1023-05-1173 **Irina Gheorghiciuc*** (`gheorghi@math.udel.edu`), 534 Ewing Hall, Department of Mathematical Sciences, University of Delaware, Newark, DE 19716. *Generalized correlation matrices and their relation to the de Bruijn Graph.*

Let A be a q-letter alphabet. In this article we generalize and expand the results of Guibas and Odlyzko (Journal of Combinatorial Theory A30 (1981) pp. 183-208). A generalized correlation matrix associated to the de Bruijn Graph is used it to derive a generating function for the number of words of length m over A, that avoid a set of forbidden patterns and have a prescribed list of subwords of length $n \leq m$. We also prove a formula for the generating function that enumerates words of length n whose kth subword complexity is m. (Received September 25, 2006)