Problem B2 of the 44th Putnam Exam in 1983 can be restated in terms of integer partitions as follows: find an expression to count the number of binary partitions of $n$ wherein each part is used at most 3 times. It is natural to extend this question to partitions into powers of $m$, or $m$-ary partitions. We will show how generating functions motivate a generalization of the Putnam problem to enumerating a two-parameter family of $m$-ary integer partitions, $b^{*}_{m,j}(n)$. We then use the generating functions and a bijection to give an identity between $b^{*}_{m,j}(n)$ and another family of $m$-ary partitions. (Received September 20, 2018)