

SEPTEMBER, 1974 • Only 75 cents

Runner's World

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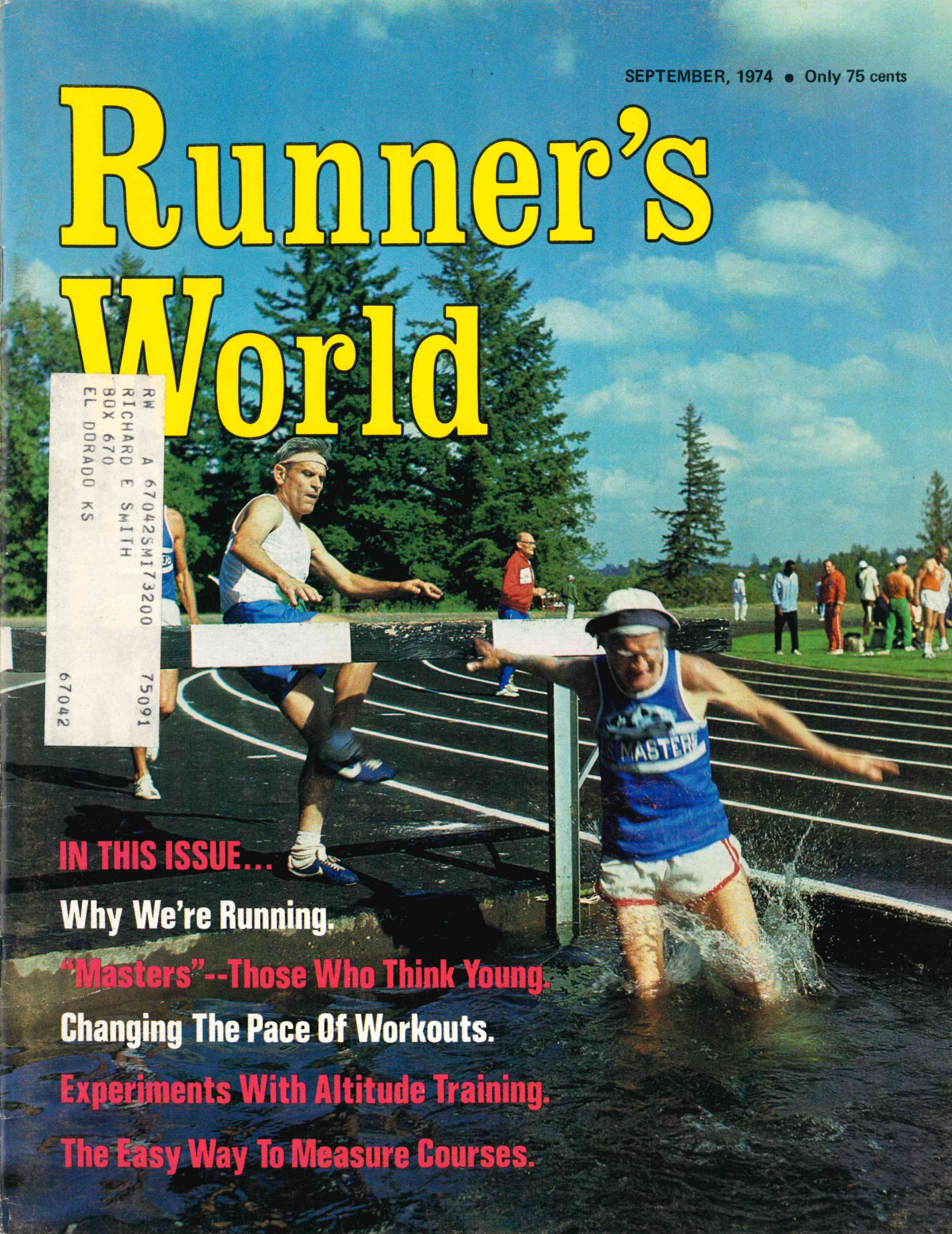
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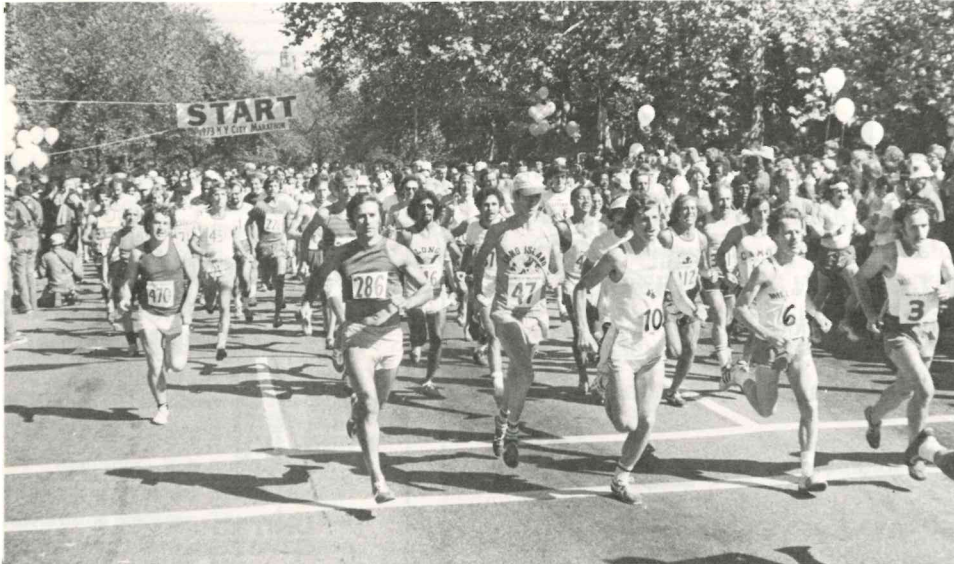
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THE FIFTH ANNUAL **NEW YORK CITY MARATHON**



