

GALLOWAY'S BOOK ON RUNNING



*A Unique Approach to Running Recommended by:
Bill Rodgers • Dr. Kenneth H. Cooper • Frank Shorter •
Dr. Joan L. Ulliyot • Bob Anderson • Dr. George Sheehan*

More Praise for Galloway's Book on Running:

"I don't just endorse these thoughts and this book with my words. Jeff Galloway has led me to replot my own running course along the same lines as his. That's the highest compliment one running writer can pay another."

—Joe Henderson
West Coast Editor, *Runner's World*

"If there were a literary Olympics, Galloway's book would take the gold in the distance events — running away."

—Fred Hatfield
Editor-in-Chief
Sports Fitness Magazine

"Jeff Galloway is as dedicated a person as ever graced the running scene I'm sure this book will be of immense value to runners of all ages and both sexes, whether they are serious competitive runners, or in the sport for the fun and good health derived."

—Arthur Lydiard
Coach of New Zealand's Olympic
running champions in 1960

"Galloway doesn't preach. He doesn't say this is the only way. He makes recommendations and gives you the facts to support the recommendations, enough facts to find your own way if that's more to your liking. In short, Galloway's book seems to be everything a running book ought to be."

—Eric Olsen
*Women's Sports and Fitness
Magazine*

FREE RUNNING POSTER: For complimentary 4-color 30 x 40" poster of cover of this book, write Shelter Publications, Inc., P.O. Box 279, Bolinas, CA 94924.

“Just when you thought that everything had been written about the simple act of running, along comes Jeff Galloway.”

—Bob Cooper
City Sports Magazine

“Jeff Galloway has made an Olympic contribution to fitness and running with his new book . . . ”

—Bill Bowerman
1972 USA Olympic Track Coach,
Coach Emeritus,
University of Oregon

“I am stimulated by everything Jeff Galloway writes about running. He understands the mind and heart of the runner . . . ”

—Richard G. Lugar
United States Senator, Indiana

“Jeff Galloway, one of the authentic pioneers of the modern running movement, has given us a wise and welcome addition to the sport’s literature.”

—James F. Fixx
Author of *The Complete Book
of Running*

“Jeff Galloway’s experience as a nationally ranked distance runner and years of promoting running at all levels makes him the best possible source for the wealth of information contained in this book.”

—David L. Costill, Ph.D.
Author of *A Scientific Approach
to Distance Running*

GALLOWAY'S BOOK ON RUNNING

New and Revised
by Jeff Galloway

Illustrated by
Richard Golueke
Edna Indritz
David Wills

Shelter Publications, Inc.
Bolinas, California, USA

Copyright © 1984 by Jeff Galloway

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system without the written permission of the publisher.

Distributed in the United States by Random House, Inc., and in Canada by Random House of Canada Ltd., as agent for Shelter Publications, Inc.

Library of Congress Cataloging in Publication Data

Galloway, Jeff, 1945.

Galloway's Book on Running.

Bibliography: p.

Includes index.

1. Running. 2. Running-Training. I. Title.

GV1061. G34 1984 796.4'26 84-5585

ISBN 0-936070-03-X

ISBN 0-394-72709-6 (Random House)

We are grateful to the following publishers for permission to reprint portions of previously published material:

Runner's World for portions of the article *Road Racing in America* by Jeff Galloway that appeared in October, 1982, December, 1982, and March, 1983

Tafnews Press for portions of *Computerized Running Training Programs* by James B. Gardner and J. Gerry Purdy. Copyright 1970 by *Tafnews Press*

First printing: August, 1984

23 22 21 20 — 02 01 00 99

(Lowest digits indicate the number and date of most recent printing)

Printed in the United States of America

Write, call, or email us for a free copy of our catalog:

Shelter Publications, Inc.

P.O. Box 279

Bolinas, CA 94924

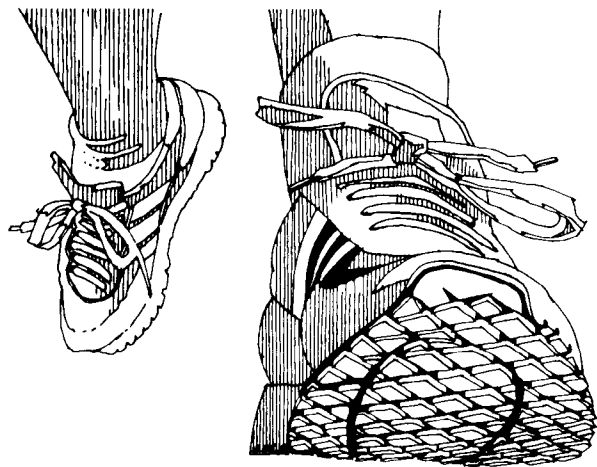
415-868-0280

Orders: 1-800-307-0131

Email: shelter@shelterpub.com



Visit Our Website
SHELTER ONLINE
<http://www.shelterpub.com>



CONTENTS

STARTING the right way is important. Here is a new type of running program, whether you are a brand new runner, or starting over. The five stages in the evolution of a runner—with the different physical and psychological characteristics of each stage and a simple program for getting started.

