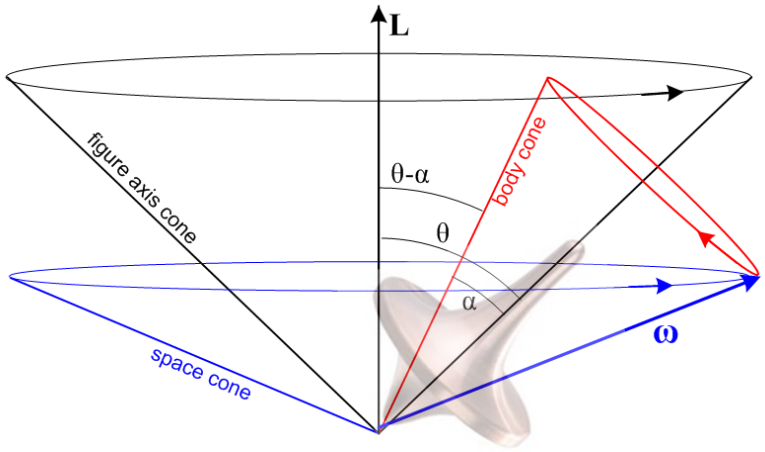
The reader must now be inventive with the two coins in order to verify these red arrows, a good reader spatial geometry and hand dexterity exercise!

Now the red body cone brushes against the *inner* surface of the blue space cone

which can have either sign. When Ω' is positive, the picture is as shown above with the red cone outside the blue cone. If α is much smaller than θ, the red cone rolls quickly as appropriate for $\Omega' > L/I'_1$. If Ω' is negative, the red cone lies on the inside of the blue cone as below,



Rate Ω' is positive for $\alpha < \pi/2$ if $I'_1 > I'_3$ which means the rigid rotor is narrow (prolate) with a small axial moment I'_3 . A rotor which is fat and squat (oblate) will have a large I'_3 so $\Omega' < 0$ and the second figure applies.