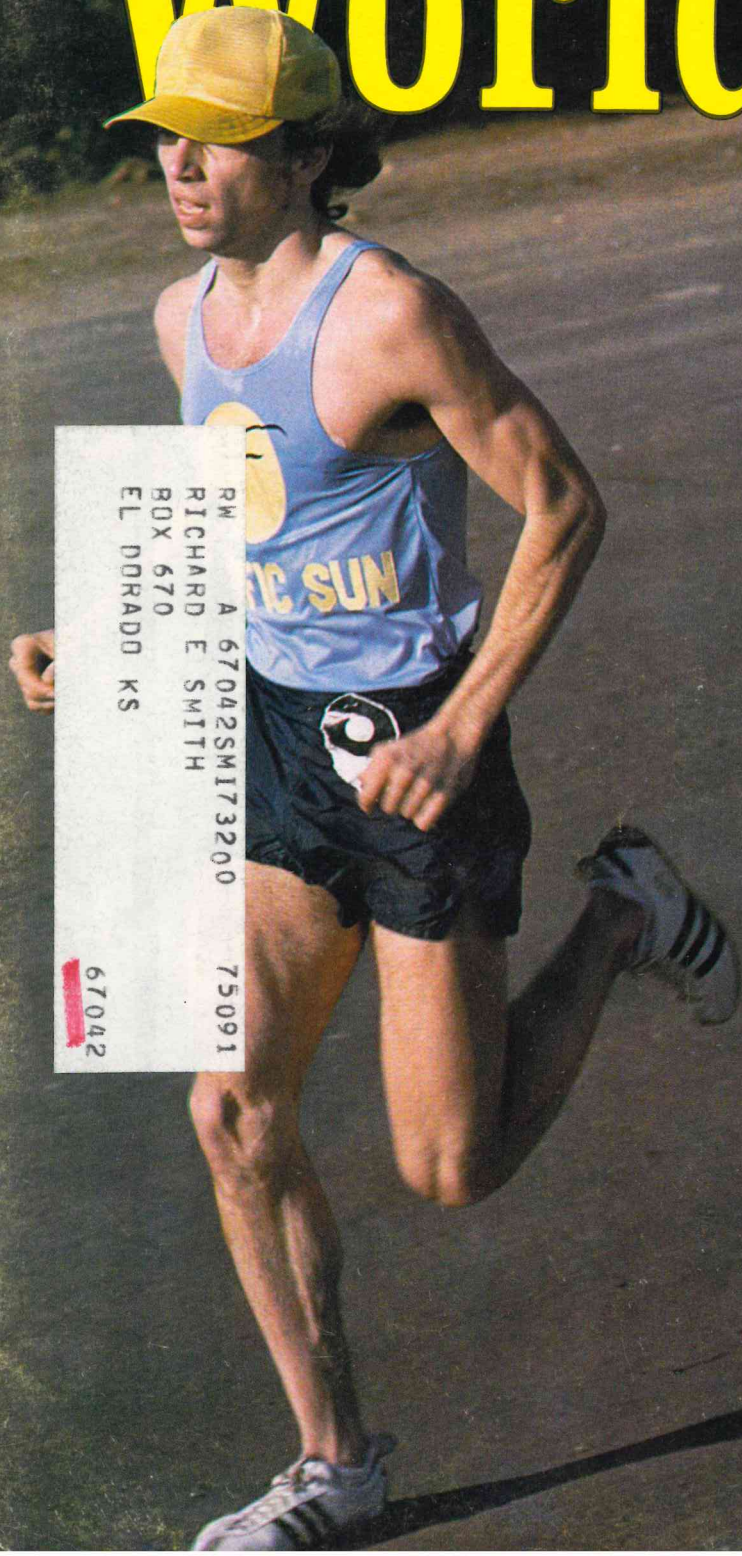


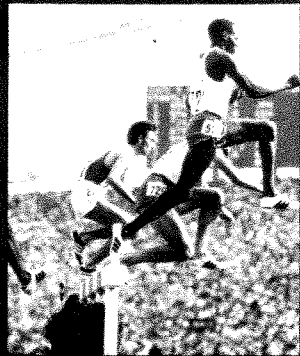
Runner's World



RM A 67042SMIT73200 75091
RICHARD E SMITH
BOX 670
EL DORADO KS

67042

PUT YOUR FOOT INTO ADIDAS!



Of the world's most popular sportshoe range:
JET – an attractive new track shoe in the low-price range.
Nylon uppers – soft ankle collar padding – cushiony heel wedge.

The new synthetic half-sole is equipped with 9 mm spikes making the sole suitable for both synthetic and clay tracks.

For over 25 years, continual research and development have been leading to the production of the technically perfect track and field shoes. That is why, adidas makes the right shoe for each event.




adidas®

More information available at your next sporting goods dealer or write to:

Libco
1 Silver Court
Springfield,
N. J. 07081 U.S.A.
(201) 379-1630

Clossco, Inc.
2200 Martin Avenue
P. O. Box 299
Santa Clara, Ca. 95050
(408) 246-8350

Vanco
5133 W. Grand River Ave.
P. O. Box 870
Lansing, Michigan 48901
(517) 485-1726

Hughesco, Inc.
2830 Merrell Road
Dallas, Texas 75229
(214) 358-4291

adidas-Canada, Ltd.
550 Oakdale Road
Downsview 479
Toronto, Ontario
(416) 742-3872-6

168 SIZES

The new
Trackster III by
New Balance



Blue with
red saddle

Orthopedically designed for men and women. Ideal for indoor/outdoor, cross country, training, competition or the jogger. Lightweight replaceable Ripple® sole, 1/2" wedge. Sponge innersoles and arch supports. Padded collar, flexible suede leather uppers have no aggravating in-seams. Saddle design for longitudinal support. Perfect fit (available in sizes 4 1/2-13, AA-EEE), allows natural foot action, helps eliminate achilles and heel problems, shin splints and sore arches. TRACKSTER III is the ONLY running shoe that has all these features.

Send us a tracing of your foot and we'll guarantee a perfect fit.



MANUFACTURED BY
NEW BALANCE

176 RW Belmont Street, Watertown, Ma. 02172

ATHLETIC SHOE, INC.

Please send _____ pair. Size: length _____ width _____
Enclosed is \$27.95 per pair which includes postage & handling.
Immediate delivery.

City

Street

Zip

Name

State



RUNNER'S World

Box 366, Mountain View, Calif. 94040

Office: 1400 Stierlin Phone: (415)965-8777

Volume Ten — March, 1975 — Number Three



COVER:

The Mission Bay race started marathoning's new year with 500 runners and some of the fastest times ever. Pictured are Joe Skaja (l) and Dennis Kasischke. (M.J. Baum)

EDITORIAL STAFF

Editor: Joe Henderson

Assistant Editor: Dave Prokop

Editorial Assistant: Hugh Bowen

Medical Editor: George Sheehan

Staff Photographers: Stan Pantovic & George Beinhorn

European Photographer: Mark Shearman

PRODUCTION STAFF

Managing Editor: Bob Anderson

Production Assistants: Jan Herhold, Ian Jackson, Bev Robinson & Diana Yee

EXECUTIVE STAFF

Publisher: Bob Anderson

Advertising Manager: Diane Teshima

Subscription Manager: Rhonda Swan

Circulation Director: Debbie Jenkins

Ass't Circulation Director: Barb Book

Bookkeeper: Judy Borrego

Office Manager: Lyman Dickson

Shipping Clerk: Terry Dickson

CONTRIBUTING EDITORS

Marc Bloom Hal Higdon

Janet Heinonen Hugh Sweeny

SPECIAL CONTRIBUTORS

Orville Atkins Brooks Johnson

Ted Brock Jerome McFadden (France)

David Corbin Brian Mitchell (England)

Jack Daniels Dan Moore

Jeff Darman Rick Riley

Elliott Denman John Romero

Tom Derderian Tom Sturak

Jim Ferstle Steve Subotnick D.P.M.

Sid Gendin David Theall

Mick Hamlin (England) Garrett Tomczak

Matti Hannus (Finland) Joan Ulyot M.D.

Kaj Johansen M.D. Ken Young

CONTRIBUTING PHOTOGRAPHERS

M.J. Baum Rick Levy

Tony Duffy (England) Jay McNally

Bill Herriot (Canada) Doug Schwab

Jeff Johnson Steve Sutton

E.D. Lacey Paul Sutton

Eastern Advertising Sales Manager:

William H. Fields, 22 Montgomery St., Boston, MA 02116 (617) 262-7532

COPYRIGHTED. No material in this magazine may be reproduced in any form without written permission.

Second class postage entered at Mt. View, CA. Postmaster please send form 3579.

PUBLISHED MONTHLY.

SUBSCRIPTION RATES—One year \$7.00; two years \$13.00 (same for US and foreign).

Single copies and back issues 75 cents each.

CONTENTS

- 14 **TIMING THE MULTITUDES**—With proper organization, the Boston marathon can handle 20,000 runners.
 - 24 **RUNNING START OF THE DAY**—What happens when training is pushed into the darkest hour?
 - 26 **GLIMPSES FROM A GREYHOUND**— Seeing 14,000 miles of the USA, by foot and by bus.
 - 30 **ENDURANCE IN CAPSULE FORM**—It's called desiccated liver, and evidence of its value is convincing.
- | | | | |
|----|---------------------------------|----|---------------------------------|
| 2 | From the Publisher | 32 | Running Till the Cows Come Home |
| 5 | Editorial: Health and Happiness | 34 | Three Strokes and Not Out Yet |
| 7 | News and Views | 38 | City Series: Miami Area |
| 10 | Interview: Lord Killanin | 40 | Medical Advice |
| 18 | Where It Pays to Know Your Pace | 42 | Looking at People |
| 20 | Even the Fast Can Go Faster | 44 | Racing Highlights |
| 22 | Three Steps to a Relaxed Style | 45 | April Coming Events |
| 28 | No Experience or Goals Required | 46 | Readers' Comments |

FROM THE PUBLISHER

When I was at the National Sporting Goods Show in Houston recently, I was amused at the number of new companies making "running" shoes. Actually, while the shoes are theoretically made for running, they are worn by people who do everything in them *but* run. One company which has been quite successful with its street-shoe line felt it should start with the "casual" market because it is bigger. This company talks of competing with adidas and other brands in its selling pitch to sports stores, and continues to refer to its models as "running" shoes.

It's good to see other companies getting into the running shoe market. For one thing, the price of shoes has really gotten out of line. And a lot of the shoes I saw in Houston were priced much lower than popular brands. The competition may bring down prices—but only if the new shoes are an improvement on current ones. Price means nothing to me if the shoe is not what I want. And it appears that many of the new companies aren't concerned with runner's needs. They have bad soles, no cushioning, good uppers but with very little of the nylon which is so popular now.

The companies that make good running shoes started with the runners in mind. Then, because runners wore their shoes, the casual buyer came along and the market grew. Most of the new companies haven't even talked with a runner. And even though their prices are lower, I wouldn't buy their shoes until the quality is improved. Blisters, knee problems, shin splints, etc., might be part of the "bargain."

Let's all hope these new companies will talk to people who know what a good running shoe is.

Bob Anderson



4th Annual Marathon-Marathon Terre Haute, Indiana June 7, 1975 7:00 AM



Excellent racing conditions on a scenic, fast course.

**Sponsored by
Marathon Oil Company
(sanctioned by A.A.U.)**

Awards Divisions: A large beautiful trophy will be awarded to the first finisher of the Marathon. Etched engraved certificates on 10" x 8" walnut plaques will be awarded to the next nine (9) top finishers overall. Etched engraved certificates on 10" x 8" walnut plaques will also be presented to the top three finishers in each of the following groups: Female, under 20, 40-49, 50-54, 55 and over. Trophies will be awarded to the top three finishers (high school age) in the six-mile race. Attractive framed certificates inscribed with name and official time will be presented to all who finish the Marathon or the six-mile race. Marathon-Marathon T-shirts will be given to all who enter.

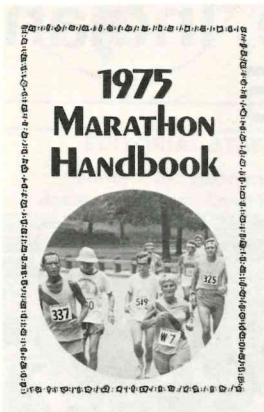
Entry deadline: June 1, 1975

For entry forms and accommodation information, contact:

**Pierre V. Burke
Marathon-Marathon
St. Marys-of-the-Woods College
St. Marys-of-the-Woods, Indiana 47876**

Did You Know

That 2400-plus US marathoners broke three hours in 1974, and that they have 150 chances to do it again in 1975? That yoga has much to teach athletes about flexibility and sensitivity?



1975 MARATHON HANDBOOK

112 pages
\$1.95

GETTING BETTER ALL THE TIME

Last year was the best ever for marathoning. And the coming one will be even better. This isn't speculation. The facts speak for themselves.

A record 2400-plus American runners broke three hours in '74. Nearly 200 women ran under four hours.

A record 150 marathons are scheduled in the United States during '75.

The new *Marathon Handbook* lists all of the sub-3:00 men and sub-4:00 women from last year...and all of the races for the coming year.

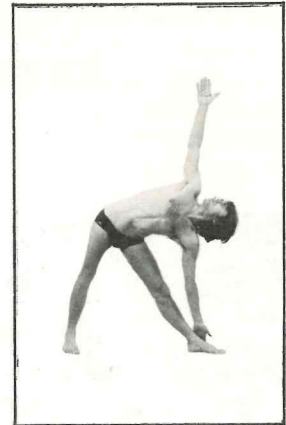
Plus the same data on Canadians...1974 world lists for men and women...all-time US, World and Canadian leaders...age-group record holders...top runners in the longer and shorter distances, 15 kilometers through 50 miles...top race walkers at 20 and 50 kilometers...full 1974 results, rules and records from the 24-hour relay.

While the *Handbook* is packed with statistics only found here, it also includes information on improving the most important time—your own. A number of feature articles tell how to make 1975 your own best year yet.

A must for all marathoners! 112 pages. \$1.95.

YOGA AND THE ATHLETE

96 pages
\$2.50



A UNIQUE MARRIAGE

Ian Jackson is something of a philosopher. He's a deep thinker with a talent for seeing common things in uncommon ways, for cutting through the fluff to the heart of matters, for linking apparently separate ideas.

But he's more than an idea man. He's a doer—a restless experimenter using his own body and mind as a laboratory. This is an account of his experiments.

Jackson is a marathoner of 2:30s class, and was a swimmer, surfer, skin-diver and soccer player in earlier years. The running gave him an anchor he'd lacked for a long time, and he held so tightly to it that it almost pulled him down. He went the familiar route of runners who overwork: first to chronic fatigue, then chronic injury.

The search for a way out of these led him to yoga. Yoga, he explains in vivid prose, has much to teach athletes about flexibility and sensitivity. It teaches them to stretch without struggling. By repeatedly "playing the edges of body and mind" but not pushing over them, they gradually push back barriers which had been immovable.

This is the essence of athletic training, and Ian Jackson is the first to see the connection.

Order yours now! 96 pages. \$2.50.

Runner's Monthly Booklet, Box 366, Mountain View, CA 94040

Please send me _____ copies of the 1975 MARATHON HANDBOOK at \$1.95 per copy.

Name _____

Address _____

City/State/Zip _____

California residents add 6% sales tax.

Runner's Monthly Booklet, Box 366, Mountain View, CA 94040

Please send me _____ copies of YOGA AND THE ATHLETE at \$2.50 per copy.

Name _____

Address _____

City/State/Zip _____

California residents add 6% sales tax.

PURSUIT OF HEALTH AND HAPPINESS

Kim Norton, a student at the University of the Pacific, has confirmed what we runners already know: that we run mainly to exorcise personal demons, physical and emotional.

Norton recently completed a study of 125 California distance runners, ages 25-72. They said they viewed their running first as "a means to health and fitness," and second as a "catharsis"—a way to relieve tension and frustration.

It's implied that running is giving them what they want, because they've averaged 40 miles apiece each week for the past several years.

It feels good to run. Well, maybe the run itself isn't always pleasant, but the effects of it usually are. Every runner knows this, and wonders why it's so hard to show people outside of running that this physical and mental glow is real and even dramatic.

The group which could be the most help in convincing non-runners to become runners is the medical profession. But the doctors are like people in general. The ones who run support it wholeheartedly. Those who don't run are skeptical of its benefits. Since non-runners far outnumber runners, the skeptics prevail.

Dr. Kenneth Cooper won over a lot of doubters with his *Aerobics* work in the late 1960s. But following the first wave of acclaim came another wave of skepticism.

Other doctors wrote books poo-hooing the values of running. They called it "boring" and dangerous. They said the claims for it were greatly exaggerated, and in fact there was little scientific evidence that running has any redeeming features.

These books didn't stop many, if any, runners. But they did discourage non-runners from starting by planting shaky logic and silly fears in their heads.

The biggest and best wave hasn't hit yet, however. It isn't really a wave just now. It's still more like separate puddles of information. But in time they will grow together to form a wave so strong that no doctor can stand against it. We've seen the independent puddles in *Runner's World* articles.

Dr. Thomas Bassler, in Los Angeles, talks about marathon-type training—in units of six miles and more—giving ab-

solute protection against fatal heart disease ("Live Like a Marathoner," Oct. 74). Dr. Ernst van Aaken, in Germany, reaches a similar conclusion in metric terms—10,000 meters a day as a minimum for everyone ("Interview," Jan. 75).

In December, the Honolulu marathon had a division for heart attack victims who've recovered with running of the kind Bassler and van Aaken prescribe. Eighteen completed. Jay Clark of Hawaii did 3:08. Herm Roberts of Canada, who only started running eight months earlier, did 3:21. All 18 runners finished and all were winners.

Stanford University scientists recently tested the blood fats of 45 middle-aged male runners who averaged at least 15 miles a week and usually much more. High cholesterol and triglyceride levels are leading causes of heart disease.

Dr. Peter Wood reports, "It is interesting to note that these older male runners show a pattern of cholesterol and triglyceride distribution that is more like that of younger women than that of males of the same age who are sedentary." (See article by Dr. Wood in Feb. *RW*.)

Wood says one 66-year-old marathoner had blood fats like those of a teenage girl. Young girls are among the least likely to have heart disease.

Runners and some doctors have suspected these physical effects for quite awhile now. The *psychological* benefits haven't gotten so much attention, yet they're just as promising. They indicate that people can literally pursue happiness.

The "Running From Worries" chapter in *The Complete Runner* tells of a study by Dr. Herbert de Vries of Los Angeles. Some patients with anxiety and tension took a strong tranquilizer. Others took a vigorous walk. The 15-minute walk had a greater calming effect than the drug, according to de Vries. The exercise soothed the patients for an hour after they stopped walking. And there were no unpleasant side-effects.

After four years of work, a British research team has found the chemical basis of happy feelings. It's a hormone-called epinephrine. Dr. Malcolm Caruthers says, "Ten minutes of suitable exercise will double the body's level of this hormone—and the effect is long-lasting."

San Diego psychiatrist Dr. Thaddeus Kostrubala employs running in his treatment and reports, "I've never experienced this kind of success in psychotherapy before." The successes include a heroin addict kicking his habit and a paranoid schizophrenic returning to school and maintaining a B average.

Dr. Kostrubala says distance running produces an "altered state of consciousness that can be called a kind of Western meditation." His patients run for an hour, then go directly to group therapy sessions. It's common, he notes, for them to feel uncomfortable and depressed in the first 20 minutes of their runs. After that, they experience "mild euphoria."

Dr. William Glasser, author of the best-seller *Reality Therapy*, polled *RW* readers in October. He said then, "I don't want to discuss the hypothesis because it would prejudice the data." The results are in now (about 500 responses) and Dr. Glasser can tell what he's checking.

"I am certain there is a good physical effect from regular exercise," he says, "But I am even more certain that for those who get into running, and do it on a regular basis, something builds which is akin to an addiction. That is, if the runner doesn't run, he feels nervous, upset, anxious, tense—a tension which is relieved only by running his prescribed amount of time."

Dr. Glasser quickly points out that this is a *positive* addiction, built through runs of about an hour. The benefits, he says, are "increased self-confidence and even increased ability to use one's imagination, which of course makes life much more enjoyable."

When these separate puddles of physical and psychological information flow together, perhaps doctors will be moved to write a single prescription like this: "Run 20 minutes a day as a minimum. Better yet, work up to an hour of steady and rhythmic running at an easy to moderate pace."

An hour a day may not always keep the cardiologist and psychiatrist away. But when they finally agree that it helps, science will have caught up to us runners. ●

NEW FROM BOSTON: SPEED SHOES

Coach Bill Squires, coach of Boston State College and the Greater Boston Track Club, has put 25 years of personal running experience into the design of shoes which will meet the needs of every runner: comfort, protection and—above all—speed. They are called the SPEED SHOES.

THE RACER



Super-light, super-fast; with a high traction, ultra-durable sole. Raised heel wedge and Spenco insole. Semi-rigid shank and arch support for mid-foot. Fits like a glove with soft, seamless interior. Wrap-around nylon uppers. For sheer speed, this shoe is unsurpassed. Seven ounces per shoe. Price: \$19.95. Re-heeled for \$2.50.

THE TRAINER



Designed for heavy mileages, with extra cushioning from heel to toe. Raised heel wedge, Spenco insole, arch-support, semi-rigid shank, heel reinforcement. Same soft, glove-like fit; seamless interiors and nylon uppers. A long distance runner's shoe with excellent speed qualities. With 800 steps per mile, why carry more than nine ounces per shoe? Price: \$21.95. Re-heeled for \$2.50, re-soled for \$7.50.

In sizes 5 to 13, A-EEE. Both shoes unconditionally guaranteed, if returned undamaged.

Add \$1.50 to the price of each shoe ordered to cover postage and handling.

Send order to:

SPEED SHOES
Box 202
Medford, Mass. 02155

NEWS & VIEWS

Potassium Drain

News of Dr. Rose's findings (reported in his book *The Lazy Man's Guide to Physical Fitness*) has some caused concern among runners. The University of Nebraska researcher concludes that runners may develop potentially dangerous potassium deficiencies which affect heart action.

I am one of the prime proponents of aerobic exercise and consider that running is probably the best way of obtaining aerobic fitness. Although cross-country skiing is supposedly better, it can be compromised so that its aerobic potential is diluted. Not so with running. You cannot fake it.

But I am also a physician interested in physical fitness for everyone, and I am a pragmatist. The report of the President's Council on Physical Fitness and Sports released last year showed that less than 5% of the American population were able to participate in the degree of physical activity recommended in an aerobics program. This leaves 95% of our population who are turned off by the requirements of such a program, either through constrictions of time or facility availability, or by sheer physical inability to do the needed muscular activity.

The ardent runner forgets these people. I cannot. In our book, Mr. Martin and I hope to hold out to them a ray of hope that all is not lost and that they do not necessarily have to run to improve their state of fitness to a degree that will permit them greater enjoyment of their life. Thus, we offer them relatively simple means whereby, within the constrictions of the urban environment, they can make a start toward long lost physical fitness.

Now to the potassium question. I am a scientist as well as a physician. I consider nothing to be completely answered. I also think that the person who considers that the ultimate has been reached in anything is intellectually dead and he should move aside to make room for those who pursue the truth. Thus, I think it out of place for anyone to take exception to documented scientific information and I have been receiving some.

While reviewing my data collected over some 15 years on middle distance and distance runners (in which I had over

165 subjects' data) I was struck suddenly by the high incidence of relatively significant resting hypokalemia (potassium deficiency).

The crux of the whole thing is, if the ardent runner and jogger is not aware of his potassium loss while participating in such sustained vigorous exercise, he is subjecting himself to the risks of a possible cardiovascular event unless he takes care to supplement his diet with additional amounts of this valuable ion. The cardiovascular events I allude to are those once called by Dr. Joe Wolfe, "electrical deaths"—i.e., arrhythmias. Cast your mind about and recall the joggers, runners, cross-country skiers, etc., who have died this way but whose deaths have been reported to be due to the plugging of an artery in the heart by a clot, a "coronary."

I submit that a non-runner who wishes to run or jog, as well as a runner who is careless about his diet, should bear this information in mind. I am not a proponent of medicinal or the common "ade-type" potassium supplements, believing that adequate natural food ingestion is all that is needed.

I would also be the first to admit that this information, too, is not the final answer and that there are many, many aspects of exercise physiology that are yet to be discovered, and much of it will be in the area of electrolyte physiology.

Of course, all of this appears in *The Lazy Man's Guide to Physical Fitness*, by Rose and Martin, Great Lakes Living Press, Box 11611, Suite 3200, Tribune Tower, 435 Michigan Ave., Chicago, Ill. 60611.

From Kenneth D. Rose,
M. D.

Older and Faster

Ruth Anderson, of Oakland, Calif., ran a 3:17 marathon late last year at age 45. Earlier, she won the first international race for women.

If anyone had told me two years ago that I would be as happy and proud to be known as "over-40" as I now am, I'd have been more than skeptical. The excitement of being part of the emerging Masters women category in long distance running is like being an explorer landing on a fascinating new territory. Even better than the solitary adventure is the dis-

RUNNERS!! TRAIN LIKE THE CHAMPIONS

With personalized daily training schedules from

Athletic Training Systems

The concept of personal training programs by subscription is introduced here for the first time. As a subscriber you will get:

- Computer analysis of your performance ability.
- Personal workout schedules for your event and ability.
- New updated schedules every four weeks.
- Performance goals based on analysis of your training.

Your personal training program is based on the most modern methods — plus computer analysis.

Cost as low as 50¢ per week

WRITE TODAY FOR DETAILS!

TRACK COACHES!!

Athletic Training Systems

Can provide you with daily workout schedules for all your runners. One or more groups in each event can have their own schedule.

WRITE TODAY FOR DETAILS!

Send to:

Athletic Training Systems
P.O. Box 1381
Torrance, Ca. 90505

Name: _____

Address: _____

City: _____

State/Zip _____

Are you? (Check)

- A coach A runner

covery of my fellow pathfinders who seem to share a very similar feeling toward the wide new horizon opening up to us. The challenge is first to find out what we can do as individuals, then in competition with our own age-group.

At least 17 Masters women ran marathons under five hours in 1974, compared with nine the year before. Many of us ran more than one marathon (I ran six). The more impressive figures are the 10 new age records, with Luanne Kralick's 3:12:25 topping the list.

Several of these women have only been running two or three years. Nicki Hobson, for instance, ran her first marathon in 3:30 last February. In December, Nicki set the age-44 record with a 3:15:20, the second best Masters women's time.

Sixty-one-year-old Burnis Hicks started running in February 1972 and completed the JFK 50-miler that March, just six weeks later. The following year, she ran both the J.F.K. 50-miler and her first marathon.

That is some act to follow, but credit is also due runners like Mary Boitano and Marcie Trent, who started their marathon careers in 1968 and are still turning in age-record performances.