1. THE RUNNING REVOLUTION 14

Running in New Zealand, 16
Jogging in America, 17
Aerobics for Fitness, 19
The Final Push by Runners, 20

2. THE FIVE STAGES OF A RUNNER 22

The Running Journey

The Beginner, 24
The Jogger, 25
The Competitor, 26
The Athlete, 28
The Runner, 30

3. GETTING STARTED 32

Monitor Your Pulse Rate, 33
Five Steps to Getting Started, 34

TRAINING is the heart of a sound running program. How the body works in relation to running, running "injury-free," why you should plan your running program in advance, the value of a runner's log and the concept of a training pyramid.

4. PHYSIOLOGY 38

What Happens Inside When You Run

The Most Important Training Principle, 39
Aerobic/Anaerobic Exercise, 42
A Physiological Look at "The Wall," 44
Blood Chemistry, 47
Fast Twitch/Slow Twitch Muscles, 48

5. PLANNING 50

Where to Start

Running Slow in Order to Run Fast, 52
The Training Pyramid, 53
Base Training, 55
Hill Training, 57
Speed Training, 58

6. YOUR RUNNING LOG 60

Plan For Your Goal, 62
Monitor Your Morning Pulse and Weight, 65

7. DAILY & WEEKLY MILEAGE PROGRAMS 66

The Importance of Rest

Getting Stronger, 68
The Cause of Most Running Injuries, 68
Stress & Rest, 70
The Easy Day Rule, 72
Rest After Races, 72
The Easy Week Rule, 74
Cold Weather, 76
Hot Weather, 77

RACING gives you something to aim for. Speedwork, including interval training and "fartlek," how to judge your pace, and the art of racing 10K's or marathons. A special training program for running (and finishing) a marathon and racing tips for advanced competitors.

8. SPEED 82
Top of the Pyramid

You Can Run Faster! 82
Fartlek, 84
Interval Training, 86
Warmup for Speedwork, 87
Most Frequent Cause of Speed Injuries, 90

9. PACING 92
Race Pace, 93
Adjusting Race Pace for Heat, 95

10. THE ART OF RACING 96
10K to Half Marathon
Riding the Peak, 99
Eating & Drinking Before the Race, 100
Hurting, 103
Tapping the Source, 104
The Countdown, 106
10K Training Charts, 108-114

11. RUNNING THE MARATHON 116
On as Little as 3 Miles a Day
A New Look at "The Wall," 118
Running Your First Marathon, 119
Improving Your Marathon Performance, 121
Recovery After the Marathon, 122
Marathon Training Charts, 123-131

12. THE ADVANCED COMPETITIVE RUNNER 132

Workouts, 133
Common Mistakes, 134
Weekly Hill Workouts, 135
Two Weekly Speed Sessions, 136
Advanced Fartlek, 136
Advanced Interval Training, 137
Barefoot Running, 138
Racing Strategy, 140
The Kick, 141
Bursting, 142



TUNING

complements a sound running program: form work, stretching and strengthening, running exercises and drills, and using will power to run faster. There is also a chapter on women's running, with emphasis on running during and after pregnancy.

13. FORM 146

How to Run Stronger & Better

Erect Posture, 149

Armswing Tips, 150

Shorter Stride = Faster Running, 151

The CHP Rule, 152

Form Accelerations, 154

Running Form for Hills, 155

14. STRETCHING & 158

STRENGTHENING

Relaxing & Balancing

How Runners Should Stretch, 161

Three Runners' Stretches, 162

Strengthening Exercises, 166

15. RUNNING EXERCISES & DRILLS 170

How to Strengthen & Improve Form

Knee Lifters, 172

Kick Outs, 173

Hill Springs, 174

Bounding, 175

16. WILL POWER 176

17. WOMEN'S RUNNING 182

By Barbara Galloway

Structural Differences in Women, 184

Menstrual Irregularities, 186

Running With a Passenger, 189

*Getting Back in Shape After
the Baby, 193*

INJURIES

can be treated so as to speed recovery and get back on the roads soon. What to do right after an injury—before you see a doctor—and alternative exercises to stay in aerobic condition when you can't run. There are recommended lay-off times, starting-back workout routines and details on the four major runner's injuries: knees, Achilles tendons, heels and shins.

