Ecological Succession

Anish Bhattacharya

Assistant Professor

Durgapur Government College

Succession is an universal process of directional change in community composition,on an ecological time scale.

SERE OR SERAL COMMUNITY

Communities in Intermediate temporary stages towards Climax Community

SERAL STAGES

Intermediate temporary stages

PIONEER COMMUNITY

Primary or Earliest colonizers

CLIMAX COMMUNITY

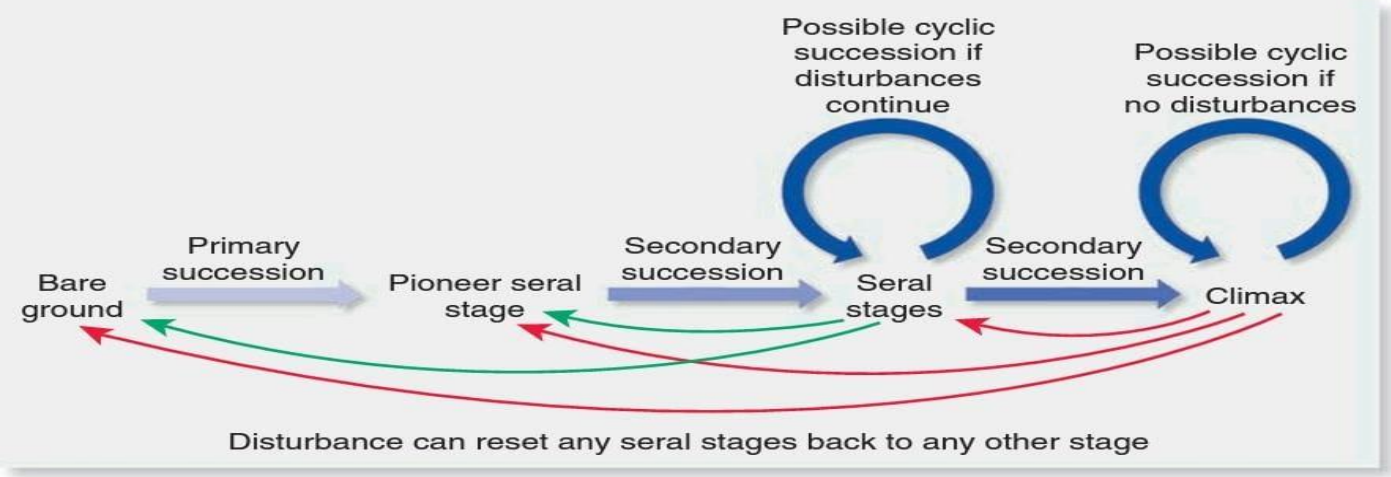
Final colonizers

Cause of Succession

INITIATING

ECESIS OR CONTINUING

STABILISING



Types of Succession

PRIMARY

SECONDARY

