Both the passage and the lecture are about the project of sending humans to Mars. The author argues that currently this trip is impossible due to three problems, while the lecturer disagrees with all the author reasons, and put forth her reasons for refuting the passage’s theories.

First, the article mentions that this round trip takes two years, and the cargo capacity of space vehicles is limited. Hence, it’s impossible to put on board the food, water, and oxygen required by a crew for this long period. The specific argument is challenged by the lecturer and she suggest that they can use hydroponics. With using this method, plants don’t take much space, while their root grows in water instead of soil, and like other plants they can absorb carbon dioxide and release oxygen. Furthermore, they can be used to recycle the water.

Secondly, the writer points that Spending a long time in the zero-gravity environment has negative effects on the human body, such as decreased muscle mass and lower bone density. The lecturer, however, rebuts this by mentioning that over last few decades, some astronauts have been able to spend a long time in the zero-gravity environment by using some special techniques, such as doing regular exercises to prevent decreasing of muscle mass, and consuming minerals and vitamins in order to maintain their bone density.

Finally, the author suggests that astronauts on a mission to Mars would be exposed to dangerous levels of space radiation, and Constructing a shield that would protect the whole spaceship from space radiation is not practical, while it would add too much weight to the ship. In contrast, the lecturer position is that the sun’s radiations are not dangerous all the time. Therefore, shielding a small part of the ship would be enough and it wouldn’t be too heavy, and the astronauts can go to the protected part of the ship when the sun is active, and remain in the other parts when it’s safe.

Time: 22 min