

# Abstract and General Models for Life

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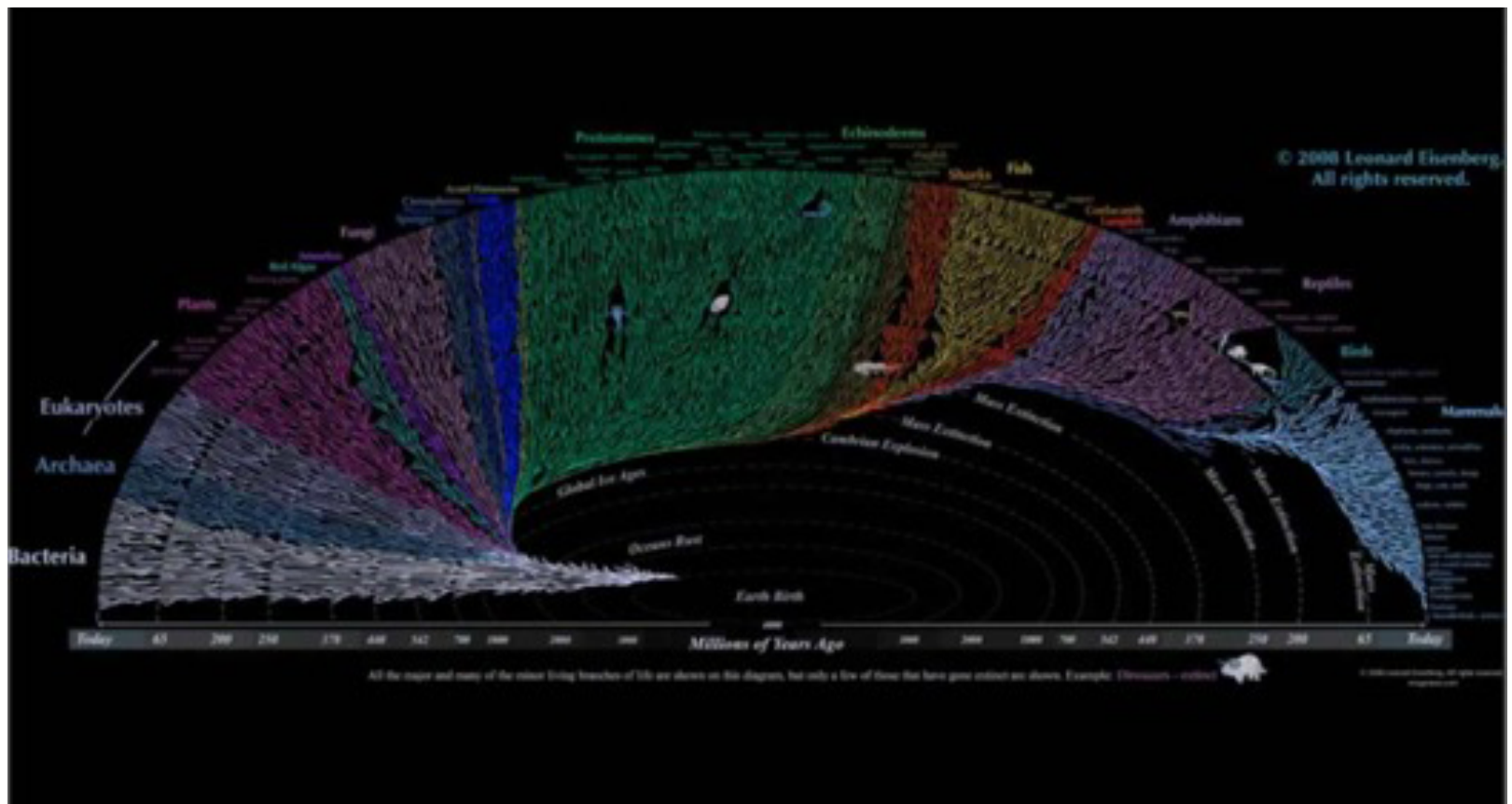


