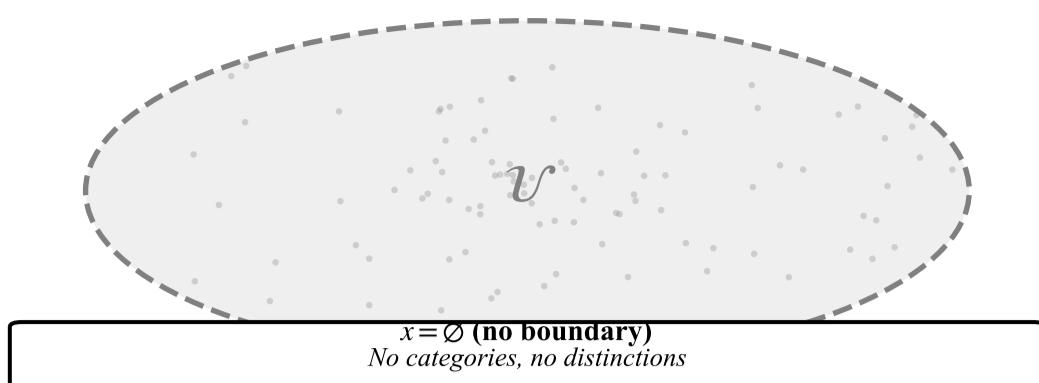
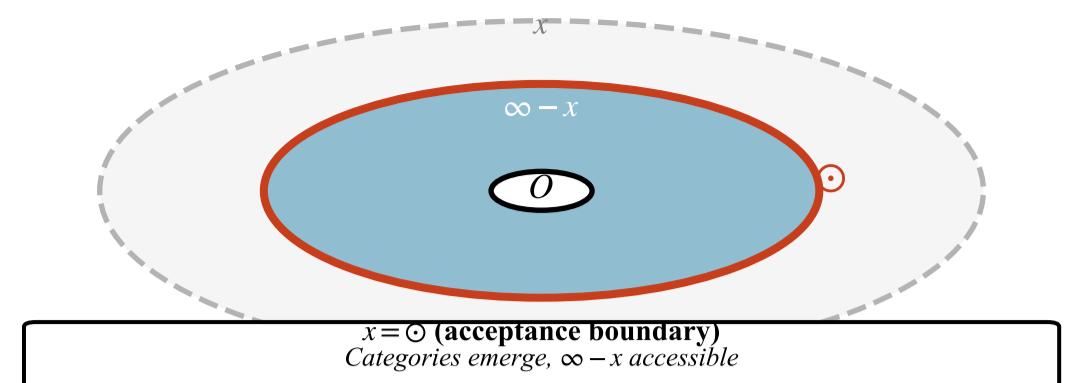


The Acceptance Boundary: Observer-Dependent Structure

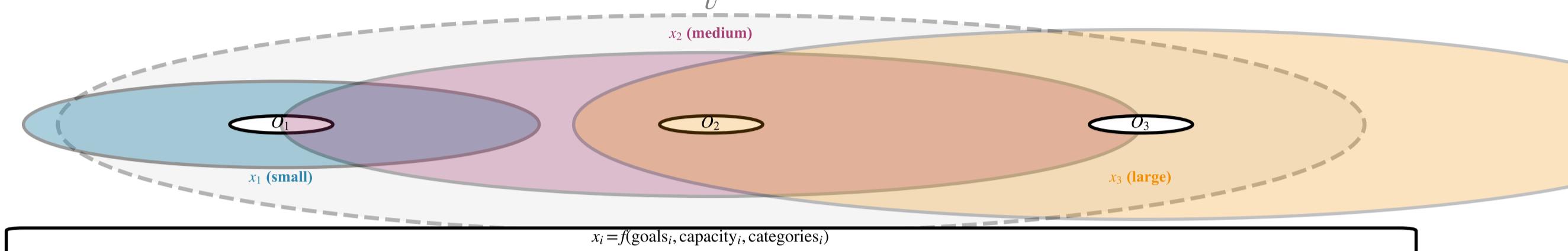
A. Universe (No Observer)