The desire to keep in good health, trim down, improve cardiovascular systems and tune up for other sports were reasons why these masters women's started running. But the encouragement from running husbands and children, along with already "hooked" friends, also played a significant role.

When Carroll O'Connor ran her first marathon, she won the mother-daughter award with daughter Kathleen. Many of Mary Boitano's marathon runs have been shared with her daughter Mary Etta, her son Mike and husband John. Catherine Smith's husband, Ross, a top Masters runner himself, has been more than an inspiration to her.

For Masters women, recognition in races is just beginning. Six over-40 women completing the AAU women's championship marathon last February. Ten Masters women completed the first international marathon for women in West Germany in September. Catherine Smith and I had the great thrill of competing with our European counterparts.

Of the over-40 women marathoners I have met, all exhibit the enthusiasm this running interest has provided. The vigor and good health have really set time back for us. In fact, to quote my husband, "Long distance running may truly be the 'Fountain of Youth' we have all been searching for."

From Ruth Anderson



Jim Bush, UCLA Coach

European Coaching Clinic Tour

Led by Jim Bush (UCLA) and Ernie Bullard (San Jose State)

Meet with some of the World's top coaches.

- 5 Days in London
- 3 Days in Paris
- 7 Days in Italy
- 10 Days in Germany
- 3 Days in Rome

Stay in Olympic Village in Munich.
July 5-August 3, 1975

Special programs for wives while clinics are in progress. Fantastic leisure time and sightseeing programs planned.

No other track coaching tour has ever been done like this before. Learn how the Europeans have produced so many great athletes in recent years.

30 Days—\$1595

For information, write to EUROCOACH,
1303 Crestridge Drive, Oceanside, CA
92054. Phone (714) 757-1342.

Name _____

Address _____

City _____

State _____ Zip _____

Home Phone _____

We'll call you and answer all questions.

Keep on Pushing

Young, who both runs and race walks, is a columnist for the British magazine *Athletics Weekly*. He holds the world record for the 24-hour walk.

Having listened to, read about and appreciated the various schools of thought on training—whether they be LSD-, interval-, Lydiard- or Cerutti-inclined—I now offer my own method. It is used to a lesser or greater extent, I believe, by the majority of leading long distance runners and race walkers in Britain.

For over a quarter-century, most of my training (and the *entire* mileage during the last 15 years) has been accomplished without recourse to track work, intervals, repetitions or flat-out sprints. It's out the front door for a nightly hour or so, with the weekly "long one" of a couple of hours on Sunday mornings.

The application is always the same: to make the outing mentally satisfying and physically demanding, but always ensuring that I am recovered sufficiently to repeat the dose throughout the year, carry on with all the everyday activities one gets involved in, and—most important—keep a deep reservoir of mental aggression and physical energy for all races.

While the effort remains virtually constant, the pace varies considerably due to many factors. The extra clothes worn in the cold of winter dictate that the pace is slower than on those balmy summer evenings when one is stripped for action. The time of day also has a bearing on the speed, as do the surface, traffic and hills.

Having been closely associated with Britain's top distance runners (to the ex-

tent of coaching a world record holder) and race walkers for nearly three decades, I can confidently say that the method set out above has been used by them with slight variations.

The long slow distance (LSD) devotees appear to be convinced that because other methods involve varying amounts of suffering and self-punishment, they cannot be as enjoyable as "the painless jog" or continued for the same period of time.

However, I can assure all readers (and I am sure I speak for the multitude of fellow distance addicts) that I obtain the greatest satisfaction in punishing myself daily in training. For me, that is what it is all about... the feeling of driving oneself out onto the roads no matter the hour, the place or the weather, and spewing out the sweat, mastering the body, feeling the inner glow of having given it plenty of effort.

In other words, it's "comfortably uncomfortable" for me all the way. If forcing yourself is the way you enjoy your training, carry on.

From Colin Young

I'm All Right, Mom

Mom never wanted me to be a runner.

She had hopes I'd amount to something. At first, of course, she thought of the priesthood, but she soon realized I'd have enough trouble getting myself to heaven, let alone some other poor soul. Then the professions—law, medicine, banking—or some position with an office, a desk and white-collar respectability.

She tried to keep me on the right path, but I fell in with this group of guys, started to hang out around the fieldhouse got the smell of analgesic balm in my nostrils and before she knew it...went bad.

At first, I tried to hide it. I'd run home from school, but when I got in sight of the house I'd stop and kind of amble in. I took a job as a caddy and got in some good workouts jogging around the 36 holes or more. Mom would worry about my not gaining weight and would pile on the potatoes, butter and fried chicken, but I could always blame the job and the summer sun.

Winters were harder, though. I couldn't explain running down the road in my galoshes, so I did a lot of walking in snow drifts. In the evenings, when I went to bring in the cows, I could get in some hill work. But the sweat! I was always coming in the house with sweat dripping from brow to eyelashes and salt caked at the corners of my mouth.

Mom kept hoping, I'm sure, it was from some effort like doing the chores...but it wasn't.

In high school, it all came out in the open. I made the team and the tell-tale signs were now obvious facts. Mom tried to understand, but I'm sure it was tough on her when other mothers bragged about their sons the football players, the musicians, the basketball heroes and she had to admit I spent my out-of-class time running around in brightly colored underwear, losing weight and competing in meets where the contestants outnumbered the spectators.

Once in college, it wasn't quite so bad. Out of sight, out of mind, helped ease Mom's plight. Plus she didn't have to wash that sweat gear any more. On my high school team, you didn't qualify as a runner until your sweat gear could stand up by itself in your locker. Washing it once a year must have been an experience. However, college coaches apparently have more sensitive olfactory nerves because we got clean gears almost as often as the baseball players.

It was great in college. Regular practices, time trials, meets, even an occasional all-weather track. I indulged, knowing that only in the summer would my family have to explain I really was normal even if I did keep running through the neighborhood, rousing the dogs.

Then, I met The Girl. Mom took hope at that, and the feeling began to grow in her I was done with the perambulatory arts. I definitely stunted that growth, I think, when she saw me loading my running gear into the car with the rest of the honeymoon luggage. Come to think of it, that Girl had rather a funny look about then, too.

NEW TRACK TIMERS

Complete Selection
MINERVA • LEMANIA • HEUER
HANHART • GALLET • JUNGHANS



We have them all...
For immediate delivery

LIGHT WEIGHT
FIBERGLASS CASE
WRIST TIMER
7 jewels
60 Sec. sweep,
60 Min. center reg.
Easy to read dial

SPECIAL \$47.50

LEMANIA 501.218


Write for FREE Catalog
showing our complete line of stopwatches.

WE SPECIALIZE IN STOPWATCH REPAIRS

FELDMAR WATCH CO., INC.
9000 W. Pico Blvd., Dept. RW
Los Angeles, Calif. 90035, (213) 272-1196

The Jim Ryun Running Camp

For Boys 9-19



3 Locations / 4 Sessions

Pepperdine University, Malibu, Ca.	June 29-July 5
Cleveland, Ohio, Day Camp (Coed)	July 28-Aug. 1
Marymount School, Santa Barbara, Ca.	Aug. 17-23 or Aug. 24-30

For Free Brochures Write or Call:
P.O. Box 30325
Santa Barbara, CA 93105
(805) 687-0725

Learn to Run with Ryun
A Division of Invest West Sports

So it has gone. The college team has faded into the past only to be replaced by the track club, road races and the RRCA. I've acquired a few more pounds, about a million new training techniques, four sons and, at last, Masters status.

Now don't get me wrong. Come right down to it and I'm sure I'd make the right decision that my wife and family come first. Plus I've never skipped a day at the office in order to take an overdistance workout. And I was almost sure Mom had, at last, become resigned to her oldest son's peccadilloes. But I must confess she did look a bit strained after our visit with her and Dad when I left for home an hour early so I could run part way and have the rest of the family pick me up along the route.

Mom never *really* wanted me to be a runner.

From Tom Coyne

Split Decisions

Buckner wrote "Taking the Measure of Courses," in the September 1974 issue. He is a surveyor and a professor at the Ohio State University.

After reading Dan Moore's article on "Proper Pace for the Long Race,"

(Dec. 74), I paused to consider the difficulty in applying his suggestions. Of the several marathons I have run, only two had each mile marked, and only one of these seemed to be laid out accurately enough to use for pacing.

An error in each mile of 20-25 yards shows up as about five seconds variation on a watch. This is starting to be significant in the runner's mind if he is concentrating on trying to hold a previously decided pace.

Most marathons have markings only every five miles, some with large inaccuracies in these distances. Many omit the 25th mile, a highly important one. Some mark an approximate "miles to go" figure.

It seems many race directors think that runners want the markers, but need them only in approximate terms, failing to realize that many of us plan our pace carefully, wear a watch and concentrate on each mile. The race director who thinks in approximate terms is usually the same one who gives split times only to the nearest minute as he shrugs and says, "What's the difference in a race this long?" Such race directors miss the point of the importance of pacing and are cheating the runner out of maximum fulfillment from his racing experience.

I would recommend that each mile be marked, from the start, and measured to an accuracy of at least 10 yards. Courses that involve several loops might have precise fractional distances marked and the distances listed on the information sheet mailed before the race so that runners could precalculate their times at various points. Only if courses are measured accurately and marked frequently can Moore's ideas on pacing be applied.

From Ben Buckner •

SAN FRANCISCO AREA RUNNERS AND VISITING RUNNERS

—Join us on Sunday mornings for a Fun-Run. Foothill College, Los Altos Hills. 10:30 a.m. No sign-ups. No entry fees. Certificates for everyone based on time. The April schedule:

6th—quarter-mile, half-mile, three-mile, yoga instruction.

13th—half-mile, mile, six-mile.

20th—quarter-mile, mile, 4¼-mile.

27th—half-mile, mile, five-mile.



THIRD ANNUAL ACACIA CHERRY BLOSSOM CLASSIC

10-MILE OPEN RUN

Washington, D.C., Sunday, April 6, 1975, 9:00 a.m., East Potomac Park Golf Club House, Hains Point.

2-MILE RUN FOR FITNESS

at 9:05 a.m., East Potomac Park.

REGISTRATION

8:00-8:45 a.m. Ten milers also check in during this period; must be pre-registered by March 30.

Sponsored by

Acacia Mutual Life Insurance Company

Directed by

D.C. Road Runners Club in cooperation with Metropolitan Washington YMCA.

PRACTICAL AWARDS:

Acacia Cup to 10-mile winner; awards to first five in twelve age groups; first 15 women; first three- 5-person AAU registered teams.

Commemorative patches to all finishers in both events.

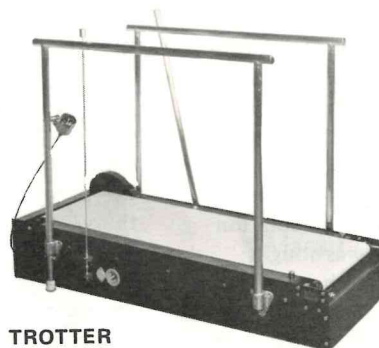
Refreshments. No fees.

For information, send large self-addressed, stamped envelope to:

Jeff Darman

2737 Devonshire Pl., N.W., Apt. 119
Washington, D.C. 20008

MOTORIZED TREADMILL MODEL C-22



**TROTTER
Treadmills, Inc.**
95 Marked Tree Road
Holliston, Mass.
Tel. (617) 429-5821

Request
Brochure

US Patent No. Des. 231,678

- Standard Speed Ranges: (1.78 to 5) (2.6 to 6.8) (3.1 to 8.1) (3.5 to 9) (3.65 to 9.5) mph.
- Belt Speed is infinitely variable thru entire range.
- 18" wide, endless constructed running belt.
- 1.5 h/p (AC) motor of rugged design & quiet operation.
- Precision speedometer with recording odometer.
- Solid 1.5" tk. smooth, low friction support structure.
- No rollers under belt to develop hot feet.
- Ultra-quiet operation for maximum comfort.
- Manual elevation up to 15% grade.
- Chassis constructed from heavy gauge steel (12 gauge)
- Designed for minimum and easy maintenance.
- Guarantee: All working parts for one year.

LORD KILLANIN

How this article came about is a story in itself. Some background is in order to put the interview in proper perspective.

I lived in Dublin from 1969 through December 1971. My flat on Pembroke Road was a mere two blocks from Lord Killanin's home. During the first summer there, I met the now-sports editor of the *Irish Times*, Gerry Noone, who mentioned that I should meet Lord Killanin at the Pearl Bar.

Unfortunately, I never followed up on the invitation. The next time I heard of Lord Killanin, he had succeeded Avery Brundage as president of the International Olympic Committee.

In the last two years, I have planned a half-dozen trips back to Ireland that never came off. Finally, in late 1974, I arranged to go, and decided I would attempt to interview Lord Killanin. *Runner's World* expressed interest, but it was up to me to make it happen. I wrote one friend in Dublin who had some connections and was a runner. But in typical Irish fashion, no reply was forthcoming. So it was on complete speculation that the actual interview was sought.

We drove from Letterkenny in the northwest corner of Ireland to Dublin on Wednesday with several intermediate stops. First stop in Dublin was my solicitor's (lawyer) office, thence to the Shelbourne Hotel to check in and immediately to 30 Lansdowne Road, Lord Killanin's home and office. As I was walking up the steps to the door, a young lady with two dachshunds was leaving, along with Lady Killanin.

I explained my mission to Lady Killanin and she invited me into the foyer of her home, then excused herself to call Lord Killanin's secretary. The secretary, Norma MacNanaway, received a similar explanation and said tomorrow, Thursday, was impossible since the Lord was tied up all day and would be unavailable Friday. However, he would be happy to see me *now* for 10 minutes if that was agreeable.



Johnny Morris photo

On being shown into Lord Killanin's study/office, I had the distinct feeling of being ushered into a reigning monarch's throneroom (1970s style). And if you think about it, it is not far off the mark. The study has more the appearance of a combat operations center with phones and recorders about the tables, plus innumerable papers and messages. It has wall-to-wall books on every subject, though I noticed only those on sports. There is a glass case for his numerous medals.

Michael Morris, the third Baron Killanin, is a very astute and successful international businessman and banker. His interests range from cinema and journalism, to business and public service. He has been credited as producer of *The Quiet Man*, though he prefers "associated with" the production. Prior to World War II, he worked as a journalist for several London papers. Today, he is a director of 13 firms, including his own Killanin Estates, Irish Shell, BP Limited, and several banks.

Lord Killanin was completely open and made no attempt to accelerate the

interview. It lasted almost an hour. He brings to the IOC a wealth of expertise in modern management that may prove critical to the salvation of the movement, particularly in light of problems encountered in the recent past.

The following day, I was in the Pearl Bar with Ray Gallagher, racing editor (alas, horses, not humans) of the *Irish Times*. Ray felt the interview with Lord Killanin was a stroke of pure (Irish) luck. Normally, the Lord is so busy between personal and Olympic business that such interviews are rare.

RW: Lord Killanin, what security arrangements have been taken to prevent a repeat of the massacre at Munich?

Lord Killanin: You must go to Montreal and discuss that subject with the host country. It is a matter left to the Canadians, who are more than adequately caring for it. I can say that Montreal has been studying intensely the entire security situation. This does present us with one severe problem—i.e., over-reaction with security and making the Olympic Games too secure, thus making it diffi-

cult for the press to report it to the world—something we can't do.

RW: Since your assumption of the IOC presidency, what changes do you feel have been in the forefront?

Lord Killanin: The IOC has been greatly liberalized and has taken a much more realistic approach. Such would be the rules regarding scholarships. You must remember each national federation may have stricter rules regarding individual athletes' behavior, and we cannot overrule them as such.

RW: Race walking is of particular interest to our readers. What is the position of the IOC relating to these events at Montreal?

Lord Killanin: We are keeping the 20-kilometer walk but have done away with the 50-kilometer race walk. It was the IAAF program committee's recommendation to the IOC. Perhaps they feel the event is outmoded or lacking sufficient interest from a representative number of nations. The main point or position (is) that the responsibility of staging a particular event lies with the Federation and not with the IOC per se.

RW: As we both know, women are making inroads into previously all-male areas. In track will women compete in events over 1500 meters?

Lord Killanin: Again, this is a Federation (IAAF) question and one to be resolved there, not with the IOC, although I'm certain they will listen to the Committee. Team sports can now add women. Where a federation expresses a desire for women (competitors) in an event, it will depend on the country. So with track, Fred Holder, secretary of the IAAF would be the authority on that question.

As it stands now, we have eight women's running events. When you have 132 countries eligible to compete, the logistics are monumental. For the moment we must draw the line. However, this is not an inflexible rule.

RW: Lord Killanin, you have alluded to the "people problems" of the Olympics. Would you elaborate more on this?

Lord Killanin: It is not only the people, but the contributing factors—specifically, the physical facilities that are provided for the athletes. We expect 8000-10,000 competitors in the Olympic Village at Montreal. Needless to say, this will generate problems that have to be faced.

Athletes may associate on the basis of language as might be the case for, say, English- or French-speaking African na-

The New Marathon



The adidas Marathon shoe is the latest addition to the long line of fine adidas shoes. This fantastic racing shoe is manufactured in accordance with the long adidas tradition for superb quality. It features a super soft, ultra-light goat skin upper that molds to your foot like a sock, giving you better fit and protection from blisters. Perhaps the most revolutionary feature of this shoe is its ultra-light and super shock absorbent midsole. Nestled between your foot and the fast gripping, hard rubber sole, it guarantees you the utmost in comfort and support. This superior racing shoe is capped off with a finely crafted heel counter and a well padded achilles tendon protector. We advise you to order your own pair of Marathons today—before your competition does. Sizes: 7-12. \$37.95.

adidas® 

A limited number of these fine Marathons are now available to you, our readers. Back orders will be filled first, others on a "first come, first served" basis. Act now—you won't be able to find these great shoes anywhere else!

Please send me _____ pair(s) of the adidas Marathon shoe, in size _____, I have enclosed \$37.95 plus \$1.00 postage. California residents please add 6% state sales tax.

Name _____
Address _____
City/State _____
Zip _____

Starting Line Sports
P.O. Box 8
Mt. View, CA
94040

tions or Spanish-speaking countries. Or perhaps associations develop on a sport basis, as I mentioned.

Referring to the facilities of the Olympic Village, Montreal must accommodate the larger number we expect for the two weeks of the Games. Then the host country is faced with the problem of disposing of the Village afterwards.

The federations are making ever-increasing demands on the organizers for improved technical facilities. This may be good for the athletes, but not the organizers who have to pay the bill.

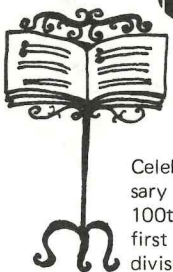
Montreal is making provisions for utilization of Olympic sites not just during the Olympiad but for the future, something that is imperative in today's international economic situation.

RW: Then you are saying Montreal is attempting to meet problems that have resulted in the past—as an example, an idle city of unusable buildings that comes from poor planning?

Lord Killanin: Most definitely, they have drawn on the 1968 Mexico City and 1972 Munich experiences. A case in point, Montreal has scheduled most preliminary events in smaller halls then holding the final event in the stadium to afford maximum exposure. With the current economic pressures, this optimizes utilization of our available resources.

We don't want to have white-
elephant facilities after the Games.

MUSIC CITY RUN



Saturday,
March 29, 1975

Celebrating the 100th Anniversary of the Nashville YMCA. 100th Anniversary awards for first through fifth places in all divisions.

One of the largest runs in the Southeast. We look for over 500 runners. Events for everyone, awards for every finisher. Divisions: Grade 1 to 9 (boys & girls), High School through all older age divisions, even 30 & up Women and 60 & up Men. Special Record Breaker awards. Three courses: 1.5-mile, 6-mile and 11-mile in a beautiful park.

Contact Mr. Kent Rea, YMCA, 1000 Church Street, Nashville, Tennessee 37203.

BOSTON MARATHONERS - BOSTON

M
A
R
A
T
H
O
N
E

N
M
A
R
A
T
H
O
N
E

All runners will receive a 10% discount on all items. We have Boston marathon tee shirts, nylon shorts, socks, and the finest selection of racing shoes. Choose one of NIKE's great racing shoes - the BOSTON, WAFFLE TRAINER, or the OREGON WAFFLE. Items will be available at race site or from THE ATHLETIC DEPARTMENT 195 CONCORD STREET FRAMINGHAM, MASS.

RS - BOSTON MARATHONERS - E

The point is, if the planners cannot project post-game utilization of the Olympic facilities, host countries are going to become a scarce commodity and thus endanger the very existence of the future of the Games.

RW: Lord Killanin, I'm sure as IOC president you cannot show any favoritism or partiality, but how do you view the Irish team's chances?

Lord Killanin: Of course I'm neutral! However, I am well aware that Olympic competition is becoming exceedingly more difficult for the smaller countries and emerging nations. While a particular nation may have athletes with exceptional native ability, if it doesn't possess the coaching and physical facilities, all is for naught. Ireland does not have a Tartan track or a 50-meter pool. Thus it would be difficult to produce competitors to meet the Olympic standards.

In order to assist the smaller and not necessarily rich countries, some of the TV money generated in the Olympics will be channeled to the smaller countries for athlete development in conjunction with their respective governments, international federations or national Olympic committees.

RW: What is your feeling, then, about athletes taking foreign scholarships?

Lord Killanin: Again referring to the Irish situation, it certainly didn't hurt Ron Delany who went to Villanova and took a gold medal in Melbourne in 1956 (for the 1500). Similarly with the case of Neil Cusack and East Tennessee

State (1974 Boston marathon winner).

RW: How do you resolve the differences in the way athletes are subsidized in many countries, while others do not permit or go to great lengths to discourage acceptance of any monies?

Lord Killanin: As you know, control of track and field in the US lies with the AAU. Eastern (European) countries provide government-type jobs which allow the athletes time off to train. The

LIONS GATE INTERNATIONAL MARATHON

British Columbia Championship

SATURDAY, MAY 24th, 1975
STANLEY PARK
VANCOUVER, BC, CANADA

For information contact:

Don Basham, Director
2032 Deep Cove Crescent
North Vancouver, B.C.
Canada V7G 1T2



**Now
YOU CAN WEAR IT!**

E.R.G., the perfect runner's drink, presents the perfect runner's shirt—the E.R.G. T-shirt! This is a high quality 100% cotton Southern Athletic T-shirt, highlighted by a full-color E.R.G. symbol. Impress all of your friends—psyche out your competition—be the first runner in your marathon to sport one of these distinctive shirts.

E.R.G. shirts are available free with the purchase of one case of E.R.G., or separately for only \$3.00 each. Just fill out the order form below, and your own E.R.G. T-shirt and a case of E.R.G. will be coming your way.

Please send me the following:

- E.R.G. T-shirt \$ 3.00
- Sample (3 pkg.) 2.50
- Box (10 pkg.) 7.40
- Case (24 pkg.) plus T-shirt 16.55
- Three Cases (72 pkg.) . . . 41.50

Each package makes one half gallon of E.R.G. Postage included in all prices.

Yes! I'd like to wear an E.R.G. T-shirt. I take size: S M L XL (circle one—allow for 10% shrinkage). Enclosed is \$_____. (California residents add 6% sales tax.)

Regular Flavor Lemonade

Name _____

Address _____

City/State/Zip _____

Starting Line Sports
P.O. Box 8, Mountain View, CA 94040

IOC has liberalized its rules in this regard, but it is a matter that rests with the federation (of the individual country). Unfortunately, the world will never be fair to everybody.

RW: The training schedule required for world-class competitors can run to three hours per day for Frank Shorter in the marathon and six hours that Mark Spitz reportedly spent. Don't you feel that this involuntarily restricts participation to a select group?

Lord Killanin: Yes. As I said, it is inherently unfair and we are trying to correct the inequities in the system. The Australian swimmers generally practice three hours before school and a similar amount after school. That's necessary to compete at the Olympic level.

RW: Would you comment on past practices where athletes in Olympic competition have been exposed to abuses from commercial sources.

Lord Killanin: We feel strongly about the individual athletes. They should be protected against advertising exploitation. Each federation should be kept free of any influence or pressures which would limit the competitors. However, if the individual athlete wants to be a pro, then jolly good luck to him!

RW: Media coverage has given considerable insight into the problems that confront the organization of the Games, particularly in the last two Olympiads. Is there a solution?

Lord Killanin: We recognize that each host city that gets the Games must set up a *human structure*. This didn't necessarily happen at Mexico or Munich. However, to insure the proper administration of the Games, it has become the critical factor. The organization at Montreal has the advantage of knowledge of past errors and is actively drawing on ways to improve on the experiences of Munich and Mexico City.

RW: What is your forecast for the 1976 Games at Montreal?

Lord Killanin: The only snag we have now is the ironworkers strike which has halted construction of the stadium and main pool. I expect settlement momentarily (it was in fact settled two days after the interview). The strike has delayed construction of the prime facilities for the Games—i.e., the main stadium, the swimming pool and the press center.

The real problem we now have is time. This is not only due to delays through unforeseen strikes, but also due to delays in finance and planning. Time is short. Time is short. ●

Run Gently, Run Long



Run Gently, Run Long is a little about racing success and how to achieve it. But it's mostly about running longevity and how to last. Running, says author Joe Henderson, is too good to be thrown away for a fleeting career as a racer, no matter how temporarily rewarding that career may be.

Run Gently, Run Long talks about the same things Henderson discussed in his famous "LSD" book five years ago. But this is not "LSD Revisited." It's rather a new definition of long slow distance, correcting wrong ideas and filling in holes left by the first book.



Joe Henderson is uniquely qualified to write such a book. He's editor of *Runner's World* magazine and an active runner himself.

Henderson skillfully brings readers up to date on the "state of the art" in gently-paced distance running by alternating chapters on his own experiences and the general principles underlying them. The experiences are personal and fleeting, he writes. The principles are universal and lasting.

RUNNER'S WORLD
P.O. Box 366, Mt. View, CA 94040

Yes! Please send me _____ copies of *Run Gently, Run Long* at \$2.50 per copy, plus 15 cents postage and handling. I enclose full payment. (California residents, please add 6% sales tax.)



Name _____

Address _____

City _____

State/Zip _____



TIMING THE MULTITUDES

by Marshall Childs

We are entering the era of mass races in which many hundreds or even thousands of runners want a piece of the starting line. Race organizers should rejoice in their new-found popularity, not react by restricting entries. Efficient organization should permit all races to be open to all comers. I agree with Hal Higdon that a mass marathon at the Montreal Olympics is a stirring thought. It is also possible.

Let me offer my comments in terms of the Boston marathon—not because I want to criticize the Boston Athletic Association which sponsors it, but because thousands of runners like myself have ruminated on that venerable institution while running it. Sense impressions of “The Boston” tend to remain vivid in the minds of runners.

