Erratum to: Mathematical Justification of the Obstacle Problem in the Case of a Shallow Shell

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This correction concerns the statement of Theorem 5.2, page 250, and Remark 4, page 255.

(1) The correct statement of point 3 of Theorem 5.2 is:

The function $\zeta = (\zeta_\alpha, \zeta_3)$ solves the following problem:

$$\begin{aligned} & \text{Find } (\zeta_\alpha, \zeta_3) \in V_H(\omega) \times K_3(\omega) \\ & - \int_{\omega} m_{\alpha\beta}(\zeta_3) \partial_{\alpha\beta}(\eta_3 - \zeta_3) d\omega + \int_{\omega} n_{\alpha\beta}^{\theta}(\zeta) \partial_{\alpha} \theta \partial_{\beta}(\eta_3 - \zeta_3) d\omega \\ & \geq \int_{\omega} p_3(\eta_3 - \zeta_3) d\omega + \int_{\omega} s_{\alpha} \partial_{\alpha}(\eta_3 - \zeta_3) d\omega, \quad \forall \eta_3 \in K_3(\omega), \\ & \int_{\omega} n_{\alpha\beta}^{\theta}(\zeta) \partial_{\beta} \eta_{\alpha} d\omega = \int_{\omega} p_{\alpha} \eta_{\alpha} d\omega, \quad \forall \eta_H = (\eta_{\alpha}) \in V_H(\omega). \end{aligned} \quad (19)$$

This correction does not affect the proof of the theorem.

(2) Remark 4 must be changed into:

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Remark 4 Problem (19) is a couple problem. It is interesting to observe that the coupling arises from the resultant $n_{\alpha\beta}^\theta(\boldsymbol{\zeta})$ which depends both on the inplane components ζ_α and on the transverse component ζ_3 of the displacement of the middle surface of the shallow shell. On the one hand the variational equality is the classical equilibrium equation of the resultant, which is the same as the one of the bilateral case. On the other hand, the variational inequality involves both the bending momentum $m_{\alpha\beta}(\zeta_3)$ which depends only on the transverse component ζ_3 and the resultant which depends on the three components of $\boldsymbol{\zeta}$.