'We could completely replace the human body with one that is ideal for space travel'

— Future space travel options come into focus

Perhaps the optimal way to most fully adapt humans to alien environments is to completely replace the human body with one that is adapted. This could be a robot body, a genetically engineered biological one, or a cyborg combination. How does one replace their body? One option might be taking virtual control of the "brain" of the avatar (yes, like in the movie, Avatar). This could be through a neural link, or even just through virtual reality. This way you can remain safely ensconced in a protective environment, while your Avatar runs around a world that would instantly kill you. We are closer to having robotic avatars than biological ones, and to a limited degree we are already doing this through virtual presence technology.

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For existing adults, genetic engineering options are likely limited, but could still be helpful. For example, inserting a gene that produces a protein derived from tardigrades could protect our DNA from radiation damage. We could also adapt our skin to block out more radiation, and be resistant to UV damage. We could adapt our bones and muscles to different surface gravities. We may even find ways to adapt to microgravity, allowing our bodies to better handle fluids with gravity.

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