NEWS

THE NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2022

Svante Pääbo

Born: 20 April, 1955, Stockholm, Sweden.
Affiliation at the time of the award: Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany; Okinawa Institute of Science and Technology, Okinawa, Japan

The Nobel Prize in Physiology or Medicine 2022 was awarded to **Svante Pääbo** "*for his discoveries concerning the genomes of extinct hominins and human evolution*".

Humanity has always been intrigued by its origins. Where do we come from, and how are we related to those who came before us? What makes us, Homo sapiens, different from other hominins? Through his pioneering research, Svante Pääbo accomplished something seemingly impossible: sequencing the genome of the Neanderthal, an extinct relative of present-day humans. He also made the sensational discovery of a previously unknown hominin, Denisova. Importantly, Pääbo also found that gene transfer had occurred from these now extinct hominins to Homo sapiens following the migration out of Africa around 70,000 years ago.

Thanks to Svante Pääbo's discoveries, we now understand that archaic gene sequences from our extinct relatives influence the physiology of present-day humans. One such example is the Denisovan version of the gene EPAS1, which confers an advantage for survival at high altitude and is common among present-day Tibetans. Other examples are Neanderthal genes that affect our immune response to different types of infections.

By revealing genetic differences that distinguish all living humans from extinct hominins, Pääbo's discoveries provide the basis for exploring what makes us uniquely human.

https://www.nobelprize.org/prizes/medicine/2022/