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John Richard Donnelly* (jrdonnelly@usi.edu), University of Southern Indiana, Department of Mathematics, 8600 University Blvd, Evansville, IN 47712. *An Amenable Ascending Union of Nonamenable Semigroups.*

Richard Thompson's group F is the group given by the presentation

$$\langle x_0, x_1, x_2, \dots \mid x_n x_m = x_m x_{n+1}, \forall n > m \rangle.$$

The semigroup defined by this presentation is denoted by P and is called the *positive semigroup* of F . It is a long standing open question as to whether or not the group F is amenable. It has been shown that the group F is amenable if and only if the semigroup P is left amenable, and moreover, that the semigroup P is the ascending union of semigroups, none of which are left amenable. It is well known that if a semigroup S is the ascending union of left amenable semigroups, then S is left amenable. One can ask the question: If a semigroup S is the ascending union of semigroups, none of which are left amenable, then is it necessary for S not to be left amenable? An affirmative answer to this question would provide an answer to the question of whether or not F is amenable. The speaker gives an example of a left amenable semigroup which is the ascending union of semigroups, none of which are left amenable. (Received December 10, 2007)