The May 1996 Word Ways described the results of a National Public Radio competition of December 1995 in which listeners were challenged to write grammatical and understandable sentences containing the same word four or more times in succession. Some of the most interesting entries were based on repeated thats; this article summarizes them. Four thats is relatively easy, as achieved by the following strategy:

That 'that' that that boy used was innocent (David Barcan)
That 'that that man gave you is broken (Marshall Brown)
That 'that' that that man wrote should have been in italics (Jay Shapiro)
That 'that' that that teacher referred to should have been 'which' (Michael O'Connor)

Alternatively, one can begin the series of thats with a dependent clause and eliminate pointing at the person who generated the sentence or utterance:

Ralph told us that that 'that' that he disapproved of was a demonstrative pronoun without a clear referent (Andy Fox)
She said that that 'that' that the boy used was right (Clark Turberville)
My English teacher told me that that 'that' that I used in my sentence should have been a 'which' (Cynthia Sinha)

Of course, these two ideas can be readily combined to generate five consecutive thats:

It concerns me not that that 'that' that that new copy editor inserted in the text offended the sensibilities of grammarians such as you (Robert Koch)
I contend that that 'that' that that person used was used incorrectly (Aleck Moeller)
An English teacher, considering a student's use of 'that' in his composition, said "We must admit that that 'that' that that boy used is correct" (Steve Stevenson)
It is not true that that 'that' that that sentence used disqualified it; it was another contest rule entirely (Chris Hanson)
After a student pronounced the word 'that' as 'thit', John whispered something to Jane across the aisle. In reply to a query by the teacher, Jane confessed "John said to me that that 'that' that that boy said was pronounced incorrectly" (Harold Balbach)
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This phraseology has even been located in a text; page 3 of J.W. Wenham's The Elements of New Testament Greek states "He said that that 'that' that that man used was incorrect". Deliberate wordplay?

Two listeners used conventional phrases ending in 'that':

Fancy that, that that 'that' that I used allowed me to win the compe-
tition (Daily McHugher)
Is it that, that that 'that' that is used here is a meaningless 'that'? (Ira A. Wilner)

Others referred to two different thats in the text:

If someone informed me that an unknown woman across the room had asked about a 'that' in something I had written, I'd ask "Is this 'that' that 'that' that that woman was talking about?" (Whitney Cox)
THAT
That THAT, that that is next to, is next to that THAT that THAT is next to (Don DeWitt)
Student, told to use two thats in a sentence, writes "That is enough of that" but worries about its correctness: 'Teacher, does it matter that that 'that' (that is, the one starting the sentence) is capital-
ized?" (Kathy Jones)

Various authors referred to two different textual thats to move up to the six-that level:

Said the editor "I think that that 'that' that that 'that' refers to is not that 'that' that that author had in mind" (Brockway McMillan)
Four identical words in a row? Well, I say that that 'that' that that 'that' refers to, could be six (John Godfrey)
The master observed that that 'that' that that 'that' modifies is a masterful usage (Ron Seaman)
Viewing a sign with one of two thats askew, a sister turns to her brother and says "Did you know that that 'that' that that 'that' is next to, is crooked?" (Don Goldes)

Three contestants modified this strategy to obtain even longer that-
strings:

Michelle said that that 'that' that that 'that' started with was redundant (Steven Reisman)
The teacher said (in speaking of the student's analysis of 'that' that 'that') that that 'that' that that boy parsed was not the 'that' that that the teacher wanted (Alan J. Posnack)
He said that that 'that' that that 'that' replaced was insufficient by itself (Hardy Freeman)

Sequences of thats can be lengthened by the use of corporations or magazines named That:
Is it that, that 'that' that that That That Corporation used in its name might be improved upon? (Ira A. Wilner)

A writer for That Magazine, chastized for using 'which' instead of 'that', explodes "That's that! That that 'that' that that That editor found should be my downfall, is too much to be borne!" (Richard O'Connor)

Day after day, I have bitten my tongue as National Public Radio announcers brutalized sentence after sentence because of missing thats. There must be some idiot on the payroll (we'll call him the That Editor) whose sole duty is to kill thats in every script. I must say one thing about the word 'that': that that 'that' that that That Editor keeps killing at NPR is a useful and necessary word and should be excised cautiously (Dwayne Walls)

A cheap way to generate thats is to introduce hesitancy into a remark as in:

That that 'that' -- that that 'that' that that student used -- is misplaced, there can be no doubt (Steve Grant)

When linguists examine the that problem, they are likely to set up recursive structures, sentences that refer to previous sentences with multiple thats.

The language maven maintained that that 'that that' that that poet used was grammatically correct. I submit that that "that that 'that that' that that" that that last sentence contains borders on the incomprehensible (David Sector)

The string of ten thats could be further enlarged by writing a sentence about the even greater incomprehensibility of the above sentence!