

GIVEN A MONKEY . . .

THE ORIGIN OF THE SPECIES -- Twenty-one letters and four spaces  
Twenty-five strokes; 25 seconds.

A typewriter -- 44 keys (26 letters, 9 digits, a space bar, symbols, punctuation)

T -- One chance in 44

THE -- One chance in 85,184 (44 times 44 times 44)

THE ORIGIN --  $44^{10}$  or about 27,720 million million  
Success half way through or after about 13,860 million million attempts.

2000 sheets of paper to a foot  
2,000,000 sheets to 1000 feet  
10,000,000 sheets to a mile  
13,860 million million sheets would be 1,386 million miles high.

1000 sheets weigh 8 pounds  
1,000,000 sheets weigh 4 tons  
13,860 million million sheets would weigh 55,440 million tons  
(In 1966 the U.S. produced 1,600,000 tons of writing and other fine papers. World paper production (all types) in 1960 was 95,000,000 short tons).

Five seconds per sheet, 12 sheets per minute,  
720 per hour, 5760 sheets in an 8-hour day.

13,860 million million sheets in about 2,350,000 <sup>million</sup> days  
With 235 working days in a year, that would be 10,000 million years.

THE ORIGIN OF THE SPECIES --  $44^{25}$  or  $10^{41.08625}$  or roughly 1 followed by 41 zeroes.

Log 44                    1.6435  
times                    25  
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41.08625

Log 1.2197 equals 08625.

Thus  $44^{25}$  equals  $10^{41.08625}$  or  $1.2197 \times 10^{41}$

$10^{41}$  = 100,000 m m m m m m

$10^{41.08625}$  = 121,970 m m m m m m

Conclusion: The odds that 44 typewriter keys hit at random might correctly type out the title--THE ORIGIN OF THE SPECIES--on the first try is one in 121,970 million, million, million, million, million tries.

After that number of attempts at blindly hitting 44 keys, chances are that the title would have been typed correctly only once.

Chances are 1 in 2 that it could be done in half the number of tries (because success could occur on any attempt and would thus on the average occur at the halfway mark).