Errata of the book

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The newer version of FEniCS started to use a different construction of mixed function spaces. The mixed function space for 2D problems, for example the following code snippet

```
mesh = RectangleMesh(Point(0.0, 0.0), Point(100, 10), 50,5)
Scalar = FunctionSpace(mesh, 'P', 1)
Vector = VectorFunctionSpace(mesh, 'P', 1)
Space=MixedFunctionSpace([Scalar, Vector])
```

needs to be changed as follows

```
mesh = RectangleMesh(Point(0.0, 0.0), Point(100, 10), 50,5)
scalar = FiniteElement('P', triangle, 1)
vector = VectorElement('P', triangle, 1)
mixed_element = MixedElement([scalar, vector])
Space = FunctionSpace(mesh, mixed_element)
```

In the case of a 3D example, it is analogous

```
scalar = FiniteElement('P', tetrahedron, 1)
vector = VectorElement('P', tetrahedron, 1)
mixed_element = MixedElement([scalar, vector])
Space = FunctionSpace(mesh, mixed_element)
```

Moreover, every Expression needs to know the degree for form functions

```
f = Expression('...' , degree=1 , ...)
```

Below is a hopefully complete list of typos and mistakes in the text:
On page 19, after Eq. (1.55) "The Euler–Almansi strain..."
On page 83, the unit in Eq. (1.259) had to be m^2/s.
On page 102, Eq. (1.304) should be

$$\mathrm{d}v^{\cdot} = \left(\mathrm{d}x_1\,\mathrm{d}x_2\,\mathrm{d}x_3\right)^{\cdot} = \left(\mathrm{d}x_1\,\mathrm{d}x_2\,\mathrm{d}x_3\right)^{\cdot}\frac{\mathrm{d}v}{\mathrm{d}x_1\,\mathrm{d}x_2\,\mathrm{d}x_3} = \\ = \left(\frac{\mathrm{d}x_1^{\cdot}}{\mathrm{d}x_1} + \frac{\mathrm{d}x_2^{\cdot}}{\mathrm{d}x_2} + \frac{\mathrm{d}x_3^{\cdot}}{\mathrm{d}x_3}\right)\mathrm{d}v = \frac{\partial w_k}{\partial x_k}\,\mathrm{d}v\ ,$$

On page 103, Eq. (1.308) should be

$$\overset{\mathrm{f}}{\mathrm{F}}_p = \int_\Omega \left(\frac{\partial w_k}{\partial x_k}\delta p + \frac{\partial\, {}^{\mathrm{f}}v_i}{\partial x_i}\delta p + w_i\frac{\partial \delta p}{\partial x_i}\right)\mathrm{d}v - \int_{\Omega^{\mathrm{N}}} w_i \delta p n_i\,\mathrm{d}a\ .$$

On page 168, end of Eq. (3.2) should be corrected as

$$(\,\mathrm{d}v)^{\boldsymbol{\cdot}} = \cdots = \frac{\partial v_i^{\mathrm{e}}}{\partial x_i}\,\mathrm{d}v\ .$$

On page 202, $a = \pi r_{\mathrm{c}}^2$.
On page 216, Eq. (3.120) should be

$$\frac{\partial \rho u}{\partial t} - \frac{\partial}{\partial x_j}\big(-v_j \rho u - q_j\big) - \rho r = \Gamma\ ,$$

On page 254, Eq. (3.242) should be

$$\cdots \Rightarrow \tilde{s}_{ijk} = -\tilde{S}_{kji} \ldots$$

leading to

$$\mathrm{d}\,{}^{\mathrm{r}}\sigma_{ij} = \cdots - \tilde{S}_{kji}\,\mathrm{d}B_k$$

in Eq. (3.246) as well as

$${}^{\mathrm{r}}\sigma_{ij} = \cdots - \tilde{S}_{kji} B_k$$

in Eq. (3.248).