1038-60-39 **Richard C. Bradley*** (`bradleyr@indiana.edu`), Department of Mathematics, Indiana University, Bloomington, IN 47405. *A strictly stationary, "causal," 5-tuplewise independent counterexample to the central limit theorem.* Preliminary report.

This is a strengthened version of a result that was announced earlier by the author [Abstracts of AMS 27 (2006) 608, Abstract 1020-60-35]. There exists a strictly stationary sequence $X := (X_k, k \in \mathbf{Z})$ of random variables with the following properties: (i) The random variables X_k take just the values -1 and 1, with $P(X_0 = -1) = P(X_0 = 1) = 1/2$. (ii) For every five distinct integers $k(1)$, $k(2)$, $k(3)$, $k(4)$, and $k(5)$, the five random variables $X_{k(1)}$, $X_{k(2)}$, $X_{k(3)}$, $X_{k(4)}$, and $X_{k(5)}$ are independent. (iii) The sequence X is "causal" (and hence Bernoulli); that is, $X_k = f(Z_k, Z_{k-1}, Z_{k-2}, \ldots)$ *a.s.*, where the random variables Z_k, $k \in \mathbf{Z}$ are i.i.d. and real-valued and the function f is Borel. (iv) The double tail σ-field of X is trivial (its events have probability 0 or 1). (v) For every infinite set $Q \subset \mathbf{N}$, there exist an infinite set $T \subset Q$ and a nondegenerate, non-normal probability measure μ on $\mathbf{R}$ such that $S_n/\sqrt{n}$ converges in distribution to μ as $n \to \infty$, $n \in T$. (Here $S_n := X_1 + X_2 + \ldots + X_n$.) (Received January 13, 2008)