You and your wife are spending a quiet afternoon at the zoo. In the monkey house, your attention is drawn to a small furry animal resembling a raccoon more than a monkey. You read the sign attached to its cage:

MADAGASCAR LEMUR (Daubentonia Madagascariensis)

Arboreal and nocturnal in habits, it lives in the bamboo jungles of Madagascar, feeding on vegetables and the larvae of certain borers. Its feet...

Your wife interrupts your studies at this point, plucking at your sleeve and exasperatedly asking if you plan to spend the whole afternoon staring at one mangy monkey. Somewhat pompously, you turn and intone:

AY, I EYE AYE-AYE AYE.

What is the point of this anecdote? This last sentence contains one homophone repeated six times, probably the longest such sentence in the English language that makes reasonable sense. Freely translated, it says, "Yes, I plan to look at this lemur awhile longer".

A far more suitable medium for composing homophonic sentences is Wenyan, the literary language of China. It lacks such troublesome details as inflections, plurals, and articles -- which balk such efforts in English. Further, it is monosyllabic and contains a relatively small number of different sounds. This leads to a multiplicity of homophones. For example, a large Chinese dictionary contains about 100 different characters pronounced with the sound "(h) shee", written in the standard Wade Romanization system as HSI. It is consequently possible to write perfectly idiomatic sentences comprehensible to any Chinese reading them, but amusingly incomprehensible when read aloud by a Mandarin speaker.

More precisely, such sentences consist solely of repetitions of the same syllable in different tones. Tones, which refer to the way in which the voice is raised or lowered in pronouncing the syllable in question, are denoted in the Wade Romanization system by superscript numbers (one through four). Pronouncing "(h) shee" in different tones results in sound-differences as distinctive as bad, bed, bid and bud.
With this introduction to literary Chinese, the reader can better understand the accomplishment of the noted Chinese linguist Yuen-Ren Chao, reproduced below in Chinese characters, Wade Romanization, and English translation. This poem can be found in Y. R. Chao's book *Logic and Symbolic Systems* (Cambridge, 1968).

Hsi Hsi Plays With The Rhinoceros

West Creek rhinoceros enjoys romping and playing.

Hsi Hsi meticulously practices washing the rhinoceros.

Hsi Hsi, laughing, hopes to stop playing.

Readers who wish to read longer homonymic stories by Professor Chao are referred to the 1960 Encyclopedia Britannica and the 1964 Collier's Encyclopedia, under the articles on Chinese. These stories, written using the syllables SHIH and I, respectively, discuss the discomfiture of a poet named Shih when he discovers that the...
ten lions he has carried back to his grotto have lithified, and the joy of Auntie I when the doctor cures her sickness with the pancreases of one hundred million ants. (In later editions of the Britannica, another Chao story is featured; written using the syllable CHI, it describes machine-riding chickens searching for perch.)

Because of the existence of the four different tones, purists will object that the Hsi Hsi story is not an exact analogue of the aye-aye sentence cited earlier. However, it is an easy matter to extract a pure homonymic sentence from it: "Hsi Hsi, laughing, hopes to take West Creek rhinoceros to romp and suck the creek" -- a string with twelve consecutive Hsi\(^1\) in it.

**QUERY**

Let the score of a letter be its alphabetic position (A = 1, B = 2, ...). In the May 1971 issue, Darryl Francis exhibited a number of words in which the length of the word was equal to the score of the terminal letter (a, ob, sac, lead, score, ...). Let us call a letter invariant if its score is equal to its position in a word: for example, the capitalized letters in AlikE, conDuct and biCkEr are invariant. Two questions can now be formulated: (1) can any letter of the alphabet be invariant? (2) how many invariant letters can appear in a single word? Using Webster's Second or Third as sources, tentative answers are (1) beyond T, the only letter that can be invariant is Y, in immunoelectrophoretically and electrocorticographically, and (2) ABiDE, ABoDE and ABiDinG are the only words with four or more invariant letters.