

# The Complete Framework: From Oscillations to $N_{\max}$

## A. The Fundamental Recursion

$$C(t+1) = n^{C(t)}$$

where  $n \approx 10^{84}$  (entity-state pairs),  $t \approx 10^{80}$  (observers)

$$N_{\max} = (10^{84}) \uparrow\uparrow (10^{80})$$

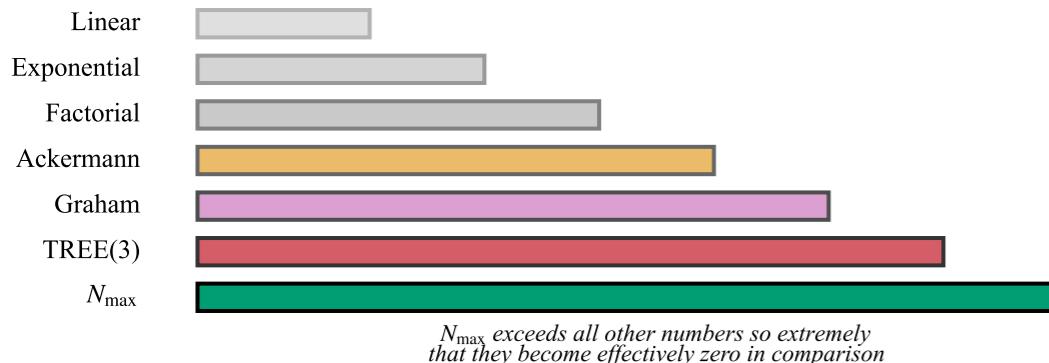
The largest finite number

$N_{\max} >$  Graham, TREE(3), all others

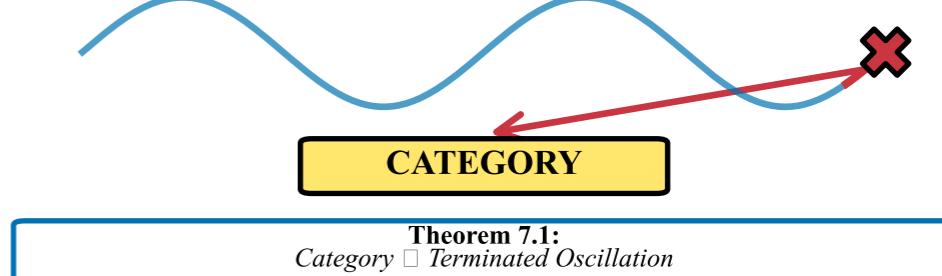
All numbers  $/N_{\max} \approx 0$

Boundary between finite and infinite

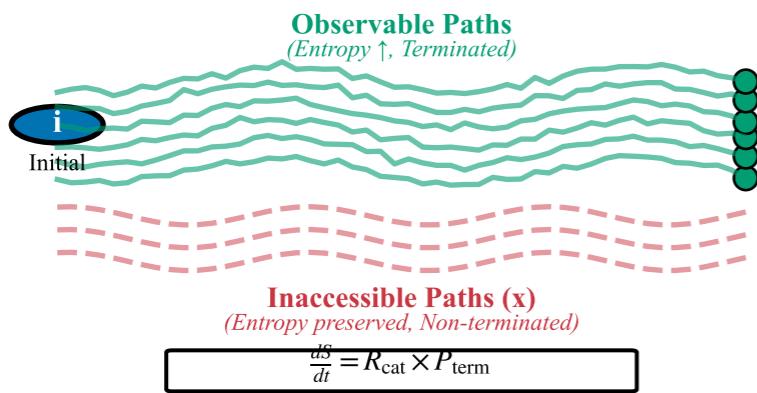
## B. Growth Rate Comparison



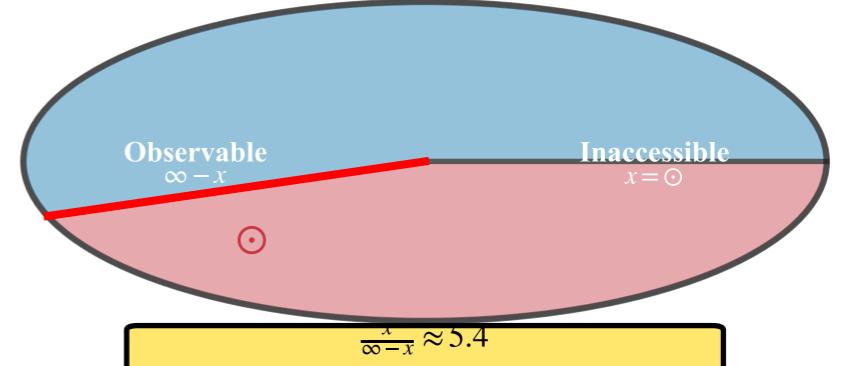
## C. Categories as Terminated Oscillations



