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Intermediate Student’s Book

Life

High-altitude peoples

**00.02–00.44** Even with the best equipment, mountain climbing can be hard work. In fact, at high altitudes simply walking is more tiring than doing the same activity at sea level. That’s because air automatically becomes thinner the higher you climb. This means that a person takes in less oxygen with each breath. It’s this lack of oxygen that causes mountain sickness, or hypoxia. Now, researchers are studying three high-altitude peoples that may give us a better understanding of human evolution. Dr Mark Aldenderfer of the University of Southern California, has been studying how native Tibetans have adapted to their environment.

**00.45–00.56 Dr Mark Aldenderfer** Tibetans deal with hypoxia apparently by breathing faster, in other words, obtaining more oxygen into their lungs and moving it through their systems much more rapidly.

**00.57–01.04** On the other side of the world, native people of the South American Andes developed a different strategy for living in high mountain air.

**01.05–01.15 Dr Mark Aldenderfer** Andeans on the other hand, how they seem to adjust to hypoxia, is to have more haemoglobin in their blood. So, in other words, their blood, in one sense, you could say is thicker.

**01.16–01.35** People in the highlands of Ethiopia have also adapted to high altitudes, but scientists still don’t know exactly how. Ancient peoples were originally attracted to mountain heights by the prospect of good hunting, despite the lack of oxygen.

At first, their survival could be attributed to human culture.

**01.36–01.43 Dr Mark Aldenderfer** You need controlled use of fire. You need to be able to make a fire, and you need to be able to use that fire to keep you warm, and if you move, you have to be able to take the fire with you.

**01.44–02.27** Humans also needed clothes for survival, not just animal skins, but clothes that were warm enough to protect the wearer from the intense cold.

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According to Dr Aldenderfer, the first tools needed to make complex clothing, such as needles, appeared just as people were moving into the high altitudes of Tibet.

In addition to cultural adaptation, evidence suggests that biological adaptation was also important in enabling humans to live in such high altitudes.

Data from DNA studies may provide us with proof that people are genetically adapted to these high-altitude environments.