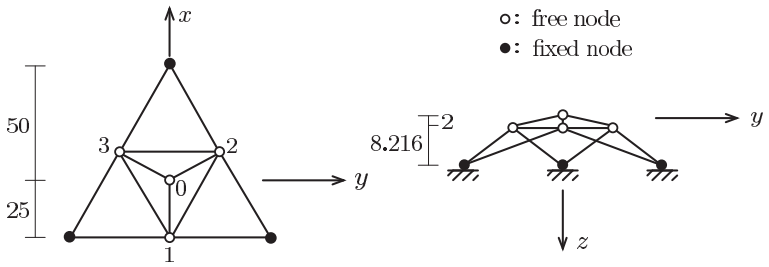
ERRATA (as of March 17, 2019)

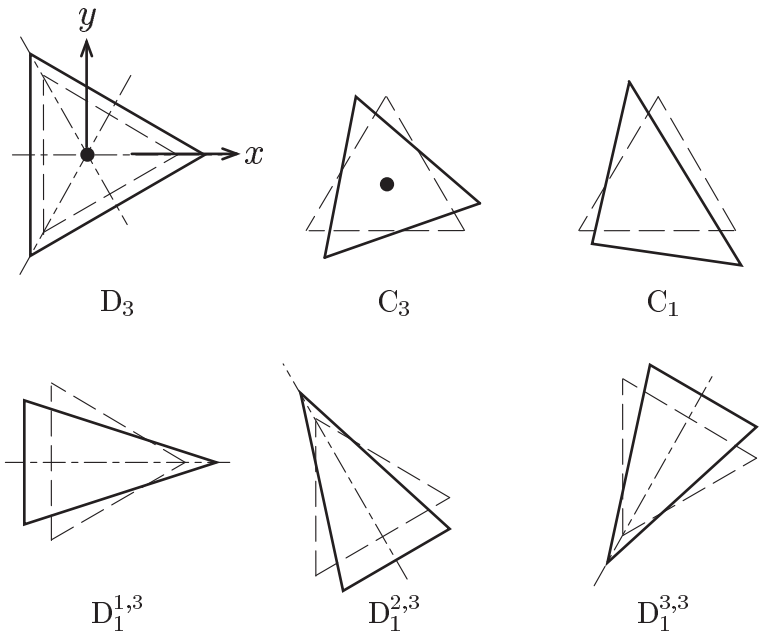
Imperfect Bifurcation in Structures and Materials —Engineering Use of Group-Theoretic Bifurcation Theory, Second Edition, Springer, 2010
by Kiyohiro Ikeda and Kazuo Murota

The following corrections should be made on the original book:

• Page 20, Fig. 1.13: Should look



• Page 21, Fig. 1.14: Should look



• Page 47, (2.41): Should read

$$\boldsymbol{\xi}_i^{\top} \boldsymbol{F}\Big(\boldsymbol{u}_{\mathrm{c}}^0 + w\boldsymbol{\eta}_1 + \sum_{j=2}^{N} \varphi_j(w, \widetilde{f}, \boldsymbol{v})\boldsymbol{\eta}_j,\ f_{\mathrm{c}}^0 + \widetilde{f},\ \boldsymbol{v}\Big) = 0, \qquad i = 2, \ldots, N.$$

• Page 51, two lines below (2.62): Should read, unique solution modulo $\boldsymbol{\eta}_1$.

• Page 57, Footnote 13: Should read, When the condition of nondegeneracy (2.83) fails with "< 0,"

• Page 70, just below (3.3): Should read, $\widetilde{f} = f - f_{\mathrm{c}}^0$.

• Page 82, the last displayed equation: Should read,

$$\begin{cases} (F_{x,x})^0 = 0 \text{ with } \boldsymbol{\xi}_1 = (1, 0)^{\top}, & \text{bifurcation point,} \\ (F_{y,y})^0 = 0 \text{ with } \boldsymbol{\xi}_1 = (0, 1)^{\top}, & \text{limit point.} \end{cases}$$

• Page 85, Table in Problem 3.1: Should read

ε	-0.02	-0.015	-0.01	-0.005	-0.002	0.00
$f_{\mathrm{c}}/f_{\mathrm{c}}^0$	0.75	0.78	0.83	0.88	0.93	1.00
				1.11	1.07	

• Page 85, Answer in Problem 3.2: Should read, $x_{\mathrm{c}} = 2^{-1/3}\varepsilon^{1/3}$.

• Page 97, Eq. (4.33), "C" (in each of the three lines): Should read, "$-C$."

• Page 101, Eq. (4.37): Should read,

$$\widetilde{f_{\mathrm{c}}} \sim \frac{\alpha_1 + \cdots + \alpha_5}{\boldsymbol{\xi}^{\mathrm{T}}(\partial \boldsymbol{F}/\partial f)_{\mathrm{c}}^0}\,\varepsilon = -1.0577\varepsilon,$$

• Page 109, the first line of Eq. (5.3): Should read, "$C(\boldsymbol{d}) = C_0 a$" instead of "$C(\boldsymbol{d}) = -C_0 a$."

