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Let TB^- be a theory extending Elementary Arithmetic (EA) with local truth biconditionals for sentences in the language of arithmetic. In other words:

$$TB^- = EA \cup \{T(\varphi) \equiv \varphi : \varphi \in L_{Ar}\}.$$

For a given axiomatizable theory Th, the uniform reflection principle RFN for Th is the following schema:

$$\forall x[Pr_{Th}(\varphi(x)) \to \varphi(x)],$$

where $Pr_{Th}(\varphi(x))$ reads "$\varphi(x)$ is provable in Th".

Let RFN(Th) be the result of adding RFN for Th to Th. It is known that $RFN(EA)$ is equivalent to Peano arithmetic PA and that two iterations of uniform reflection over TB^- yield a theory which is arithmetically stronger than PA (see [1]). However, the exact strength of $RFN(TB^-)$ has remained an open problem: it has not been known whether a theory obtained after applying uniform reflection to TB^- only once is equivalent to PA.

In this presentation we will answer this question in the affirmative. To this end, we introduce the theory UTB^+, consisting of uniform Tarski biconditionals together with basic compositional principles for truth and the assumption that all logical theorems are true. We also consider a reflection principle formulated in terms of provability from true assumptions (the principle is formulated schematically; roughly, it states that if φ is provable from true assumptions, then φ).

We establish three main results. First, UTB^+ together with this truth-based reflection principle is equivalent to $RFN(TB^-)$. Second, UTB^+ is conservative over PA for arithmetical sentences. Third, UTB^+ proves the reflection reflection principle. These results together imply that $RFN(TB^-)$ is arithmetically equivalent to PA, thus settling the open problem concerning the strength of uniform reflection over disquotational truth.

[1] Halbach, Volker, *Reducing compositional to disquotational truth*, ***Review of Symbolic Logic***, vol. 2 (2009), no. 4, pp. 786–798.