There is much heat and confusion over the large number of runners attracted to the Boston marathon. Arguments rage over how many runners is too many, and what the precise cutoff mechanism should be. It’s like the argument over how many angels can dance on the head

of a pin. The answer depends not on how big they are but on how well they are organized.

By now, everyone knows that the Boston can no longer be run the way you would run an ordinary road race, with naked vocal chords, a single stripe across the road, and pencil and paper.

Director Will Cloney writes (July 74 *RW*) that “the logistics are appalling” and that facilities are strained to the point that “our friends at Prudential are afraid that their tower may come tumbling down.”

And race official John Semple says that establishing a series of different standards for different categories of runners “would just create more headaches, more scrutiny and more ‘strangers to the truth’ than we already have” (July 74 *RW*).

With proper organization, the Boston marathon can handle 20,000 runners as well as 2000, to the delight of runners,

Photo of the 1970 Boston marathon, by Jeff Johnson.

officials and spectators alike. But you organize many thousands of runners differently from the way you would organize 1000 or 2000. Some steps toward good organization have already been suggested in *RW*, and I’ll put them together with my suggestions under four headings: (1) before the race, (2) at Hopkinton, (3) along the route, and (4) at the finish.

BEFORE THE RACE

The chief task before a race is establishing who is going to run and how runners will be recognized both by officials and by the public. Since 1970, when increasingly stringent rules of eligibility have been declared by the BAA, the worries over liars and cheaters have grown more severe. You will remember that before 1970 the worries were directed more at “freaks,” defined as runners who had not trained seriously for a marathon. I suspect that the following measures would prove less aggravating for all concerned.

1. *Let all comers run.* Accepting all entries is easier than trying to enforce

With proper organization, the Boston marathon can handle 20,000 runners as well as 2000.

complex rules of eligibility. It would reduce the confusion at the finish line because there would be fewer runners without numbers and with crazy numbers. It would swell the field by no more than about 25%, judging from the numbers of entries in the years since 1969. The additional runners wouldn't clog up the finishing chutes at the busiest times, because they come in after the peak finishing times (see "At the Finish").

2. *Decentralize processing entry blanks.* What they are looking for are valid AAU numbers and signatures. Bob Mueller points out that entries could best be handled by local AAU associations, thus spreading the load from one to many and placing the task of judgment on officials who are likely to know their local runners. But even if the race organizers don't trust the paperwork to leave Boston, the fact remains that additional help is needed to free the most experienced people from routine details.

3. *Don't make a fetish of keeping runners honest.* As races draw more and more runners, there are bound to be falsified entries, runners who find it convenient to start the race in Newton, runners with illegal food and drugs, etc. But they will be few and they don't matter much.

The top runners are in the perpetual limelight and find it difficult to cheat. Any runner who lies or cheats knows he or she is doing it and has to live with himself or herself. The runner's desire for genuine personal accomplishment has always been far more effective than the most vigilant race official.

4. *Establish an information center to give quick answers to the thousands of questions about the course, the status of entries, eligibility and so on.* A special telephone number and staff are necessary in order to satisfy not only runners but also the public and representatives of the media without hounding the top officials.

5. *Assign numbers to runners in blocks based on ability levels.* For example, all runners who indicate a recent best marathon time of 2:30-2:40 might be assigned the block of numbers between B001 and B999. The numbers would be used in Hopkinton to assign runners to starting positions.

6. *Acknowledge entries by sending out the actual numbers 10 days before the race.* This way runners would be able to

go straight from their hotels to the starting line, clad and shod to run.

AT HOPKINTON

The good people of Hopkinton don't hate runners. In fact, they are flattered to have so great an event as the Boston marathon begin on their doorsteps. They like the one day of excitement, the merchants do a good business, the people work the marathon into their public celebration of Patriots' Day. And the town gains a few good citizens who come to run and are sufficiently taken by its quiet New England charm to become residents. Race organizers can take several steps to make things go smoothly in Hopkinton.

1. *Rent large tents for dressing on the village green.* Rent portable toilets. The only thing wrong with the town of Hopkinton is that it can't be expected to build permanent facilities to handle a once-a-year crowd of marathon runners. It's up to the race organizers to use as few permanent facilities as possible, and to truck in those extra facilities that are needed.

2. *Have no check-in.* Runners should proceed directly to their starting bullpens. An exception may be desirable for the top-seeded runners (times under 2:30 in the previous year). These special attractions need to be present an hour before starting time more for the convenience of the media than for the purpose of keeping them honest.

3. *Eliminate the physical examination.* This is an archaic requirement, left over from the days when we believed that running marathons could be harmful to your health. Race organizers can protect themselves legally by requiring a signed statement from the entrant that he or she is physically fit and absolves the organizers of all responsibility, etc.

4. *Construct a series of bullpens for runners of different ability levels so that blocks of runners go off at roughly comparable speeds, neither trampling nor hindering each other.* Erect signs and rope barriers to demarcate bullpens. Because runners' numbers are assigned by ability levels, they are automatic identifiers of bullpen assignment.

5. *Place starting lines and blocks of runners (bullpens) on three or more streets to cut down delay in reaching the starting line after the gun.* Stagger the

bullpen levels so that runners will be more or less properly interleaved when they join up. For instance, put the first, fourth and seventh ability levels on one street; the second, fifth and eighth on another street, and the third, sixth and ninth on another.

ALONG THE ROUTE

A couple of years ago, I arrived at the turnaround point of the Atlantic City marathon just in time to hear an official plead, "Can't you guys spread out a little? You keep bunching up and I can't get your numbers!" Obviously, the official had never been a runner.

The one thing a runner doesn't want to do is alter the pace from that delicate point where he or she has it set, just half a notch this side of exhaustion. The fact that runners get bunched up is statistical, not a conspiracy to confound officials. The proper reaction to bunching is not to deny runners the freedom to race as they will, but to organize so as to cope with all eventualities.

During a race, marathon runners, who are notoriously independent during training, become vulnerable and dependent. Their care and feeding along the route must be arranged with precision.

1. *Give them room to run.* Runners need an open lane free of automobile and bicycle traffic, and with room to pass other runners between the walls of spectators.

The police presently do an excellent job of controlling traffic all along the route, except on Beacon Street in the last four miles of the race. Brookline and Boston police, near the finish line, have the toughest job because runners pass by them for a period of two hours. These police should be reminded that the slower finishers may be in advanced states of exhaustion, and correspondingly less nimble in leaping out of the way of cars.

2. *Set up water stations not only on both sides of the street, but also on tables in the middle in order to serve a streetful of runners simultaneously.* Long rows of tables will permit water and other aids to be dispensed early, as they should be, before the four-mile mark in Ashland. It is extremely important to offer water early and often, especially on hot days, not only to improve performance but also to ward off casualties.

3. *Paint stripes across the road at least every three miles with signs indicat-*

ing the distance. An added convenience would be to station timers at each three-mile increment to shout out *accurate* times. They can start their watches by hearing the starting gun over the radio. Their presence is needed in order to correct misinformation that well-meaning spectators purvey from their wristwatches.

AT THE FINISH

At the Prudential Center, there are certain ceremonial and crowd control tasks, but the most pressing needs are to correlate times, places and runners, and to record the results accurately. These tasks are hardest to do when there are large mobs of runners crossing the finish line.

I suppose the most difficult race to officiate in this country is the Bay-to-Breakers race that goes off in May in San Francisco. This mass race boasted about 4000 finishers in 1974, and, being about 7.6 miles long, didn't give the runners as much chance to spread out as a marathon does. There must have been over 200 runners finishing within a single minute during the busiest period at that race in 1974.

In Boston, the busiest minute at the finish line contained about 40 runners in 1974. The accompanying graph shows the number of finishers during the busiest minute at Boston for the past six years. As we might expect, the more finishers there are overall, the more finishers there are during the busiest minute. But because of the statistical "smoothing" effect of large numbers, the size of the crowd of runners during the busiest minute doesn't increase as fast as the number of runners.

In 1969, when 366 runners bettered 3½ hours, 19 of them (5%) arrived at the finish line during the busiest minute. But in 1974, when 1399 runners bettered 3½ hours, 40 runners (3%) crossed the line during the busiest minute.

In fact, we can project that if there had been 20,000 started at Boston under the ideal conditions of 1974 (cool weather and a helpful wind), perhaps 12,000 of them would have broken 3½ hours. But during the busiest minute, only about 2% of these, or 240 runners, would have crossed the line. That's about the same load on finish line officials that the Bay-to-Breakers run can anticipate this year.

To accommodate loads like this the following steps will be helpful.

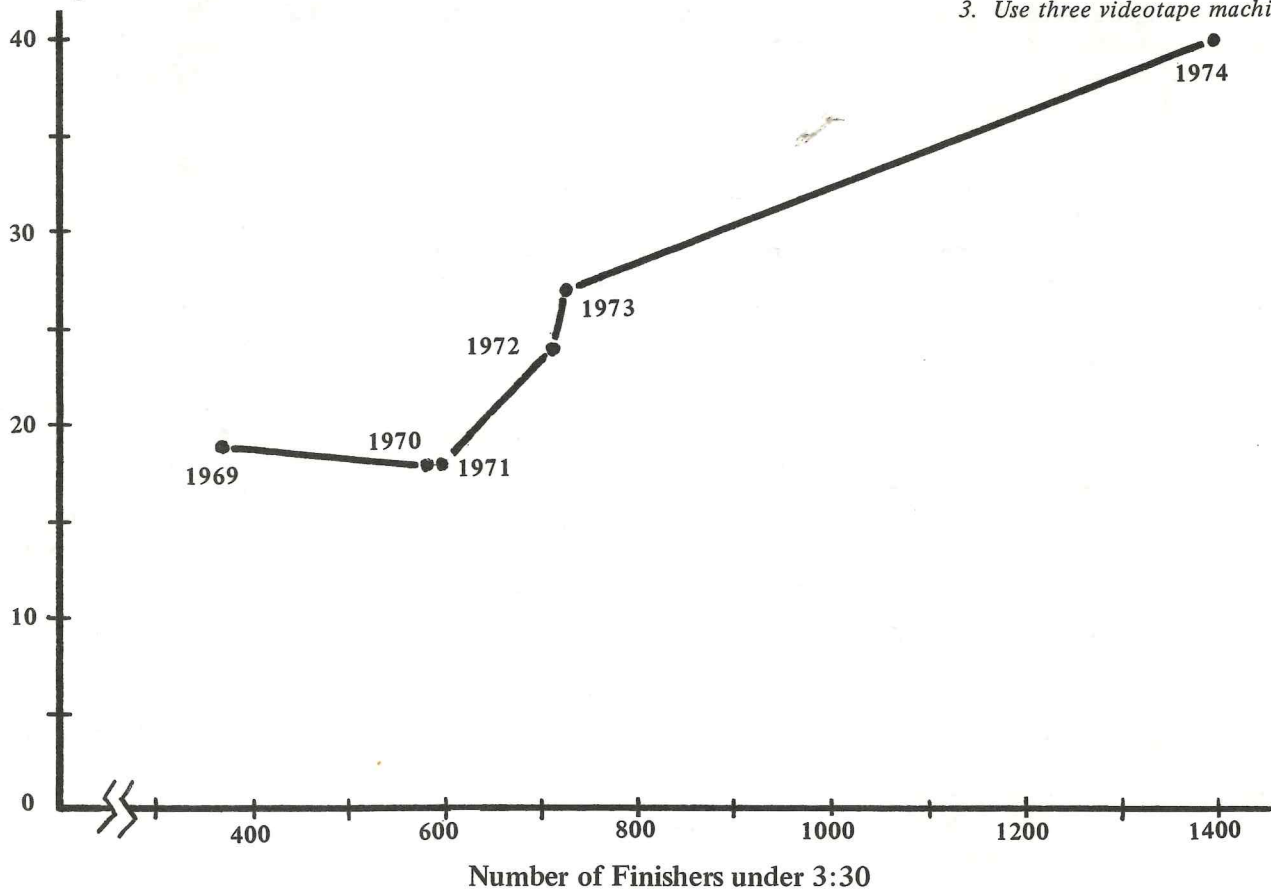
1. Use the three-chute method described by Alan Launder (*Race Promotion, RW booklet No. 22*). That's the system of directing batches of finishers first to one chute, then to a second, then to a third. It cuts down the work of the individual officials manning each chute. If the number of finishers gets very large, all the officials have to do is increase the number of chutes to four, five or six.

2. Give up trying to time each finisher down to the last second. In past years there has been a certain amount of guesswork in assigning times to runners after the first 100-200. But why be tyrannized by the tradition of dividing the minute into 60 seconds? Most runners who finish over 2:30 or so would be happy to know their times to the nearest 10 seconds, and we can do better than that.

By switching chutes every 10 seconds, we can batch runners in 10-second intervals. So if there are 40 people who finish between 2:59:50 and 2:59:59.9, we can later assign times by interpolation. For example, a runner in the middle of that bunch of 40 finishers would be credited with 2:59:55.

3. Use three videotape machines

Number of Finishers During Busiest Minute



Boston marathon, 1969-74—number of finishers during busiest minute plotted against number of finishers under 3½ hours.

with clocks in the corners of the pictures. Keep two machines always rolling and shooting from different angles. These could be used at leisure to resolve uncertainties. Their usefulness would be greater than at present because almost everybody would be wearing an official number.

4. *Use modern data-processing techniques for recording race results and getting them out fast.* The Southern Pacific Association of the AAU in California seems to have pioneered in this area. I'll bet they would let the Prudential computer talk to their computer. Another likely source of expertise is the people who are planning for the Montreal Olympics, whose special skill lies in producing results fast. Computers are very useful for doing routine clerical jobs such as spotting duplicate numbers and interpolating times within the 10-second intervals.

6. *Stop the pretense of offering showers and dinner.* No private facility can wash or feed such hordes as we are talking about with any degree of dignity, and the attempt to restrict an area for athletes only tends to separate runners from family and friends just when they are most needed. Give over one floor of the parking garage for dressing after the race, and leave the showers and locker rooms for those who need medical attention. Dish out beef stew and water in paper containers from buckets.

7. *Conduct the awards ceremony in the open air.* Use the standard equipment for large crowds—microphones, and either bleachers for the crowds and newsmen or a raised platform for award winners and dignitaries. Outdoors the light is better, and you get better publicity and more spectators than in any available auditoriums.

RESOURCES

Some of these measures look expensive both to runners and to officials who are accustomed to thinking threadbare thoughts. Certainly organizing a mass race requires lots of money and lots of planning. But the Charleston 15-mile run, which threatens to be an instant classic, bears witness to what can be done.

No race in the United States has more recognition and latent good will than the Boston marathon. These intangibles can be converted into resources. The BAA would benefit from pursuing Elliott Denman's suggestion (July 74 *RW*) that governmental agencies of the Commonwealth of Massachusetts and the City of Boston could be of great help. As Jeffrey Darman proposed (July 74 *RW*),

the Road Runners Club of America might be used in a more direct and formal way to help organize the race. Other civic and voluntary organizations are ready sources of manpower.

We have just begun to learn how to tap the resources of large corporations such as the Prudential. Corporate angels are not likely to be the source of ideas, and they are certainly not going to step in and *organize* a race—not with experts the likes of Cloney and Semple around. But corporate angels do have money, time and enthusiasm, and they can take directions such as "Get me 30 portable toilets in Hopkinton" and "Set up 2000 cups of Gookinade in Ashland."

The publicity and good will that corporate angels can build up, primarily with thousands of runners and secondarily with millions of spectators, is well worth their plunking money into the Boston classic. The free network television coverage alone is worth as much as a sponsored half-hour of prime-time.

In all our preoccupation with the mechanics of organizing a point-to-point mass marathon we sometimes lose sight of the meaning of the thing. The Boston is the event that sets the rhythm of the

road runner's seasons. Its special attraction is for the slower runner.

Just as a cat may look at a king, in Boston a no-hoper may pound the pavement with the greatest marathoners in the world. Nowhere else does the slow runner find crowds that adulate him or her as an athlete. Nowhere else can this runner stoke up on success and determination to keep running the other 364 days of the year. Nowhere else does the cheerful spirit of fellow competitors fairly carry him or her along.

Who can deliberately change the character of a great race? Nobody, neither the BAA nor anybody else, "owns" the Boston marathon to the point of being able to dictate its character. It is beyond the powers of mortal man to reach into the heads of the populace and twist the definition of the Boston to mean a race for the elite, a race for a small field or a race that is not for cardiac patients and whole family groups.

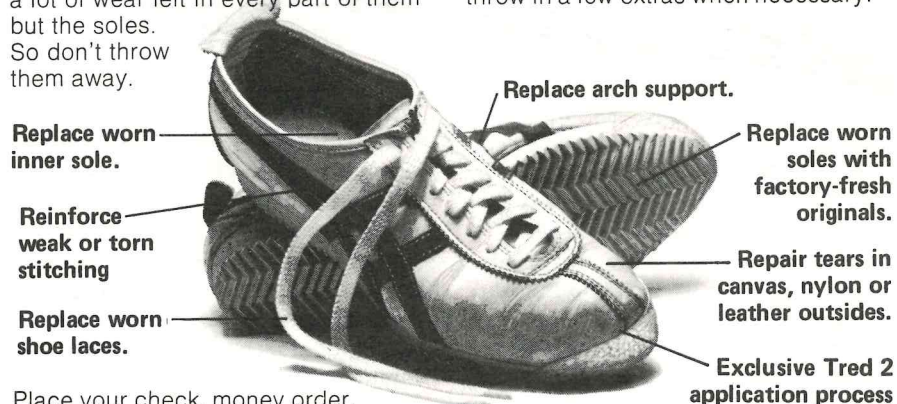
Rather than trying to change the character of the race, the job of the organizer is simply to smooth the way for the inevitable. Then he may bask in the knowledge that he has helped a great institution to be itself—the greatest marathon race in the world. ●

Introducing your old running shoes.

If you're like most of us, you hate throwing away an old pair of running shoes. And for some good reasons. You paid good money for them. It took more than a few hard miles to break them in properly. And there's probably a lot of wear left in every part of them but the soles. So don't throw them away.

Send them away. For \$10.95, we'll replace your worn-out soles with factory-fresh originals. (Tretorn, Adidas, Puma, Tiger, Nike, Head, Hyde, Converse.)

And to make sure your old tops last as long as our new bottoms, we throw in a few extras when necessary:



Place your check, money order, or BankAmericard/Mastercharge account number and signature, along with your name and address, inside a shoe and mail them to: Tred 2, Dept. 105, 111 Homer Avenue, Palo Alto, CA 94301. We'll have them back to you promptly. And already broken in.

tred₂™

WHERE IT PAYS TO KNOW YOUR PACE



Bill Canfield

by Alan Willoughby

"How much must I walk between jogs? I was over a minute too fast last time when it seemed like the proverbial tortoise would pass me by!" So thought one contestant as he struggled with the awkwardness of doing the "slow jog." This weirdest of all paces was part of "pace medley A" in the Championship Jog-Off conducted by the New England Jogabouts. In the solitary eternity of this slow jog his mind flashed back to his first ETA (estimated time of arrival) in April when he groped for inner awareness at his "speed pace" or his "steady pace."

Well-conditioned runners know well their limits. At near-all-out effort, a superior ETA is virtually assured. But many runners can't adapt as they back off their maximum pace. Their sense of pace becomes more nebulous. As for one mile, forget it! By the time runners achieve steady-state and sensitivity, the event is nearly over.

But monthly ETAs did establish themselves on and around Hanscom Air Force Base—not because speedsters don't always win, but because win or lose each competitor usually found some personal meaning in his own ETA. He had to run inside himself, to his chosen tick.

ETAs proved to be more than a gimmick race for slow runners. They put a fine edge on our jogging sense. This bio-

sense comes from feedback of a dozen physiological-psychological queries, doubts and hang-ups that invade our mind during an ETA jog without the crutch of a watch.

"Am I going too slow?...too fast?"

"How much do I adjust for this lousy wind?"

"My legs feel heavy today, but my breath is easy...what does that mean?"

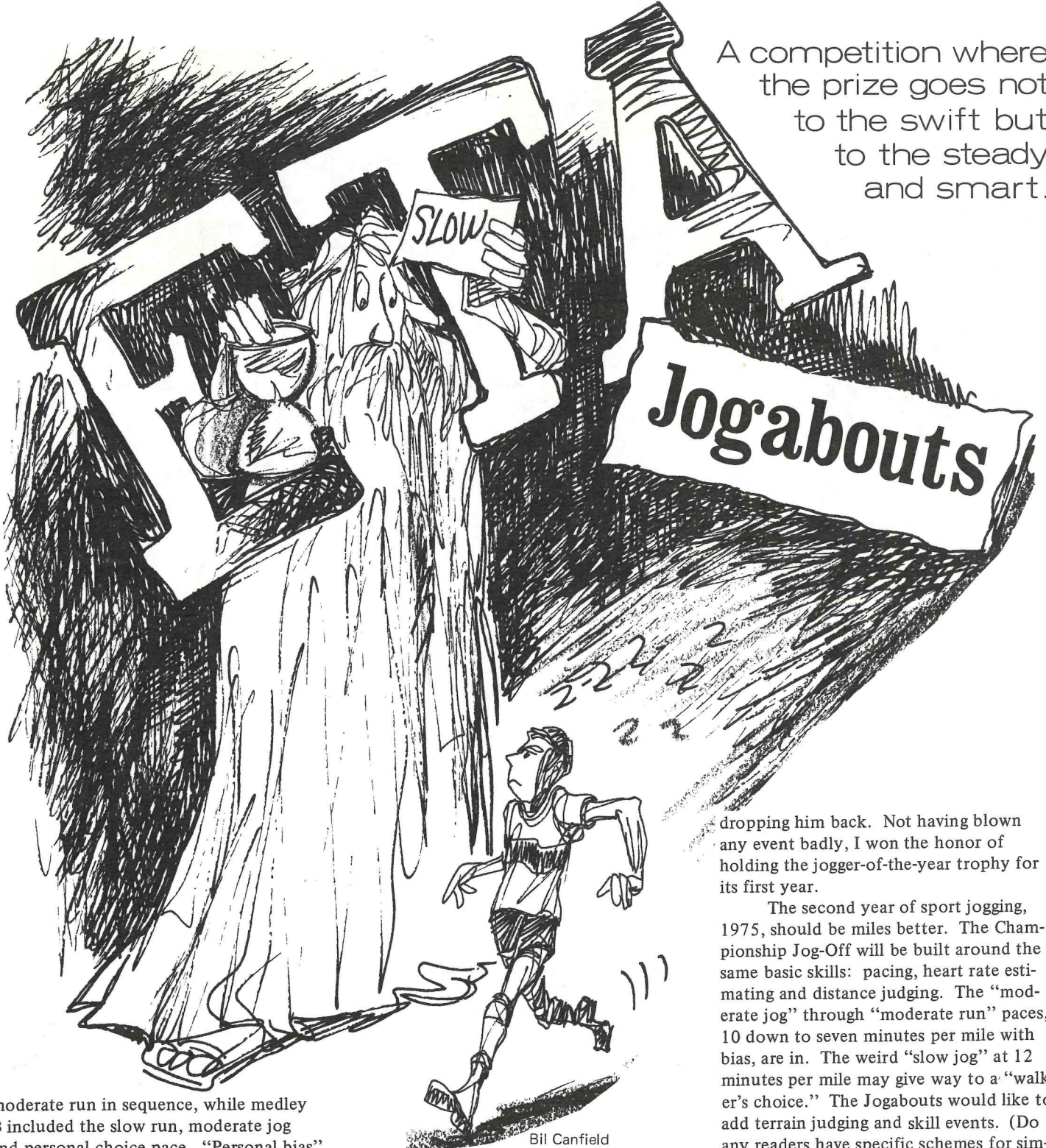
ETA improvements represent humans getting acquainted with themselves. A jogger's first ETA is often a wild miss, his second may overcompensate, his third is probably a winner. Some start under the handicap of a steady diet of inaccurate, often auto-calibrated, distances. Others are urged to speed by self-doubt.

But man can develop his senses. A vintner can taste the alcohol and acidity in a wine to within 1%. A baker kneading dough can feel its moisture content to within 2%. Likewise, a skilled jogger can sense to within 1% the dynamics of his bodily functions—the strength and rhythm of the lungs, the vital pulse of the heart, the fluid motion of the legs. The standard of five seconds per mile accuracy for "superior jogging" recognizes this skill.

But "superior jogging" at one pace does not make one a master of his craft. Would a vintner be content to savor only a single wine? The "master of jogmanship (M.J.)" is superior at three or more paces. These paces of his own choosing must differ by at least 30 seconds per mile, and two must be achieved over distances of three miles or farther. The single-speed jogger goes the way of the single-speed bike, and is replaced by the go-everywhere model, the multi-speed jogger!

The jogger's thoughts of past ETAs gave way to last-second pace adjustments for ahead was the checkpoint. The monitor's shout of "seven minutes" snapped his mind back to the reality of pace medley A. He shifted gears from the slow jog to the moderate run, 7:00 per mile, plus or minus personal bias. Contestants chose biases over the entire allowed range—60 seconds per mile faster or slower. Pace medley A was the fast jog, slow jog and

A competition where
the prize goes not
to the swift but
to the steady
and smart.



Bill Canfield

moderate run in sequence, while medley B included the slow run, moderate jog and personal choice pace. "Personal bias" and the "personal choice" pace are the Jogabouts' way of recognizing the individuality of jogging.

Bob Hyland was leader after the pace events. His original A-medley was better than most others' retake, and his second A-medley was superior. Bob, a practitioner of the art of gentle running, is one of only two masters of jogmanship. The "heart rate" event was so new to this batch of entrants that several trials were needed to perfect the measuring technique. A stop watch on 20 heart beats was used for accuracy. The complete jogger must

know his heart, so each had several chances to find his prescribed beats with the clues given: 70% of maximum, "comfortable" aerobic running with little buildup of fatigue by-products; 85% of maximum, where running becomes racelike; 60% of maximum, slow enough to be of dubious training benefit. Knowing my 70% level pulled me close to Bob in the standings as we moved to the final event, the "distance judge."

Distance estimates ranged from 1% to 78% inaccurate. Bob's guess was off,

dropping him back. Not having blown any event badly, I won the honor of holding the jogger-of-the-year trophy for its first year.

The second year of sport jogging, 1975, should be miles better. The Championship Jog-Off will be built around the same basic skills: pacing, heart rate estimating and distance judging. The "moderate jog" through "moderate run" paces, 10 down to seven minutes per mile with bias, are in. The weird "slow jog" at 12 minutes per mile may give way to a "walker's choice." The Jogabouts would like to add terrain judging and skill events. (Do any readers have specific schemes for simulating water drinking on the run, dog defense or auto dodging in a safe, scorable way?)

Sport jogging will also steal pages from the ideabooks of the sports car rallyists and orienteers. Mystery jogs and other rally-like events are in the mill, along with special races such as the Jogabouts' popular age-handicapped 100-year relay. If you'd like to contribute your ideas or get on our mailing list for details on the 1975 jogging championship, write to me at 17 Jonathan Lane, Chelmsford, MA 01824. ●

The "sharpening" techniques of Steve Williams.

