

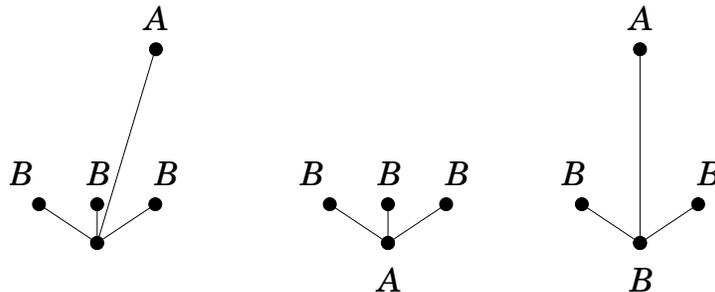
*Errata to*  
**Unsolved Problems Concerning Random Walks on Trees**

*Classical and Modern Branching Processes,*  
K. Athreya and P. Jagers (editors), Springer, New York, 1997, pp. 223–238.

by RUSSELL LYONS, ROBIN PEMANTLE, AND YUVAL PERES

On page 223, transience should be for  $\lambda < m$  and recurrence for  $\lambda \geq m$ ; the occurrence at the bottom of the page of “latter” should be “former”. On page 225, the description of the binary tree with pipes in Example 2.1 should have that a particle of type 2 has *two* children of type 2, not one.

Example 2.2, on pp. 225–226, is incorrect. The covering tree of the graph in Fig. 3 is instead described using the following figure:



Three trees are shown, one with root of type  $A$  and one with root of type  $B$ . In all cases, the long edges are of length 31. The full tree  $T$  is obtained by adding a copy of the tree of type  $A$  to the leaf of type  $A$  in the first tree and a copy of the tree of type  $B$  to each of the leaves of type  $B$  of the first tree, and repeating *ad infinitum*. The tree  $T$  may be viewed as a deterministic, irreducible, multi-type Galton-Watson tree with 33 types.

On page 228, the formulas for  $\pi_1(\lambda)$  and  $\pi_2(\lambda)$  have a spurious factor of  $\sqrt{\lambda + 1}$  in their denominators. On page 229, Question 2.2 should restrict  $\lambda$  to be in the open interval  $(0, m)$ . On page 229, we state that the inequality in Question 2.3 is not valid for general trees; on page 231, we state the same thing about Question 3.5. Both our statements are incorrect. In fact, B. Virág has a 1998 preprint establishing these inequalities. We should have said that Kenyon’s examples show that the following strengthening of the inequality in Question 2.3 is not valid for general trees, even for those produced by multitype Galton-Watson processes:  $\text{speed}(\lambda, T) \leq \text{speed}(\lambda, T^*)$  if  $T^*$  is a spherically symmetric tree with the same level sizes as  $T$ .

The current electronic version of our paper incorporates all these corrections. We are grateful to Serdar Altok for noticing some of the mistakes in the original.

DEPARTMENT OF MATHEMATICS, INDIANA UNIVERSITY, BLOOMINGTON, IN 47405-5701  
rdlyons@indiana.edu  
<http://mypage.iu.edu/~rdlyons/>

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF PENNSYLVANIA, DAVID RITTENHOUSE LABORATORIES, 209 S. 33RD STREET,  
PHILADELPHIA, PA 19104-6395  
pemantle@math.upenn.edu  
<http://www.math.upenn.edu/~pemantle/>

DEPARTMENTS OF MATHEMATICS AND STATISTICS, UNIVERSITY OF CALIFORNIA, BERKELEY, CA 94720-3860  
peres@stat.berkeley.edu  
<http://www.stat.berkeley.edu/~peres/>

15 Aug. 2005