# DEFINITIONS OF “LIFE”



Theory vs. model vs. definition

# We are limited by a single example of life



# Genetics-First *versus* Metabolism-First

Two “competing” hypotheses

0-1-1-0-0

+



0-1-1-0-0

0-1-1-0-0

Replication

0 1  
0 1 0  
1 1

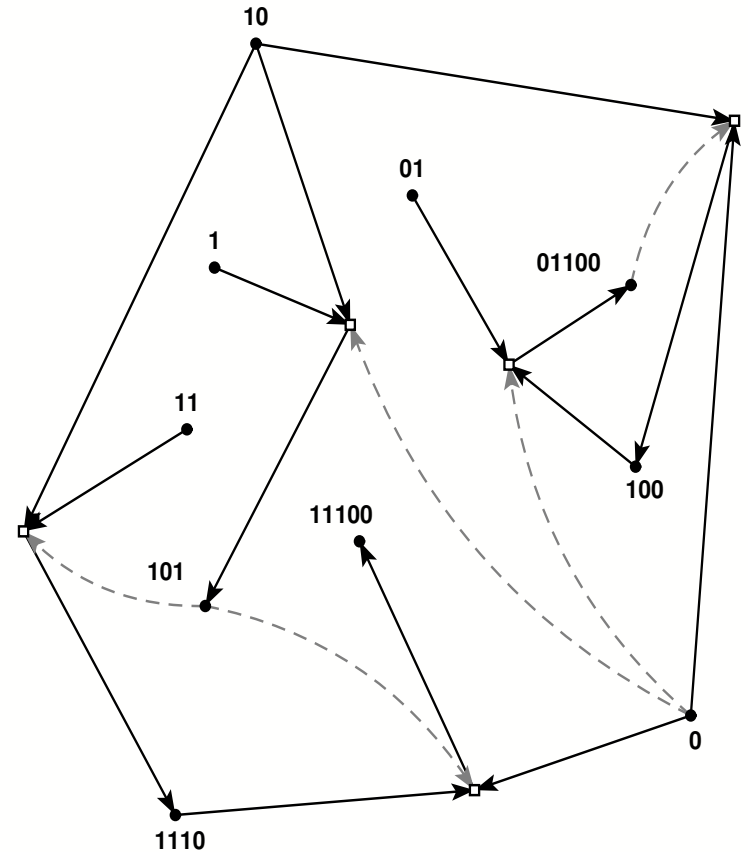
1-0-1  
x-00-y

Secondary and  
Tertiary Structure

x-0-1-1-0-0\*

Catalytic Activity

Genetics-First



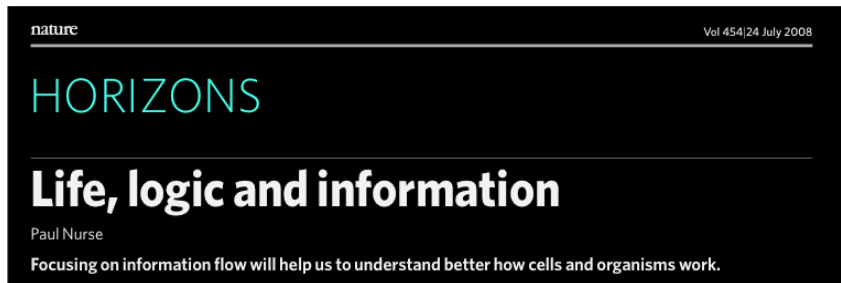
Metabolism-First

## NEED THEORIES, NOT MODELS





# Life as an information processing system



# ORIGIN OF LIFE CORRESPONDS TO A TRANSITION IN HOW INFORMATION IS STORED, PROPAGATED, AND USED

“Focusing on information... may perhaps provide our best shot at uncovering universal laws of life that work not just for biological systems with known chemistry but also for putative artificial and alien life.”