18. THE WALKING WOUNDED 198

When Is It an Injury? 199

Before You See the Doctor, 200

Exercises to Do While Recovering, 202

If You Can't Exercise at All, 204

Getting Back on the Road, 206

What Went Wrong, 207

19. INJURY ANALYSIS & 208

TREATMENT

Knee Problems, 211

Achilles Tendon Problems, 216

Plantar Fascia & Other Heel

Problems, 219

Shin Problems, 222



FOOD is the runner's fuel. Since runners need and burn more energy than sedentary people, good nutrition and appropriate foods are important components of an endurance running program. Principles of eating for best performance, food and water tips for racing, and why running is such a good activity for shedding excess fat.

20. NUTRITION 228

Protein, 230
Fat, 231
Carbohydrates, 232

21. FUEL 236

Eating for Performance
Carbo Loading, 236
Fluids, 237
Pre-race Dietary Countdown, 239

22. RUNNING OFF FAT 240

Set Point, 241
Lose Fat, Not (Necessarily) Weight, 242
The 40-Minute Goal, 243
Coffee & Heavy Hands, 244

SHOES are obviously the single most important part of a runner's gear. To choose the right ones, you must determine if your foot is "rigid" or "floppy", straight or curved. A shoe selection checklist for shoe shopping, advice on shoes appropriate for specific injuries, and different lacing techniques.

23. SHOE SECRETS 248

Breakfast at Bowermans, 249
The Rigid Foot, 251
The Floppy Foot, 252

24. SHOE SHOPPING 256

Shoe Selection Checklist, 258
Injuries That Influence
Shoe Choice, 259

START TO FINISH

is a section on younger and older runners. Should kids run? Running programs for ages 5 to 18. What happens after 40? How increased concentration can get the over-40 runner into trouble and the value of running every other day.

25. SHOULD KIDS RUN? 262

26. RUNNING AFTER 40 264

APPENDIX

Predicting Your Race Performance, 271
Race Pace Chart, 274
Selected Reading List, 276
About the Author, 280
References, 282
Index, 283
Credits, 286



INTRODUCTION

IT WAS 1973. A beautiful September dawn was breaking over the Oregon Cascades as I headed east, racing through the early morning mist in an old Volvo sedan. My reliable car cruised along in fourth, but my mind shifted into neutral: it was time for reflection. What had I been doing for the past seven years?

I guess I was the running equivalent of a ski bum, working for college degrees in history and social studies during the school year, and following the racing circuit each summer. I'd had some wonderful times those summers—rich and varied experiences. I'd made lots of friends, shared the joys and agonies of racing with other competitors, traveled abroad and seen practically every state in the union.

One summer I'd been to Russia as a member of the U.S. National Track and Field team. At a track meet in Minsk, a crowd of 50,000 cheered only for their countrymen; victorious Americans were met with stony silence. No Holiday Inns awaited us in Dakar; we stayed in grass huts. Temperatures in this town on the west coast of Africa were so high that officials handed us water-filled sponges as we ran. In Morocco we ran a cross-country race on a horse track with a detour in the middle through a mud hole.

Another summer I bought a Eurail pass and traveled from one end of Europe to the other. I once ran an afternoon race in Luxembourg, then caught the midnight train to Torino, Italy, for a race the next day. Oh, for the resiliency of youth!

In 1972 I'd realized my life's dream: making the U.S. Olympic team. I'd also set an American record in the 10-mile. I felt happy about these achievements. But that was then. Now, though, rolling across Oklahoma, I realized I had to begin thinking about the future. I'd finished graduate school and had my teaching credentials, but after one year of teaching fourth grade in Raleigh, North Carolina, I missed the excitement of traveling and running. Yet I knew I couldn't keep driving around the country in an old car forever.

By the time I got to Nashville, I knew what I was going to do. With my eyes fixed on the road and a cup of coffee in hand, I dreamed of a running store stocked with the best gear, staffed by runners trained in the science of fitting shoes. Then I imagined a summer camp in the mountains where people could vacation and run with some of the world's best coaches. I could still be a teacher, I decided, but not one who would sit in front of a row of desks.

The idea seemed timely, for something new seemed to be

happening with running. New faces were starting to appear on the roads. The serious and often eccentric competitors were still out there of course, but now people of all ages, shapes and abilities seemed to be trickling out into the streets, sidewalks and parks. The vitality of regular endurance running was not only personally addictive, but socially contagious.

