett@math.ucsb.edu), Department of Mathematics, University of California, Santa Barbara, Santa Barbara, CA 93106. *Knots, Ephmeral Knots and Slipknots in Random Walks and Equilateral Polygons.*

Diao, Pippenger, Sumners, and Whittington proved the Delbruck-Frisch-Wasserman conjecture that the probability that a self-avoiding random walk or equilateral polygon contains a knot goes to one as the number of edges goes to infinity. An ephemeral knot is defined to be a knotted segment of a walk or polygon that is contained in a larger unknotted segment, called the associated slipknot. Millett, Dobay, and Stasiak showed that the statistics of random closures, to the sphere at infinity, of a polygonal segment provide an effective definition of knotting of the segment. We prove that the probability that a self-avoiding random walk or equilateral polygon, in 3-space or the simple cubic lattice, contains a slipknot goes to one as the number of edges goes to infinity and confirm it with a Markov Chain Monte Carlo of random walks in three space. (Received February 17, 2009)