Corrections and Retraction

CORRECTIONS

APPLIED MATHEMATICS, POPULATION BIOLOGY. For the article "Global asymptotic coherence in discrete dynamical systems," by David J. D. Earn and Simon A. Levin, which appeared in issue 11, March 14, 2006, of *Proc Natl Acad Sci USA* (103:3968–3971; first published March 7, 2006; 10.1073/pnas.0511000103), the authors note that on page 3971, inequality **25** holds only for particular classes of matrices $\tilde{\mathsf{M}}$, and strict inequality never holds (Theorem 5.6.9, page 297 of ref. 12). The authors are grateful to Jinhu Lü for recognizing this error. The argument given in the paper proves the following revised version of *Theorem 1* (page 3970).

Theorem 1. *Let X be a convex subset of a Banach space $\mathcal{B}$, and suppose the fundamental map $F: X \to X$ is differentiable at each $x \in X$. Suppose that $\|D_xF\|$ is bounded in X, and let $r = \sup_{x\in X} \|D_xF\|$. Suppose M is a stochastic $n \times n$ matrix, and define $\tilde{\mathsf{M}}$ as in Lemma 2. Let $|||\cdot|||$ be any matrix norm for which there exists a compatible monotone vector norm, and let $\mu = |||\tilde{\mathsf{M}}|||$. If $r\mu < 1$, then the full map $\vec{\boldsymbol{F}}: X^n \to X^n$, defined by $\vec{\boldsymbol{F}}(\vec{\boldsymbol{x}}) = \mathsf{M} \cdot F(\vec{\boldsymbol{x}})$, is globally asymptotically coherent, i.e., every initial state $\vec{\boldsymbol{x}}_0 \in X^n$ asymptotically approaches a coherent trajectory. If $r < 1$, then $\vec{\boldsymbol{F}}$ has a globally asymptotically stable fixed point.*

The authors note that all l_p norms are monotone, so the matrix norm $|||\cdot|||$ in the theorem can, for example, be taken to be any matrix norm induced by an l_p vector norm. The simplest examples are the maximum column sum and maximum row sum matrix norms, which are induced by the l_1 and l_∞ vector norms, respectively. The original statement of *Theorem 1* is valid for some classes of matrices (for example, if $\tilde{\mathsf{M}}$ is normal or triangular) but may not be true in the generality stated. In applications, the matrix M will almost always be primitive; if M is not primitive, then $\mu \geq 1$, in which case the theorem has nontrivial content only in the situation where $r < 1$.

The authors also note the following typographical errors, which do not affect the conclusions of the article. On page 3968, Eq. **7** should read: "$\mathsf{M} \cdot \boldsymbol{e} = \boldsymbol{e}$." On page 3969, Eq. **14** should read:

$$\mathsf{M} = \begin{pmatrix} m_1 & 1 - m_1 \\ 1 - m_2 & m_2 \end{pmatrix}, \qquad [14]$$

and on page 3970, left column, first full paragraph, "unless $m_1 = m_2 = 0 \ldots$ or $m_1 = m_2 = 1$" should read: "unless $m_1 = m_2 = 1 \ldots$ or $m_1 = m_2 = 0$." On page 3971, in Eq. **24d**, there should be no primes (e.g., "$x_1' - x_n'$" should read: "$x_1 - x_n$").

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CHEMISTRY. For the article "Dewetting-induced collapse of hydrophobic particles," by X. Huang, C. J. Margulis, and B. J. Berne, which appeared in issue 21, October 14, 2003, of *Proc Natl Acad Sci USA* (100:11953–11958; first published September 24, 2003; 10.1073/pnas.1934837100), the authors note that on page 11953, right column, eighth line from the bottom, "$\varepsilon = 592.5$ cal/mol" should read: "$4\varepsilon = 592.5$ cal/mol." This error does not affect the conclusions of the article.

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MICROBIOLOGY. For the article "Evolution of sensory complexity recorded in a myxobacterial genome," by B. S. Goldman, W. C. Nierman, D. Kaiser, S. C. Slater, A. S. Durkin, J. Eisen, C. M. Ronning, W. B. Barbazuk, M. Blanchard, C. Field, C. Halling, G. Hinkle, O. Iartchuk, H. S. Kim, C. Mackenzie, R. Madupu, N. Miller, A. Shvartsbeyn, S. A. Sullivan, M. Vaudin, R. Wiegand, and H. B. Kaplan, which appeared in issue 41, October 10, 2006, of *Proc Natl Acad Sci USA* (103:15200–15205; first published October 2, 2006; 10.1073/pnas.0607335103), the author name J. Eisen should have appeared as J. A. Eisen. The online version has been corrected. The corrected author line appears below.

