Let GalileiTrabbol = Φ.

Now just try to imagine the size of:

(ΦEx$)Ex$. . . Ex$

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 1 = 1 NZSά

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 2

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 3

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 β = 2 NZSά

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 2 β

^ ^ ^

1 2 (ΦEx$)Ex$ . . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ β

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 ⌂ = 3 NZSά

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 2 ⌂

^ ^ ^

1 2 (ΦEx$)Ex$ . . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 ● =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ NZSά

^ ^ ^

1 2 (ΦEx$)Ex$. . .Ex$ = 1 (A1) = 1 NZSά (A1)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1)

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 ● (A1) =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ NZSά (A1)

^ ^ ^

1 2 (ΦEx$)Ex$. . .Ex$ = 1 (A2) = 1 NZSά (A2)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1)(A2)

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 ● (A1)(A2) =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ NZSά (A1)(A2)

^ ^ ^

1 2 (ΦEx$)Ex$. . .Ex$ = 1 (A3) = 1 NZSά (A3)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1)(A2)(A3)(A4). . .

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(A(ΦEx$)Ex$. . . Ex$)

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 1 (B1) = 1 NZSά (B1)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1)(A2)(A3)(A4). . .

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(A(ΦEx$)Ex$. . . Ex$)(B1)

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 1 (B2) = 1 NZSά (B2)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1)(A2)(A3)(A4). . .(A(ΦEx$)Ex$. . . Ex$)(B1)(B2). .

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(B(ΦEx$)Ex$. . . Ex$)

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 1 (C1) = 1 NZSά (C1)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . .(Z(ΦEx$)Ex$. . Ex$)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . Ex$ = 1 (AA1)

^ ^ ^ = 1 NZSά(AA1)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . (Z(ΦEx$)Ex$. . Ex$)(AA1)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . Ex$ = 1 (AA2)

^ ^ ^ = 1 NZSά (AA2)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . .(Z(ΦEx$)Ex$. . . Ex$)(AA1)(AA2). . .

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(AA(ΦEx$)Ex$. . . Ex$)

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 1 (AB1) = 1 NZSά (AB1)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going past 1 (AC1), 1 (AD1), etc. and eventually you’ll reach:

(ΦEx$)Ex$. . Ex$ = (ΦEx$)Ex$. . Ex$ η (A1). . .(AZ(ΦEx$)Ex$. . Ex$)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . Ex$ = 1 (BA1)

^ ^ ^ = 1 NZSά(BA1)

1 2 (ΦEx$)Ex$. . .

Keep on going past 1 (BB1), 1 (BC1), . . . 1 (BZ1), 1 (CA1), . . . 1 (ZZ1), 1 (AAA1), 1 (AAB1), . . . 1 (ZZZ1), 1 (AAAA1), 1 (AAAB1), etc. and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A1 #1)

^ ^ ^ = 1 NZSά (A1 #1)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$)(A1 #1)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A2 #1)

^ ^ ^ = 1 NZSά (A2 #1)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$)(A1 #1)(A2 #1)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A3 #1)

^ ^ ^ = 1 NZSά (A3 #1)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$)(A1 #1)(A2 #1). . .(ZZ. . . Z(ΦEx$)Ex$ #1)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . .Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$. . .

1 (A1 #2) = 1 NZSά (A1 #2)

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . .Z(ΦEx$)Ex$)(A1 #1)(A2 #1). . .(ZZ. . .Z(ΦEx$)Ex$ #1)(A1 #2)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . .Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$. . .

1 (A2 #2) = 1 NZSά (A2 #2)

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ = (ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$ #2)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A1 #3)

^ ^ ^ = 1 NZSά (A1 #3)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ )

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A1 \*)

^ ^ ^ = 1 NZSά (A1 \*)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . Ex$ η (A1). . (ZZ. . .Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . Ex$ )(A1 \*)

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. .Ex$ =1 (A2\*)

^ ^ ^ = 1 NZSά(A2\*)

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ )(A1 \*) . . .

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ \*)

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A1 Ψ) = 1 NZSά (A1 Ψ)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ =

^ ^ ^

1 2 (ΦEx$)Ex$

(ΦEx$)Ex$. . . Ex$ η (A1). . .(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ )(A1 \*) . . .

^ ^ ^ ^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ \*)(A1 Ψ). . .

