where $\theta \in [0, \pi], \phi \in [0, 2\pi)$, one finds that on this boundary

$$\boldsymbol{u}(t, \boldsymbol{a}(\theta, \phi)) = \boldsymbol{U}, \tag{5.19a}$$

$$p(t, \boldsymbol{a}(\theta, \phi)) = \frac{3}{2} \frac{\mu}{a^2} U_j \, a_j(\theta, \phi) + p_\infty, \tag{5.19b}$$

corresponding to a no-slip boundary condition on the sphere's surface. The $\mathcal{O}(a/|\boldsymbol{x}|)$-contribution in (5.18a) coincides with the Oseen result (5.15), if we identify

$$\boldsymbol{F} = 6\pi \, \mu a \, \boldsymbol{U}. \tag{5.20}$$

The prefactor $\gamma = 6\pi \, \mu a$ is the well-known Stokes drag coefficient for a sphere.