In this talk, we present a joint work with Ulrich Kohlenbach. Applying the Elimination of monotone Skolem functions (see [1]), we show that instances of Ramsey’s theorem for pairs and a fixed number of colors \( n \) \((\text{RT}_2^c(n))\) at most cause provably primitive recursive function(al)s relative to certain weak fragments of analysis, e.g. WKL_0^2.

We also comment on ongoing work in a more general setting.