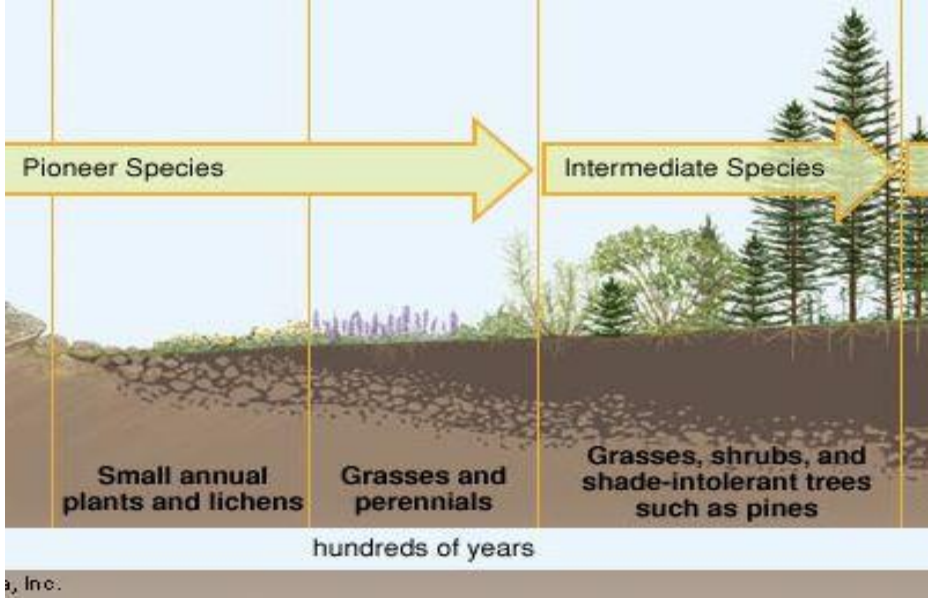
ALLOGENIC

AUTOGENIC

AUTOTROPHIC

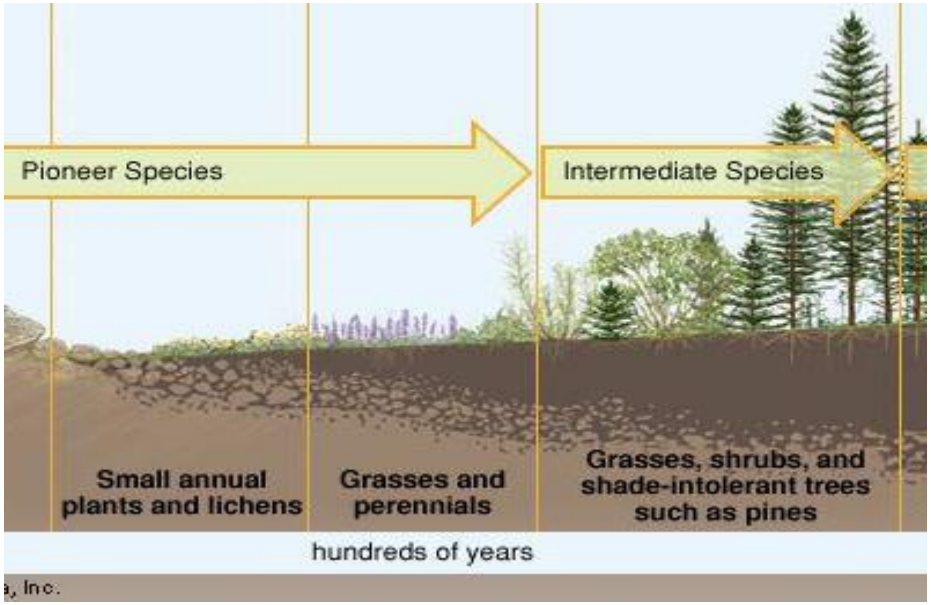
HETEROTROPHIC

PRIMARY SUCCESION

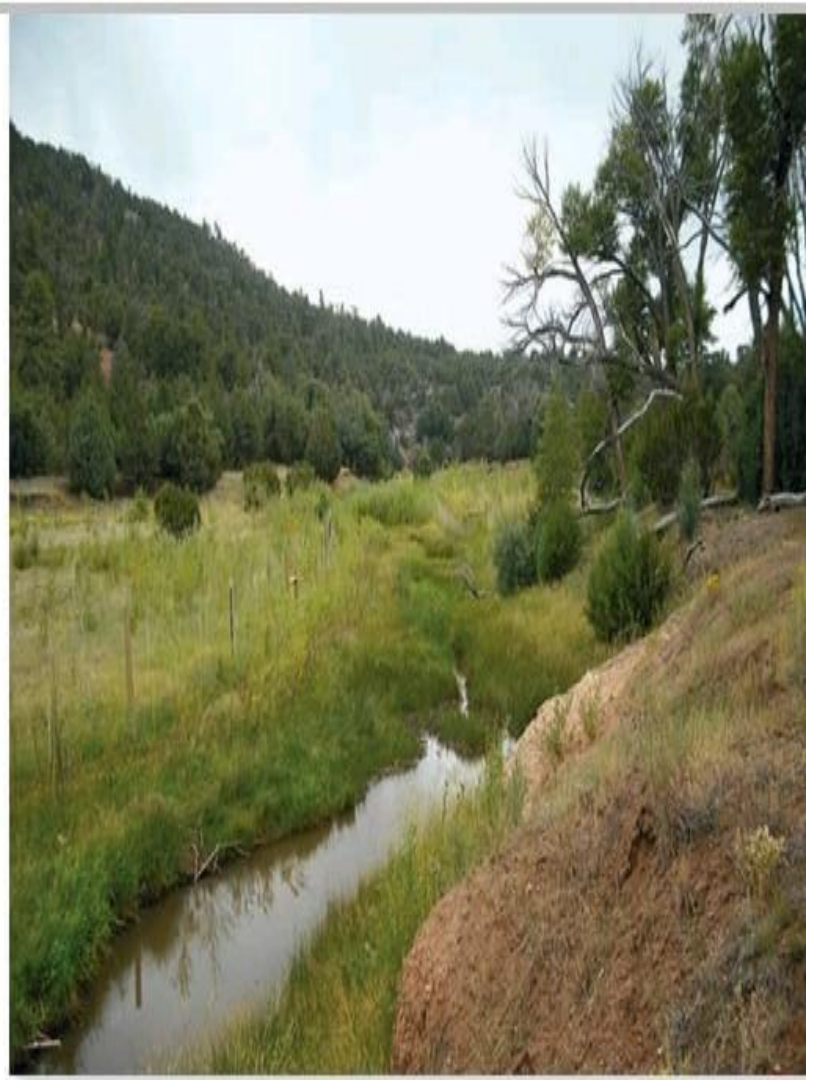


SECONDARY SUCCESION

ALREADY EXISTING COMMUNITY



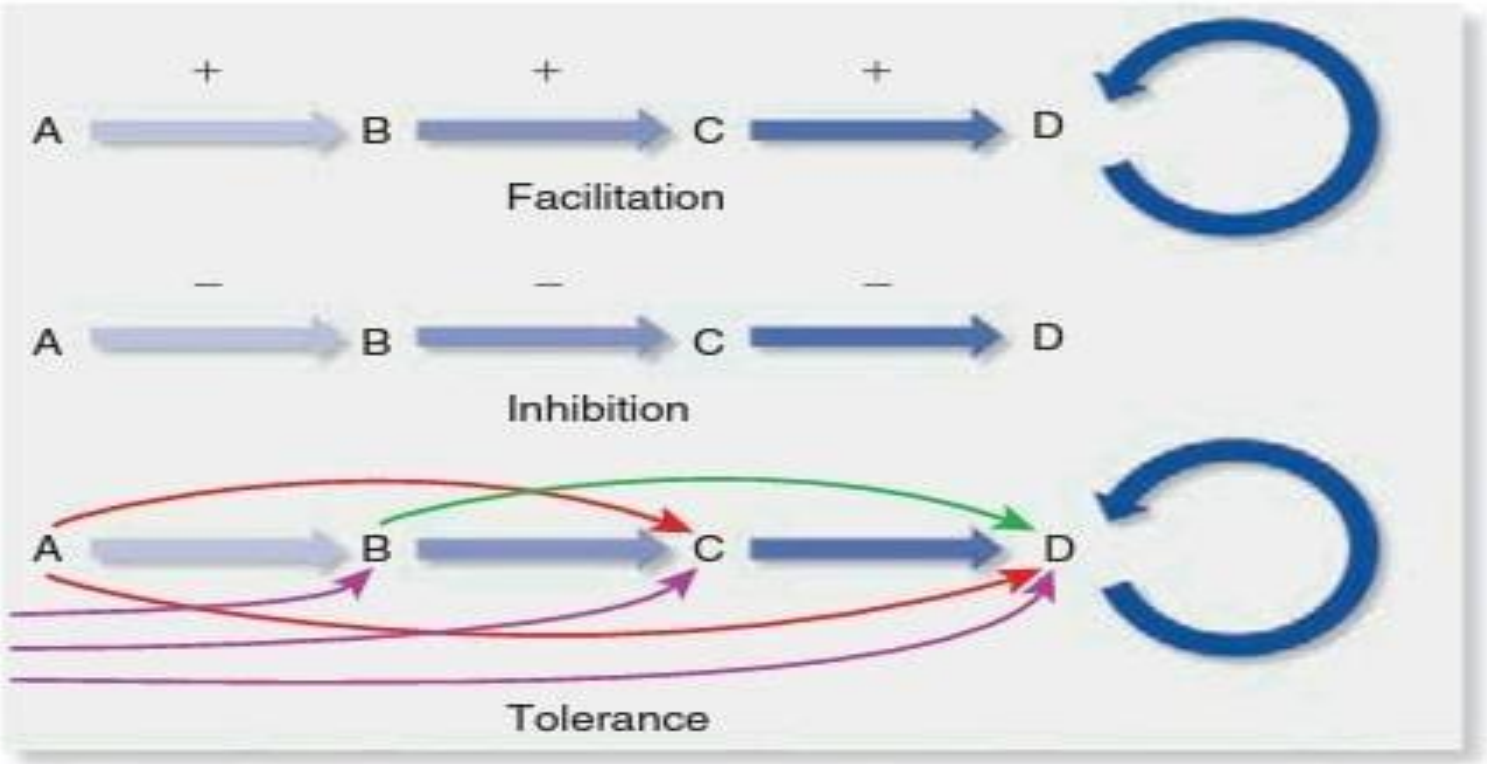
(a)