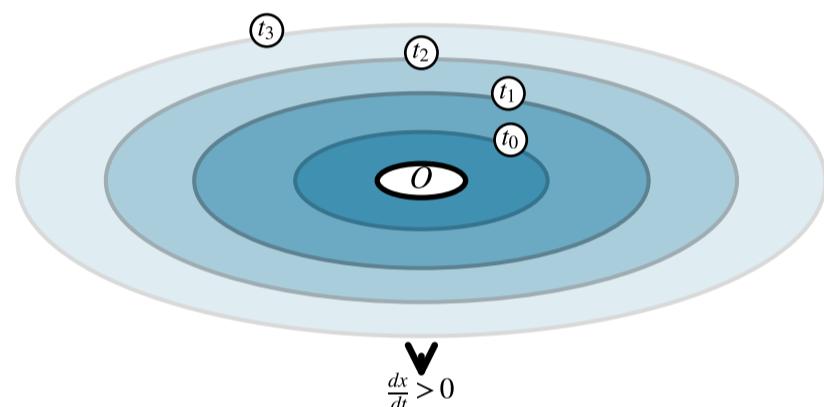
B. Universe + Observer



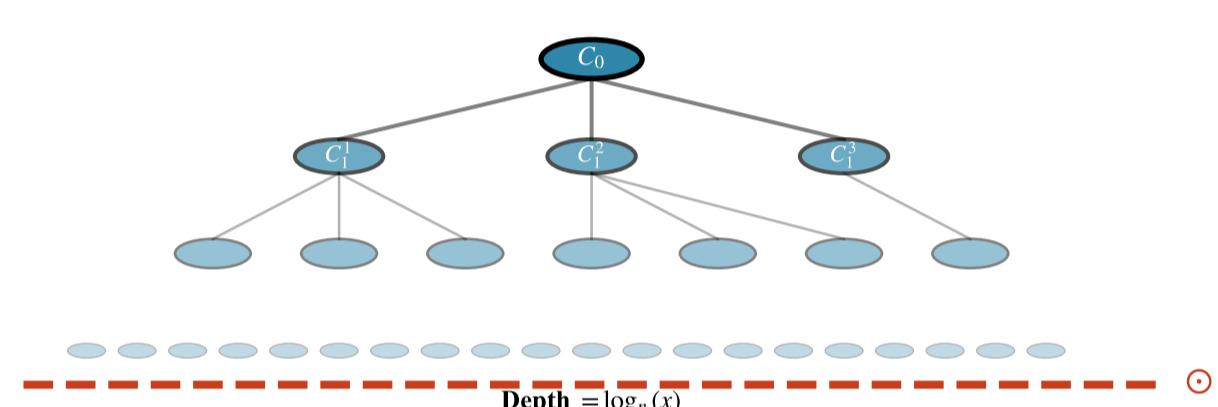
C. Multiple Observers, Different Boundaries



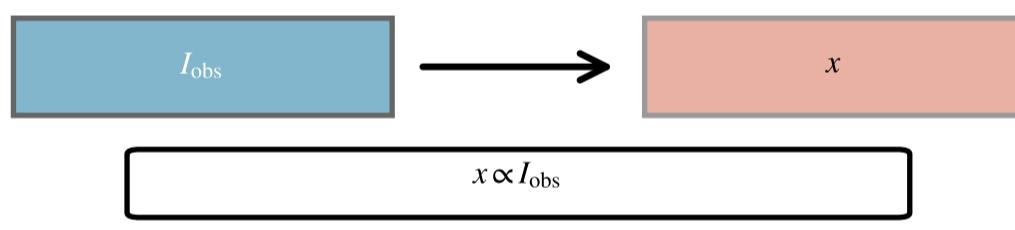
D. Boundary Evolution



E. Categorical Depth



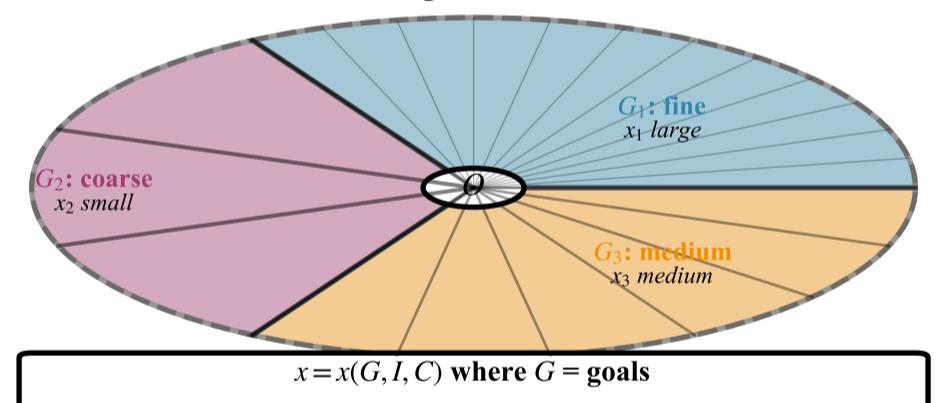
F. Information Capacity



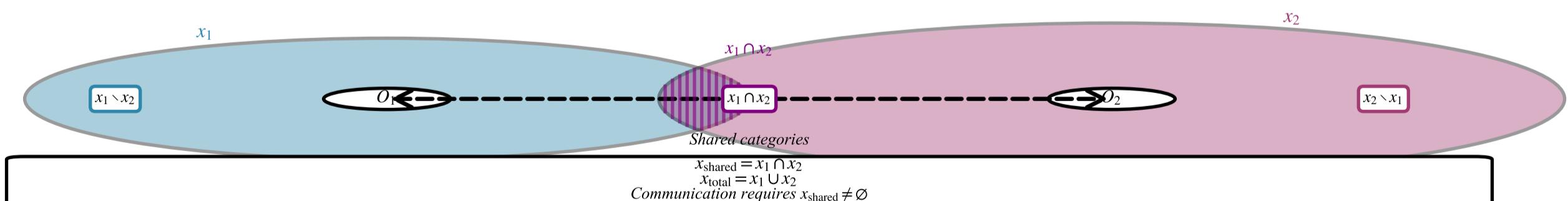
Human: $I \sim 10^{16}$ bits
Computer: $I \sim 10^{20}$ bits
Civilization: $I \sim 10^{30}$ bits

x_H
 x_C
 x_{Civ}

G. Goal-Dependent Structure



H. Boundary Interactions



I. Mathematical Framework

Universe: \mathcal{U} (no inherent structure)

Observer: O with goals G , capacity I

Categories: $C = \{c_1, c_2, \dots, c_n\}$

Boundary: $\mathcal{O} = \partial(\infty - x)$

Observable: $\infty - x = \{c \in C : O \text{ can access } c\}$

Inaccessible: $x = \mathcal{U} \setminus (\infty - x)$

Theorem: x is observer-dependent:

$x = x(O) = f(G, I, C)$

Different observers \Rightarrow different boundaries \Rightarrow different ratios