Cressie (1993) – Statistics for Spatial Data P114:

Faced with a finite amount of data, regularly or irregularly located in time or space, these decomposition theorems are of no real help. The large-scale (deterministic) variation usually cannot be extracted unambiguously from the process. In other words, one person’s deterministic mean structure may be another person’s correlated error structure. When the goal of the analysis is spatial prediction (rather than estimation of mean parameters), this ambiguity does not affect predictions as much as it affects standard errors of predictions.