Start of 1973 New York City Marathon — Winner No. 10 Tom Fleming

Sunday, September 29th, 1974
11:00 a.m.

Central Park — New York City

Under the Auspices of the
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Telephone _____ T-shirt size _____ S _____ M _____ L _____
Club, organization, or school _____
For JOURNAL and other publicity purposes please include:
Best marathon time _____ Where held _____
Date _____ Finish Place _____

ENTRY FEE: \$2.00 Post entries, \$3.00. Make checks payable to N.Y. City Marathon

SEND FOR: Entries and hotel information to: New York City Marathon. P.O. Box 881, FDR Station, New York, N.Y. 10022
Telephone (212) 759-7115

WELCOME! To The Buffalo To Niagara



SKYLON INTERNATIONAL MARATHON

The most exciting, beautiful, and unique marathon in the world—U.S.A. to Canada!

WHEN—Sat. Oct. 26, 12:30 PM

WHERE—From Buffalo, N.Y., U.S.A. across Peace Bridge to Canada, ending at Niagara Falls!

SPONSORED BY—Niagara International Centre, Ontario, Canada

ORGANIZED BY—Buffalo Philharmonic A.C.
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CERTIFIED AND SANCTIONED BY—Niagara Association AAU, Canadian Track & Field Association

WEATHER—Average October temperature is 51°.

