

## An Axiomatic Approach to Hyper-Intelligence

As Martin Davis has averred, one cannot exclude the possibility of our being presented, some day (perhaps by some extraterrestrial visitors), with a (perhaps extremely complex) device or oracle that computes an uncomputable function. Indeed, some have argued (notably John Lucas and Roger Penrose) that the human mind is endowed with super-Turing abilities.

Based on Yuri Gurevich's Abstract State Machine Postulates, we analyze what properties of classical algorithms must be violated for such possibilities to materialize.

(Based on joint work with Yuri Gurevich and Udi Boker.)