

Three cases of teleportation

In each of the three cases below, decide whether or not you think the person who enters the Transmit booth is numerically identical with the person who steps out of the Receive booth. Give a reason for your decision.

First Case:

When a traveler steps into the Transmit booth, the structure of her body is scanned and recorded, then her body is broken down into its component atoms. This happens so quickly that there is no time for the traveler to feel pain. These atoms are transmitted in a particle beam to the Receive booth, along with the scanned information about bodily structure. The atoms are then reassembled into a body, with each atom in exactly the same location relative to other atoms as in the original traveler's body. The newly arrived traveler then steps out of the Receive booth.

Second Case:

When a traveler steps into the Transmit booth, the structure of her body is scanned and recorded, then her body is broken down into its component atoms. This happens so quickly that there is no time for the traveler to feel pain. These atoms are transmitted in a particle beam to the Receive booth, along with the scanned information about bodily structure. The atoms are then assembled into a body just like the body of the original traveler. No attempt is made to place each carbon atom exactly where it was before in the new body's structure. The same is true of all the other types of atoms from the original traveler's body. The newly arrived traveler then steps out of the Receive booth.

Third Case:

When a traveler steps into the Transmit booth, the structure of her body is scanned and recorded, then her body is broken down into its component atoms. (These atoms are later sold to a recycling plant, and the sale pays for the teleportation process.) This happens so quickly that there is no time for the traveler to feel pain. The scanned information about bodily structure is transmitted to the Receive booth. A new body, exactly like the original body, is constructed following the transmitted plans, using completely different atoms. The newly arrived traveler then steps out of the Receive booth.