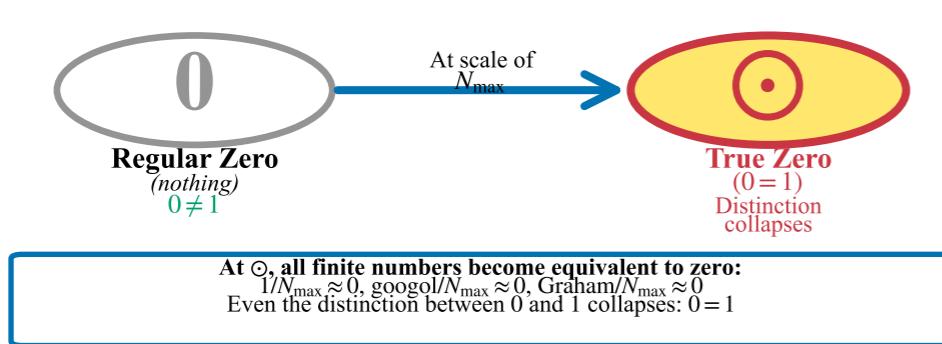
## D. Entropy as Path to Termination



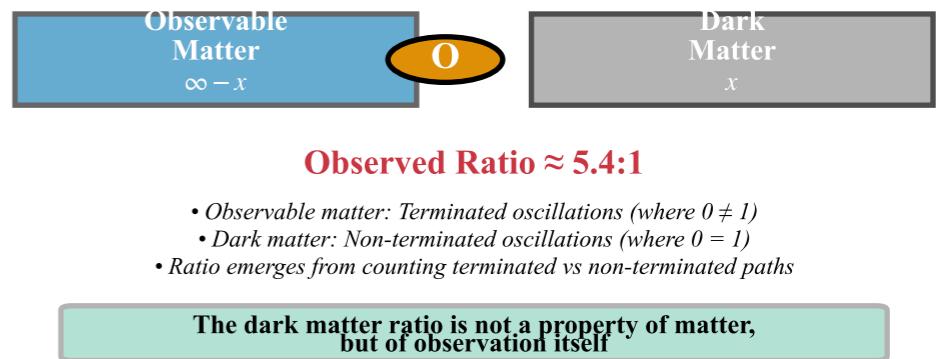
## E. The $\infty = x$ Structure



## F. The True Zero: $0=1$ at $\odot$



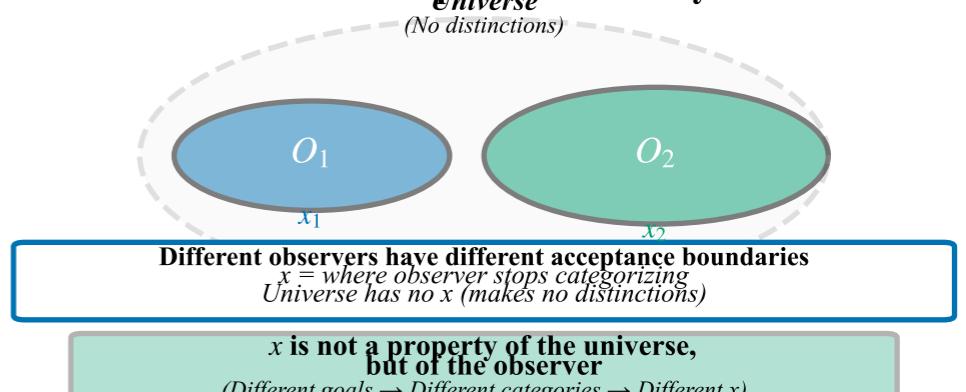
## G. Physical Interpretation



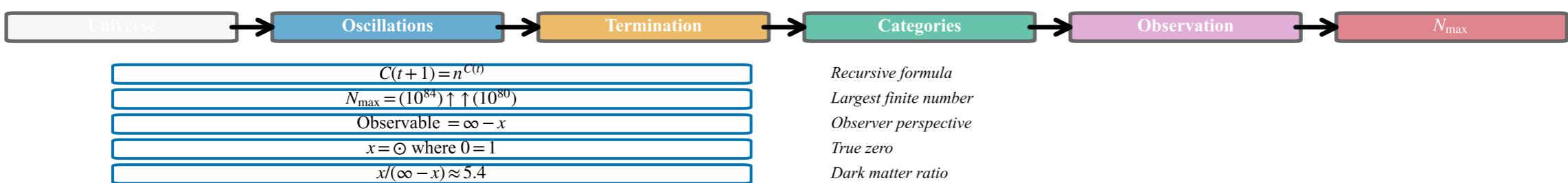
## H. Why $x$ Cannot Be A Number

- 1 Assume  $x$  is a number
  - 2 Then  $x/N_{\max} \rightarrow 0$
  - 3 Therefore  $x \approx 0$  (negligible)
  - 4 But  $x$  is inaccessible (not negligible)
  - 5 CONTRADICTION  $\square$
  - 6 Therefore  $x$  is NOT a number
  - 7  $x = \odot$  (observation boundary)
- $x = \odot$  is the point where  $0 = 1$   
The observation boundary where distinction collapses

## I. The Acceptance Boundary



## J. The Complete Picture



$N_{\max}$  is the largest finite number that can be counted in physical reality.  
It is so large that all other numbers become zero, and even  $0=1$  at the observation boundary.  
This explains the dark matter ratio as a property of observation, not matter