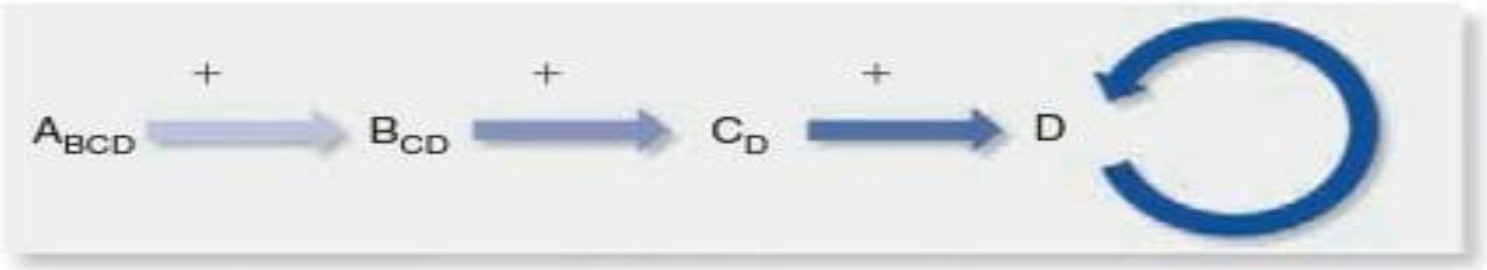
(b)

Figure 20.19 **Restoration ecology at Bluewater Creek, northern New Mexico.** Cows were removed from the area, nonnative plant species were removed and native tree species were planted. **(a)** A degraded (2008) and **(b)** a successfully restored (2009) community.