EVEN THE FASTEST CAN GO FASTER

by Brooks Johnson

Johnson, a former world-class sprinter himself and now a coach in the Washington, D.C., area, has spent the past two summers in Europe with US teams. While there, he advised 100-meter world record holder Steve Williams both years. Brooks reported on the first summer's technique work in "Try This for a Start" (Oct. 74). Here, he tells of refinements during the second summer.

Last summer I was in Europe with a touring team and Steve Williams was touring the continent on his own. For several weeks, our itineraries were the same, and this gave us an opportunity to further discuss, clarify and put into practice certain ideas about the sprints.

At the outset, I should note that in talking about the development of methodology with Steve Williams, I am describing the "world's fastest human." He was that before we ever met and worked together. The things that have improved Steve may not work for others. I would like to think that there are some basic carryovers. But we must approach this area with caution.

Williams is first of all a very intelligent, sensitive, alert man. In addition, he is a very gifted and competitive athlete, making him something of an exception to the norm. But despite the fact that we are dealing here with an exceptional human being, my basic concepts were developed with the average sprinter in mind, and I leave it up to the individual to decide which elements apply to his own situation.

By the time Steve and I met up in Europe, he had already run in England and had the benefit of some advice on his start from an Australian sprint coach. Although there were distinct areas in



which I disagreed, I soft-pedalled my objections for two reasons:

First, the Australians have had great success with sprinters—Raelene Boyle in 1968 and '72 (Olympic silver medals in 100 and 200 in both Games) and Peter Norman (silver at 200 in '68)—so I figured they must be doing something right.

Second, whatever else I felt, Steve felt comfortable with the changes made in his starting technique. The differences were that his foot closest to the line was closer than I would have had it, and his

head was in a rather down position, lower than I would have had it. But Steve felt good from that position so I concentrated my efforts in several other areas.

The first area was to help him develop more quickness out of the blocks, without sacrificing control and acceleration. I have tried to point out to people that often the *quickest* person is not the *fastest* person. My comparisons are Ira Murchison and Bobby Morrow (1956), Mel Pender and Bob Hayes (1964), Pender or Charlie Green and Jim Hines (1968). It's pretty obvious who was the quickest

Steve Williams (right) dives into the tape inches behind Ivory Crockett at the California Relays last May. (Stan Pantovic photo)

of the group, as well as who was the fastest.

Now that Steve had a starting position from which he was confident, I tried to make him more efficient in getting out, therefore increasing his quickness without hurting his remarkable ability to accelerate.

Developing quickness is a relatively easy process with a person as gifted with competitive instincts and reflexes as Williams. The technique we used is extremely simple, but quite effective. Steve would get in his "set" position. I would hold an object—a shoe, a rock and later an iron weight—at shoulder height, over his "quick-side" hand (the side with the foot farthest back in the blocks) within his peripheral vision. I would drop the object at my leisure. As he spotted the dropping object, he would snap his hand back to avoid being hit on the hand and would automatically be underway. With each successful start, I would hold the object closer to his hand until we got halfway down his arm.

This exercise accomplishes two things. First, it develops a very quick reaction with a minimum amount of energy expended. Second, it forces the runner to react and defeat movement to either side (we did the dropping on both sides at different times).

For a person who might be slightly behind at the first instant in the race, this is an important exercise because it gives training and experience in *reacting* to movement and *defeating* it. It allows him to comfortably come from behind should he get "left in the blocks" in a race. Building up confidence in his ability to react *after* initial movement of other runners has come is extremely important in developing the overall poise and competitive attitude necessary for a consistently good start with a minimum expenditure of effort.

The next phase of the sprint that we worked on was what we termed "gaiting." Sprinting is basically the ability to get to your maximum speed as soon as you can and holding that speed as long as you can. Acceleration can be measured in terms of how often a runner's feet make contact with the running surface. This rhythm increases in speed as the runner accelerates.

A good sprinter will establish at least three distinct rhythm patterns in

the course of 100 yards. With Steve, we would like to get *four*. We would like to see him "shift gears" at least four times in a 100-yard span. We view the start as taking approximately 15 yards. This is gait one. From the 15-yard mark through the 35-40 yards, he is working to establish another and even faster rhythm. This becomes gait two.

It is popularly held that sprinters reach their maximum at roughly 60 yards. This coincides with what we term gait three. But we feel it is possible to hold that maximum longer if the sprinter "gaits" one more time, at about 85-90 yards.

To practice the gaits, we place *gates* at these points—hurdles either side of the lane we were using for the exercise. As the runner approaches the hurdles, he knows this is where he should begin to work for another "gear" or gait.

For some, this seems like a needless play on words, but the practical value of it was borne out in Williams' actual performance. After we had worked on this idea for some time in Italy, Steve went out, concentrating on "gaiting," and ran back-to-back 10.0s for 100 meters with what he termed "hardly any effort at all." He was smooth and in complete control of his race because he knew exactly what he was going to do, where and when, in the race.

This I believe is part of the success that Valeriy Borzov enjoyed in Munich. More than any other sprinter in the field, he knew where he was and what was going on. I especially found this to be so in the 200 meters. Some have claimed that Larry Black's drawing lane one cost him a gold medal, but Black's problem was and is that he is not fully under control as he runs the turn (perhaps causing the excessive stress which has resulted in several foot and ankle area injuries). Like most Americans, Black either blindly blasts the turn, taking his bearing as he comes off the turn, or "loafs" the turn and blasts coming out of it.

Borzov, on the other hand, was fully aware of what he was doing and where he was on the turn, as well as the straight. He had what I term "presence." He knew what was going on around him. He knew where he was and what he was supposed to do. He had a very definite point-of-reference at all times.

The gaiting/gating exercise helps a sprinter develop that knowledge of where he is and what he is supposed to do, thus allowing him to have "presence."

An even more subtle, but equally important factor is what we call the "A.P." or adrenalin point. This is a place in a race where an athlete who has been trained

properly gets used to "getting up" or "shifting gears." If he does this often enough, the athlete will develop an almost Pavlovian response at that point. When it becomes associated with success and something the athlete desires, it also generates adrenalin. Gaiting/gating obviously helps this phenomenon along as well.

Lee Evans used such a thing. His goal was to stay with the pack until they rounded the last bend. Just before the bend straightened out, he would get a shot of adrenalin because in the past it was here that he had launched so many successful drives to the tape. His actions at this point were almost preordained.

Another example was Martin McGrady, probably the best indoor performer ever. From the very beginning of Martin's training, we worked out a formula that depended on his running 19 seconds for the last lap of the 600 on a 160-yard track. We worked on this concept in almost every practice. Regardless of the extent of fatigue or his general mood we managed to squeeze in some 19-second one-lappers.

At the national indoor championships of 1970, on the Madison Square Garden track reputed to be one of the slowest, we set a timetable that would allow him to lower the world record to 1:07.5 for the 600. That meant going out in a 48.5 quarter and coming back in 19.0 seconds for the last lap.

As Martin passed me with a lap to go, I yelled out the time of 48.5. Hearing this, he turned slightly and smiled because he could feel the surge of adrenalin almost involuntarily taking hold of him. His final lap was 19.1 as he established a world record of 1:07.6. If he had not been so sure of himself and taken the time to smile at me, Martin would have gone at least 1:07.5...which goes to show that even the most carefully thought-out plans can go awry due to the human factor.

Steve Williams experienced this after we'd worked together in Europe. He lost a race in Italy to a young, talented Cuban sprinter because he eased up at the tape. I pointed out to Steve that in many instances he has not taken full advantage of his gifts. He still has not put together the "killer instinct" except when he becomes aroused or "psyched," usually after an embarrassment or threat to his pride—real or imagined.

We talked about his responsibility to himself to do the best with what he has been given. We discussed how true greatness can only belong to the person who takes his gifts and with his own efforts and initiative thrusts them even further on and higher up. ●

THREE STEPS TO A RELAXED STYLE

by Thomas Burke Ed.D.

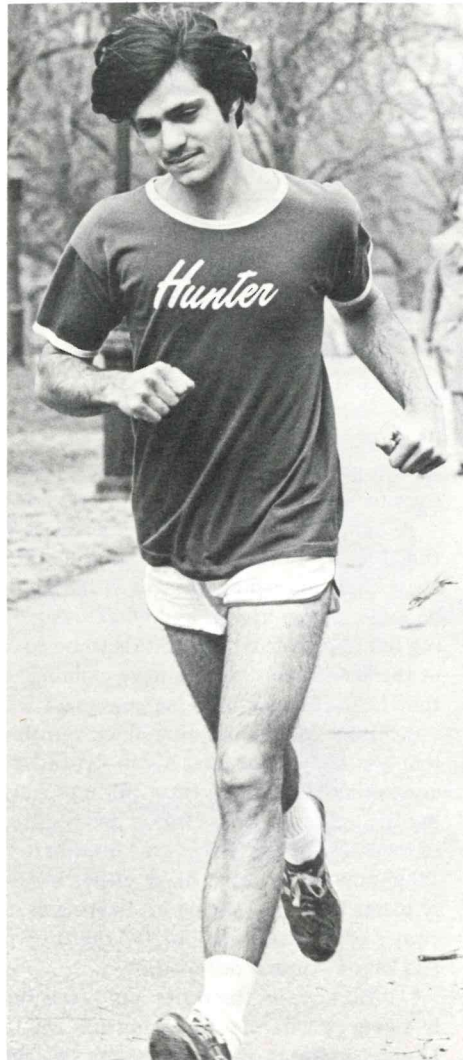
Dr. Burke, of the physical education department at Hunter College in New York, recently reported these findings to the American Association for Tension Control.

Inexperienced distance runners have a tendency to involve themselves totally in the running movement. Regardless of the pace, they feel that all body parts must be exerted with equal force; the arms and legs should pump in a proportionate manner; the neck and back muscles should be "braced" with the same amount of tension as other muscle groups. Only after much practice do these runners realize that a smooth, rhythmical and relaxed running style cannot be achieved if all the upper-body muscles are tensed beyond the point of muscular efficiency for a given pace.

Without an awareness of muscular relaxation, inexperienced runners tend to waste energy since energy resources deplete more quickly when muscles exert beyond an optimal tension point. In addition, some upper body muscles may be overly tensed to the point where the runner appears to have a jerky motion. One way to conserve energy and to relax muscle groups is to learn differential relaxation of the major muscles of the upper body while running.

Time and concentration are essential in learning differential relaxation while running. In terms of time, a runner has to reserve a portion of each workout to concentrate on developing a feeling of relaxation in the upper-body muscles. For some runners, this process may take only a few minutes. In others, it may be as long as 15-20 minutes. What is important is that each runner learns to concentrate on developing muscle awareness that eventually leads to a style of running that appears to be and feels relaxed.

For this to occur, a training program in differential relaxation is helpful.



A runner with tenseness in the shoulder and arm muscles. The signs: forward shoulder shrug, locked elbows and tight grip of the hand.

At the beginning of the season, a runner engages in a three-stage program:

● **First Stage:** During the first week of practice, a runner concentrates on developing muscular awareness during

How to recognize and shake loose the tension in upper body muscles.

a 10-minute jog. As the runner jogs, the coach instructs him to be aware of those muscles that feel loose or tense. The coach assists the athlete by noting signs of tightness or a jerky running movement. After a sufficient period of training, the runner shifts his attention to relaxing the overly tense muscles. Specifically, he attempts to consciously "loosen up" the taut muscles or "let go" during the jog period.

The left photo is of a freshman distance runner who demonstrated tenseness in the shoulder and arm muscles. The signs were a forward shoulder shrug, an elbow joint locked at a 90-degree angle and a tight grip of the hand. In addition to concentrating on relaxing the shoulder and arm muscles, he ran for short periods with the arms held loosely at the sides. The arm-hanging jogs helped prevent the development of excessive arm and shoulder muscle tension.

● **Second Stage**—During this stage of differential relaxation training, each runner concentrates on alternately tensing and relaxing the major muscles of the upper body during the warmup jog. The coach instructs a runner to alternately tense and relax specific muscles in a sequential manner. For instance, they first tense and then relax the facial muscles. The order for practicing body-part relaxation is the face, the neck, the shoulders, the arms, the forearms, the hands, the upper and the lower back, the chest and abdomen.

The runner then practices the specific body-parts relaxation technique without the assistance of the coach. The emphasis is now on relaxing each major muscle group, as opposed to tensing and relaxing. It takes approximately 10 minutes to complete the entire self-instruction sequence of muscle relaxation during a warmup jog.

As the runner gains confidence in the relaxation technique, he starts to vary his pace, attempting to determine if excess levels of muscle tension are experienced at different running speeds. For example, the rate in which a runner pumps the arms is dictated by the running speed. As the running pace increases, the frequency and force of the arm pumping action increases proportionately. Since the main application of muscular force

A runner with “smooth and rhythmic form, with an apparent absence of excess signs of muscle tension in the upper body.”

is from the shoulder muscles, the muscles about the elbow, and hands should not be exerting as much force.

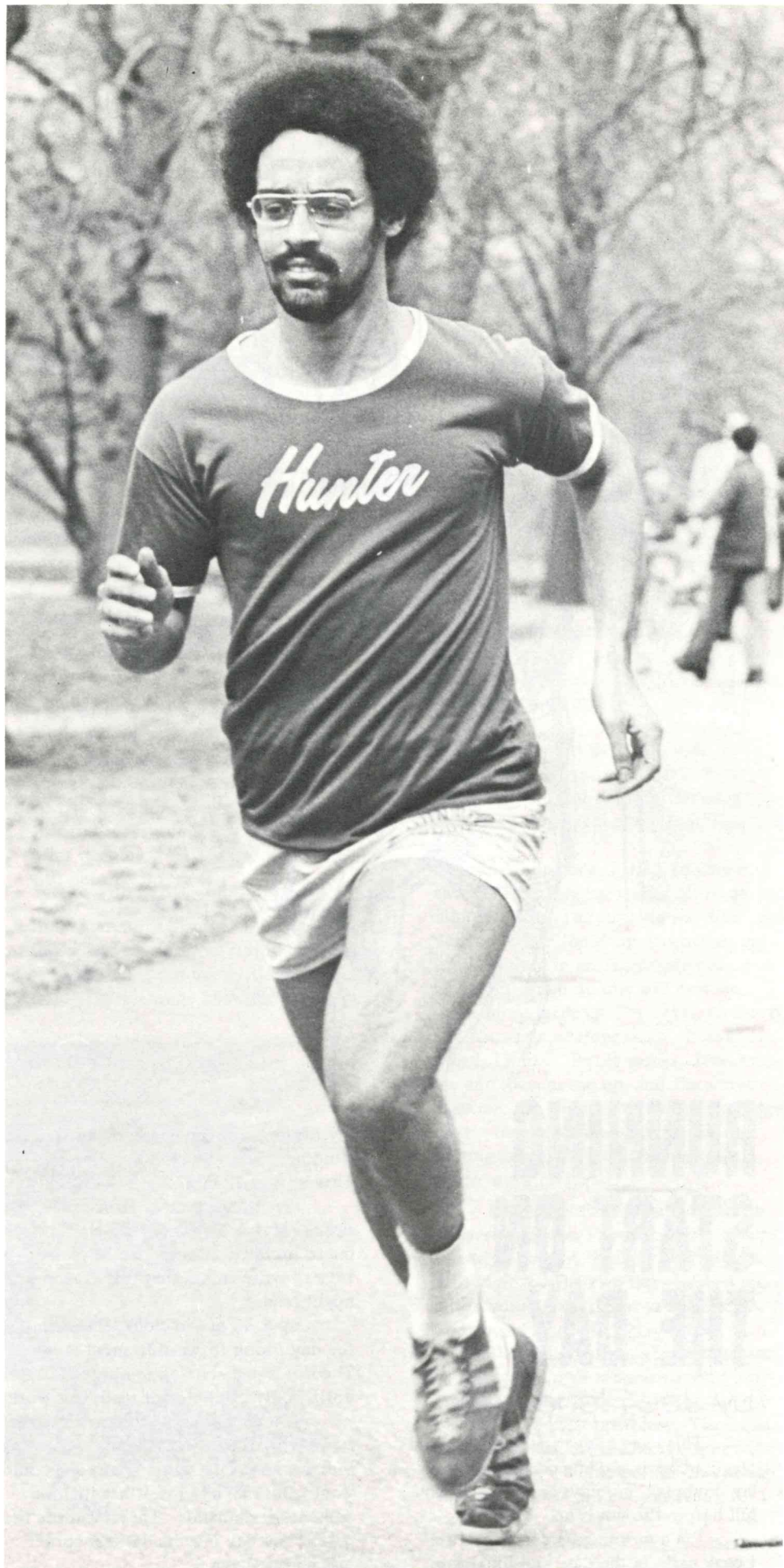
The runner in the right photo exemplifies smooth and rhythmic form, with an apparent absence of excess signs of muscle tension in the upper body. The wrist and hands are held loosely with the forward and backward drive of the entire arm initiating from the shoulder joint. The shoulder muscles, therefore, are exerting the most force, with the other upper body muscles playing a minor role in respect to muscle tension level.

● **Third Stage**—After a runner learns to relax individual muscle groups, he begins to concentrate on a combination of body parts, such as the face and neck muscles, the arms and shoulder muscles or the entire back. Eventually, he incorporates all of the upper-body muscles into a single unit to be relaxed.

At this stage, it is important that the athlete learn total upper-body relaxation. In this regard, visual imagery techniques may be used to reinforce the “essence” of relaxing while running. For instance, a runner may concentrate on developing a sense of lightness by thinking of how it would feel to run as if he were “floating on a cloud.”

Once the concept of total relaxation is introduced and experienced at different running paces, each runner practices the techniques under other running conditions, such as varying terrains. The tendency to overexert sometimes can be seen as a runner goes uphill. In an effort to overcome this problem, he can concentrate on relaxing while running repeatedly up long inclines during practice. At each stage of the uphill climb, the runner concentrates on applying the most force during the arm and leg drive, while eliminating signs of tightness in areas as the face and neck, such as tilting or drooping the head, or bracing the face and neck muscles.

With this three-staged approach to relaxed running, inexperienced runners develop confidence in the technique through directed concentration on the muscles in a sequential pattern. They first learn to develop a sensory awareness for the muscles and then to relax each muscle group, ultimately leading toward total upper-body relaxation and the saving of energy reserves. ●





GLIMPSES FROM A GREYHOUND

by Bill Fitzpatrick

Last fall, I took a trip I won't soon forget. I bought a 60-day unlimited travel bus pass and took full advantage of it, covering 14,000 miles on the North American continent, encompassing 37 states and three Canadian provinces. All told, I spent over two full weeks in captivity riding the buses.

Having to take a semester off from school in order to manage such a maneuver, I look back on it now as a non-credit independent study field trip, with major emphasis on culture, geography, meteorology and map reading and a minor in race promotion.

Didn't I get sick and tired of riding buses? Weren't the seats uncomfortable? Considering the alternative of hard classroom seats, the ones on the bus were quite comfortable. And the view was changing every minute. The prospect of being somewhere I had never been before fascinated me. I made an effort to pay close attention to the scenery because I didn't know when I'd be there again, if ever. The bus window was my classroom in the fall of 1974.

There are a few bad points about traveling by bus. It is very difficult to run on travel days, and on other days you may be too tired to get in a good workout. If I was training for Montreal, I definitely wouldn't have taken such a trip. But who's training for the Olympics? I think about running in the Olympics about as much as I do about playing in the Super Bowl. You've got to be flexible and accept whatever comes. My travel plans were never affected by my running habit, but rather my running fit in where it could.

Yet never did I feel I was losing fitness. I walked as much as ever before, and often did some jogging at the bus stops. While the other passengers would use their meal stops to sit down and eat at a cafeteria, I spent my time walking or jogging to and from a supermarket and then ate on board.

One problem I encountered on reaching a destination was what to do with my backpack. Sometimes I was able to leave it at the baggage check-in

at the bus depot, but more often than not I would just cart it around on my back—where it belongs. Though it didn't show up in my training diary, I was keeping myself in pretty good all-around shape.

Some running highlights from the trip:

Charleston, Va.—a warmup trip a month before my real journey began. Had it not been for the distance run and this city's generosity and hospitality, I never would have gone there. No offense to West Virginia, but it has very few attractions there. But the 1470 runners who made it to the starting line that Saturday morning will tell you that they had the time of their lives in Charleston. Having been to most of the big name races in 1974, I can say Charleston had the best race for the average road runner.

London, Ontario—The Springbank road race, probably the top long distance meet for spectators in all of North America, included a good number of Olympians.

On the morning before the meet, I hiked out from the city to Springbank Park to look over the course. There, two local runners from the London Pacers, George and Ian, jogged one loop of the course with me, filling me in on all the "inside" information.

That afternoon at the University of Western Ontario, I was drafted to assist with the scoring at the finish of a cross-country meet. First across the line in this 10-kilometer race was none other than Tom Fleming, my friend from New Jersey, who said he was using it as a warm-up for the big one the next day.

Originally intending to run the 12-mile, I decided I'd be better off running the 4½ on account of the rainy weather and the fact I wanted to watch the longer race from the sidelines rather than from a lap behind. After crossing the finish line in the shorter event, I knew I had made the right choice. In the 12, Miruts Yifter and Neil Cusack could be seen running neck and neck no less than eight times on this spectator-oriented course, Yifter winning by seconds with his kick.

St. Paul, Minn.—It was the first of October and the first snow had fallen here a week before.

I was impressed with the high school harrier setup in St. Paul. Every Tuesday afternoon, 17 schools go to Como Park to stage weekly league competition. There are four varsity races each week—three quadrangulars and one five-way competition. And each week, the combinations of the four races are switched around.

I see many advantages to this format as opposed to having dual meets with the 16 other schools. By running three or four schools at a time, it cuts down on the number of three-mile races for the young runners. Using the same course each week enables the runners to better gauge their improvement. This system offers the spectators the chance to see every high school runner in St. Paul run on the same afternoon.

Among the spectators were cheerleaders from every school. They scattered themselves along the course to add encouragement. Back in New Jersey, where I went to high school, the cheerleaders hardly knew who was on the cross-country team.

Spokane, Wash.—one of the nicest cities I visited. I had an enjoyable run on High Drive, a lightly traveled road overlooking the scenic Hangman Valley. The friends I was staying with said they used to see Gerry Lindgren running all the time on High Drive when he was in

high school. Gerry lived four miles on the other side of town but was seen five miles out the road in the other direction.

Banff, Alberta—Since I was carrying a 35-pound backpack and often could not find a safe place to leave it, I would sometimes skip running and substitute some hiking.

When I visited Lake Louise in the Canadian Rockies, this was my means of seeing the countryside. Starting at the town junction at 5000 feet elevation, I hiked up to the top of the mountain overlooking the lake, covering seven miles uphill with a net climb of 2200 feet. After walking back down, the stiffness in my legs and my sweaty clothes indicated this was one of my toughest workouts ever.

Vancouver, British Columbia—Stanley Park is one of the more beautiful city parks in the world. Dressed in running togs and carrying only a small camera, I ran, jogged, walked and watched in total appreciation. I could easily justify shopping at the zoo and many other scenic spots enroute.

The park offers the runner tremendous versatility in terrain and footing. One can get lost on the miles of forest trails and suddenly find himself on the seawall promenade overlooking Burard Inlet and going underneath the Lions Gate Bridge.

For two months, Bill Fitzpatrick climbed in and out of Greyhounds as he toured the country's running sites. Below, Fitzpatrick runs in the hills overlooking the Santa Barbara channel. (Michael Nash)



Eugene, Ore.—I arrived at the bus depot here at 6:30 in the morning and hiked out to the University of Oregon. The University appears to be the bicycling capital of the country rather than the top distance running school in the nation. Bicycling is the most popular mode of transportation by students in Eugene.

I did see one guy in a green sweat suit jogging around the campus. I did not recognize him and assumed he was just one of the many sub-4:05 milers.

Although I was tired from an all-night bus trip, I just had to get out for a run on the track at Hayward Field, where so many great runners have competed. I was a jogger, strolling around the track countless times, each time observing something new. Students sped past me, not seeming to enjoy themselves as they put in four fast laps.

Santa Barbara, Calif.—I am partial to this beautiful city since it is my home for the next few years as I finish my education. An excellent climate and many different running terrains make this a great place to train. An indication of this is that Jim Ryun and Gerry Lindren have moved here.

One of my more memorable moments in running came here when I was competing unattached in a college cross-country meet. Another runner, also unattached, started 30 seconds behind everyone else. At the mile mark, I heard him pull up on my shoulder. It was Jim Ryun.

At this point, we entered a narrow path for the next 100 yards. Passing was almost impossible. Someday, I will probably tell my grandchildren how I held off the world mile record holder for over 100 yards before he passed me. But when he passed me, I tried to go with him and

I stayed with him for about half a step.

Greeley, Colo.—After arriving late the night before, I embarked Saturday morning with plans to run for about an hour. Not knowing my way around, I stayed within a mile radius of my origin and just went around in circles and back and forth.

When an hour passed, I could see a parade forming and hear the bands playing. (It was Homecoming Day at the University of Northern Colorado). I said, "Why stop? I am having a great time." I did another half-hour and then another, and still didn't feel like stopping.

And so I kept going. Where? I didn't know...until reaching the crest of a hill and seeing a big cross-country race starting. I chased the pack. The faster I ran, the faster I wanted to go. I soon found myself passing runners. My body forgot that it had been running for over two hours. I was in a racing mood.

Coming down the final straight I could see and hear many people cheering for the runner behind me to overtake me in those final 100 yards. About 20 yards before the chute, I came to my senses and realized I didn't belong in the race nor would I want to be responsible for messing up the times of all the runners behind me. So just as the other runner was about to pass me, I made a sharp right turn through a small gap in the crowd and kept on running.

Looking back a couple of steps later, I noticed quite a few sets of eyeballs had gone with me. It must have left a few people confused, especially the kid who sprinted those last hundred yards just to catch me and found out it wasn't necessary.

Bronx, N.Y.—Cross-country is a sport in which one must be an active participant in order to be a spectator. On some courses, the spectators do almost as much running as the competitors in an effort to watch the race. This certainly applies at Van Cortlandt Park in the Bronx. I made matters worse by trying to be everywhere along the route.

The attraction this day was the Metropolitan Intercollegiate meet, and despite some typical eastern weather, cold and rainy, there was a good crowd on hand. I covered over five miles watching the JV and varsity races.

Provincetown, Mass.—I took a very short run here and it was not the way I had planned it to be. Waking up to the sound of raindrops on my sleeping bag at five in the morning, I quickly assembled my gear and jogged back into town

where I caught the first bus headed to Boston. Approaching the Prudential Tower by bus brought back memories of a slower, more painful method I employed on a sunny Patriot's Day six months before.

