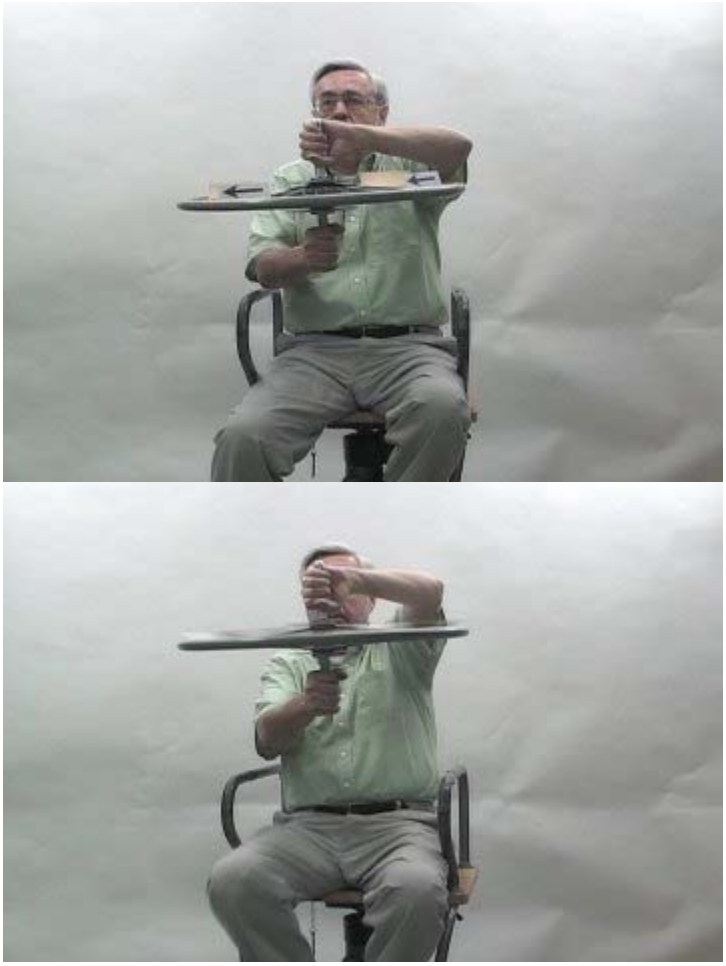
Question #296

I sit on a small "rotating chair" with high-quality, low-friction, bearings in its base, so that if I start myself rotating I will continue for some time with little reduction in angular speed, as seen in an mpeg video by clicking your mouse on the photograph at the left below. Note that in this video the wheel that I am holding is not spinning.

In the photograph at the right, I have in my hands a heavy bicycle wheel that is spinning clockwise as viewed from above, and am sitting on the stool, which is nearly motionless, as seen by clicking your mouse on the photograph.



While sitting on the rotating chair, with the rapidly spinning bicycle wheel, I will now turn the wheel upside down, rotating the wheel so that my hands are inverted and the wheel is spinning counterclockwise as seen from above.

When I invert the wheel, what will happen?

- (a) I will begin rotating on the chair clockwise as seen from above.
- (b) I will begin rotating on the chair counterclockwise as seen from above.
- (c) I will remain at rest on the chair.
- (d) I cannot rotate the bicycle wheel because it acts as a gyroscope.
- (e) I will begin to fall off the chair.

- (f) Something else will happen.

Click here for Answer #296 after November 12, 2007.

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For questions and comments regarding the *Question of the Week* contact Dr. Richard E. Berg by e-mail or using phone number or regular mail address given on the Lecture-Demonstration Home Page.