Primary succession



Secondary succession



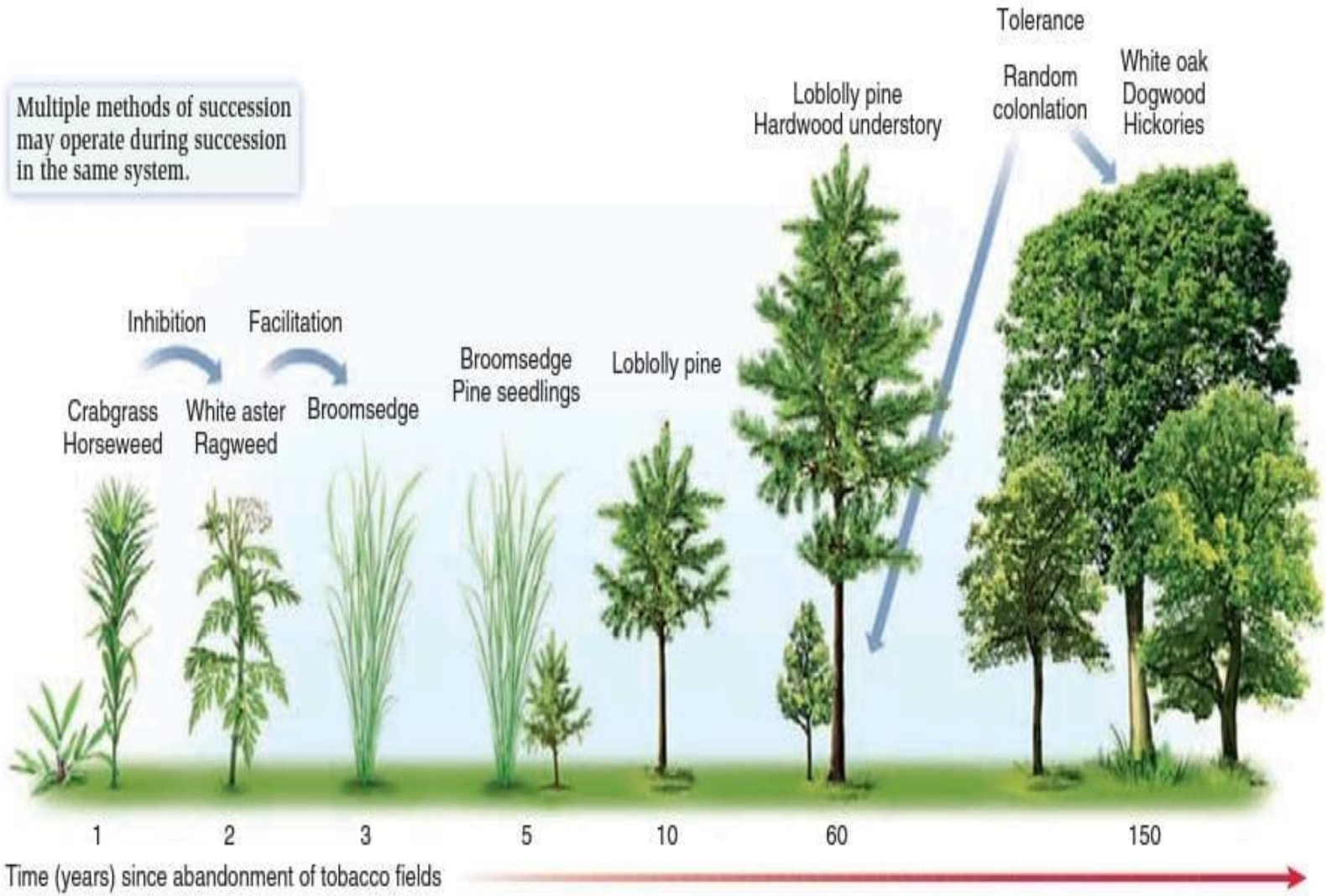
