

I haven't completed *Dune: The Butlerian Jihad*, but the computer, which rules the Synchronized Worlds, seems to have much in common with the computers Kirk defeats using his powers of reason. The ruling computer known as Omnium a.k.a. the overmind is described as a thinking machine but it also has the characteristics of a very efficient calculating machine.

In "The Return of the Archons" the computer Landru is self-described as a creative entity. It denies creativity to the people over which it rules, but the computer itself has creativity because it has created a unique sociological experiment with such novelties as "the festival" a.k.a. "the red hour." Yet, Kirk defeats Landru by treating him like a calculating machine. He points out to Landru that Landru has made a grave mistake and that further the punishment for grave mistakes is termination. In the episode Landru makes a small mistake and corrects it without incident. It would seem a creative computer would realize that a grave mistake could be merely the accumulation of many small mistakes. It could thus find a loophole allowing it to continue its existence by noting that the difference between a small mistake and a grave mistake has not been precisely defined.

In "The Changeling" the computer Nomad is considered "the finest thinking machine of its era" although "its era" is in the past of the storyline. Nomad seems to be on a quest to eliminate all biological units and other entities that are

imperfect. Kirk causes it to self-destruct by pointing out three small errors it has made. Yet, Nomad admitted early on in the episode that once it performed a memory wipe/transfer it couldn't restore the memory of the biological unit. Nomad admits it has limitations and these limitations could be considered imperfections, yet these events don't cause Nomad to destroy itself. Nomad's conception of perfection seems fairly complex, yet Kirk defeats it by treating it like a calculating machine.

The overmind has no use for human creativity and no use for human nature in general, which it determines is too unpredictable. If a method for strictly controlling humans can't be discovered, it is prepared to exterminate them all. The overmind values logic and regularity above all, yet it seems to have been programmed with ambition and it seems to have displayed ambition in taking over the empire from the cymeks.

The thinking machines on *Star Trek* are essentially calculating machines. And, in that sense they are Gödelian as the term is used by Roger Penrose in *Shadows of the Mind* and Ernest Nagel and James Newman in *Gödel's Proof*. In Penrose's book there is a 10 page section entitled "Appendix A: An explicit Gödelizing Turing machine." These are 10 pages of mathematical gibberish on an unprecedented scale. Among other examples of incoherence, he introduces an expanded base 5 that doesn't use the digits 0, 1, 2, 3, and 4, instead he uses the

digits: 0, 10, 110, 1110, and 11110. The number *five* is 100. The number *nine* is 1011110 and the number *ten* is 1100. You can literally conclude the rules of place value are observed only in the breach.

*Gödel's Proof* by comparison is understandable. It was written in 1958 and it provides clear summary of Gödel's proof. Unfortunately, if you study the proof deeply you will see it is invalid. The definitions of the fundamental terms are not precise enough. But even with this imprecision, the two most important formulas need to be wrenched into untenable forms in order to support the proof. Gödel's proof was published in 1931 and from the vantage point of 76 years removed it doesn't seem feasible that one would gain any insight by translating mathematical formulas into such an incredibly unwieldy system. It seems to stem from an era of hyper-intellectualism, where it was considered a mark of distinction to claim that there was much to be gained by reading *The Iliad* and *The Odyssey* in the original ancient Greek. The present day Islamic jihadists share a similar view; they demand that the *Koran* be read only in the original Arabic and they are certainly renown for their standards of civility.