1096-11-2552 **Enrique Treviño***, 555 N. Sheridan, Lake Forest College, Department of Mathematics, Lake Forest, IL 60045, and **Paul P Pollack**. *The primes that Euclid forgot.*

Let $q_0 = 1$. Supposing that we have defined q_j for all $0 \leq j \leq k$, let q_{k+1} be a prime factor of $1 + \prod_{j=1}^{k} q_j$. As was shown by Euclid over two thousand years ago, $q_1, q_2, q_3, \ldots$ is then an infinite sequence of distinct primes. The sequence $\{q_i\}$ is not unique, since there is flexibility in the choice of the prime q_{k+1} dividing $1 + \prod_{j=1}^{k} q_j$. Mullin suggested studying the two sequences formed by (1) always taking q_{k+1} as small as possible, and (2) always taking q_{k+1} as large as possible. For each of these sequences, he asked whether every prime eventually appears. Recently, Booker showed that the second sequence omits infinitely many primes. We give a completely elementary proof of Booker's result. (Received September 17, 2013)