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$

(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ Ψ)

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A1 Ω) = 1 NZSά (A1 Ω)

^ ^ ^

1 2 (ΦEx$)Ex$. . .

now say that:

1 TANGELLAά = 1 (A1 \*)

2 TANGELLAά = 1 (A1 Ψ)

3 TANGELLAά = 1 (A1 Ω)

Keep on going and eventually you’ll reach:

(ΦEx$)Ex$. . . Ex$ TANGELLAά

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$ = 1 = 1 NZSά

^ ^ ^

1 2 (ΦEx$)Ex$. . .

Keep on going and eventually you’ll reach:

(ZZ. . . Z(ΦEx$)Ex$ # (ΦEx$)Ex$. . .Ex$ Ψ)

^ ^ ^ ^ ^ ^

1 2 (ΦEx$)Ex$ 1 2 (ΦEx$)Ex$. . . Ex$ = 1 (A1 Ω) = 1 NZSά (A1 Ω)

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$

^ ^ ^

1 2 (ΦEx$)Ex$. . . Ex$

^ ^ ^

1 2 ΦEx$Ex$Ex$Ex$Ex$Ex$Ex$

I’ll call the above number ☺. Now try contemplating the enormity of: ☺Ex$.

Yet another way of discovering huge numbers were the polygon notations invented by Hugo Steinhaus and Leo Moser in the 1970’s. I won’t discuss these notations but will just mention that Moser’s polygon notation is an extension of Steinhaus’ (i.e. It’s a more powerful way of expressing gigantic numbers.). In this notation:

*a*[k+1] = *a*[k]*a* = ‘*a* in *a* k-gons’ where k is the number of sides of the polygons and the subscript

is the number of repetitions of the polygons.

*a*[3] = *aa*

*a*[4] = *a*[3]*a* = ‘*a* in *a* triangles’

*a*[5] = *a*[4]*a* = ‘*a* in *a* squares’

1.992373902866X10619

10

.

. . 10

10

Steinhaus’ Mega is ~10 (255 ‘10’ terms in the power tower)

This is also termed: ‘2 inside a pentagon’ = 2[5] = 2[4]2 = 256[3]256

Megagon = A polygon with 2[5] sides = 2[5]2 = 2[5][5] = 2[4]2 = 256[3]256[5]

Steinhaus’ Megiston = 10[5] = 10[4]10

The Moser = ‘2 inside a mega-gon’ = 2[2[5]] = 2[256[3]256]

Tim Chow and Todd Cesare proved separately, in 1998, that Graham’s number is much bigger than the Moser, and that even G2 is much bigger than the Moser.

Eventhough Graham’s number is bigger than the Moser, Moser’s notation results in the discovery of enormously large numbers much faster than Knuth’s up-arrow notation. Hence from here on, I’ll use this notation in the discovery of these kinds of numbers.

Now consider the size of: G64[G64] = G64[G64-1]G64

Then consider: G64[G64[G64]]

and: G(99Ex$)Ex$Ex$[G(99Ex$)Ex$Ex$[G(99Ex$)Ex$Ex$]]

NOTE: Here, I define G(99Ex$)Ex$Ex$ as: G(((99Ex$)Ex$)Ex$)

Now try this number on for size:

G(☺Ex$Ex$. . .Ex$)[G(☺Ex$Ex$. . .Ex$)[. . . . . G(☺Ex$Ex$. . .Ex$) ]]. . . . .]

^ ^ ^ ^ ^ ^ ^ ^ ^

| | | | | | | | |

1 2 G(☺Ex$Ex$Ex$Ex$Ex$Ex$Ex$)1 2 G(☺Ex$Ex$Ex$Ex$Ex$Ex$Ex$) 1 2 G(☺Ex$Ex$Ex$Ex$Ex$Ex$Ex$)

^ ^ ^ ^^ ^

| | . . . | | | |

1 2 G(☺Ex$Ex$Ex$Ex$Ex$Ex$Ex$) 12

G(☺Ex$Ex$Ex$Ex$Ex$Ex$Ex$) - 1

number of brackets

**FINALLY, USE YOUR WILDEST OF WILD IMAGINATION AND PONDER THIS:**

**ONE DAY, WE HUMANS WILL CREATE A SPACESHIP CAPABLE OF TRAVELING AT THE ABOVE NUMBER OF LIGHT-YEARS PER SECOND!!!**

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