• Page 110, the first line of Eq. (5.8): Should read, "$\tilde{a}$" instead of "$-\tilde{a}$."

• Page 115, (5.22): Should read, $\phi_K(\zeta) = K(1 - \Phi_\zeta(\zeta))^{K-1}\phi_\zeta(\zeta)$.

• Page 161, The last line of the paragraph containing (7.21): Should read, For each $g \in G$, $T^\mu(g)$ is an $N^\mu \times N^\mu$ unitary matrix.

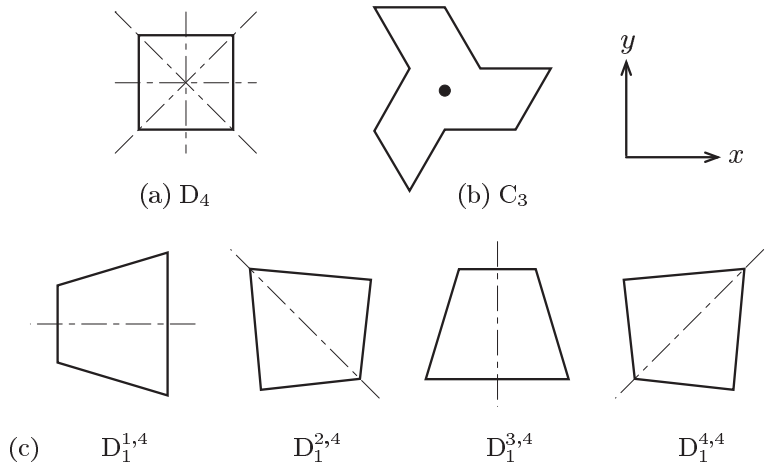
• Page 161, Footnote 6: Should read, The identity (7.20) implies that $|R_{\mathbb{C}}(G)| \leq |G|$.

• Page 164, The last line of the paragraph containing (7.34): Should read, In contrast, this is not the case with the cyclic group C_n for $n \geq 3$: $R_{\mathrm{a}}(\mathrm{C}_n) \neq R(\mathrm{C}_n)$ over $\mathbb{R}$.

• Page 180, just after (7.93): Should read, Remark 7.13 below, where $\boldsymbol{w}$ denotes the solution to the bifurcation equation that corresponds to $\boldsymbol{u}$.

• Page 195, the third equation in the first paragraph: Should read, $T^{\mu_5}(c(\pi/n))$.

• Page 201, Fig. 8.1: Should look



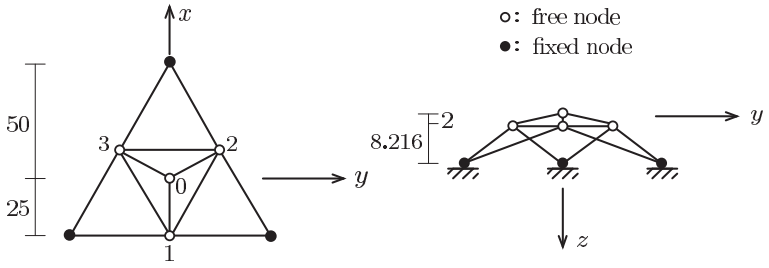
• Page 208, (8.29): Should read,

$$\Sigma(\boldsymbol{\xi}(\alpha_i)) = \Sigma(\boldsymbol{\xi}(\alpha_{i+\widehat{n}})) = \Sigma(\boldsymbol{\eta}(\alpha_i)) = \Sigma(\boldsymbol{\eta}(\alpha_{i+\widehat{n}})) = \mathrm{D}_{n/\widehat{n}}^{i^*,n}, \qquad i = 1, \ldots, \widehat{n}, \tag{8.29}$$

where the integer i^* $(1 \leq i^* \leq n/\widehat{n})$ is determined from i by $(i^* - 1)\widehat{j} \equiv i - 1 \mod \widehat{n}$, and

• Page 208, $\mathrm{D}_{n/\widehat{n}}^{i,n}$ in two places below (8.29): Should read, $\mathrm{D}_{n/\widehat{n}}^{i^*,n}$.

• Page 211, Fig. 8.4(a): Should look



• Page 230, the fourth displayed equation: Should read,

$$\begin{aligned}\frac{\partial^2 \widetilde{U}}{\partial r^2}(r, \alpha_k, \widetilde{f}) &\approx A_{1010}\widetilde{f} + 3A_{2100}r^2 + (-1)^{k-1}(\widehat{n}-1)A_{0,\widehat{n}-1,00}r^{\widehat{n}-2} \\ &\approx \begin{cases} 2(-1)^{k-1}A_{0200}r & \text{if } \widehat{n}=3, \\ 3[A_{2100}+(-1)^{k-1}A_{0300}]r^2 & \text{if } \widehat{n}=4, \\ 3A_{2100}r^2 & \text{if } \widehat{n}\geq 5, \end{cases}\end{aligned}$$

• Page 245, below (8.121): Should read, where r_{i^*} and s_{i^*} are constants.