Pensacola, Fla.—While in Pensacola, I did most of my running at the Naval Air Station. The sailor on duty at the gate saluted me as I entered and left.

Tucson, Ariz.—I had misconceptions about running in Arizona until I experienced it for myself. I thought it was too hot to run there...until the first morning when I went out in shorts and a T-shirt and the temperature was in the low 40s. My only complaint about Tucson was that there was too much concrete and too little grass and dirt.

Palo Alto, Calif.—The Stanford Golf Course (site of the Pac-8 meet) is another one of those cross-country courses where the spectators have their own race trying to watch the competition.

One thing that shocked me was the way golfers totally ignored the fact that a cross-country meet was being run at the same time and place.

Golf balls kept on flying, posing a hazard to both runners and spectators. A few golfers did stop long enough to watch John Ngeno outrun everyone, including those in motorized golf carts.

Belmont, Calif.—Unlike the other cross-country courses, this ruggedly hilly layout was a joy to the spectator, and you didn't have to be a runner to watch. After the race was over, a lot of runners wished they had been spectators.

This race showed the rapid development of distance running in the US. When not one of the previous year's top 10 could crack that group again, you know there are some other hot honchoes around.

After finishing this trip, I was so enthused that I soon was studying maps travel guides and back issues of *RW* to plan my next adventure. I think I would like to run in a 24-hour relay in Alaska in June. I don't like running in the dark. ●

This and 16 other articles in the March issue are written by freelance contributors. These articles make up most of every issue, and we need a continuing supply of material. Everyone's welcome to write. Contact Editor, RW, Box 366, Mountain View, Calif. 94040.

NO EXPERIENCE OR GOALS REQUIRED

by Kaj Johansen M.D.

A well-developed Christian devotion, fertilized eggs, a coach who doesn't believe in setting goals—these were factors in one of the more remarkable 1-2 finishes in US marathon history.

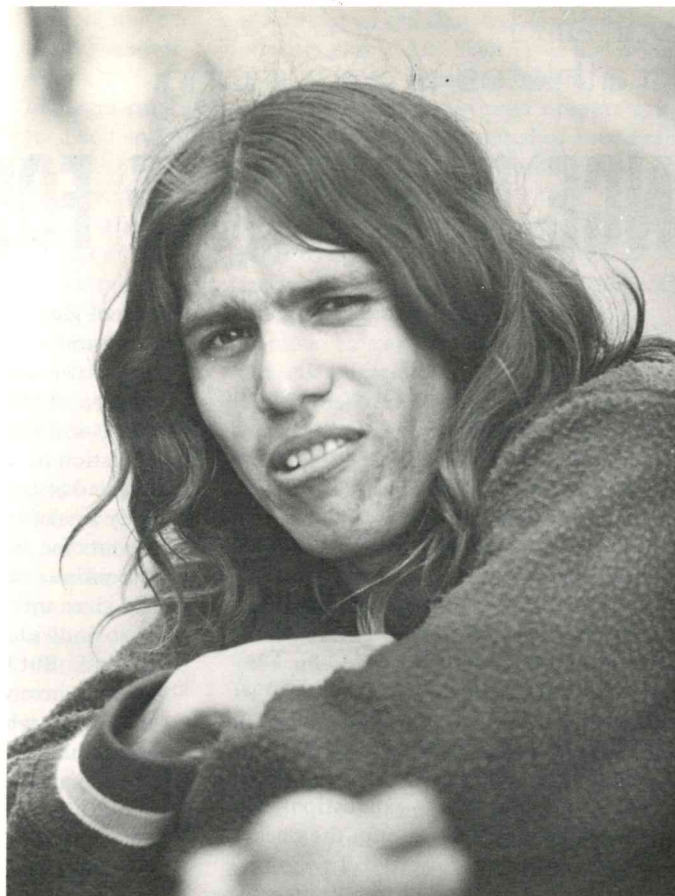
The race was the Mission Bay marathon in early January. It involved two home-grown San Diegans, short (5'6", 130 pounds), dark University of Arizona senior Ed Mendoza, and tall, skinny (6' 1½", 140) teenager Kirk Pfeffer of San Diego's Grossmont College. Mendoza won the race easily, in a course-record 2:16:33, in what was essentially his first all-out marathon (he ran the same race in 2:39 two years ago, but had been forbidden by his coach to run faster than six minutes per mile). Pfeffer streaked to a 2:17:44 clocking, eclipsing easily the world 18 mark, the American junior 19 and under) record and the national junior college best. They left 500 other runners in their wake, including AAU marathon champ Ron Wayne, who ran to a 2:18:44 clocking.

Mendoza, 22, had only three weeks earlier won the National AAU 25-kilometer championship in the fastest time ever run by an American on the roads (1:17:30). Over the previous few weeks, he had finished ninth and seventh (fourth American) in both the NCAA and AAU cross-country championships.

Mendoza had been a high achiever ever since he ran 4:32 and 9:48 for the mile and two-mile, as a freshman in high school. Over his next three years, his track performances improved to 4:15 and 9:00, despite four stress fractures, and he won high school All-American honors his senior year.

Moving only a few miles to Grossmont College, a perennial powerhouse in distance running in California, Ed came under the tutelage of soft-spoken distance coach Bob Larsen, who upped the training mileage from 30 miles a week to 60

Ed Mendoza: "I'll attack the event I can be most successful in, not necessarily the ones I like best." He ran 2:16 in his first serious marathon. (Brad Mosher)



or 70, and introduced morning runs. He was state junior college cross-country champion, but mononucleosis hamstrung his track performances. His sophomore year, however, Mendoza repeated as state hill-and-dale champion and dropped his track times to 4:03.6, 8:51 and 13:39.

Transferring to the University of Arizona, Ed continued his steady progress with a 15th-place finish in the NCAA cross-country, and track bests of 4:03.1, 8:44 and 13:28.

Only with his recent startling success on the roads has he begun to think of himself as a potential marathoner. He now agrees that when Olympic Trials come around, "I'll attack the event I can be most successful in, not necessarily the ones I like best—which are 5000 and 10,000 meters right now." His immediate goals are a sub-4:00 mile, an 8:30 two-mile and "near 13:10 for three miles."

Despite these superlative track times, Mendoza asserts that he has little speed, and in fact denies being able to go below 54 seconds for a flat-out 440. He also views himself as being without a kick, and further indicates that he is weak both on hills and at altitude.

Major factors in his success have been his distance-oriented coaches (high school coach Mike Muirhead, Grossmont's Bob Larsen and Arizona's David Murray)

whose collective influence has led to a current training schedule which features about 100 miles a week, track work twice a week (long intervals—660s, 880s, 1320s—once, and short intervals—440s, 330s 220s—once) and either a race or a time trial every Saturday.

Mendoza follows the Bowerman "hard-day, easy-day" philosophy that he learned from Larsen, and his longest training runs are rarely beyond 12 miles. His first 20-mile workout ever was two weeks before the recent Mission Bay race.

Mendoza has not succumbed to any notable dietary manipulations, though he credited carbohydrate-loading as being helpful in his marathon performance.

Ed has been married for about a year. His wife, Marilyn, a nursing student, presented him with an unusually welcome present on Christmas morning—a new daughter, Melissa.

His Christian religion is a development of the past few years "that has really turned my life around." He does not feel particularly evangelistic, though he will gladly discuss his spiritual rebirth with those whom he feels are responsive. But he assigns major credit for his emotional stability and general success to his Christian ideals.

He says of his marathon, "No question about it, with somebody out there

with me the whole way I can run 2:12 right now. I would have done 2:13 in this race if I hadn't blistered my feet (he displays a three-inch blood blister on each foot, from wearing waffled-soled shoes) It would have been funny if it hadn't hurt so much. I'm going down the last two miles and my feet feel as though there's a frying egg inside each shoe. One cyclist comes by and tells me I'm going at eight miles per hour (7:30 pace). Then Coach Larsen comes along and says, 'Come on, Ed, can't you go a little faster than that?' And I'm there running back and forth across the street, trying to find some grass to run on, yelling, 'But Coach, my feet hurt!'"

Kirk Pfeffer was just out to try to break 2:30, he says. "Sure, I knew I was faster than that, but Coach Larsen doesn't want us to set goals and then get disappointed when we don't hit them." Whatever the goal, the gaunt 18-year-old swept to history's second-fastest marathon by a teenager (bettered only by Neil Cusack's age-19 world best of 2:16:19).

The Grossmont College freshman, unlike Mendoza, has been running marathons for years and has completed "at least eight, I think," although his best before last year's 2:25:36 (age-17 world best) was only 2:50. A 1974 Crawford High School graduate, Kirk shared Mendoza's early predilection for fast track times, turning in 4:37 and 9:32 as a sophomore, 4:26 and 9:16 as a junior, and 4:16 and 8:59 as a senior.

Prime factors in his improvement, Kirk feels, include his coach ("Coach Larsen is just like a father to us. He got me to do some studying, just an hour a night, but I was heading for some pretty bad grades, and I ended up doing pretty well... He wants us to run for the fun of it. He says I've got *at least* until age 30 to improve, so why get all uptight about goals?") and his diet ("I've been a strict vegetarian, just for health purposes, for a good two years. But when you guys told me what I *couldn't* eat when I was doing that carbohydrate diet before the marathon, man, there just wasn't *anything* I could eat for those two days except nuts! So I broke down and ate some cheese and some fertilized eggs, and I guess it didn't do me any harm.")

Pfeffer's training schedule is the same as Mendoza's with perhaps slightly more mileage on Sundays. He likes track running, but hates hills and therefore has a low regard for cross-country (despite being a member of Grossmont's ninth straight state champion JC team). True to his coach's behest, he's uninterested in quoting possible potential future best times. ●

It's called desiccated liver, and evidence of its value to athletes is convincing.

ENDURANCE IN CAPSULE FORM

by Terry Howell

Some months ago, my runs were leaving me dead. Feeling as if my workouts had been run in a pool of honey, I turned to strength literature for suggestions. Comments by two writers especially interested me.

Vince Gironda, a weight training authority, wrote in *Iron Man* (March '74) that "athletic experiments have found liver to produce up to 300% (gains in) endurance."

Bob Hoffman, strength expert cited as instrumental in the development of Percy Cerutti's training philosophy in Cerutti's *Athletics: How to Become a Champion*, likewise endorsed liver for endurance in many of his articles and books. Hoffman, several times Olympic weight lifting coach, was running marathons in his early teens and later became a world canoe racing champion. Today, in his mid-70s, he still lifts weights regularly and runs several miles a week.

Intrigued, I began to uncover interesting and, at times, astonishing claims for "desiccated" liver. Desiccated liver is whole beef liver vacuum dried at low temperatures (about 140 degrees F) into a concentrate which retains practically all of the nutrients. It is then powdered for use as a food supplement, a product the equivalent ounce-per-ounce to four times as much whole liver.

In the journal *Proceedings of the Society of Experimental Biology* (July 15, 1951), Benjamin H. Ershoff, M.D., Ph.D., describes an experiment he performed with rats to test an anti-fatigue diet.

Three groups of rats were fed as much as they wanted of a basic diet for 12 weeks. Each group ate the same foods, with only supplements differing. The first group was fed nine synthetic and two natural vitamins. The second group ate the same diet and vitamins, plus a plentiful supply of B-complex vitamins in the form of brewer's yeast. The third group had 10% desiccated liver added to its ration in place of the B-vitamins (while retaining the other vitamins).

The first group of rats, fed only the basic diet, showed the least amount of growth after 12 weeks, while the second group, receiving the brewer's yeast, grew only slightly more. However, the

group fed the desiccated liver grew about 15% more than group one.

Dr. Ershoff then tested the rats for endurance. He placed them one by one into a drum of water from which they could not escape. They either swam or drowned.

The rats in the original diet fortified with vitamins swam for an average of 13.3 minutes before giving up. The second group, which had the additional B-complex from yeast, averaged 13.4 minutes, before sinking. From the third group of rats, three swam for 63, 83 and 87 minutes before exhaustion. The other nine rats of the group, the ones fed desiccated liver, were still swimming vigorously at the end of two hours when the experiment was ended. In other words, the rats of this group fortified with desiccated liver were able to swim almost 10 times longer than those in the other two groups!

Runners should, as I did, find the implications staggering.

For 20 years, researchers were at a loss to explain what it was about liver that was so special. It contains first-class proteins and is rich in B-vitamins, especially B-12, as well as vitamins A, C, D, iron, calcium, phosphorous and copper. This had been known for some time. But these proteins, vitamins and minerals were never found to duplicate the power of whole liver.

The missing link was discovered in 1971 by Dr. Minor J. Coon, of the University of Michigan Medical Center. Dr. Coon, heading a team of five biochemists, succeeded in isolating and testing a red protein pigment named Cytochrome P-450. This pigment, tested repeatedly, proved to perform all the mysterious functions of liver that had been previously tested on vitamins but not found attributable to them.

Since Dr. Coon also discovered that P-450 is water soluble, desiccating liver does not destroy this pigment but instead concentrates it.

Most runners (at least regular readers of *Runner's World*) know that the production of energy is a process of oxida-

tion of glucose within the cell. This in turn produces toxins which gradually slow down and eventually stop the production of energy. Dr. Coon believes that P-450 is a catalyst which speeds up oxidation in the energy production process and also improves the ability of the body to detoxify the fatigue toxins. Hence, the rats fed the desiccated liver were able to continue swimming when all the others had given up to drown.

Individual claims for liver's benefits abound. But little formal human athletic research involving liver seems to be available. That which is, though encouraging, is less than precise.

For instance, an article in *Prevention* (July '72) states that in England in 1960, trials were made on athletes performing exhaustive work. A long distance runner was fed a diet supplement of liver, vitamin E and wheat germ.

"Prior to taking the diet supplement," the study states, "his pulse on return from a seven-mile run was 120 per minute. After 2½ minutes rest, it was 109. After five minutes rest, it was 98. After 15 minutes, it was 95. And it took usually 40 minutes for the pulse rate to return to the athlete's normal rate of 70 beats per minute.

"After taking the diet supplement for one month, the normal pulse rate of the athlete at rest was 58, and corresponding readings after the seven-mile run were as follows: 2½ minutes, 105; five minutes, 75, and after 15 minutes it was at the rest rate of 58. This definitely showed that the heart was assisted in its function, and the recovery of the heart from this exercise was much improved. This test also proved that the circulo-respiratory system was much improved. The fatigue stage was actually delayed because of the easier functioning of the circulation."

Marked improvement...but the study fails to answer what percentage can be directly attributed to liver.

In another test, an athlete with a curling strength of 90 pounds was fed desiccated liver tablets. Another weight lifter was fed the same food without the supplements. Weights were gradually increased over a number of days. The first lifter reached a limit of 176 pounds,

while the non-supplement athlete was only capable of 140 pounds, and then after long delays at certain weights—a difference in strength of over 20%. And runners know, strength aids speed and endurance.

Again, however, this is only one case. We cannot be sure whether the difference in strength was the result of the desiccated liver or rather natural potential.

A few years after Ershoff's rat experiment, Dr. John Yudkin, a British nutritionist, repeated the test with children. The growth results were confirmed in every respect, but no endurance trials were mentioned.

Experiments also indicate that liver has the ability to detoxify cortisone, many pharmaceutical drugs, nicotine, alcohol, marijuana, petroleum hydrocarbons and other poisons we breathe and eat. I'm certainly not suggesting Winstons and whiskey as a training diet. However, even the most careful of us consume many potentially dangerous chemicals every day. Road running in city traffic and around industrial areas especially increases our intake of pollutants. Desiccated liver may be the key in combatting many of these poisons.

Dr. Albert Szent Gyorgyi, M.D.—biochemist, a Nobel prize winner and one of the most productive researchers ever—

is now convinced that certain liver components play a vital health role and even hold the secret of cancer prevention. That a man of Dr. Szent-Gyorgyi's reputation is excited with the potential of liver's effect on body functions is not to be taken lightly.

Aroused by the information, I was eager to do my own testing. As a vegetarian, though, I was at the same time reluctant to add liver to my diet, having learned years ago that meat cut my endurance tremendously. Finally, feeling beat so much of the time and dreading a layoff, I bought a bottle of 7½-gram tablets.

I felt no difference the next day but reminded myself that Dr. Ershoff's results were not obtained after a single feeding. Nutritional results are never gained that quickly.

During the next eight weeks, however, my strength gradually returned and increased. Workouts were run faster and became longer (from 65-90 miles per week), and the nagging daily fatigue disappeared. There was no other significant change in my diet or training.

If you can tolerate liver a few times a week, fine. This would probably be the cheapest form of experimentation. If, however, you are a vegetarian (a number have accepted desiccated liver as a supple-

ment—e.g., George Bernard Shaw), dislike its texture or taste or just don't want to be bothered with the inconvenience of preparing it, supplementation is your best bet.

Desiccated liver is available in three forms—tablets, capsules and powder. The tablets are relatively inexpensive and convenient. Capsules cost more but slide down easier for some. Powder is the most economical but least convenient form. Its taste, which can only be described as horrible, may be hidden somewhat in juices.

As for the amount of liver to be taken, there are varying opinions, ranging from whole liver twice a week to 30 or more tablets a day. As with all foods, you must determine your own minimum intake for maximum body efficiency.

I average eight tablets per day at a cost of less than four cents. I will undoubtedly experiment with larger doses in the future, but for the moment am happy to again be running easily and feeling so good.

If my own experience is typical, if stamina and strength can be increased so significantly at so little cost as indicated by Dr. Ershoff's rat experiment, if Dr. Szent-Gyorgyi's theories are true, then desiccated liver will no doubt become an integral part of all athletic diets and health programs. ●



A NEW SHOE

Sao Paulo...the latest creation by Arthur Lydiard. A really SUPER LIGHT (4 oz.) shoe EXCLUSIVELY for racing. Developed in 1974 and never available in the US before. It is feather weight but still incorporates all aspects of sport orthopedics—built-in cupped heel, comfort and stability. Suction cup rubber sole provides great traction on wet or dry surfaces. A natural for indoor track where spikes are not used.

BLUE/WHITE. Available in sizes 5½-13.
\$34.95.

Name _____

Address _____

City/State/Zip _____

For a mail order: Be sure to enclose a foot tracing to insure proper fit, plus street shoe size. California residents add 6% sales tax.

TRACK & FIELD COMPANY, P.O. Box 131, Princeton Junction, NJ 08550

RUNNING TILL THE COWS COME HOME

Dairy farming is an occupation noted both for the long and inflexible hours associated with a twice-a-day milking routine, and the relatively high energy expenditures involved in supporting farm operations. In view of these demands it would seem that an individual engaged in this type of enterprise would have neither the time nor desire to train intensively and compete actively in middle and long distance running.

Dairy farmer Royce Harnish of Caledonia, Ill., is a rather unique individual, however. He has effectively integrated running into the 13-hour work days and seven-day work weeks required on the farm he operates with his father. For those athletes who feel lack of sufficient time training is a major limiting factor to performance, or that high-volume mileages are a prerequisite for achievement, Harnish's training-competitive profile should provide an interesting if not comparative frame of reference.

The table lists his best performances from one mile to the marathon. Predicted energy requirements (in milliliters of oxygen per kilogram per minute) for the times listed at each distance were calculated. These were compared to maximal oxygen uptake (68 ml./kg./min.) and expressed as a percentage of maximum aerobic power for the various distances raced. One notable observation is that Royce can sustain running at very high percentages of maximum from one through 13 miles (104 to 87%, respectively).

Although high oxygen uptake capacities are an essential physiologic component for endurance running, the work of Dr. David Costill has demonstrated that the more successful runners do not necessarily have the highest oxygen uptake capacities, but they are able to perform at a very high percentage of maximum. Derek Clayton, still the world's fastest marathoner, had a measured maximum of 68 ml./kg./min., but was capable of running at greater than 90% of maximum for over two hours without any appreciable lactate buildup. Although the method by which this ability is developed remains speculative, I am convinced that predominantly steady running of relatively high intensity is a significant factor in Royce Harnish's training adaptations.

The mile and marathon times suffer from a lack of "specificity" in training.

PERFORMANCE DATA

Distance	Best Times	Oxygen Uptake Requirement	% of Maximal Oxygen Uptake
1 mile	4:27	70.9	104
2 miles	9:40	65.9	96.9
3 miles	14:37	65.4	96.2
4 miles	19:54	64.2	94.4
5 miles	25:30	62.8	92.3
6 miles	31:02	62.0	91.2
10 miles	52:53	60.8	89.4
20 kilos	1:07:25	59.4	87.0
20 miles	1:53:35	57.1	83.9
Marathon	2:40:08	53.3	78.4

Greater emphasis on faster interval running, pace running, fartlek, would not only enhance basic speed but improve anaerobic power, permitting the mile to be covered at the more usual 110-112% of maximum aerobic power.

Premature substrate (glycogen) depletion and unavoidable pace reduction appears the most likely cause for the comparatively slow marathon time. Harnish doesn't run enough miles to develop fuel reserves to a sufficient level for this distance. When glycogen reserves are adequate, most marathoners can sustain pace demanding 80-85% of aerobic capacity.

(After I compiled information for the table and this article, Royce increased his running volume by approximately 10-15 miles per week, while maintaining his characteristically fast training pace. He recorded personal bests of 52:02 for 10 miles, 1:20:42 for 15 miles and 2:31 for the marathon. The 10 and marathon were run at paces demanding 91% and 83% of maximum aerobic power, respectively. Analysis of the effects of this added training stimulus is complicated by such factors as the relatively short period of increased

training (two months), limited number of performances for evaluation, and the possibility that improved times may have been achieved without any changes in the previous schedule. However, enhancement of glycogen reserves probably contributed significantly to the faster marathon pace.)

In comparison to the 100-120-mile-a-week, 2-3 times-a-day trainer, Royce's weekly and annual mileages are quite moderate, yet he enjoys a level of performance comparable to other runners training considerably greater mileages.

One advantage he possesses is the complementary nature of his physical labor on the farm. Even after the 6½-week running layoff last winter, he retained a high fitness base. Eight weeks after resuming training, he ran 53:42 for 10 miles.

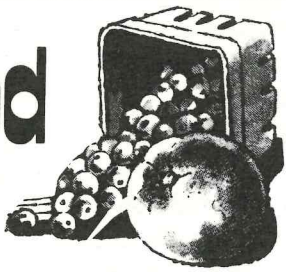
Long working hours involving considerable physical effort are not necessarily incompatible with effective distance running. This work limits the time available for training and consequently the mileages, but increases in quality (average intensity) over shorter distances appears to provide substantial compensations at a wide range of racing distances.

Royce Harnish: Caledonia, Ill. Age 26, 6'2", 154 pounds. Single. Began racing 1966; self-coached.

Training: Once-a-day, 4-5 days a week; twice a day, 1-2 days a week. 35-48 miles a week, 10½ months a year. 5:10-5:20 per mile for shorter runs (4-6 miles); 5:30-5:50 per mile for longer runs (6-15 miles). Typical week: Sunday-10-15 miles; Monday-4 miles; Tuesday-no running; Wednesday-8 miles; Thursday-6 miles; Friday-A.M., 4 miles, P.M., half hour of intervals-usually 300-meter repeats; Saturday-6-12 miles. Race once every 2-3 weeks. ●

Only \$2.95

Food for Fitness



RW, Box 366, Mt. View, Ca. 94040



Bil Canfield

Jenny Taylor-Tuthill leads the 1974 AAU women's marathon race most of the way, only to collapse near the end from the heat. This incident and two more like it led her into the lab. (Dawn Bressie photo)



THREE STROKES AND NOT OUT YET

by Jenny Taylor Tuthill

Jenny Taylor-Tuthill, of the Boston area, was featured in the April RW article on the women's AAU marathon. She led most of that race, only to break down from the heat. That wasn't the end of her troubles...

"Well, Jenny, how do you feel?"

I am walking on a treadmill. The temperature inside the stainless steel room is 120 degrees. The humidity is 20%. My chest, arm and leg have many different wires taped on, some for heart-beat, some for skin temperature. A rec-

tal thermometer is attached to its own set of cords. All the wires are plugged into machines in a room next door. In there, where people sit monitoring my heart rate and core and skin temperatures, it is air conditioned.

How do I feel? In relation to what? I never answered the question honestly because it was always tempered with how I wanted to feel, or had felt at some point in the past. You don't feel terrific for long in that temperature, even walking. And I had been walking for 70 minutes. A 10-minute rest after 50 minutes of walking had seemed like torture. I had to remain in the heat chamber, sitting down, neither of which I wanted to do. It would have been easier to continue moving, not to stop.

"Hey, Jenny, your heart rate is down 10 beats from this time yesterday and your rectal's nowhere near what it was the first day."

The news was good. But unlike some good news, it did not give me relief or make the task easier. It was still 120 and hot, and there were still those Army guys looking through the glass window from their air conditioned room and staring at me.

The first day had been the most

amusing—a real oddity at the Army Laboratory. Some female marathon runner who had *volunteered*, asked to do the heat stress test. What does one look like? Will she be a physical freak? Is she really female? I noticed it in their eyes, their questions. They all smiled as they watched me walking along, plugged in. They nodded their heads and left, to be replaced by others.

The higher-up Army men, in uniform, actually came into the heat chamber, and I wondered if I should lift a wired arm in salute, crack a joke or just concentrate on looking like a runner. They were very kind, and left when they began to sweat—which took about 15 seconds. The toughest of all was a wonderful doctor. Gaither stayed in with me the entire time, his green doctor uniform sopping wet. He didn't have to stay in there...I thought he was wonderful.

It was a long way from the 24-mile runs, the speed work on the track, the early morning runs in winter on the dark and snowy roads. It was totally different from the life of road racing, daily workouts and the pleasure, sheer pleasure, of running. But I can't do that now. Three cases of heat stroke or heat exhaustion in one year have put a big question in my mind and in the minds of those who run with me. Why did it happen? Was it my training? Race conditions unprepared for? Lack of liquids?

My last case had been in April, when I succumbed to pressure from the promoters and ran a race in 80-degree heat while out of shape and still sick from a tenacious flu. As I lay in bed the following week recovering, unable to get up or to talk with my usual energy, I read the statistics. Seven out of 10 people died from what I had just experienced. Those who recovered often had brain damage, and heat stroke in the future.

I suddenly realized that it wasn't up to others to help me with my heat problem, but it was up to me. The simple ways of dealing with heat hadn't worked. And so began my effort to find out whether I had a physiological problem, training problem, or what. It sounds easy to do. But sports medicine research, especially on women endurance athletes, is extraordinarily sparse. Doctors who can't answer problems tend to dismiss them rather than help one find someone who might have an answer. I am a runner, not a physiologist, scientist, doctor or medical researcher. But I have had to assume such roles in my own defense in order to find out where to go, and what can be done.

One answer was at the Army Re-

search Laboratory. They were willing to allow me (with a certain amount of red tape) to go through stress testing which would indicate whether or not my body was lacking in its ability to acclimate properly to heat. The program involved my walking in the heat chamber for five days in a row. The maximum time would be 50 minutes of walking, 10 minutes of rest, and another 50 minutes of walking. That was the goal.

