viewed at best as equivocal for their detection method of normorphine and codeine.

In summary, we believe that the references cited do not support the contention that codeine impurities in the morphine used in our study gave rise to the norcodeine detected in urine reported in our study. It is possible that formation of norcodeine as a metabolite of morphine is enhanced in certain pathologic conditions. The metabolic fate of approximately 20% or $\frac{1}{5}$ of any morphine dose administered to man, however, still remains unknown.

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An improvement in the use of the L-transformation

In a recent paper (Mackay & Wheeler, 1974) a method was presented for deriving useful information from comparison of pairs of sets of dose-response data. The method suggested involved the use of a transformation, the L-transformation, to describe each set of data in terms of three adjustable constants, and each pair of sets of data in terms of five adjustable constants. By combining this transformation with equations derived from the occupation theory of drug action it was shown that affinity constants of agonists or antagonists, and other theoretical quantities, could be estimated from these adjustable constants. The standard errors of the various derived quantities could also be obtained from the variances and covariances of the adjustable constants. Potency ratios of agonists, with fiducial limits, could also be calculated. These calculations were facilitated by the use of several computer programs.

Since Fieller's theorem can be applied to the ratio of any two quantities that are linear functions of a set of observations with normally distributed errors (Fieller, 1944; Finney, 1964) this theorem has now been used to derive fiducial limits for all of the quantities that are of practical or theoretical interest (Mackay & Wheeler, 1974, Tables 1 and 2). The program FINCALC has therefore been modified to provide estimates of such fiducial limits as well as the information previously provided.

Since there have been many requests for reprints of the original paper it will be necessary to limit the supply of copies of the various computer programs to those who *specifically* request them.

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