1020-60-35 **Richard C. Bradley*** (`bradleyr@indiana.edu`), Department of Mathematics, Indiana University, Bloomington, IN 47405. *A strictly stationary, 5-tuplewise independent counterexample to the central limit theorem.*

A strictly stationary random sequence $(X_k, k \in \mathbf{Z})$ is constructed with the following properties: The random variables X_k each take just the values -1 and $+1$, with probability $1/2$ each; every five of the random variables X_k are independent; and for every infinite set Q of positive integers, there exist an infinite set $T \subset Q$ and a nondegenerate, nonnormal probability measure μ on the real line (μ may depend on Q) such that $S_n/\sqrt{n}$ converges in distribution to μ as $n \to \infty$, $n \in T$. (Here $S_n := X_1 + \ldots + X_n$.) This example complements the strictly stationary, pairwise independent counterexamples (to the central limit theorem) constructed by Janson [Stochastics 23 (1988) 439-448]; the strictly stationary, three-state, absolutely regular, triplewise independent counterexample developed in two papers by the author [Probab. Th. Rel. Fields 81 (1989) 1-10, Rocky Mountain J. Math. (in press)]; and also the N-tuplewise independent, identically distributed (but not strictly stationary) counterexamples constructed by Pruss [Probab. Th. Rel. Fields 111 (1998) 323-332] for arbitrary positive integers N. (Received July 27, 2006)