There was also a growing sense of communication among runners. People compared notes and traded tips. Runners began asking me questions and I enjoyed trying to work out creative solutions to their problems. It seemed that what I'd learned on the racing circuit could be helpful and instructive to everyday runners.

After arriving home, I found a store with the cheapest rent in Tallahassee—\$125 a month. It was hardly in a prime location: a suburban neighborhood next to a beauty parlor, with no walk-by traffic. I withdrew my life's savings of \$4000, borrowed \$2000 from my grandmother and started learning the rudiments of running a retail business. At first we had no credit rating and very few equipment or clothing manufacturers would sell to us. The only shoe suppliers that would set up accounts for us were a warehouse operation with leftover Converse high-tops and a brand new unknown company called Nike. Since no one knew the store was there, and no one walked by, I printed up flyers and handed them out to students as I ran through nearby college campuses. Somehow we survived these growing pains, and after a year and a half, moved to Atlanta.

By 1976 the running boom was on, and business started picking up. By 1978 we were firmly established. There are now over 35 Phidippides stores nationwide and Vacation Fitness camps are in full swing. I've been able to make a career out of running—the dream has become a reality.

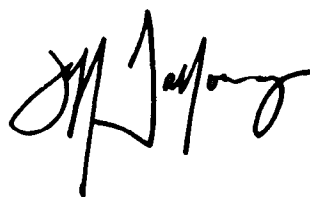
Business has its rewards, but it's the teaching that brings me the most satisfaction. I'm now back on the road (about a third of the time), conducting clinics and seminars, talking to beginners and veterans, to large groups and small.

This book was put together from hundreds of these experiences. I've learned firsthand about the problems of everyday runners, and the patterns of stress and rest that improve fitness while minimizing injury or fatigue.

There's much more to running than competition. Although a good deal of what follows will help runners go faster, the same

principles—mileage programs, a running log, good form, hill training, stretching, strength exercises—apply to runners of all levels and with varying objectives. You may be just starting to run. If so, this book will help get you started comfortably and with confidence. If you've been running for a while, you'll learn how to make running more enjoyable, to better prepare for races and to avoid stress-related injuries. Veteran competitors will find new ideas on racing strategy and improving future performance. Whatever your level or goals, you want to run intelligently, stay healthy and strong, keep your weight down, run with good form, avoid injuries and have fun.

