INITIATIVE ON ISLAM AND MEDICINE
INSTILLING HIKMAH IN HEALTHCARE

Microevolution and macroevolution are two scales of evolutionary change in biology, and they differ mainly in the scale and processes they involve.

Microevolution:

- Scale: Refers to small evolutionary changes, typically within a single species or population.
- Processes: Includes changes in allele frequencies over time within a population. This can be driven by mechanisms like mutation, natural selection, genetic drift, and gene flow.
- Time Frame: Often observable within a human lifetime or across a few generations.
- Examples: The development of antibiotic resistance in bacteria, changes in the beak sizes of finches on the Galápagos Islands, and color variations in a moth population.
- Microevolution affects human beings as well.
    - Revelatory Text Evidence: Hadith about the heights of human beings decreasing. Showing that certain physical features of human beings do change over time.
    - Narrated by Abu Huraira: The Prophet said, "Allah created Adam, making him 60 cubits tall. When He created him, He said to him, 'Go and greet that group of angels sitting there, and listen to their response, for it will be your greeting (salutation) and the greeting (salutations) of your offspring.' So, Adam said (to the angels), 'As-Salamu Alaikum (Peace be upon you).' The angels said, 'As-Salamu Alaikum wa Rahmatu-l-lahi' (Peace and Allah's Mercy be upon you). Thus the angels added to Adam's salutation the expression, 'Wa Rahmatu-l-lahi.' Any person who will enter Paradise will resemble Adam (in appearance and figure). People have been decreasing in stature since Adam's creation." (Sahih Bukhari, Book 55, Hadith 543)
    - This Hadith is often cited in discussions about Islamic eschatology and the nature of human creation.
    - It says that the Prophet Muhammad (S) mentioned that the people of Paradise would be the height of Adam, who is said to have been 60 cubits (approximately 90 feet) tall. Over time, human stature has decreased.

Macroevolution:

- Scale: Refers to large-scale evolutionary changes that lead to the emergence of new species and higher taxonomic groups (like genera, families, orders).
- Processes: Involves speciation events where one species splits into two or more distinct species. It also encompasses the broader patterns and trends in evolution over long periods of time.
- Time Frame: Occurs over many generations, typically observed over geological time scales (thousands to millions of years).
- Examples: The evolution of mammals from earlier synapsid ancestors, the divergence of birds from theropod dinosaurs, and the adaptive radiation of flowering plants.

Biology Evolution - no difference considered in microevolution and macroevolution in current bio curricula and in the philosophy of evolution. Darwinian evolution holds that microevolutionary changes can accumulate over time to result in macroevolutionary patterns, which means this is all part of the

same process of evolution as a whole. For instance, the gradual accumulation of small genetic changes can eventually lead to the formation of new species.

- However, the science behind the concept of macroevolution is quite skeptical and makes many assumptions.