

## An Infinite Sequence of Trite but True Sentences

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*“...but trite is not the opposite of true, Hanna, also the sentence two times two is four is trite, and nevertheless...”*, — from ‘My Michael’ by Amos Oz, p. 179.

*“Although it was well understood that linguistic processes are in some sense “creative”, the technical devices for expressing a system of recursive processes were simply not available until much more recently. In fact, a real understanding of how a language can (in Humboldt’s words) “make infinite use of finite means” has developed only within the last thirty years, in the course of studies in the foundation of mathematics”* — Noam Chomsky, ‘Aspects of the Theory of Syntax’, 1965, p. 8.

The worst cliché is ‘that’s a cliché’. Hence

**Prop. 1.** S is trite implies that ‘S is trite’ is trite.  $\square$  We also have

**Prop. 2.** S is true implies that ‘S is true’ is true.  $\square$  Hence

**Corollary.** S is trite but true implies that ‘S is trite but true’ is trite but true.

Define  $S_0 :=$  two times two is four, and for  $i > 0$ ,  $S_i :=$  ‘ $S_{i-1}$  is trite but true’ . Then  $\{S_i\}$  is the desired infinite sequence. Of course the present construction is trite, but it is, *bekhol zot* (nevertheless) true!

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<http://www.math.temple.edu/~zeilberg> . Jan. 30, 1998. Exclusive to the Personal Journal of Shalosh B. Ekhad and Doron Zeilberger. <http://www.math.temple.edu/~zeilberg/pj.html> .