Yet Another Proof of the Cascade Decomposition
Theorem for Finite Automata: Correction

by

PAUL ZEIGER

Dr. Jurg Nievergelt of the University of Illinois has pointed out that Method II can be blocked in a way not covered in lines 9 and 10 of page 227 (*Math. Systems Theory* 1 (1967), 225–228): if sgrp A consists entirely of permutations and resets, then T will be the ideal of resets and V the group of units; Method II will then produce a first component that is permutation-reset, and hence no simpler than the original automaton. To salvage the proof we eliminate the resets from this first component by modifying the method as follows: Let st $B_1 = V$ instead of T, then whenever u is in T, let $p' = p$ (instead of $\underline{u}$), and $r' = p^{-1}$ (the state to which $\underline{u}$ resets), instead of $p(r)$. This method (call it IIA) then suffices to decompose a permutation-reset automaton into a permutation automaton followed by a reset automaton; since the methods as originally stated bring an arbitrary automaton to a cascade of permutation-reset automata, Method IIA finishes the job.

Invariance for Ordinary Differential
Equations: Correction

by

JAMES A. YORKE

We wish to make some corrections to our recent paper*. At the end of the statement of Theorem 2.3 on p. 357, add the words:

". . . *if* $g(x)$ *is subtangential to* V *for all* $x \in \Lambda$." On p. 360, line 4, insert $J \cap I$ between the words "so" and "is". On p. 361, line 16, add the phrase ". . . when $\varphi = w(\varphi(t), u(t))$ almost everywhere" after the word "Then", and, in the last display, replace the first equality sign by $\leqq$, noting (1) that this display is valid for almost all τ, and (2) that it now follows that $V(\varphi(t), t)$ is an *absolutely continuous* non-increasing function.

On p. 363, line 6, the condition that $t_n \to \infty$ is needed, and in lines 19–20, $t + t_n$ should be replaced by $t + t_{n_i}$. On p. 368, the reference should be to Theorem 3.3, not Theorem 3.6.