Correction to: “Reality” and Representation in Mechanics: The Legacy of Walter Noll

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This erratum concerns a series of misprints, due to a human error occurred after the final proofreading. Due to this error, some capital F of the manuscript became lower-case f in the final version. Precisely, *all f contained in equations (37) to (40) and (78), (79), (85), (90) should be read as F* . For the readers’ convenience, below I transcribe the corrected forms:

$$\mathcal{E}_{int}(\Omega_R) = \mathcal{E}_{int}(\Omega_R, F, F^d, \nabla F, \nabla F^d), \quad (37)$$

$$\mathcal{E}_{int}(\Omega_R, F, F^d, \nabla F, \nabla F^d) = \int_{\Omega_R} (\varphi(F, \nabla F) + \varphi^d(F^d, \nabla F^d) + \phi^d(F^d, \nabla F^d)) \, dv, \quad (38)$$

$$\begin{aligned} \mathcal{P}_{int}(\Omega_R, V, V^d, \nabla V, \nabla V^d) = & \int_{\Omega_R} (\nabla_1 \varphi(F, \nabla F) \cdot V + \nabla_2 \varphi(F, \nabla F) \cdot \nabla V \\ & + \nabla_1 \varphi^d(F^d, \nabla F^d) \cdot V^d + \nabla_2 \varphi^d(F^d, \nabla F^d) \cdot \nabla V^d \\ & + \check{\nabla}_1 \phi^d(F^d, \nabla F^d) \triangleright V^d + \check{\nabla}_2 \phi^d(F^d, \nabla F^d) \triangleright \nabla V^d) \, dv, \end{aligned} \quad (39)$$

$$\check{\nabla}_1 \phi^d(F^d, \nabla F^d) \triangleright V^d + \check{\nabla}_2 \phi^d(F^d, \nabla F^d) \triangleright \nabla V^d > 0, \quad (40)$$

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$$Y \cdot \int_{\Pi_R} (T_R \nabla f^T + (\operatorname{div} \mathbb{T}_R + B_R) F^T + \mathbb{T}_R \nabla F^T) \, dv = 0, \quad (78)$$

$$(T_R \nabla f^T + (\operatorname{div} \mathbb{T}_R + B_R) F^T + \mathbb{T}_R \nabla F^T)^W = 0, \quad (79)$$

Moreover, the correct forms of (85) and (90) are

$$(T_R \nabla f^T + \mathbb{T}_R \nabla F^T)^W = 0, \quad (85)$$

$$\psi = \psi(F, \nabla F^d). \quad (90)$$

For the sentence between (37) and (38) reported below, the correct form is:

“The subsequent extension to second-order structured deformations, to be identified with two-scale deformations, led to the additional dependence on ∇F . Here, the dependence on ∇F^d has been added.”

The text between (39) and (40),

“is obtained, with ∇_1, ∇_2 partial derivatives with respect to F, F^d and $\nabla F, \nabla F^d$, with V, V^d virtual velocities for F and F^d , and with”.

Moreover, at the beginning of Sect. 6.4,

“For a classical continuum, the energy densities φ, φ^d are assumed to be independent of ∇F and ∇F^d , respectively.”,

at the beginning of Sect. 7.3,

“Then setting $\nabla v = V + V^d$ and omitting the arguments $(F, \nabla F), (F^d, \nabla F^d)$, we get...”

and in Footnote 48,

“In components, $(\operatorname{div} \mathbb{T}_R F^{dT})_{ih} = \mathbb{T}_{ijk,k} F_{hj}^d$ and $(\mathbb{T}_R \nabla F^{dT})_{ih} = \mathbb{T}_{ijk} F_{hj,k}^d$ ”.

Finally, the sentence between (83) and (84) should be read as:

“Moreover, taking φ^d and ϕ^d independent of ∇F^d in accordance with [3], the activation condition for δF^d reduces to...”.

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