

History (Not on exams)

3 periods:

- Observation
- Pure Culture
- Molecular Ecology

Observation

- 1664 → Robert Hooke → mold; "cell" (coined the term from observation of cork)
- 1680 → Antonie van Leeuwenhoek → 1st microscope
- Mid 18th century → Spontaneous generation debate
- 19th century → Louis Pasteur (sterilization)
 - ↳ food spoilage → appearance of bacteria
→ cause or product?

Pure Culture

- Robert Koch → germ theory of disease
 - ↳ Propagation of bacteria on solid media

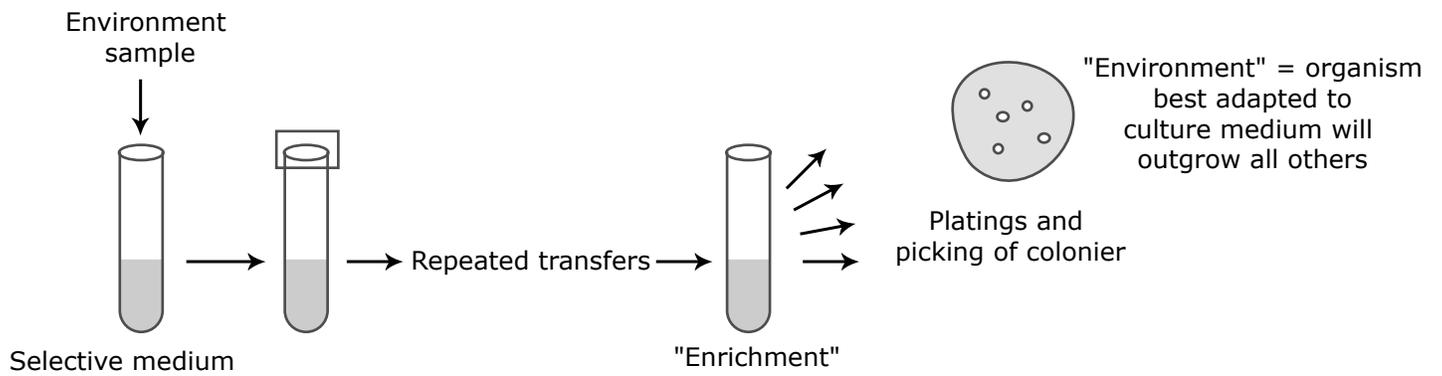
1st Environmental observations:

- chemical processes
 - ↳ heat kills samples { H₂ oxidation in soils
ammonia oxidation in sewage

Development of enrichment cultures

- ↳ Martinus Beijerinck → provided "selected conditions" in media
 - ↳ growth of organisms that exploit conditions

Enrichment:



Molecular Microbial Ecology

- ~ last 15 years

"gene diversity" → track organisms that haven't been cultured yet.