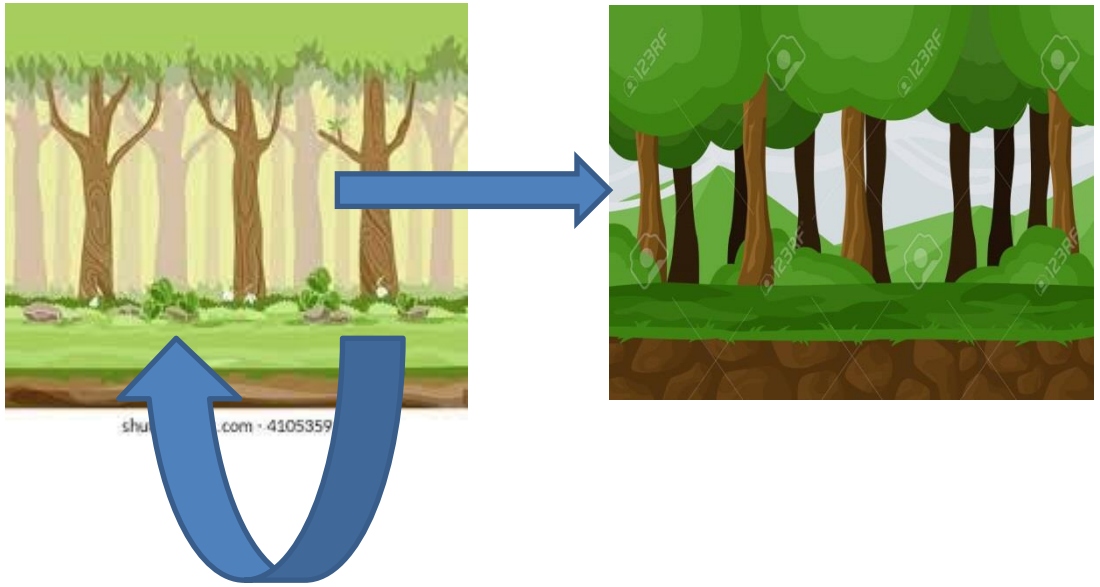
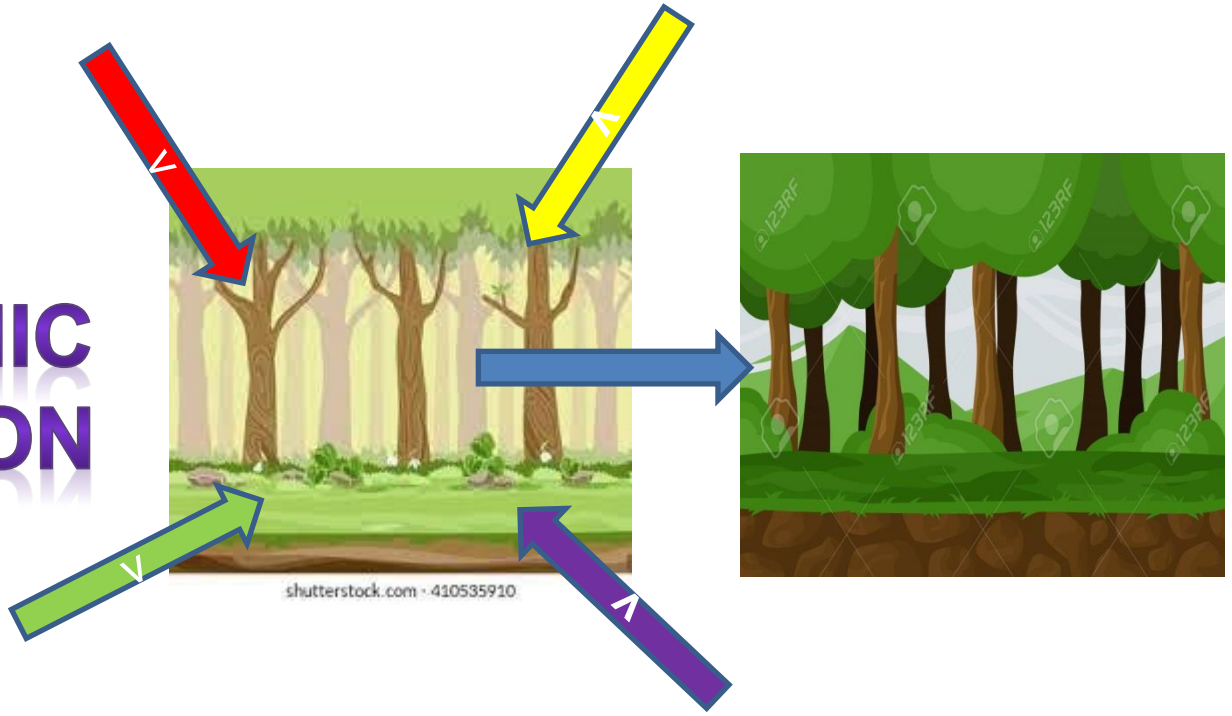


