

In the absence of agreed protocols and overarching theory, Ecology with its numerous sub disciplines, can sometimes resemble an amorphous, post-modern hotel or rabbit warren with separate entrances, corridors and rooms that safely accommodate the irreconcilable

- Grime 2007



General Theory of Ecology is made of 8 fundamental principles

Background: Domains; assumptions; framework; definitions

Fundamental principles: Concepts or confirmed generalizations

Outputs: Constitutive theories

Constitutive Theory

Reviews or meta-analysis of many studies

Background: domains, assumptions, frameworks, definitions

Propositions: proposed confirmed generalizations; concepts; laws

Outputs: models

Model
Background: domains, assumptions etc, propositions

Construction: translation modes (data)

Outputs: hypotheses → individual study

Tests: facts

Assumptions in Ecology.....

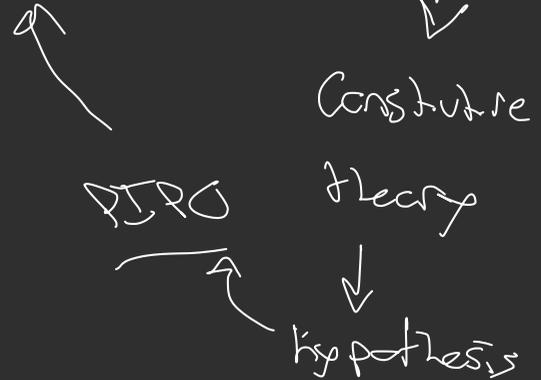
What are you assuming?

→ testing the extent

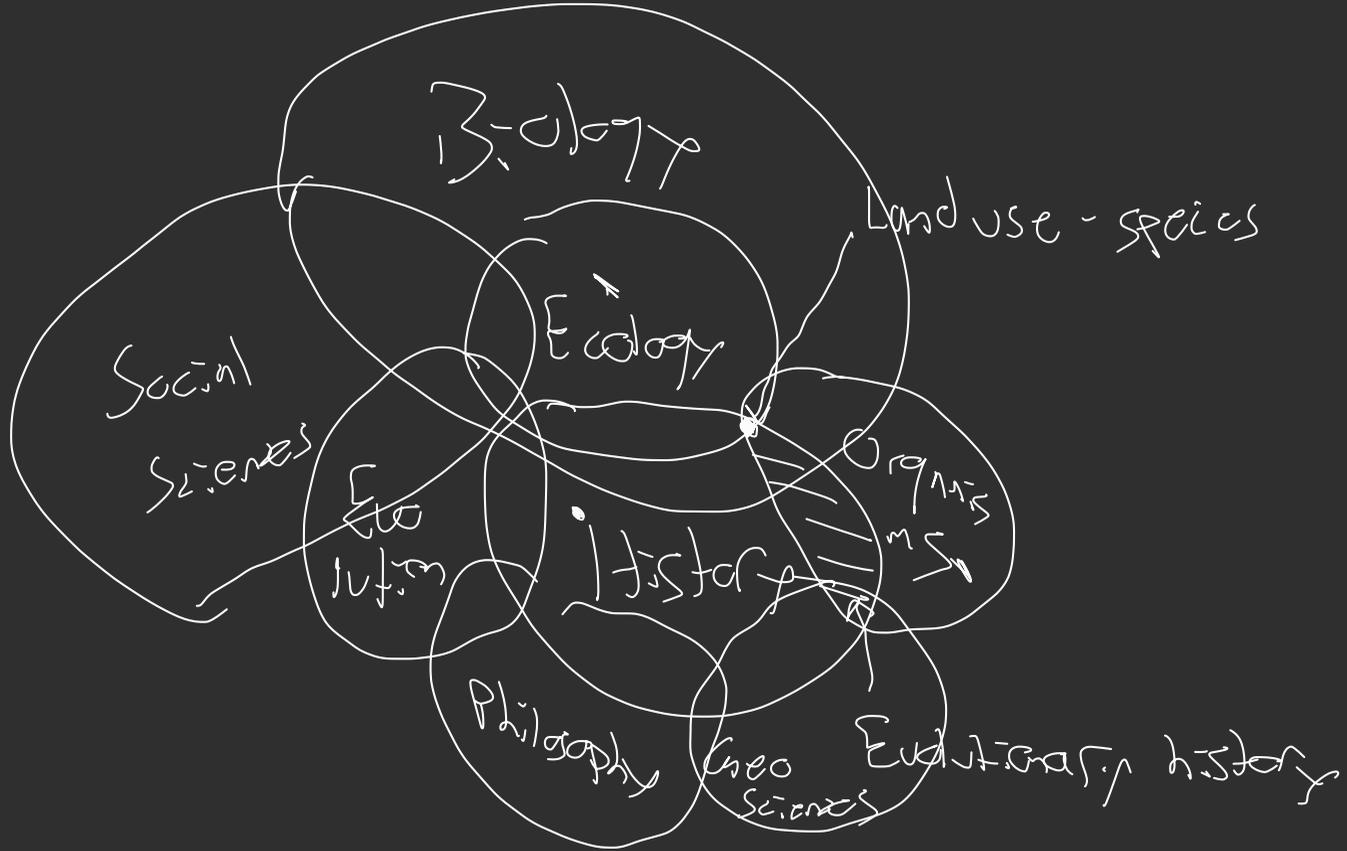
Genotypes are plastic; within ind/species

↳ therefore phenotypes → Domains/general theory

- Relationships between forest structure/biodiversity exists



Domains



1) Organisms are distributed in space and time in a heterogeneous manner

→ All other aspects of ecology serve to explain why OR explore its consequences.

2) Organisms interact with biotic and abiotic environments

→ Responsible for the vast majority of ecological processes that result in principal 1)

4) Distribution of organisms and their interactions depends on contingencies

→ Combined effects of
randomness and sensitivity
to initial conditions

→ Site specific

S) heterogeneity of environmental conditions

→ Theory of organisms

→ Earth / Space Sciences

7) Birth and Death

→ Theory of organisms

→ Life must reproduce and is mortal

8) Evolution

⇒ Evolutionary cause of ecological
properties and processes

→ Interdisciplinary connection w/ ecology

→ Placing hypotheses tests helps connect

→ "Lost in the sauce" of individualism

→ Lifetime commitment to clarity