Each day one should last longer, and have a lower heart rate, skin and rectal temperature. My rate of sweat production was also monitored. At different points, my oxygen was tested, and I had to breathe through tubes into bags whose contents were studied. One finding was that I used around 225 calories an hour during the study, a real disappointment since it felt like 1000!

In this part of the country, New England, there had not been an extensive test like this on a woman, so there was no basis for comparison.

I do know now that I have an abnormal sweat production, sweating more per hour than is anywhere near average for my size. By replacing fluid at more than one liter per hour, I was still dehydrating at 1-2%. Right away, I realized from this that I have never dealt properly with this during training runs or races. It appears that I need to drink more than one cup of liquid every 15 minutes (or so it seems, as much as I can as often as I can). It also appears that I should stick to water, not other liquids.

We got piles of data. And piles of questions. It seems possible that there is a relationship between birth control pills and my problems, but the research hasn't been done to answer specific questions. The menstrual cycle and its relationship to heat stress, dehydration, etc., could be an important factor for the female who has great difficulty coping with heat in the first place. The strange, creeping flu that has debilitated me and not gone away yet, is it part of a breakdown from the stresses of heat stroke or is it unrelated?

There are many more questions, and a few more problems. The distance runner often encounters a blank stare when he consults with his doctor regarding health problems. Distance running doctors are not easy to find. The female distance runner with problems seems to encounter even fewer experts who are able to help. But there are, I have found, some openings. And so as I walked along with the wires plugged in and the treadmill whining and the sweat squinching out of my shoes, I feel there is hope.

And I tell the guy I feel fine. ●

HEUER

Finally a stop watch made for running!

The stop watch we have all been looking for is finally available. And we are proud to be one of the first companies to make it available to runners.



What makes this watch so special? First of all, it can be worn like any regular wrist watch. This handsome timer is comfortable and convenient to wear. Take it along on your next marathon, road race, or just your next fun run. It beats fumbling with any regular stopwatch.

But this is only part of the story. With its big 60 second face, there's no problem reading it while running. The watch was built for movement, so this rugged timer will give your accurate times before, during and after running.

The large stop and start button make it easy to operate unlike most chronographs. And to top off everything, the watch has a one-year guarantee.

About Heuer . . .

Heuer was established in 1867 in Blenno, Switzerland. They were the first company to equip all stopwatches with shock protection. Today they produce nearly one of every four stopwatches sold in the world.

ORDER FORM

Please send me _____ Heuer Supersport Chronograph(s) at \$74.95 each. I am enclosing \$1.00 for postage and handling. (california residents add 6% sales tax.)

Total amount enclosed _____

Name _____

Address _____

City/State/Zip _____

Starting Line Sports, Box 8, Mt. View, CA 94040

Classified Advertising

NIKE-TIGER SPORT SHOES —

The largest supply of Nikes at the lowest prices available in the Midwest. Immediate delivery on all orders. Write or call: Nike-Tiger Sport Shoes, 1203 E. Harding Dr., Urbana, IL 61801 (217) 367-0808.

2ND ANNUAL LETHBRIDGE 10 MILE ROAD RACE—April 12,

1975 Lethbridge, Alberta, Canada, 2 p.m. A number of entry categories for both men and women. Course record 53:21. T-shirts for all finishers. For information contact Race Director, Dept. of P.E. University of Lethbridge, Alberta, Canada.

SELF-DEFENSE WORLD—If you are curious about kung-fu, if you'd like to know more about the history of the oriental martial arts, or if you'd like to refine your own technique, try Self-Defense World. Like World Publications' other magazines, it is a forum where active participants can exchange ideas. These skills will receive serious, sensitive treatment in Self-Defense World. Bi-monthly. Subscriptions are \$4.00 for one year, \$7.00 for two years. Self-Defense World, P.O. Box 366, Mt. View, CA 94040.

ATTENTION NCAA DISTANCE

Coaches & Runners—Looking for altitude acclimatization? Look no further! Train and live at 10,000' with alternating interval and speed workouts on track at 5400'. Only 200 miles south of Provo, Utah, site of 1975 NCAA track meet. Contact Rich Heywood, Director, Runner's Mecca, P.O. Box 2186, Mesa, AZ 85204, (602) 834-0496.

SHOES—Brooks: exceptionally low priced, four models, all sizes available. Nikes & Tigers: close-out prices while quantity lasts. For information, send self-addressed stamped envelope to: Windy City Sports, 402 E. Virginia, Bensenville, IL 60106.

TIGERS — Large selection of popular Onitsuka-Tiger running and sport shoes now in stock. Send for your free catalog today! Starting Line Sports, Box 8, Mt. View, CA 94040.

GYMNASTICS WORLD—The latest from World Publications. Featuring complete coverage of the exciting world of gymnastics training & competition. Runners will find much of interest—exercises & routines used by gymnasts are great for achieving flexibility, strength, and endurance. Quarterly. Subscriptions are \$4.00/year, \$7.00/for two years. Gymnastics World, Box 366, Mt. View, CA 94040.

AVENUE OF THE GIANTS Marathon—S. Humboldt Co., Calif. Sunday, May 11, 9 a.m. Certified course through redwood groves. T-shirts to finishers, 15 trophies. Contact: Dick Gilchrist, 281 Hidden Valley, Bayside, CA 95524.

HAVE YOU SEEN — the new World Publications Sports Book catalog? It's got over 350 titles listed in over 60 sports. Running, health and nutrition books are a big part of the catalog, and all readers of Runner's World will be interested in these! Available for only 25¢ from: Runner's World, Box 366, Mt. View, CA 94040.

SHAKLEE 100% FOOD SUPPLEMENTS—Money back guaranteed nutritional program (protein, vitamins, minerals), 50c per day. Also Vitamin E. E.R.G. 50c pack with order. Send to Mark Bauman, 8308 91st Terrace North, Seminole FL 33542.

PACING—The most critical and important skill for middle distance and distance runners. Sports-Tronix has solved the pace control dilemma. The evidence is conclusive. You could pay thousands for pacer lights and still wouldn't get the same effectiveness. With the Mini-Spacer there's no need for neck-craning and wondering when the light went on. Reduce times systematically. Let us tell you about it. Sports-Tronix, Box 2186, Mesa, AZ 85204.

ATTENTION COACHES—Do you have access to a track and gym? If you do, you may direct your own girls or boys track camp this summer in cooperation with the Jimmy Carnes Track Schools. We provide workout schedules, lesson plans, organization manual, brochures, T-shirts, national advertising, certificates, insurance and more! For information write Jimmy Carnes, Head Track Coach, Univ. of Florida, Gainesville, FL 32604.

TEE SHIRTS CUSTOM PRINTED

—Sweat shirts, jackets, jerseys. Schools, teams, clubs. Minimum 12: quantity discounts. Free catalog. Mandelker's RW3, 2603 N. Downer Avenue, Milwaukee, WI 53211.

FIRST ANNUAL JAYCEES

Pioneer Days' 12 Mile Race — To be held in Simi Valley, California on April 20th. Oldest and youngest trophy. Race course will be over the Santa Susana Pass. For details, write John Pritz, Box 211, Simi Valley, CA 93065.

JOIN U.S. MASTERS TRACK

TEAM—Receive newsletter (6 issues annually). Qualify for inexpensive jet charter to AAU Masters T/F championships NY and World Masters Toronto. Depart LAX 8/7. Return 8/18. Masters, Sub-Masters & Womens Competition. Write D. Pain, 1951 Cable St., San Diego, CA 92107.

1975 SEASIDE FINISHERS —

Professional photograph of your finish. Color 8x10—\$3.50, black and white—\$1.75 (includes postage). Other sizes, write. Include your number. Marathon Photos, 4407 S.E. 12th Ave., Portland, OR 97202.

HIGH ALTITUDE TRAINING—

Rugged, mountain training for the gung-ho distance runner. YMCA Camp Crockett, Rye, Colorado. Reasonable rates, good food, rustic accommodations, top leadership. One or two week program. July 27-August 2, and August 3-9. For free information send self-addressed, stamped envelope to Don McMahill, P.O. Box 214, Pueblo, CO 81002.

BOB WOLF JOGGERS —

Inexpensive, surprisingly high-quality shoes for light training & casual wear. In sizes 8, 9-11 & 12. A real bargain at \$6.95 including postage. Be sure to ask for our free running gear catalog! Starting Line Sports, Box 8, Mt. View, CA 94040.

CAN-AM INTERNATIONAL —

Eastern United States & Canada's finest track-field & cross-country instruction. Age group, Jr., Sr. high school, men-women, summer track-field event programs. August distance training camps and collegiate-masters track clinic. Write: Can-Am International, c/o Country Hills, Tully, NY 13159, (315) 696-8774.

CLOSE-OUT!

ACCUSPLIT



The **Accusplit III** electronic stop timer features:

- 1/100-second timing
- digital readout
- lap, intermediate & cumulative timing
- no calibration needed
- rugged, lightweight solid state circuitry
- two year guarantee

They retail elsewhere for \$129.50. We're selling them for **\$99.50**, but we only have 25 left in stock. Order yours before we run out! Please include \$2.00 postage & handling. **Starting Line Sports, Box 8, Mtn. View, CA 94040.**

Advertising Rates

This is the runner's marketplace—an effective and economical way to advertise equipment, training aids, races, and personal notices. Over 25,000 avid runners read these classified ads—reach them next issue! Rates: race notices 20¢/word, \$5.00 minimum; general notices 30¢/word, \$10.00 minimum. All ads must be paid in advance.

Next available issue for advertising: May. Closing date is March 19, 1975. All ads must be paid in advance.

Diane Teshima
Advertising Manager
P.O. Box 366
Mt. View, CA 94040

NIKE, TIGER, BROOKS SHOES—Men's Brooks 4-13, Women's Brooks 4-10, Women's BC sizes. Nike 3-13. New women's training shoe & excellent men's. Information send self addressed stamped envelope: The Athlete's House, 1700 Portland Ave., Nashville, TN 37212.

TIGER & NIKE — Cortez \$20.95; Boston \$16.95; Tiger Jayhawk \$17.95; Tiger Montreal '76 \$19.95; Sizes 6-12. Add \$1.25 postage per pair. 50c each additional pair. Write: James Morris, The Jog Shop, 1203 E. Warren, Brownfield, TX 79316.

STRETCH YOUR SOLES — Get more mileage from your soles by using famous sole saver. Large size (pint) can now just \$5.50 including postage from Starting Line Sports, P.O. Box 8, Mt. View, CA 94040.

COACHES—The coach counselor program provides Mecca with a coaching staff and you with a free stay at Mecca. Please inquire. We will suit your needs and state requirements regarding off-season coaching. Write: Rich Heywood, Box 2186, Mesa, Arizona 85204.

FANTASTIC SAVINGS—Manpo-Meter Digital Pedometer! Suggested retail is \$14.95, our low price is \$10.95. California residents add 6% sales tax. Remit to Hopkins Enterprises, 9489 Argonne, Box 281G, Forestville, CA 95436.

FIRST ANNUAL FLORIDA AAU MASTERS TRACK AND FIELD CHAMPIONSHIPS—men & women. March 22 and 23. Running events—100 yards to 6 miles. Shot, discus, high jump, long jump. Five year age groups—sub-masters: 25-39, masters: 40-59. 10 year age groups 60 and over. Individual medals all events. Team trophies. Saturday night smorgasbord. Contact Tom White, 1250 Jungle Ave., St. Petersburg, FL 33710. (813) 345-1013.

BLUE RIDGE TRAILS "75" — The best distance training camp in the country—in the heart of the Blue Ridge mountains of NC. Outstanding staff of NCAA and club runners. Aug. 11-23, 1975, \$160. For info, write Blue Ridge Trails, Box 28544, Furman University, Greenville, SC 29613.

THE BANKATHON — National AAU 30 kilometer championships. Open and masters. Womens invitational open. Sunday, March 23, 1975, 11 a.m. Schenectady to Albany, NY. Certified aid stations, T-shirts. Many awards and prizes. Trophies—300 finishers. Also, high school championships. Sponsored by National Commercial Bank and Trust Company. Information: Burke Adams, 21 Chestnut Court, Rensselaer, NY 12144. (518) 462-0750.

AAU NATIONAL 50 KM — Sunday April 13, 1975, 7 a.m. San Fernando Valley, CA: loop course on paved roads around Hanson Dam recreation area. Some hills. Awards: 20 fast time, 3 best teams, 5 40-49 age group, 5 50-59 age group, 3 60+ age group, 1 masters team. Pre-entries required. Contact: Marvin Rowley, Culver City Athletic Club, 9725 Lev Ave., Arleta, CA 91331.

EDUCATORS—A Runner's World survey shows that you make up 31% of the running population. We want to utilize your services at our unique summer school. Tutorial teaching, all administration and staff will be comprised of runners. For more information contact Rich Heywood, Director, Runner's Mecca, P.O. Box 2186, Mesa, AZ 85204, (602) 834-0496.

ATTENTION RUNNERS & Club Officials! Discover how the Road Runners Club of America can help you improve your club & add new excitement to your running. Attend the RRCA Annual Meeting—3rd floor cafeteria, Prudential Center, Boston, April 20, 1975 (day before marathon). Everyone welcome. 9:00 a.m.: seminars on typical club problems (publicity, membership growth, funding). 1:00 p.m.: business meeting. RRCA is the national association of runners, promoting running for sport & fitness.

VETERAN MALE AND FEMALE ATHLETES — Compete in AAU Masters T/F championships, White Plains, NY, Aug. 8-10, and World Masters T/F championships, Toronto, Canada, Aug. 11-17 (marathon 8/17). Eligible athletes: Veterans (40 & over) and Sub-Masters (30-39). Write David Pain, 1951 Cable St., San Diego, CA 92107 for details.

OXBOW 10 MILER—May 17, 1975. Oxbow Park, Elkhart, Indiana—scenic course. Age-group competition, men and women. Art trophies top 3 each age-group. Ribbons for all finishers. Also 3 mile fitness run all ages. For information write: L.J. Denault, 1008 Kiser Court, Elkhart, IN 46514.

LYDIARD RUNNING SHOE Distributorship — Manufacturing representative for North America. Authorized to negotiate fully. Will visit any serious investor in US or Canada. Please forward general proposal. For appointment contact L.F. Sullivan, Box 131, Princeton Junction, NJ 08550.

KING KAMEHAMEHA DAY Race—Wednesday 11 June. 4.2 miles, Honolulu, Hawaii. 12 divisions for awards. Course flat and fast. Contact T.J. Ferguson, 4191 Halupa St., Honolulu, HI 96818.

JIM BUSH TRACK & FIELD CAMP

For Boys & Girls, Ages 8-18

- UCLA's Great Coach & Developer of numerous World Record Holders—Personally Directs 2 One-Week Summer Camp Sessions
- Staff Features: RUSS HODGE, HAL HARKNESS, WYOMIA TYUS, WARREN EDMUNDSON & others
- Camps in San Diego & Santa Barbara

Enrollment limited! For a free brochure, send your name, age and address to:



JIM BUSH TRACK CAMP
Department BTR
3052 Clairemont Dr.
San Diego, Calif. 92117
(714) 276-6400

MASTERS ONLY!

BERKSHIRE 10-MILE ROAD RACE

7 Age Divisions for Men

1 Age Division for Women

Sunday, May 4, 1975, 1:00 p.m.

**BERKSHIRE INDUSTRIES ATHLETIC FIELD
BARNES AIRPORT, WESTFIELD, MASS.**

- Classes (Men) 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70 & over
- Class (Women) 40 & over
- Special Medals for first five in each class—medals for all finishers
- Cookout after race
- Dressing facilities & showers will be available

If you are already on our mailing list, you'll receive your entry blanks in April. If you are not, please contact:

Otto Essig, Berkshire Industries
Westfield, Mass. 01085
Phone: (413) 568-8676

RUNNER'S GUIDE TO THE MIAMI AREA

Running is a rapidly growing pastime in the Miami-Fort Lauderdale area, but until recently it lagged behind other parts of the country in development and organization. The summer climate and the makeup of the population (a large percentage geriatric) undoubtedly accounts for that.

The climate has its good and bad points—mostly good. There's hardly a day when a runner can't take to his or her favorite road. But between May and September, when the temperature and humidity soar, it's a committed runner indeed who can summon the wherewithal for a midday outing of more than a half-dozen miles; even two or three isn't enjoyable.

Finding a place to run is no problem. Little-traveled streets are preferred for convenience. Birch State Park and Holiday Park in Fort Lauderdale, the bay-side bike paths in Miami's Coconut Grove, quieter portions of the University of Miami campus and Miami-Dade Community College South all accumulate their share of sole rubber.

There's obviously plenty of beach, if that's your pleasure. The Key Biscayne stretch from Crandon Park to Cape Florida Lighthouse is especially nice, but on a sunny winter day is likely to be strewn with bodies. Of course, that's not necessarily all bad, either.

If one should choose to run the little extra across the Rickenbacker Causeway to the mainland late on a Sunday or holiday, he or she can enjoy the discomfort of the "pleasure-seekers" lined up bumper-to-bumper, and beat them back to Miami as well.

Finding a track to run on is no problem. In the Fort Lauderdale area, all high schools and many junior highs have one, and most are part of playground complexes open to the public. Indoor tracks are non-existent.

If you're looking for a place to hill-train, this isn't it. Expressway overpasses or skyscraper staircases are all we have.

Organization has taken giant strides in the past three years under the hand of Ray Russell, a Fort Lauderdale attorney. He organized the Fort Lauderdale Roadrunners, which now attracts scores of runners to weekly fun-runs at all distances from a mile to a marathon. The Gold Coast marathon is run in January, at Boca Raton. This February, the Greater Miami Bicentennial marathon was run on a course that included Coconut Grove and Key Biscayne.

The track club scene is undoubtedly primitive by California standards. Optimist Clubs in several communities have track clubs catering to age-group compe-

tion. The Miramar Striders, organized by Jim Thomas and Bill Wagner, show up strongly in meets with these clubs. The three Alexander brothers of Fort Lauderdale have a tremendous following in the black community for their Fort Lauderdale Track Club, which takes dozens of young people to various parts of the state in a bus the brothers purchased—mostly out of their own pockets.

Age-group racing reaches its climax in the summer, when Hollywood and Fort Lauderdale sponsor a series of meets (night, so no undue sweat) for groups from eight years to adult, females too. The high schools are naturally the chief source of entries. Fort Lauderdale is particularly booming in track and cross-country interest at the prep level.

The summer track season ends and cross-country begins in September with the Hollywood Beach Run, which attracts hundreds each year.

Year-round running in Miami centers around the Miami Running Club, organized by Everett Whatley and Fred Edelson. The club holds fun-runs of 2-8 miles every two weeks at Miami-Dade South.

That's the South Florida running scene. Perhaps a little less organization, maybe a little more opportunity for fun than in most other parts of the country. ●

THE MECCA SANDWICH: A RUNNER'S DELIGHT



Official
Headquarters

Join us in Provo, Utah for the NCAA Championships and Clinic, June 4 through 7.

On to Mecca for 2 weeks of altitude training. Try our pink sandwich is there—a 15-km run on miles of pink sand dunes! AAU certified.

Go with us to Eugene, Oregon to attend the AAU National Championships.
Group Rates. June 20-21.

Let us spread your bread further with this economical experience. It's your sandwich!
Runner's Mecca, Rich Heywood, Director, P.O. Box 2186, Mesa, AZ 85204, Ph. (602) 834-0496



FACTORY FOIBLES*

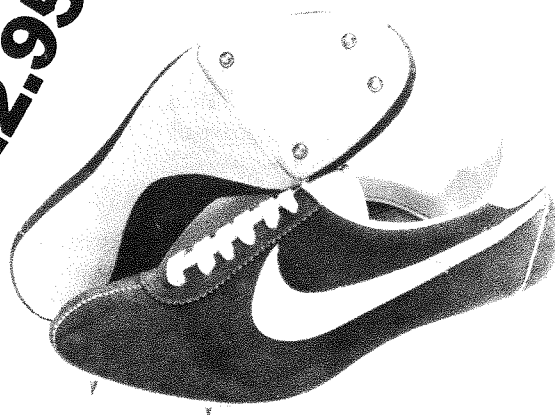
WAFFLE TRAINER - THIS SHOE FEATURES A BLUE NYLON UPPER, SOFT CUSHION MIDSOLE, AND NIKE'S EXCLUSIVE WAFFLE SOLE FOR TRACTION. PRICE \$16.95



\$16.95



\$11.95



\$12.95

NOVA - A FULL LEATHER UPPER, HEEL CUSHION, AND FULL LENGTH FOAM INNERSOLE FOR COMFORT AND PROTECTION. PRICE \$11.95

CANADA 4's - THE FINEST BLUE SUEDE UPPERS ON A VERSATILE 4-SPIKE PLATE. A GOOD ALL-AROUND SPIKE. PRICE \$12.95

* These shoes contain production-caused imperfections which render their cosmetic quality below that of firstline Nikes. These imperfections will not affect the life and performance of the product, therefore, we are able to offer you fully guaranteed shoes at greatly reduced prices.



Send your order to:

the athletic department

P. O. BOX 743
503/ 643 - 4732

BEAVERTON, OREGON 97005
No Collect calls please.

(Please add \$1.50 shipping charge for first pair and \$.75 for each additional pair. Quantity limited; please state second choice. Out of stock orders promptly refunded.) Free NIKE brochures available upon request. Air Shipment, add \$1.00. Outside U.S.A., use Money Order ONLY and add \$1.00 extra charge for shipping.)

by George Sheehan M.D.

MEDICAL ADVICE

WEIGHT AND FAT

At 5'10" and 143 pounds, I have been described as gaunt, hungry and even cadaveric. My appearance alarms my family and relatives. I am offered extra feedings and double portions to correct my malnutrition, and given turtleneck sweaters to conceal how scrawny I am. But the truth is that I am seven pounds heavier than I was when I was a runner in college, and have triple the percent body fat I had when I was 21. The truth is that, along with millions of Americans, I am fat.

How fat is fat? Pick up your high school or college yearbook and take a look at yourself. If you were an athlete, either officially or unofficially, you will see yourself at ideal body weight and a normal percent of body fat. Otherwise, even then you may have gotten into areas of body fat which the most permissive of physiologists consider abnormal.

What happens next we all know. As soon as sports end, as soon as we come out of training, as soon as play ends, just as soon does fat start taking over our bodies. When fun and games are replaced by work and marriage and living happily ever after, when we become domesticated and civilized, then and only then do we lose control of our bodies and what they were made to be.

Within a year, we gain the first pound. A few more and the waistline begins to go. In less than 10, the chin gets chubby. Those of who us were athletes go from looking lean and fit to looking "healthy," a sure sign we are 10 or more pounds over the limit. And when later we are called "prosperous," you know that the overweight tally is up to 20. The term "portly" which comes next simply means disaster. We may have financial assets in six figures, but physically we are into deficit financing.

The struggle against this slowly advancing glacier of lard begins before we attain our majority. It never ends. In this war against fat, you have to be a career man. There is no place for 90-day wonders or weekend warriors, no place for crash diets and two-days-a-week exercise. You must begin as a youthful athlete and end as one. You must know

that any pound you gain after the age of 21 is neither bone nor muscle. It has to be fat.

The ease with which that fat can be deposited has always alarmed the ordinary citizen. Now it is beginning to alarm the scientists. One reason this gain occurs so readily is that we need more rather than less exercise as we grow older. Dr. Ralph Nelson, of the Mayo Clinic, has shown that a man who weighs 154 pounds at age 30, and thereafter maintains a constant level of activity on the same caloric intake, will weigh over 200 pounds when he reaches 60. In order to stay the same weight on the same exercise, he must reduce his intake by 11%.

The people who devise those innumerable diets we see month after month in the magazines and newspapers think that reducing the intake is the logical way to approach this matter. They have forgotten that man is the only animal who eats when he is not hungry. So diets do not work—unless man becomes more of an animal, unless he becomes engaged in a daily struggle for survival, either real or simulated.

We know this from watching societies where this occurs—communities like those of Vilcabamba, in Ecuador, Hunza in Pakistan and Abkhazia in Russo-Georgia, where people work hard and long hours until they are 80, 90 and 100 or more, and where the average daily caloric intake is well under 2000 calories.

What happens there is what happens to the animal in the wild. A man eats only when he is hungry and then only to cover the caloric requirements of his physical activity. So the diet which goes unobserved when the living is easy becomes unnecessary when the living gets hard and difficult and worth the effort.

How fat is fat? Just so much as it takes to alter our image, to blur our structure and blunt our function.

How fat is fat? Just so little that it makes every hour, every minute count.

SPEED

Q: A friend of mine runs the two-mile in 10 minutes yet cannot run 20 miles under seven minutes a mile or a 62-second quarter-mile. He weighs 148 pounds and is 5'7" tall. His maximum oxygen uptake is 63 milliliters per kilogram per minute. I maintain that if he lost weight he should run a great deal faster. He says his lack of speed would hamper him no matter what his weight. Do you have an opinion? (F. Q., Vermont)

A: Everyone says if you lose weight you will go faster, but I doubt if this applies to the quarter-mile. The 20-mile, yes. The two-mile, I'm not too sure.

At his oxygen uptake, you would expect him to do better at 20, but everyone has his best event. You don't go across the board, especially without the training. According to my mile time, I should be able to do a 2:49 marathon. But I have never broken three hours. Forty miles a week won't do it. And that may be your friend's problem.

OUT OF BREATH

Q: I have been running for less than a year and have gotten stuck in the two-mile range for several months. The only impediment to increasing my mileage is either faulty breathing technique or poor lung capacity. By the end of my run, I am panting so hard I sound like a train. All other systems seem to be "go." What suggestions can you make? (R. R., New York)

A: Incorrect pace rather than incorrect breathing is usually the problem in the inability to extend mileage. You should run at a pace at which you can converse with a companion (the "talk-test"). You should also run quite slowly until you begin to perspire. This will occur at about 6-9 minutes. At that point, you will find you can increase speed without increasing the effort.

It is true that most runners breathe incorrectly. You should learn to belly-breathe and to give an occasional fog-horn groan to clear your lungs of trapped air. But in the final analysis, pace is the critical factor.

BLOOD SUGAR

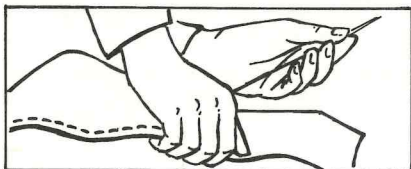
Q: Approximately one year ago, I started a vigorous exercise program that included jogging two miles per day. With the onset of low blood sugar problems, this exercise program has been curtailed. My usual symptoms are fatigue around meal time and frequent drowsiness when driving an automobile mid-morning or mid-afternoon. I awake in the morning feeling fatigued. I would appreciate your comments. (R. S., Indiana)

A: The best remedy for low blood sugar is exercise. The 10 a.m. recess period in school is a good example. At that point, the calories ingested at breakfast have been deposited in the tissues, and the blood sugar is getting low.