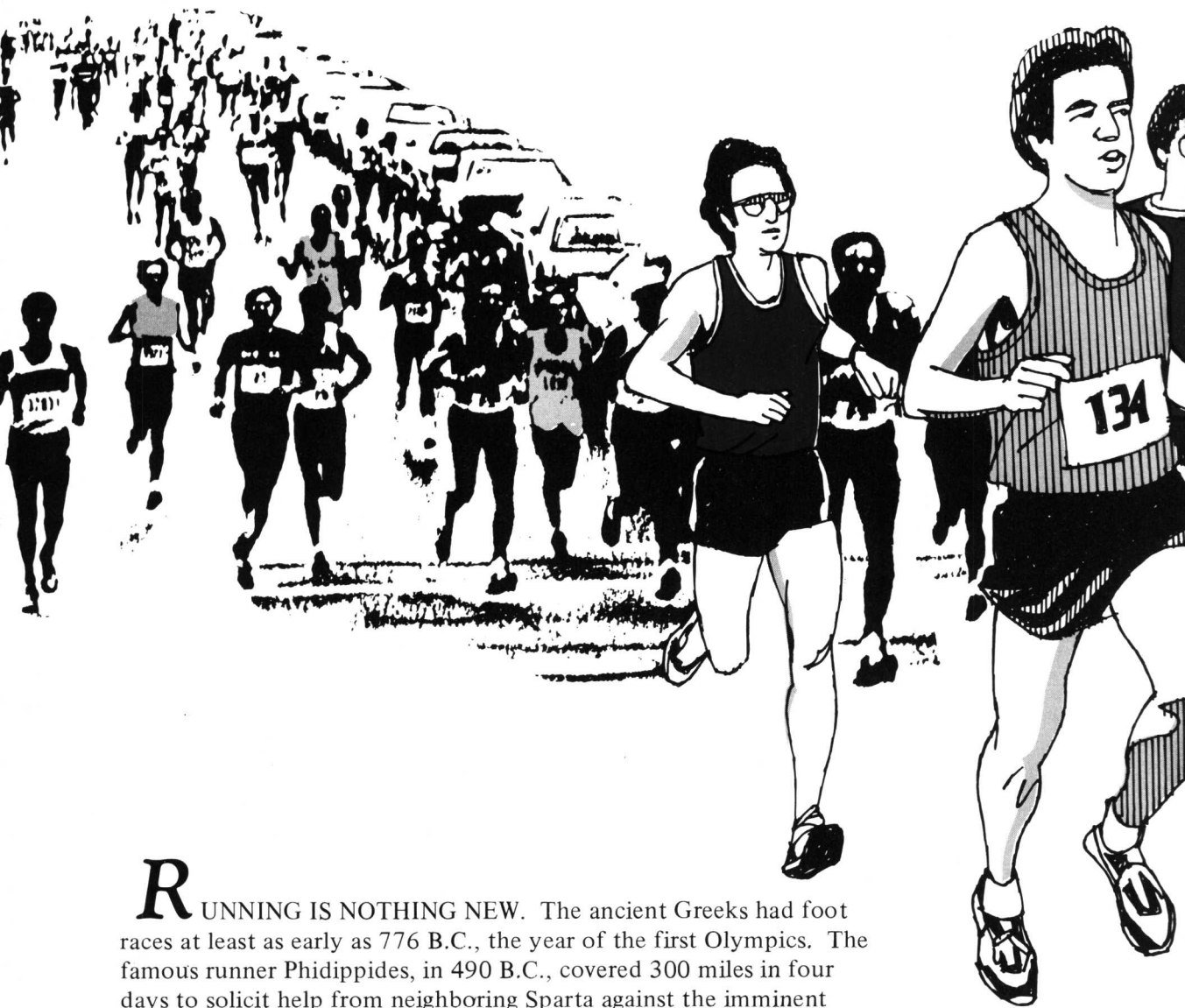
There's a great deal of information in this book, but only one message: *You can do it!* We find ourselves on this earth with a generous supply of hopes, abilities and expectations. Many people live out their lives without discovering how to rise above obstacles and enjoy the immense satisfaction and exhilaration of improving. With determination, patience and persistence, you can mold yourself into a runner and, in the process, have a more healthy and productive life.

A handwritten signature in black ink, appearing to read "Jim J. Long". The signature is stylized with a large, looped initial "J" and a long, sweeping underline.

STARTING



1 THE RUNNING REVOLUTION



RUNNING IS NOTHING NEW. The ancient Greeks had foot races at least as early as 776 B.C., the year of the first Olympics. The famous runner Phidippides, in 490 B.C., covered 300 miles in four days to solicit help from neighboring Sparta against the imminent invasion of Athens. In pre-industrial England, *footmen* were sent running ahead of horse-drawn carriages to warn their lords of danger. To this day, the Tarahumara Indians of northwestern Mexico compete in foot races and cover 150-200 miles a day—kicking a ball along the way. Running as a sport has existed for centuries, from informal tests



of ego and will, to high school track meets, to the Olympic games, but only recently have people from all walks of life taken to the roads en masse.

The reasons for running are diverse: to lose weight, become fit, feel good, reduce stress, compete, or share the experience with others. It may also have something to do with the advanced state of technology. Most work formerly done by hand is now done by machines. While our distant ancestors led physically active lives, covering long distances to gather roots, nuts and grains or to pursue game; while our grandparents or great-grandparents tilled the fields for food and handcrafted everyday necessities, we now find ourselves in a largely sedentary economy.

In increasing numbers, people are seeking to regain the health, fitness and leanness that was once natural to our physically active predecessors. A new spirit seems to have arisen. Perhaps when a society attains a high level of industrial and technological efficiency, those people who have long neglected their physical nature react and begin seeking ways to reestablish harmony between body, mind and spirit.



I was running before it caught on in America. Then in the late '60s I began to see a trickle of other runners out on the roads I once ran alone. By the early '70s, there were more and now, millions are out running regularly. It seemed to have been a natural evolution, but in retrospect I can pinpoint a few key people who helped propel running into the revolution we now see in our towns and cities: three teachers—Arthur Lydiard, Bill Bowerman and Dr. Kenneth Cooper; and three runners—Amby Burfoot, Frank Shorter and Bill Rodgers. There were many others of course, but these six were catalysts, reflecting and magnifying the spirit of the times. They were at the right places, at the right time, with the right inspiration for the new outlook that was crucial to the birth of fitness running.

Running in New Zealand. In the 1940s, Arthur Lydiard, a former rugby player, now overweight and working on the line at a New Zealand shoe factory, decided he had to make a change in his own life. Playing