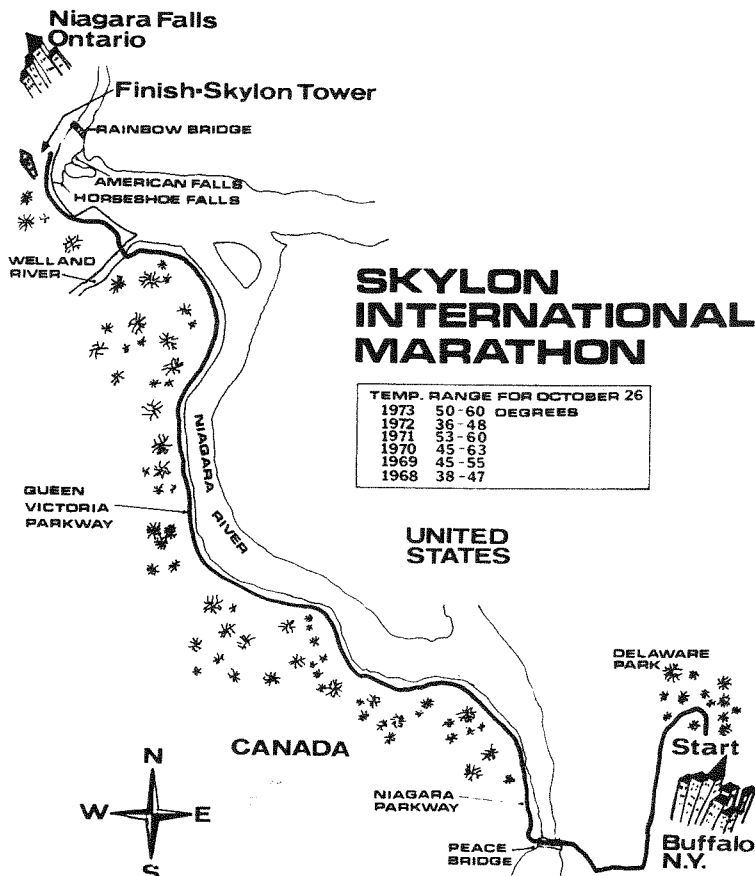
ENTRY FEE—\$3.00

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FEATURES—Free post-race smorgasbord; T-shirts to all; certificates and photos to all finishers; shower facilities; flat course; beautiful scenery.

FURTHER—Upon receipt of entry, a mailing with further details will be sent.



Detach and mail with check for \$3.00 ("Skylon International Marathon") to: Alan Gross, 378 Elmwood Ave., Buffalo, N.Y. 14222

Amateur Athletic Union of the United States Official Entry Blank—No entry will be received except upon this form complete with A.A.U. No. and entry fee. Please enter me in the Buffalo to Niagara Skylon International Marathon on October 26, 1974.

In consideration of your accepting this entry, I hereby for myself, my heirs, executors and administrators waive and release any and all right and claim for damages I may have against the Niagara Association of the Amateur Athletic Association of the United States, the Canadian Track and Field Association, or the cities or towns in which the race is contested, their representatives, successors, and assigns, for any and all injuries suffered by me in said event. I also give permission for the free use of my name and/or my picture in any broadcast, telecast, or other account of this event.

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Print Name in full _____

Address _____ Phone _____

Date of Birth _____ City & Country of Birth _____

Citizen of _____ Naturalized? _____

Occupation _____

Official A.A.U. or C.T.F.A. Club represented _____

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T-shirt Size (Check one) Small Medium Large Extra Large

Team Entry (List team name and names of 3-6 team runners; only first three will count in scoring) _____

Have you run a marathon before? _____ How many _____

Best time _____ Where _____

Signature _____

If under 18, parent's signature _____



RUNNER'S WORLD

Box 366, Mountain View, Calif. 94040

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

Volume Nine—September, 1974—Number Nine



COVER:

His enthusiasm is dampened a bit at this point, but Norman Bright is on his way to winning the steeplechase at the AAU Masters meet. (C.A. Palmer)

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FROM THE PUBLISHER

As I was sitting at my desk on Friday afternoon, a special delivery package arrived. It was the proof for our upcoming book, *The Complete Runner*. With all our publications, we get one last chance to make sure everything is in order before the presses start.

Over one year ago, I had talked with Joe Henderson about coming out with such a book and we both agreed that it was a good idea. I put Joe in charge of gathering the material on the book, Diana Yee was put in charge of doing the typesetting, Hugh Bowen would do the initial proofreading and corrections, George Beinhorn would gather photos, and Martin Rudow and I would make sure everything was coming out the way we wanted it.

After six months of work, things were shaping up. I normally would do the layout, but since Jan Herhold had shown me she knew what she was doing, I put her in charge.

In the meantime, I was looking for a printer. Our regular printer in San Carlos (Hatcher Trade Press) does not specialize in hard-cover editions and certainly not in 6- x 9-inch books. I needed someone who does this kind of work regularly. I had gotten bids on other jobs from Edward Brothers Inc. in Ann Arbor, Mich., before, and I knew they could handle it.

Their price was right and everything was set to go. We would be delayed two months because of the paper shortage, but nothing could be done about that. The book was sent off to them.

I had Stan Pantovic take the color shot I wanted for the dust jacket, and I had these printed. They turned out very well.

And so by the end of September, we'll have copies ready for mailing. We already have over 1000 orders, and after seeing the proof I am convinced it is going to be a winner. I would say we will be reprinting within six months.

—Bob Anderson

Did You Know

That a hurdler learns not by running hurdles but by running over sticks and bricks? Or that a 4:45 mile at age 50 is equal to the world record of a 20-year-old?



HURDLING AND STEEPLECHASING

52 pages
\$1.75

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Every race has its barriers—time, distance, human competition. Hurdlers and steeplechasers have all of these and more—as many as 35 more, solid and imposing ones 2½ to 3½ feet high, each one waiting to trip up the runner.