The perfect answer is 15 minutes of unrestricted activity. This stimulates glucagon which immobilizes sugar from the muscle and builds up the blood sugar. Diet is helpful, as is abstention from coffee and caffeine beverages. But fitness is the real answer.

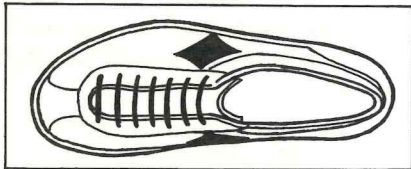
I suggest you get back on your jogging program or some sport that is really play for you. ●

Made by German craftsmen . . . assuring custom quality features!



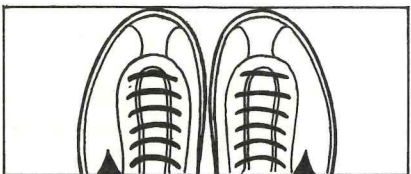
CRAFTSMANSHIP

All the world respects a craftsman. And in the world of shoes, it's the Germans . . . who still continue to put the required patience and pride of work into Lydiard shoes, much of it still done by hand!



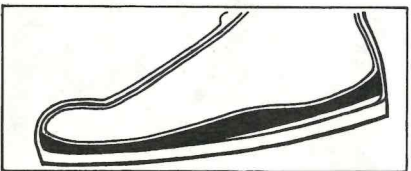
COOL LEATHER LINING

Soft skins inside give your feet just a little extra cushioning. Since few materials breathe as well as leather, a little extra coolness as well.



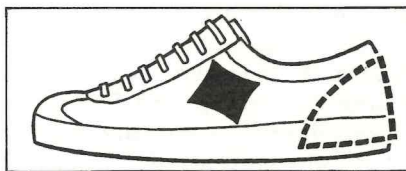
NATURALLY SHAPED TOES

Lydiard's roomy uppers aren't shaped like ordinary shoes. But they are shaped like your own natural feet. Your toes will stay healthfully uncrowded.



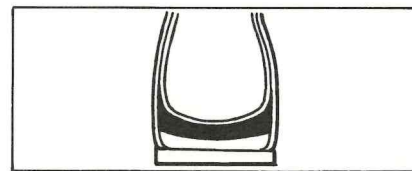
LIFT-OFF

Body weight shifts from your heel down the outer side, across to the big toe for lift-off. Lydiard's construction makes each lift-off less work.



BUILT-IN HEEL SUPPORT

A specially constructed envelope for the heel. Relieves all pressure on the achilles tendon. With an adequate arch support.



BUILT-IN HEEL CUP

It's molded into the shoe. Prevents ankle sprains and achilles tendon inflammation. Protects against shin splints, bruises & spurs. Distributes the shock load.

Lydiard



1919 SAO PAULO — Latest creation by Arthur Lydiard, a really SUPER LIGHT (4-oz.) shoe EXCLUSIVELY for racing. Developed in 1974 and never before available in the U.S.

BLUE/WHITE. AVAILABLE IN SIZES 5½-13. \$34.95 postpaid

1976 LYDIARD "MARATHON" — An extremely light training and racing shoe.

BEIGE/RED. AVAILABLE IN SIZES 5½-13. \$29.95 postpaid

1130 LYDIARD "ROAD RUNNER" — This design will absorb the continual stress of covering long distances on the road.

BEIGE/RED. AVAILABLE IN SIZES 5½-13. \$29.95 postpaid



Arthur Lydiard

SPORT INTERNATIONAL

8422 Fable Ave., Canoga Park, Calif. 91304

For Mail Order, be sure to enclose a foot tracing to insure proper fit, plus street shoe size.

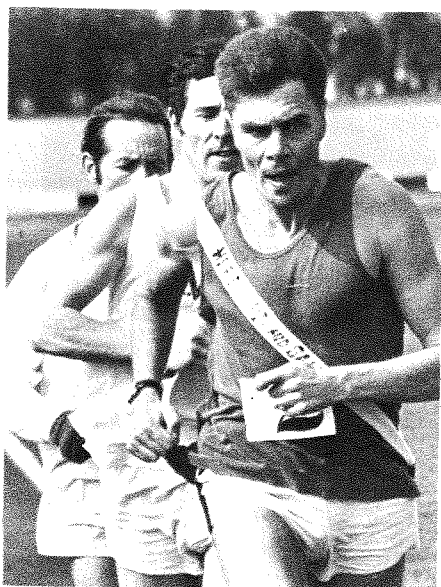
Name _____
 Address _____
 City _____
 State/Zip _____

PRS.	MODEL	SIZE	UNIT PRICE	TOTAL PRICE

CALIF. RESIDENTS
 ADD 6% SALES TAX

TOTAL ENCLOSED

Looking at People



John Tarrant (Mark Shearman)

• **Frank Shorter** proved it isn't how much you can breathe but how well. **Doug Brown** and **Paul Geis** proved a runner doesn't have to be super-skinny to succeed. These preliminary conclusions can be seen in results of testing done in January at the Aerobics Center in Dallas.

Dr. Kenneth Cooper's staff brought together 12 world-class runners and 12 others to use as a control group. The tests were the most extensive ever conducted on distance men in the US. They included a psychological profile, motion picture study of running form, muscle biopsy, blood analysis, oxygen uptake and body fat measurements.

So far, results are only available for the last two tests. (Aerobics Center doctors have promised more information to *RW* readers within a few months.)

Steve Prefontaine had the highest maximal oxygen uptake reading ever recorded in the US—84.4 milliliters per kilogram per minute. **Gary Tuttle** was next at 82.7. However, these figures apparently don't correlate perfectly with speed on the track and road. Shorter's oxygen consumption was 71.2—last of the top athletes tested. Frank's strength is his ability to cruise at a higher percentage of maximum than the others.

Tuttle showed the lowest amount of body fat—1.3%—with **Mike Manley** at 2.5% and Shorter 3.1%. Brown, US record holder in the steeplechase, and Geis, one of the fastest three-milers ever, were "fattest" at 11.1% and 10.6%.

• **John Tarrant** was known in the 1960s as "The Ghost" because he ran marathon and ultra-marathon races in Britain without entering. He couldn't enter. As a youth, he'd reportedly boxed for pay. This, in the eyes of running officials, made him a pro. Tarrant contin-

ued to run, and unofficially set a world record for 100 miles in 1969. He died in January after suffering from stomach cancer for several years.

• **Miki Gorman** lost her world marathon best in December to **Jacki Hansen**. Miki could only watch that race since she was eight months pregnant with her first child. **Tom Sturak** reports, "Miki gave birth to a seven-pound girl (Danielle Miko) on Jan. 9. She had a tough labor (20 hours) and the baby had to be delivered by a caesarian operation. However, when we went to see her in the hospital, Jacki Hansen asked if Miki planned to join her this year at Boston. She didn't say no."

• **Nina Kuscsik** tells of women's long distance running action at the AAU's national convention: (1) heard a report that the international ruling body was now encouraging women's marathoning, but recommending that men's and women's starts at mixed races be separated by a half-hour; (2) voted to keep 30 as the beginning age for national Masters competition, rather than 40; (3) officially recognized long distance records set on the track at two, three, five, six, 10, 15, 20 and 50 miles, the marathon, and three, five, 10, 15, 20, 25, 30 and 50 kilometers.

• **Al Jones**, the Portland, Ore., Marine with an attraction to far-out endurance feats, completed his planned 200-mile run-walk ("Looking at People," Nov. 74). He writes of it, "I left Pendleton, Ore., at noon, Nov. 7. Despite the fact that the temperature was in the 40s, the rain was blowing in my face and the large tractor-trailers periodically engulfed me in a whirling cloud of mist, I was able to run the first 50 miles in less than nine hours before I took a break.

"The wet and cold had cramped my knee joints somewhat, and it was necessary to walk and run the next 50 miles. Shortly before dawn on Nov. 8, I hit the 100-mile mark.

"By now, some blisters had developed and not only my knees but also my ankles were sore. I continued to the 150-mile post at 'fast marching' pace. The last 50 miles were hell, and at several points I nearly quit. Staying awake was no problem, as the pain kept me very alert. Finally, at 12:30 on Nov. 9 (48½ hours after starting), I stumbled to the finish.

"That night was the Marine Corps birthday ball. I attended, but must admit I did not do much dancing."

• Next time you feel sorry for yourself on a cold winter morning, think of **Terry Martin** at Prudhoe Bay, Alaska. He works 12-hour days on an oil rig, then runs 4-8 miles through the snow and cold.

He wrote in his diary on Dec. 23: "Temperature—29. We won't see the sun for at least two more months... It was a really great night for running, so I decided to make a long run. At mile 3½, the turnaround point, the breeze cooled me down considerably. By miles five and six, my thighs began stinging from the cold, and even my crotch was painful. When I get back to civilization, one of the first things I'll do is get a fur-lined jock."

• **The Hunky Bunch** (the H. H. Chun family of Hawaii) invested profits from sales of ERG in an ad that appeared in the *Honolulu Star-Bulletin*. They spent \$240.11 to list the names and times of every finisher in the Honolulu marathon.

• **Jimmy Connors**, the tennis star, slipped his wallet, watch, money clip and checkbook into a tennis racket cover. Connors laid the cover on top of his car, forgot it and drove away. By the time he realized what he'd done, the package valued at more than \$1000 had fallen off.

Nina Kuscsik (Irwin Butensky)

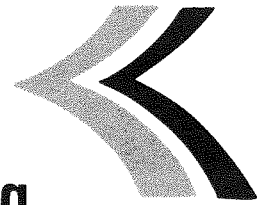


Jon Brower was on his regular run through West Los Angeles when he almost tripped over something on the sidewalk. He stopped to look at it, gasped when he saw the small fortune inside, and gasped again on reading the owner's name.

Brower, a sociology professor and radio commentator, found Connors and returned the valuables. Brower said, "He was very grateful. He kept saying, 'I just can't believe I got it all back. I just can't believe somebody would do this.'"

He gave Brower \$200. •

BROOKS 270



One of the Finest Training and Jogging
Shoes Made. Available in 4 Colors.



You have waited a long time for a major United States sports shoe manufacturer to challenge the imports, and now you won't be disappointed. The quality of materials, workmanship and design, and the construction of the Brooks Drake are your guarantee of many miles of problem-free running.

THE DRAKE 270 (Blue with White Stripe)
SIZES: 4, 5, 6 to 12 including half sizes, and size 13.

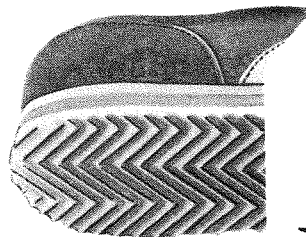
- Lightweight nylon upper . . . strongest nylon available on any training shoe in the world.
- Suede leather reinforcement all around sides and toe.
- Special padding at heel and Achilles tendon area for comfort and support.
- Herringbone outsole design of tough rubber compound for maximum wear and traction.
- Heel to toe micro-cellular midsole, plus contrasting color wedge, absorbs road shock.
- Full outside counter pocket for better shape retention and heel support.

ONLY \$17.00 PER PAIR
Plus \$1.00 Handling Charge

THE DRAKE 270G (Gold with Black Stripe)
Same as 270 in Gold Nylon with Black Trim.
SIZES: 4, 5, 6 to 12 including half sizes, and size 13.

THE DRAKE 270R (Red with White Stripe)
Same as 270 in Red Nylon with White Trim.
SIZES: 4, 5, 6 to 12 including half sizes, and size 13.

THE DRAKE 270K (Kelly Green with White Stripe)
Same as 270 in Kelly Green Nylon with White Trim.
SIZES: 4, 5, 6 to 12 including half sizes, and size 13.



REPLACEABLE EXTRA HEELS INCLUDED.
Worn heel easily and quickly replaced by any shoe repairman.

USE COUPON TO ORDER



The ATHLETIC ATTIC
2415 N. Monroe St., Unit 203
Tallahassee, Florida 32301

Here's my order. . .

QUANTITY

SIZE

SHOE COLOR

270 (Blue with White Stripe)
270G (Gold with Black Stripe)
270R (Red with White Stripe)
270K (Kelly Green with White Stripe)

Send Brooks 270
Shoes to . . .

Enclosed is my check for \$ _____

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

RACING HIGHLIGHTS

NORTHEAST

● **Woodbury, N.J., Jan. 5**—5-mile: 1. Mike Butynes 25:42; 2. Ken Kling 26:20. (13 finished).

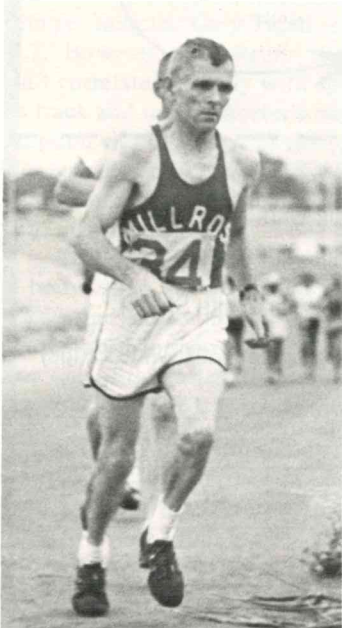
● **Washington, D.C., Jan. 11**—25-kilometer: 1. Phil Stewart (WSC) 1:27:38; 2. Ed Aryes (29) 1:32:55; 3. Martin Smith (28, WSC) 1:36:57; 4. Richard Pankew (27) 1:37:07; 5. Steve Weinstein (26) 1:38:32. (66 finished, 7 under 1:40; from Dave Heymsfeld).

● **N.Y., N.Y., Jan. 12**—Perod RRC 10.2-mile: 1. Jeff Kicia (19, CJTC) 53:20; 2. Larry Trachtenberg (20) 53:24; 3. Ron Beneman (20) 54:17; 4. Ed Burns (24, LIAC) 54:43; 5. Syl Pascale (27, Millrose AA) 54:43; 6. Joel Pasternack (24, WPSC) 54:46; 7. Mike Lestz (28, NH TC) 54:53; 8. Sean Healy (28, Millrose AA) 55:17; 9. Mike Tighe (19, CPTC) 55:18; 10. Paul Fisher (21) 56:07; 11. Pat Bastick (40, Millrose AA) 58:00... 18. Joe Burns (45, Millrose AA) 58:09... 91. Anita Scandurra (19, Greenlawn) 1:05:29... 135. Nina Kuscsik (35, Suffolk AC) 1:08:45. Teams: 1. Millrose AA, 59 pts.; 2. LIAC, 249 pts. (305 finished; 30 under 1:00, 85 under 1:05; from Joe Kleinerman).

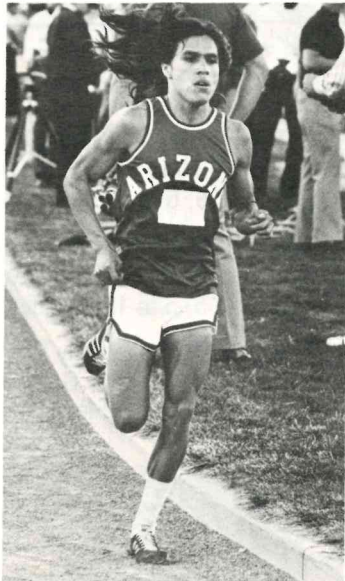
● **Brockport, N.Y., Jan. 12**—Brockport 10-mile: 1. John Pfeil (20) 54:49; 2. Bill McMullen (22, Genesee C.C.) 55:52... 5. Steve Nojeim (18, Genesee C.C.) 58:20... 26. Gene Osborne (57, Rochester RR) 1:08:42... 31. Linda Hansen (25, Rochester RR) 1:20:00. (34 finished; from Ed Winrow).

● **Philadelphia, Pa., Jan. 12**—1. Mike Butynes 52:45; 2. John Del Sordo 53:41. (23 finished).

Jim McDonagh (Jeff Kroot)



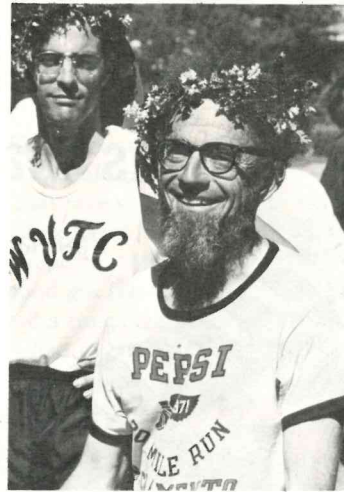
● **Asbury Park, N.J., Jan. 19**—Jersey Shore marathon: 1. Jeff Bradley (22) 2:24:47; 2. Bill Sieber (22, Rutgers Coll.) 2:29:57; 3. Charles Trayer (20, Appalachian AC) 2:30:21; 4. Ernie Rivas (23, Millrose AA) 2:30:35; 5. Jeff Kicia (Wm. Paterson Coll.) 2:30:59; 6. Gary Pierce (Shore AC) 2:31:13; 7. Larry Frederick (25, NYAC) 2:34:10; 8. Ken Kling (24, Sports East) 2:34:10; 9. Joe Witkowski (28, Central Jersey) 2:35:04; 10. Tim McLoone (Shore AC) 2:35:26... 19. Colin Beer (41, Shore AC) 2:41:28... 21. John Palladino (19, Monmouth Coll.) 2:43:08... 45. Jan Mitchell (24, Millrose AA) 2:54:51... 51. Jim McDonagh (50+, Millrose AA) 2:56:32... 68. Patricia Barrett (20, Glassboro St.) 3:02:42. (240 finished, 62 under 3:00, 162 under 3:30, 209 under 4:00).



Ed Mendoza (Chuck Pratt)

● **Rochester, N.Y., Jan. 25**—14-mile: 1. Dave Smith 1:18:39; 2. Bill McMullen (Genesee CC) 1:19:55... 13. Gene Osborne (40+, RTC) 1:37:47. (20 finished). 7-mile: 1. Jim Boyle 38:06; 2. Roger Brown (Corning) 39:43... 20. Kitty Brown 54:45... 21. Joe Fernandez (40+, RTC) 57:00. (25 finished).

● **New York, N.Y., Jan. 26**—12-mile 68-yard run: 1. Jeff Kicia (19, CJTC) 1:03:29; 2. L. Trachtenberg (20, Pr. U.) 1:03:29; 3. K. MacDonald (24, NJS) 1:03:52; 4. S. Karlin (24) 1:04:32; 5. M. Lestz (28) 1:04:50; 6. J. Pasternack (24, WPSC) 1:05:50; 7. Sean Healy (28, Millrose AA) 1:06:54; 8. Paul Fisher (21, Pr. U.) 1:07:00; 9. Ed Burns (24, LIAC) 1:07:07; 10. Mike Tighe (19, CPTC) 1:07:53... 14. Joe Burns (45, Millrose AA) 1:09:03... 66. Anita Scandurra (19, SULI) 1:18:08... 81. Robert Leavitt (50) 1:20:03... 140. Toiske D'Elia (46, JSTC) 1:25:20. (259 finished, 16 under 1:10, 79 under 1:20; from Joe Kleinerman).



Ross Smith (John Marconi)

SOUTHEAST

● **New Orleans, La., Jan. 4**—5.5 mile: 1. Taylor Aultman 26:51; 2. John Mayfield 27:06... 68. Carol Quartano (13) 58:28. (99 finished; from Cy Quinn).

● **Arlington, Va., Jan. 5**—Two-hour run: 1. Phil Stewart (24, WSC) 21m 1535y; 2. Will Albers (19, CMU) 20m 1260y; 3. Don Roberts (20, USMC) 20m 253y; 4. Chuck Johnson (36, PUSTC) 19m 1750y; 5. Ed Jerome (31, WSC & PUSTC) 19m 1432y; 6. Charles Ross (37, 37, DC Harriers) 19m 1224y; 7. Mike Heylin (44, DCRRC) 19m 1196y... 32. Walt Washburn (52, DC RRC) 16m 1048y... 47. Ruth Hamilton (27, DCRRC) 13m 311y. (55 finished, 13 over 19 miles; from David Heymsfeld).

● **Atlanta, Ga., Jan. 11**—Brookhaven 9-mile: 1. Bob Varsha 47:52; 2. Earle Owens 48:58; 3. Sam Benedict 49:30... 24. Charles Harris (40+) 57:50... 52. Melissa Wilson 1:18:52 (53 finished).

● **Boca Raton, Fla., Jan. 26**—Gold Coast marathon: 1. Ron Chase (25) 2:35:17; 2. Coleman Mooney (34) 2:35:22; 3. Bob Layton (34) 2:47:42; 4. Richard Wallis (17) 2:50:51... 15. Syl Ludington (48) 3:21:51. (27 finished, 18 under 3:30, 22 under 4:00; from Carl Victor Foote).

MIDWEST

● **Detroit, Mich., Oct. 13**—National AAU Masters 20-kilometer: 1. John Doyle (Windsor Y) 1:10:21; 2. Frank McBride (MCS) 1:13:17; 3. James Landsfeld 1:16:09; 4. Chuck Davey (MCS) 1:17:11; 5. John Boyle (MCS) 1:19:20; 6. Bill Barton 1:19:41. (17 finished; from Ed Kozloff).

● **Toledo, Ohio, Dec. 29**—University of Toledo RR 50-mile: 1. Park Barner (30) 5:48:16. (1 finished; from Jim Edwards).

● **Lake Bluff, Ill., Dec. 29**—Holiday 10-mile: 1. Pete Farwell 52:12; 2. Dave Peters 52:38; 3. Dean Erdahl 53:01... Al Brodzik (45+) 57:45... Harry Roberts (50+) 1:03:25... Eugene Bulinski 1:12:55... Sharon Cogbill 1:13:29... Jack Bolton (60+) 1:17:31. (From Wendell Miller).

● **Oklahoma City, Okla., Jan. 15**—Draper Lake 10-mile: 1. Terry Ziegler (24) 51:35; 2. Randy Heierding (23) 52:21; 3. Steve Wolf (20) 52:25; 4. Ron Strangeland (19) 52:30; 5. Larry Rose (26) 52:58... 18. Hub Parker (44) 1:03:42... 35. Jim Butler (54) 1:13:00... 46. Sam Moore (62) 1:46. (46 finished, 12 under 1:00; from Vern Whiteside).

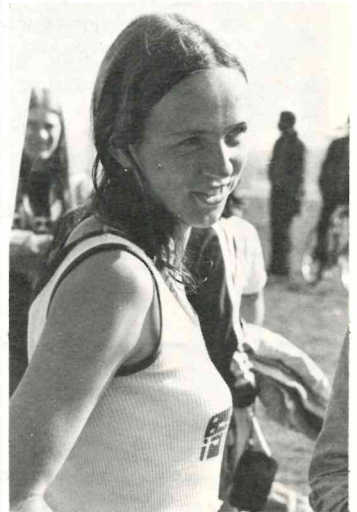
● **Columbia, Mo., Jan. 18**—20-kilometer: 1. Rick Katz 1:08:47; 2. Charlie Evans 1:11:02... 10. Rex Frazer (42) 1:19:29. (12 finished; from Joe Duncan).

● **Danville, Ill., Jan. 18**—Danville YMCA 10.4-mile: 1. Larry Swanson (UCTC) 53:59... Tom Miller (Jr., IIMC) 59:53. (from Larry Swanson).

● **Gallipolis, Ohio, Jan. 18**—Gallipolis Area-wide Striders 6-mile: 1. Charles Loeb (KVRR) 31:30; 2. Paul Cantrell (KVRR) 32:15. Teams: 1. Kanawha Valley RR, 17 pts. (16 finished; from Edward Sayre).

● **Chicago, Ill., Jan. 26**—12-mile: 1. Grant Colehour (UC TC) 1:07:15; 2. Aris Antipas (UCTC) 1:08:18.

Peggy Lyman (OMPhoto)



SOUTHWEST

● **Houston, Tex., Jan. 5**—Gulf AAU 20-kilometer walk: 1. John Evans (Terlingua TC) 1:59:45; 2. Norm Samish (Gulf Coast TC) 2:06:38.

● **Denton, Tex., Jan. 11**—NTSU marathon: 1. Mike Matheony 2:32:52; 2. Bob Pinion 2:41:29; 3. Kevill Hellman 2:47:36. (34 finished, 9 under 3:00, 24 under 3:30; 33 under 4:00).

WEST

● San Diego, Calif., Jan.

11—Mission Bay marathon: 1. Ed Mendoza (Jamul Toads) 2:16:33; 2. Kirk Pfeffer (18, Jamul Toads) 2:17:44; 3. Ron Wayne 2:18:46; 4. Ken Moffitt (Occidental) 2:21:32; 5. Carl Swift (Azusa Pacific) 2:22:12; 6. Wayne Akiyama (SFVTC) 2:22:55; 7. Ed Chaidez (CSU Northridge) 2:22:59; 8. Dick Sliney (Eng./N. Ariz. U.) 2:23:15... 34. Ross Smith (40+, WVJS) 2:38:30... 56. Ed Almeida (50+, SDTC) 2:44:19... 84. Reggie Heywood (11) 2:53:12... Eileen Waters (SDTC) 3:16:44. Teams: 1. SDTC, 14 pts.; 2. Jamul Toads, 18 pts., (422 finished, 25 under 2:30, 122 under 3:00; from Kaj Johansen).

● Los Gatos, Cal., Jan. 15—

PA-AAU 15-kilometer: 1. Jim Nuccio (WVTC) 46:12; 2. Bill Clark (WVTC) 46:46; 3. Darren George (AIA) 47:07; 4. Mike Pinocci (WVTC) 47:25; 5. Al Mejia (WVTC) 47:28; 6. Greg Brock (WVTC) 47:49; 7. Trevor Vilsoen (Okla. St.) 48:11; 8. Charlie Harris (WVTC) 48:11; 9. Doug McLean (WVTC) 48:11; 10. Bob Paulin (Jr., Cambrian RR) 48:43... 51. Ken Napier (40+, WVJ&S) 52:04... 54. Peggy Lyman (WVTC) 57:06... 86. Ruth Anderson (40+, NCSTC) 1:03:12. (from Harold DeMoss).

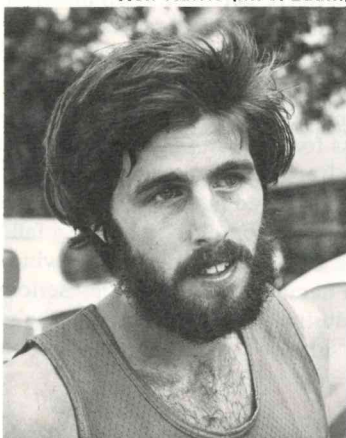
● San Dieguito, Cal., Jan.