Figure 20.9 **Secondary succession in the Piedmont region of North Carolina following abandonment of tobacco fields.** Inhibition, facilitation, and tolerance are all important at various stages.

AUTOGENIC SUCCESION



ALLOGENIC SUCCESION



Process of Succession

NUDATION

INVASION OR MIGRATION

ECESIS

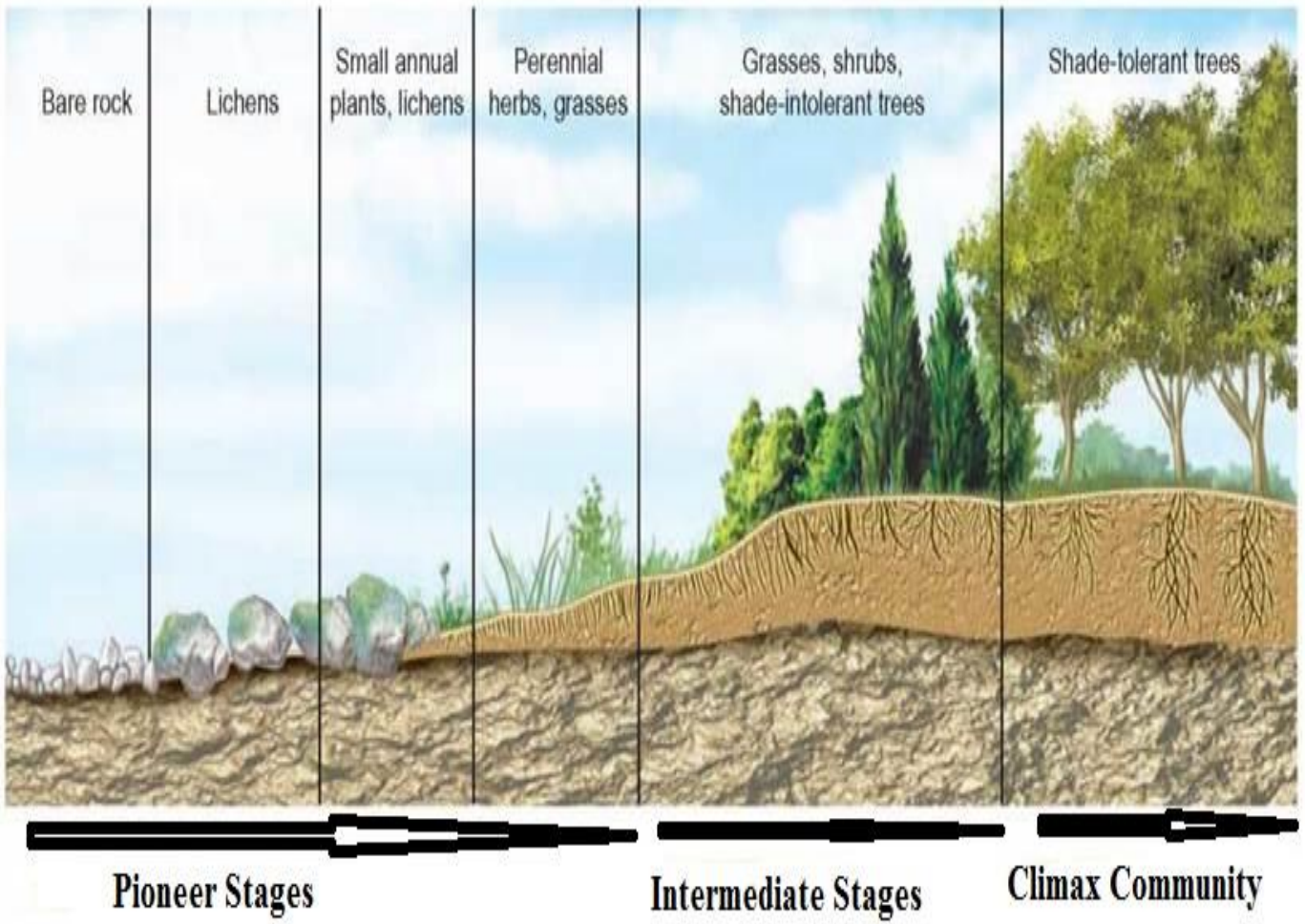
AGGREGATION

COMPETITION

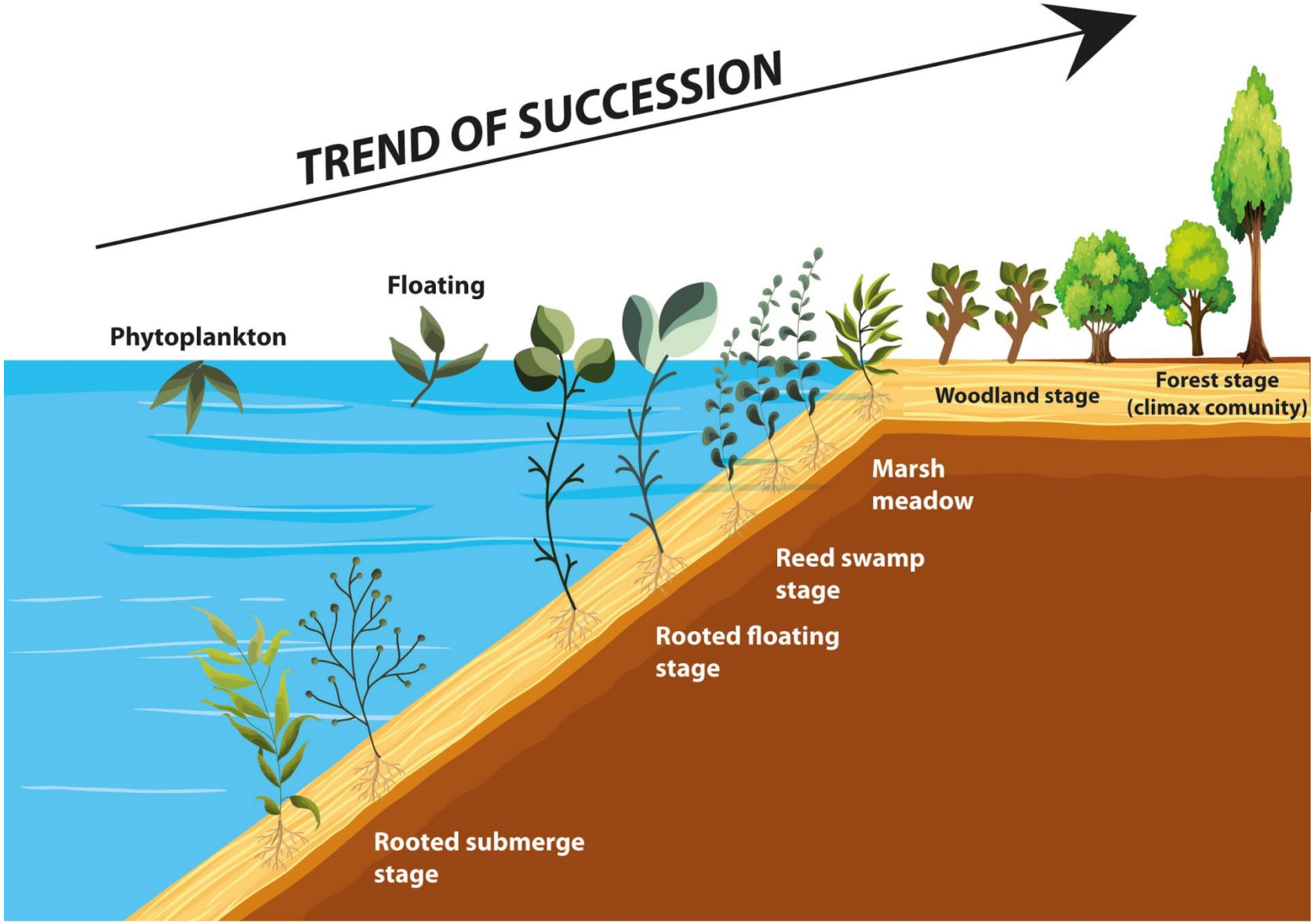
REACTION

STABILISATION

Xerosere


Bare rock
Lichens
Small annual plants, lichens
Perennial herbs, grasses
Grasses, shrubs, shade-intolerant trees
Shade-tolerant trees
Pioneer Stages
Intermediate Stages
Climax Community

Hydrosere


TREND OF SUCCESSION
Phytoplankton
Floating
Rooted submerge stage
Rooted floating stage
Reed swamp stage
Marsh meadow
Woodland stage
Forest stage (climax comunity)

Attribute	Early stages	Late stages
Seed dispersal	Good	Poor
Plant efficiency at low light	Low	High
Resource acquisition	Fast	Slow
Biomass	Small	Large
Species richness	Low	High
Species life-history	*r*	*K*
Seed dispersal vector	Wind	Animals
Seed longevity	Long	Short

Many more are there !!

Want to see it in real ??

Start with a Brick

Keep continuous Observation

Learn quickly !!

THANK YOU