B. S. Goldman, W. C. Nierman, D. Kaiser, S. C. Slater, A. S. Durkin, J. A. Eisen, C. M. Ronning, W. B. Barbazuk, M. Blanchard, C. Field, C. Halling, G. Hinkle, O. Iartchuk, H. S. Kim, C. Mackenzie, R. Madupu, N. Miller, A. Shvartsbeyn, S. A. Sullivan, M. Vaudin, R. Wiegand, and H. B. Kaplan

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BIOCHEMISTRY. For the article "Enzyme–microbe synergy during cellulose hydrolysis by *Clostridium thermocellum*," by Yanpin Lu, Yi-Heng Percival Zhang, and Lee R. Lynd, which appeared in issue 44, October 31, 2006, of *Proc Natl Acad Sci USA* (103:16165–16169; first published October 23, 2006; 10.1073/pnas.0605381103), the authors note that on page 16167, at the top of the right column, the references to steady states 1 and 2 are switched, as may be seen from inspection of Table 1. The corrected text should read: "In continuous culture, a $DS_{EM}^{E_T}$ value of 2.72 is obtained based on microbial and SSF steady states 2, for which ≈75% of the feed cellulose was hydrolyzed. For microbial and SSF steady states 1, for which ≈66% hydrolysis was achieved, $DS_{EM}^{E_T} = 4.70$. Values for enzyme–microbe synergy on a pellet cellulase basis, $DS_{EM}^{E_P}$, are quite similar to values observed in continuous culture: 3.05 for microbial and SSF steady states 2 and 4.61 for microbial and SSF steady states 1." This error does not affect the conclusions of the article.

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MEDICAL SCIENCES. For the article "Human cancers express a mutator phenotype," by Jason H. Bielas, Keith R. Loeb, Brian P. Rubin, Lawrence D. True, and Lawrence A. Loeb, which appeared in issue 48, November 28, 2006, of *Proc Natl Acad Sci USA* (103:18238–18242; first published November 15, 2006; 10.1073/pnas.0607057103), several references to nucleotide instability (NIN) should have appeared as point mutation instability (PIN). On page 18238, in the key terms, "nucleotide instability (NIN)" should be replaced with "point mutation instability (PIN)." On page 18239, in the last sentence of the first paragraph of the *Discussion*, "nucleotide instability or NIN" should read: "point mutation instability or PIN." Last, on page 18239, in the last sentence of the second paragraph of the *Discussion*, "an increase in NIN" should read: "an increase in PIN." The online version has been corrected. These errors do not affect the conclusions of the article.

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RETRACTION

GENETICS. For the article "A common mutational pattern in Cockayne syndrome patients from xeroderma pigmentosum group G: Implications for a second XPG function," by Thierry Nouspikel, Philippe Lalle, Steven A. Leadon, Priscilla K. Cooper, and Stuart G. Clarkson, which appeared in issue 7, April 1, 1997, of *Proc Natl Acad Sci USA* (94:3116–3121), the editors wish to note that Steven Anthony Leadon has submitted a letter to PNAS that states, "I have recently had the opportunity to review some of the raw data used for Figure 6 in this paper in the above-referenced publication and it is clear that the data as reported in this figure cannot be relied upon. Therefore, I request that you retract Figure 6 of this paper." Fig. 6 is hereby retracted.

Leadon's request for retraction of Fig. 6 is part of a Voluntary Exclusion Agreement Leadon entered into with the U.S. Department of Health and Human Services (HHS) through the Public Health Service and the Office of Research Integrity in the case of *Steven Anthony Leadon, University of North Carolina.* The specific terms of the Agreement between Leadon and HHS are published in the Notice of Findings of Scientific Misconduct from HHS [71 *Federal Register* 110 (June 8, 2006/Notices), pp 33308–33309].

The editors also wish to note that the other authors of the PNAS article (Thierry Nouspikel, Philippe Lalle, Priscilla K. Cooper, and Stuart G. Clarkson) and the communicating member (Philip C. Hanawalt) have submitted the following statement to PNAS: "Figs. 1 through 5 in the PNAS paper document experiments performed by Thierry Nouspikel and Philippe Lalle in Stuart Clarkson's laboratory in Geneva, in which it was established that XP-G patients with severe early onset Cockayne syndrome (CS) produce truncated and unstable XPG proteins but that a pair of mildly affected XP-G siblings without symptoms of CS are able to synthesize a full-length product from one allele with a missense mutation. The conclusion was that XPG must have a second function in addition to its role as a structure-specific nuclease in nucleotide excision repair. The validity of that conclusion is not challenged by the retraction of Fig. 6, and the abstract stands correct. The conclusions of the paper have been confirmed independently by a number of laboratories [e.g., Shiomi *et al.* (2004) *Mol Cell Biol* 24:3712–3719; Tian *et al.* (2004) *Mol Cell Biol* 24:2237–2242; Zafeiriou *et al.* (2001) *Pediatr Res* 49:407–412; Emmert *et al.* (2002) *J Invest Dermatol* 118:972–982]."

Solomon H. Snyder, Senior Editor, PNAS

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