25—San Dieguito 13.1-mile: 1. Dennis Kasischke (SDTC) 1:11:55; 2. Frank Candelario (USIU) 1:16:26 3. Ed Granchalek (SDTC) 1:16:28; 4. Rick Hagin 1:16:37; 5. Bill Johnson (SDTC) 1:16:41... 16. Ed Almeida (50+) 1:20:16... 26. Nadia Garcia (SDTC) 1:23:20. (171 finished, 15 under 1:20, 51 under 1:30; from Jim Temples).

● Portola Valley, Cal., Jan.

25—PA-AAU 20-kilometer: 1. Jim Nuccio (WVTC) 1:03:03; 2. Bill Clark (WVTC) 1:03:58; 3. Wayne Badgely 1:04:12; 4. George Stewart (WVTC) 1:04:46; 5. Alvaro Mejia (WVTC) 1:04:59; 6. Gary Blume 1:05:22; 7. Brian Maxwell (UC Berkeley) 1:05:30; 8. Don Makela 1:05:42; 9. Jan Sershen 1:06:22; 10. Greg Brock (WVTC) 1:06:45... 18. Ross Smith (40+, WVJ&S) 1:09:19... 48. Peggy Lyman (WVTC) 1:20:02. (66 finished, 20 under 1:10, 47 under 1:20; from Harold DeMoss).

Ron Kurrle (M. J. Baum)



● Orange, Cal., Jan. 26—

World Masters marathon: 1. Ron Kurrle (26) 2:22:47; 2. Sam Young (22, Cal State LA) 2:22:59; 3. Mark Kushner (22, Culver City AC) 2:24:22; 4. Darren George (22, AIA) 2:30:15; 5. Gary Dobrenz (28, Culver City AC) 2:30:15; 6. Todd Ferguson (30, AIA) 2:30:43; 7. Steve Broten (22, Seniors TC) 2:32:40; 8. Mark Stevenson (17) 2:32:46; 9. Reynaldo Calderon (28, Aztlan) 2:34:41; 10. Luis Arreola (17) 2:32:46; 11. Orville Atkins (38, Seniors Track Club) 2:35:35; 12. John Rudberg (40, Seniors TC) 2:37:05... 38. Monty Montgomery (68) 2:54:49... 96. Susan Lane (16) 3:24:48... 156. Fred Grace (77) 4:20:51. (162 finished, 53 under 3:00, 103 under 3:30, 137 under 4:00).



Anita Scandurra (S. Sutton/Duomo)

● Marysville, Cal., Jan. 27—

Peach Bowl Pacers 10,000m: 1. Jim Birnbaum (22, WVTC) 32:20; 2. Henry Perez (18, Big Valley) 33:49; 3. Richard Flores (20, Big Valley) 34:21; 4. John Higley (21, Peach Bowl Harriers), and Keith Jacobson (18, Big Valley) 34:35... 13. Ross Smith (47, WVJ&S) 36:39... 47. Jeanette Allred (13, NorCal TC) 42:04... 80. J. P. Wirick (53, NorCal Sen.) 47:49. (114 finished, 7 under 35:00, 37 under 40:00).

● Las Vegas, Nev., Jan.—

South Nev. AAU 30-kilometer: 1. Dennis Fridly 1:53:17; 2. Bob Blemings 1:54:21... 5. Mike Neal (40+) 1:58:53... 9. John Walker (50+) 2:14:55... 16. Susie Heckethorne 2:50:01. (from Bill Freedman).

● Las Vegas, Nev., Feb. 2—

Las Vegas marathon: 1. Donald Ocana (24, Bev. Hills. St.) 2:29:05; 2. Ruben Ruiz (17) 2:33:16; 3. Tom Wysocki (18) 2:34:43; 4. Alex Fierros (26, LaLoma St.) 2:35:06; 5. David Lomeli (16) 2:35:36... 43. Alex Boies (29, Twin Cities) 3:27:02... 52. Donald Logan (60, NY Pioneers) 3:32:04. (73 finished, 22 under 3:00, 0, 49 under 3:30, 64 under 4:00). ●

APRIL COMING EVENTS

NORTHEAST

- 6 Met. AAU Jr., Sr. and Masters 15-kilometer, (Scarsdale, N.Y. (1:30 p.m.; Road Runners Club, P.O. Box 881, FDR Station, N.Y., N.Y. 10022).
- 6 Cherry Blossom 10-mile, Washington, D.C. (E. Potomac Park Golf Club house; 9:00 a.m.; Jeff Darman, 2737 Devonshire Pl., N.W., Washington, D.C. 20008).
- 21 Boston marathon, Boston, Mass. (Hopkinton, Mass., noon; Marathon Committee, Boston, Mass. 02114).
- 22 Penn Relays, Philadelphia, Pa. (Fairmount Park; 11 a.m.; J.P. Tuppeny, Weightman Hall E-7, University of Pa., Phil., Pa. 19174).
- 27 East Regional 10-kilometer Champ., N.Y., N.Y. (Tibbets Brook Park; 2 p.m.; Road Runner's Club, P.O. Box 881, FDR Station, N.Y., N.Y. 10022).

MIDWEST

- 6 UNI marathon, Cedar Falls, Iowa (noon; open; Coach Jack Jennett, U. of Northern Iowa, Cedar Falls, Ia. 50613).
- 18 ITA Pro Indoor, Kansas City, Kans. (Kansas City Memorial Arena; invit.).
- 26 Drake marathon, Des Moines, Ia. (9:15 a.m.; open; Robert Ehrhart, Drake Relays Director, Drake Univ., Des Moines, Ia. 50311).
- 26 Road Runners marathon, Gage, Okla. (Vern Whiteside, 6916 S. Knoxville Ave., Tulsa, Okla. 74136).

WEST

- 1 (?) Marathon of the Times, Los Angeles, Cal. (Parker Williams, Glenn Davis, Los Angeles Times, Los Angeles, Calif.).

- 4 ITA Pro Indoor, San Francisco, Cal. (S.F. Cow Palace; invit.).
- 6 PA-AAU 50-kilometer, Sacramento, Cal. (10 a.m.; Abe Underwood, 6555 Riverside Blvd., Sacramento, Calif. 95831).
- 11 ITA Pro Indoor, Portland, Ore. (Portland's Coliseum; invit.).
- 12 Birch Bay marathon, Blaine, Wash. (on US-Canadian border; noon; open; Jim Pearson, 521 17th St., Bellingham, Wash. 98225).
- 13 Nat. AAU 50-kilometer, + Masters, Pasadena, Cal. (7 a.m.; Tom Cory, 515 Howard, Glendale, Cal.).

CANADA

- 12 Lethbridge 10-mile, Lethbridge, Alberta (2 p.m.; Race Director, Dept. of P.E., Univer. of Lethbridge, Alberta, Canada).

INTERNATIONAL

- 6 International marathon, Athens, Greece.
- 27 International marathon, Helsinki, Finland.

WALKS

- 5 MVAAU and Open One-Hour Walk, Columbia, Mo. (Hickman Track; 2 p.m.; Joe Duncan, 4004 Defoe Dr., Columbia, Mo. 65201).
- 20 Nat. AAU Masters 75-kilometer Walk, Lakewood, N.J.
- 20 Nat. AAU Class B 75-kilometer Walk, Lakewood, N.J.

Send results and schedules to Runner's World, Box 366, Mountain View, Calif. 94040. Mail "Coming Events" at least two months early. ●

1975 MARATHON HANDBOOK



112 pages, \$1.95

RUNNER'S MONTHLY BOOKLET, Box 366, Mt. View, CA 94040

- all US & Canadian men under 3:00 and all women under 4:00
- listings for the 150 marathons scheduled in the US for 1975
- valuable feature articles, all-time World, US and Canadian lists, and much more

READERS' COMMENTS

WEIGHT

With regard to the interview with Dr. Ernst van Aaken (Jan. 75), the 20% below "ideal" weight figure is extremely deceptive. Dr. van Aaken himself states that Steve Prefontaine couldn't probably get his weight that low, citing muscles, water and connective tissues as reasons. But then, what is the value of the 20% figure at all, for surely the factors preventing Pre from reaching that level fluctuate from person to person, preventing others as well.

Just as the training mileage of world-class athletes varies from the below-70 miles-per-week-regimens of Jack Foster and Ben Jipcho to the occasional 200-mile weeks of Dave Bedford and Gerry Lindgren, so does the ideal weight vary from the extremely ectomorphic builds of Frank Shorter and Harald Norpoth to the huskier physiques of Prefontaine and Tom Fleming. A concise, catch-all figure such as 20% below is not reasonably applicable to distance runners.

*Jim Lilliefors
Iowa City, Iowa*

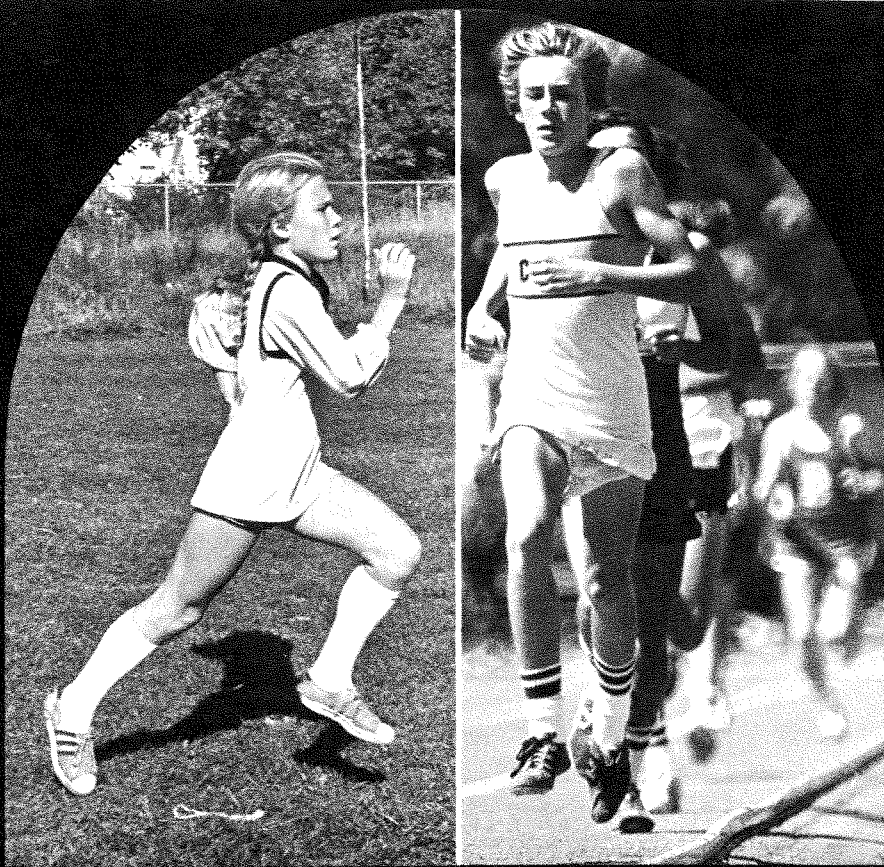
I have been struggling to get myself to look like a walking skeleton, and have been feeling worse and worse, and running slower and slower. At 10 pounds over the 165 I once weighed after nearly a year in a prison camp, I now formally decline to take my weight down to what one chart recommended, namely 145. I advise eating wisely and well, without your stomach clinging to your backbone.

*Joe Frelinghuysen
Far Hills, N.J.*

AAU CROSS-COUNTRY

In "The Maturing of Lynn Bjorklund" (Jan. 75), a comment was made about Charlotte Lettis, an "unknown" runner from the east who placed fifth in the cross-country nationals. Charlotte's place was *no* surprise to those of us who have competed against her the past few years. As for her not having the speed of a miler, after only a few months of running she competed in the indoor nationals three years ago and did 5:02 after a fall! She has a great deal of mile speed, which has been hampered in the past by serious injuries during the indoor season. She's going to surprise the hell out of a lot more people.

*Jenny Taylor-Tuthill
Newton Centre, Mass.*



THE COMPLETE RUNNER

"It takes a long time to get to be a good runner . . . many weeks and months and years of constant experimenting with training methods, techniques, and all that. Most runners hate like hell to see any of that time wasted."

The Complete Runner is a gold mine of information about getting the most for that time you spend. It's written by people who've spent a lifetime learning—George Sheehan, Ernst van Aaken, Brooks Johnson, Kathrine Switzer, Joe Henderson, Tom Osler, Gabe Mirkin, Hal Higdon . . .

Their ideas will help you run faster, farther. Here are just a few of the questions **The Complete Runner** answers:

- How can I cure shin splints?
- How do you carbo-load? Is it dangerous?
- What and how much should you drink during a race?
- How much training should be for endurance, and how much for speed?

The Complete Runner has something on almost every aspect of running. In fact, it probably says something about that problem *you've* been worrying about!

WORLD PUBLICATIONS
Box 366, Mountain View CA 94040

Please send me _____ copies of **The Complete Runner**. Enclosed is \$10.95 per copy, plus 25c postage and handling. California residents add 6% sales tax.

Name _____
Address _____
City/State/Zip _____



The article (on the women's AAU) is a defensive cover-up for a course laid out by a sadist: downhill start, jumping a creek four times, a one-mile no-passing stretch, a broken ankle for the girls' leader, Debbie Johnson, "treacherous and unsafe" according to one 18-year-old who ran it.

*David Theall
McLean, Va.*

I have just finished reading your wonderful "From the Publisher" (Jan. 75). You see, I quite agree that Ted Castaneda is most deserving of the AAU championship. I happen to know the effort and work he puts into his running, and his hopes of holding a world title for the US.

I believe that he also should have gotten the writeup instead of Frank Shorter ("Shorter Reaches an Impasse"). Frank Shorter deserved it when he won, but he didn't win it this time. My son did.

*Anita Castaneda
Colorado Springs, Colo.*

FINDER'S KEEPERS

I can't resist replying to Mr. William's request for scavengers ("Reader's Comments," Jan. 75). Out here in West Texas my husband's runs cover the less-traveled coun-

try roads, a real goldmine for the frustrated beachcomber. Besides the regular wrenches and screwdrivers, here are some of the things Roger came up with:

1. Complete set of motorcycle tools.
2. New (still in the packages) fishing gear.
3. New rain suit.
4. T-shirt (fair condition).
5. Shorts (good condition).
6. Unmatched gloves.

There was also a stray kitten he couldn't stand to see hungry, and a puppy we had to send to the Humane Society. But the coup de grace came when he ran home one evening leading a Shetland pony. Several phone calls later, the owner was located, much to the chagrin of our children. We're waiting for the day he'll run up leading a lost elephant by the trunk.

*Anna Margaret Anderson
San Angelo, Tex.*

SAFETY VALVE

Keith Hartman ("Pedaling to Health," Nov. 74) has described for runner a wonderful safety valve that we all should be aware of. I also have yet to find an injury that precludes bike riding. I am always amazed at being able to bike hard (100 miles a day) on leg injuries that I couldn't jog around the block on. The bike provides relief to tired, sore, injured leg muscles as well as that peace of mind an injured runner so badly needs.

*Charles Day
Fleusburg, West Germany*

TESTING

I assume the improvement data reported by Scotty Powers ("Long or Short, Fast or Slow?" Jan. 75) are arithmetical means. If so, he indicates that one training method is superior to the other, for the situation he studied, because of the differences between the means.

But it does not seem possible to reach that conclusion, or any conclusion for that matter, from the data shown. It seems necessary to determine whether or not the differences are statistically significant. To give meaning to the observations, he at least should also report the standard deviation of the means.

In any case, I wish to congratulate Mr. Powers for his effort to apply the scientific method to a field plagued by guesses, opinions and hunches.

*Bernard Maristany
Baton Rouge, La.*

RESOLUTIONS FOR RACE DIRECTORS

1. Put ages of all competitors in race results. This is particularly impor-

tant with the Masters and age-group categories.

2. Put full first names of women on race results, and indicate that they are women.

3. Make sure results are legible. Don't use mimeograph unless it gives clear copies.

4. When numbers permit, addresses of the competitors could be included in the results also.

5. Have Master women category as well as Master men! (See "Older and Faster" in this month's "News and Views.")

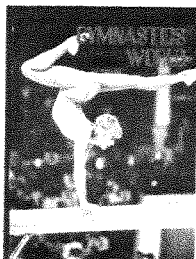
*Ruth Anderson
Oakland, Calif.*

RECORD RUN

It has come to my attention that there is a so-called world record for distance covered in a run of 24 hours duration. Being a rather shy and modest individual, I usually abstain from boasting of my accomplishments. But on this occasion I have been sufficiently provoked to write this letter and firmly assert that I have held and still do hold the world record for distance covered on foot in a 24-hour-period of time. I hereby challenge any and all comers to meet me in head-to-head competition.

The Easter Bunny •

PERFECT YOUR SPORT



Every athlete knows the thrill of performance, of perfection and precision. Gymnastics is the ultimate sport for these three athletic fundamentals.

Now in its long awaited debut, **Gymnastics World** gives advice on technique, conditioning and body control for the striving competitor. The behind-the-scenes news and articles by top competitors make this an invaluable guide. Let **Gymnastics World** perfect your athletic performance.

GYMNASTICS WORLD

P. O. Box 366, Mt. View, CA 94040

Please start my *Gymnastics World* subscription today. I am enclosing \$4.00 for a one-year subscription. (Published quarterly)

Name _____

Address _____

City/State/Zip _____

CHANGE OF ADDRESS & ORDER FORM

If you're moving, please let us know three weeks before changing your address. And please mention all the publications of ours you subscribe to.

(Check one) Please change my address. Please enter my subscription to the following publications:

Runner's World (\$7.00/year)

Runner's Monthly Booklet (\$12)

Bike World (\$7.00/year)

You must include OLD address too!

NAME _____

ADDRESS _____

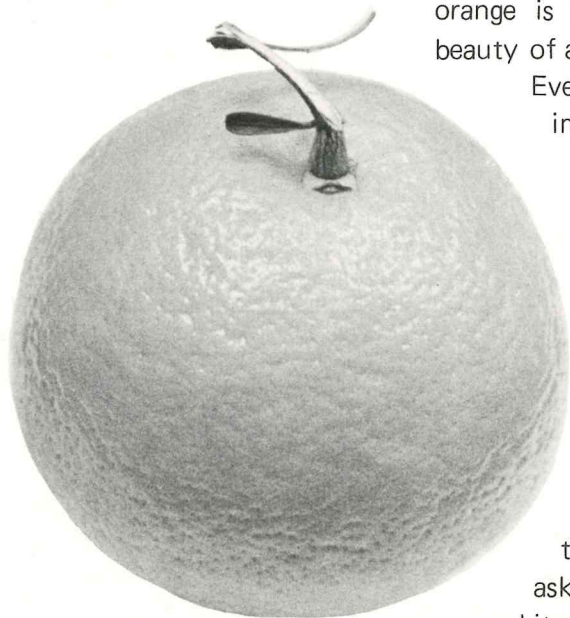
CITY _____

STATE _____

ZIP _____

RW, Box 366, Mt. View, Ca. 94040

food for thought



The simple beauty of a fresh orange is similar to the simple beauty of a clean, efficient body. Every athlete dreams of improving his or her athletic performance and the difference a diet makes may be the difference between mediocrity and success.

Food for Fitness

presents, for the first time in print, answers to the questions many athletes are asking about nutrition—and its effects on their athletic careers. A vast amount of re-

search and personal experience has been sifted and presented here for the active sportsman, or the person who just wants to perform better in daily life.

Food for Fitness deals with facts and fallacies on such controversial topics as: protein requirements, weight control, vegetarian diets, carbohydrate loading, the role of drugs, and performance-specific diets.

Food for Fitness will give you plenty of food for thought. 144 pages with charts, illustrated, color cover.

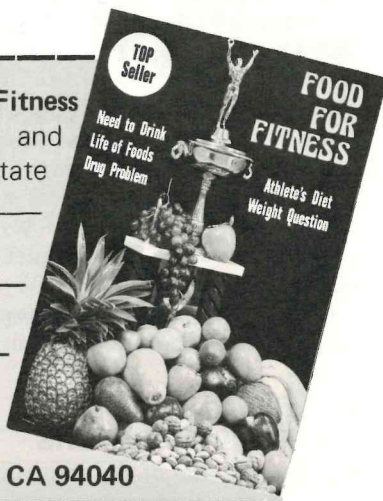
Please send me _____ copies of **Food for Fitness** at \$2.95 each, plus 15 cents postage and handling. California residents add 6% state sales tax. Total amount enclosed \$ _____

Name _____

Address _____

City/State/Zip _____

World Publications, Box 366, Mtn. View, CA 94040



EARTH® negative heel shoes are sold only at Earth® shoe stores in these cities.

For the address consult your phone directory.

- | | |
|----------------------------|---|
| Arizona | Tucson |
| California | Berkeley
Carmel
Fresno*
Hermosa Beach
Laguna Beach
Palm Springs*
Palo Alto
San Diego*
San Francisco
Santa Ana
Santa Barbara
Westwood |
| Colorado | Boulder |
| Connecticut | Hartford
New Haven |
| District of Columbia | Washington, D.C. |
| Florida | Gainesville
North Miami Beach
South Miami |
| Georgia | Atlanta |
| Illinois | Chicago |
| Indiana | Bloomington
Indianapolis* |
| Kentucky | Louisville* |
| Louisiana | New Orleans |
| Massachusetts | Amherst
Cambridge |
| Michigan | Ann Arbor
Birmingham |
| Minnesota | Minneapolis |
| Missouri | Kansas City |
| Nevada | Las Vegas* |
| New Jersey | Princeton |
| New York | New York
Buffalo
Garden City
Huntington
Rochester*
Southampton |
| North Carolina | Chapel Hill
Charlotte |
| Ohio | Cleveland Heights
Columbus
Dayton*
Toledo* |
| Oklahoma | Oklahoma City* |
| Oregon | Eugene*
Portland* |
| Pennsylvania | Allentown
Philadelphia
Pittsburgh
State College* |
| Rhode Island | Providence* |
| Tennessee | Knoxville
Memphis |
| Texas | Austin
Dallas |
| Utah | Salt Lake City |
| Vermont | Burlington |
| Virginia | Richmond* |
| Washington | Seattle
Spokane* |
| Wisconsin | Madison |

CANADA

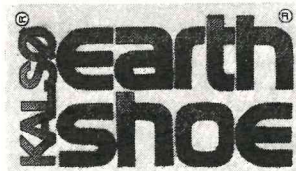
- | | |
|---------------|----------|
| Quebec | Montreal |
| Ontario | Toronto |

EUROPE

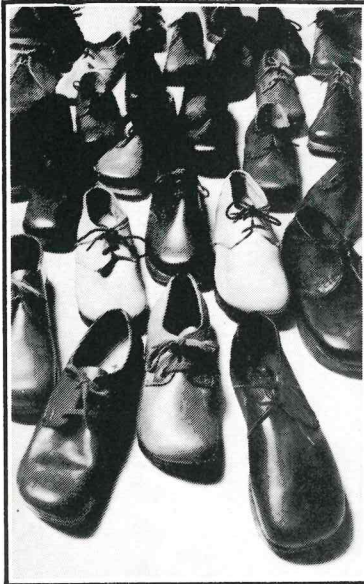
- | | |
|---------------|------------|
| Denmark | Copenhagen |
| Germany | Munich |

If there is no store in your area, write to Earth shoe, Dept. LM 251 Park Avenue South, New York, New York 10010 and we will send you a brochure that explains how to order the Earth® brand shoe by mail.

*Opening soon.



Why everybody's pretending they're us.



These are not Earth shoes. Just because they look like Earth shoes doesn't mean they are Earth brand shoes.

There was a time when the EARTH* negative heel shoe was the only shoe in the world with the heel lower than the toe.

In those days the other people who made shoes just laughed at us.

But things have changed.

And now that you love our Earth brand shoes, now that you're standing in line to get them, the shoe companies have stopped laughing and started copying.



The Earth brand shoe comes in styles for men and women, from open sandals to high boots. From \$23.50 to \$42.50. Prices slightly higher in the west.

The shoes that look like, seem like, but don't work like the Earth® shoe.

Today, a lot of people are trying to imitate our shoe. Some even use names that sound like ours, and have ads that look like ours!

It seems like everybody's trying to be us.

But what they don't understand is this. Merely lowering the heel of a shoe isn't enough. And imitating the outside of our shoe isn't enough. Just because a shoe looks like the Earth shoe doesn't mean it works like the Earth shoe.

It took many years to perfect the Earth brand shoe. And those years are crucial. They make our shoe different from all its imitators.

How the Earth® Shoe was invented.

It started years ago when Anne Kalsø had the original idea for the negative heel shoe.

She saw footprints in the sand, and realized that with every footprint the body was designing a shoe.

A natural shoe. A shoe with the heel lower than the toe. A shoe that would work in harmony with your entire body.

But that was just the beginning. Then came the years



To get an idea of how the Earth® shoe works, stand barefoot with your toes up on a book. Feel what begins to happen.

of research and hard work to get every detail just right. To perfect the arch. To make the toes wide, comfortable and functional. To balance the shoe. To mold the sole in a special way so that it would allow you to walk in a natural rolling motion. Gently and easily even on the hard jarring cement of our cities.

there, it's not the Earth brand shoe.

Sold only at Earth® shoe stores.

And there's one more thing that makes our shoes so special. Our stores.

Earth shoes are sold only at Earth shoe stores. Stores that sell no other shoe but ours, and are devoted entirely to the Earth shoe concept.

How our shoes fit you is very important to us. There's a special technique to fitting them. Our people are trained to fit you properly and we wouldn't trust anyone else to do it.

Find out for yourself.

To really appreciate Earth shoes you must try them.

When you do you'll see, perhaps for the first time in your life, what it's like to walk more gracefully, naturally and comfortably.



**EARTH is the registered trademark of Kalsø Systemet, Inc. for its negative heel shoes and other products.*

©1975. Kalsø Systemet, Inc.



Patent #3305947. Why the Earth® shoe is unique.

The Earth shoe is patented. That means it can't be copied without being changed.

And if it's changed it just isn't the Earth shoe.

So to be sure you're getting the real thing, look on the sole for our patent number and our trademark, Earth. If they're not



Anne Kalsø.

Inventor of the EARTH negative heel shoe.

You can only buy Earth® shoes at Earth® Shoe Stores in the cities listed on the facing page. Gift Certificates Available.

RUNNER'S MECCA

HIGH ALTITUDE TRAINING CENTER

How high is up? Authorities agree for runners, 10,000 feet is the pinnacle.

Where is up? Runner's Mecca, the ultimate training experience. Extensive paved roads and running trails wind past lakes and streams in the high forest plateaus of southwestern Utah. The air is clean, dry, cool, and oxygen rare.

Unlike a camp, this unique center provides coordinated training programs from March through October. Accommodations are convenient and reasonably priced.

Plan your pilgrimage to Runner's Mecca now! Contact: *Richard Heywood, Director, Runner's Mecca, Box 2186, Mesa, AZ 85204. (602) 834-1496*