• Page 256, two lines below (9.14): Should read, and $\hat{\tau}(\psi) = \hat{\tau}(\psi; b)$ is a nonlinear function in ψ and $b = -A_{0300}/A_{2100} \cdots$.

• Page 263, the second line in subsubsection **Case** $\widehat{n} = 4$: Should read, Since $C(\boldsymbol{d})$ is dependent on $b = -A_{0300}/A_{2100}$,

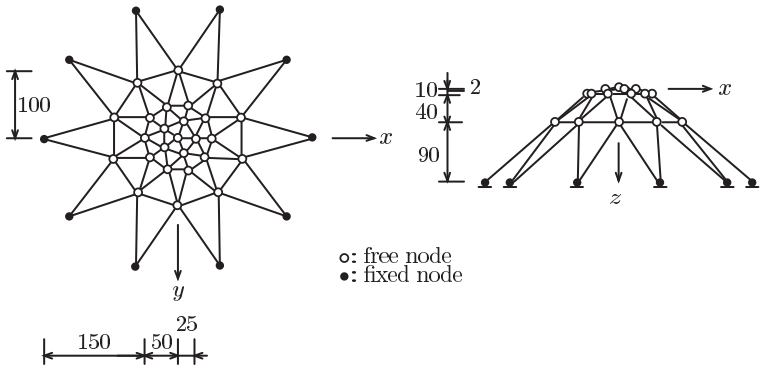
• Page 274, the 7th line from the bottom: Should read,

$$\mathrm{Var}[\widetilde{\boldsymbol{d}}] = \mathrm{E}[\widetilde{\boldsymbol{d}}\,\widetilde{\boldsymbol{d}}^\top] = \mathrm{E}[V\boldsymbol{d}\boldsymbol{d}^\top V^\top] = V\cdot\mathrm{E}[\boldsymbol{d}\boldsymbol{d}^\top]\cdot V^\top = V\cdot\mathrm{Var}[\boldsymbol{d}]\cdot V^\top = VWV^\top = I_p.$$

• Page 278, the third displayed equation: Should read, $\mathrm{E}[\zeta] = -1.91, \cdots$.

• Page 278, just below the displayed equation $\zeta = -\hat{\tau}(\psi)y$: Should read, where $y = x^{1/3}$ and $\hat{\tau}(\psi) = \hat{\tau}(\psi; b)$ with $b = -A_{0300}/A_{2100} \cdots$.

• Page 305, Fig. 11.14: Should look



- Page 389, the first line of (13.19): Should read, $\{(+, \nu_2, \nu_3)_{\mathrm{D}_{nh}} \mid \nu_2, \nu_3 = +, -\}$

- Page 391, the fourth displayed equation: Should read,

$$\check{n} = \begin{cases} 2\widehat{n} & \text{if } \widehat{n} \text{ is odd and } \nu = -, \\ \widehat{n} & \text{if } \widehat{n} \text{ is even or } \nu = +. \end{cases}$$

- Page 394, the first line: Should read,

$$\sigma_{\mathrm{v}} \quad : \quad \begin{pmatrix} w_1 \\ w_2 \end{pmatrix} \mapsto \begin{pmatrix} w_1 \\ -w_2 \end{pmatrix}.$$

Should read,

- Page 420, from (14.34) to just below (14.35): Should read,

$$\pm k = \frac{m\tilde{n} - \tilde{m}n}{d}, \qquad \pm l \equiv mp + \tilde{m}\tilde{p} \pmod{d}, \tag{14.34}$$

where the double-sign corresponds, or alternatively by $\{\cos[2\pi(m\xi - \tilde{m}\tilde{\xi})],\ \sin[2\pi(m\xi - \tilde{m}\tilde{\xi})]\}$ with the wave numbers $(m, \tilde{m})$ satisfying

$$\pm k = \frac{m\tilde{n} + \tilde{m}n}{d}, \qquad \pm l \equiv mp - \tilde{m}\tilde{p} \pmod{d}, \tag{14.35}$$

where the double-sign corresponds, and $\cdots$.

- Page 448, the fourth displayed equation: Should read,

$$\pm k = \frac{m\tilde{n} - \tilde{m}n}{d}, \qquad \pm l \equiv mp + \tilde{m}\tilde{p} \pmod{d},$$

where the double-sign corresponds, and $\cdots$.

• Page 448, the fifth displayed equation: Should read,

$$\pm k = \frac{m\tilde{n} + \tilde{m}n}{d}, \qquad \pm l \equiv mp - \tilde{m}\tilde{p} \pmod{d},$$

where the double-sign corresponds, and $\cdots$.

• Page 494, the 5th line: Should read, $|w_1| = \cdots$.

• Page 506, [134] in the reference list: Should read, Marsden, J.E. and Ratiu, T.S. instead of Ratiu, S.R.