Gödel vs Wittgenstein

Mathematical Proof, Truth, and Language-games

There are some infamous written remarks by Wittgenstein about Gödel's Incompleteness Theorems. These remarks have even failed to convince many Wittgensteinians, an otherwise excessively loyal fan base. Adapting some thoughts from a previously published commentary, which I co-authored with Wolfgang Kienzler, I will try to show that Wittgenstein's remarks in fact constitute a perfectly sensible critique. Gödel's own critical comment about Wittgenstein's remarks are surprisingly accurate:

As far as my theorem about undecidable propositions is concerned it is indeed clear ... that Wittgenstein did not understand it (or pretended not to understand it). He interprets it as a kind of logical paradox, while in fact it is just the opposite, namely a mathematical theorem within an absolutely uncontroversial part of mathematics, namely finitary number theory or combinatorics. (Gödel, 2003 [1972], 133)

Gödel more or less rightly suspected that Wittgenstein pretended not to understand his theorem and that he was making a certain distinction between logic and mathematics, which Gödel would have thought to be baseless. A closely related distinction Wittgenstein makes is the one between proof and prose, on which Juliet Floyd bases her interpretation:

As I see it, Wittgenstein is attempting to pare the dispensable heuristics surrounding Gödel's proof – including Gödel's introduction to his proof – away from Gödel's genuinely mathematical reasoning. In so doing, he is puncturing a certain conception of Gödel's theorem, certain philosophical prose which surrounds the proof, but not Gödel's proof itself. (2001, 303; see also Floyd 2012 and Floyd & Putnam 2000)

I argue that on Wittgenstein's later conception of language and logic, the distinction between proof and prose becomes more problematic than Floyd seems to appreciate and that Wittgenstein's critique of Gödel's work may thus be seen to be more fundamental and wide-ranging than previously assumed.