645-49. ANDERS KOCK, The University of Chicago, Chicago, Illinois 60637. On the codensity monad of a functor.

If $y : \underline{A} \to \underline{B}$ is a functor with $\underline{A}$ a small category and $\underline{B}$ a left complete one (having inverse limits), one can define an endofunctor T on $\underline{B}$ by sending an object B to the inverse limit of the obvious composite functor $(B, y) \to \underline{A} \to \underline{B}$. The indexcategory (B, y) is the commacategory as defined by Lawvere, Proceedings of the Conference on Categorical Algebra, La Jolla, 1965, pp. 1-20. Then there is a very natural way of equipping T with the structure og a monad on $\underline{B}$. ("Monad" means "triple" in the sense of Eilenberg and Moore, Illinois J. Math. 9 (1965), 381-398; in this paper a certain factorization for a monad is given, denoted $\underline{B} \to \underline{B}^T \to \underline{B}$.) Theorem. If y is a full and faithful inclusion, then the composite functor $\underline{A} \to \underline{B} \to \underline{B}^T$ preserves direct limits. (Received February 20, 1967.)

(From Notices of the AMS, Volume 14, Number 3, Issue No. 97, April 1967. The April Meeting in Chicago, April 14-15, 1967)