

electron spin 1/2 and coffee cup (Feynman version)

to really get the electron back to its status quo ante, you have to rotate it 720 degrees. Though there is no way to imagine what is going on here, Feynman used to act out this kind of symmetry with a coffee cup -- you can turn a full coffee cup 360 degrees while holding it in your hand, without spilling a drop, only your arm gets twisted. Surprisingly, you can turn the cup another 360 degrees (try it), and your arm untwists itself.

(Dirac did this stunt with belts.)

From
The Applicability of Mathematics As a Philosophical Problem - 85 page
Mark Steiner 1998.

素粒子と物理法則 培風館 ファインマン・ワインバーグ
小林淑朗訳