Hurdlers need all the speed of a sprinter. Steeplers need all the strength of a distance runner. If they can't run well between the barriers, they'll never succeed in these events. But if they can't run well over the barriers, the chances of success are even less.

Covering all the barrier events—shortest to longest, low to high, men and women.

Special attention to the beginning hurdler and steepler.

The steeplechase chapter is as complete as any which has appeared in an English-language publication. The most technical event in distance running has received the least attention in the past.

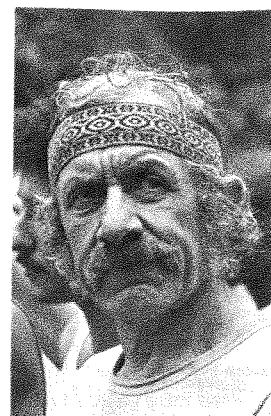
Written by Vern Gambetta, who has experienced the events both as a competitor and a coach on the junior high, high school and college levels.

Well illustrated with sequence photography by German technical expert Toni Nett.

Order yours now! 52 pages. \$1.75.

AGE OF THE RUNNER

68 pages
\$1.75



RUNNING THROUGH THE YEARS

Through most of competitive running's history, the only runners were 20 years old, give or take a few years. Anyone very much younger or older couldn't keep up. So they seldom tried. They planned or remembered, or didn't consider running at all.

That was before age-group running. Only when runners could compare themselves with others the same age did the sport spread outside its old, narrow limits. And how it has spread! Now no one has to talk of it in the past tense. They can have it now, and every year can be "now."

The new booklet says two things about age:

1. The physical changes of aging are inevitable.
2. Runners have a way of growing old more gracefully than less active people.

"Age of the Runner" examines the effects of age on performance, and of running on aging. And it gives specifics: exactly how much a runner's ability figures to change through the years.

Statisticians Dan Moore and Ken Young produce charts and scoring tables which weigh the age factor and show how to make each year a good one.

Don't miss it! 68 pages. \$1.75.

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

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Calif. residents: add 6% sales tax.

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ANSWERING THE "MYTHOLOGY"

Various "themes" run through the magazine and solidify with time. Some are spelled out on this editorial page.

Others spill over into the articles, which can't help but reflect the editor's biases.

Obviously, not every reader agrees with these themes. The disagreement shows up regularly in the "Readers' Comments" and "News and Views" sections. We encourage this.

Occasionally, the disagreement is so strong and well-put that we give this page to it. It happens this month as Cleveland newspaperman-runner Jimmy Stoian puts down certain "myths" about running which he thinks we've helped foster.

It isn't often that a writer can push the editor off of his regular page, but we do invite readers to try.

That illustrious con gang led by Lydiard, Sheehan, Henderson, Cooper, Cerutti, Bowerman, et al., could fleece a fat man out of his avoirdupois. They have perpetrated several running myths over the years designed to uproot the placid male from his easy chair and keep him in motion. But what confusion they have wrought among the gullible. Mature men by the thousands have dropped by the wayside, perplexed.

The fact that thousands of others continue to run today despite the hokum bears credit to the indomitable obstinance of a certain sub-species of Americana. To reassure them and perhaps salvage some dropouts, these myths need to be exposed. And who is better qualified to do the job than a bandy-legged running misfit who has spent several years working his way through plateau one of the progress charts. Better, under the circumstances, to hearken to the squeal of the guinea pig than to read yet another report from his tormentors.

Myth: *Don't be concerned about how to run.*

Truth: There are certain fundamentals in running that a person would do well to cultivate from the first day out. The sooner he sets his mind to developing the proper form, the more easily it will be achieved. Maintaining such basics as relatively low arm action, erect

carriage and running in a straight line will promote a relaxed, controlled and balanced body.

A beginner who finds himself flopping all over the place should stop and pull himself together before resuming. With proper form, he will have a more enjoyable or less miserable run. And, as a bonus to the ego, he will present a more pleasing appearance.

Myth: *Run only when you feel like it.*

Truth: A person of sound body should make it a point to run when his tail is dragging. After a night in the sack or a day spent in slow motion, he could hardly be expected to be in a peppy mood. Nonetheless, he should pull on his gear and hie himself out to the course. His condition is normal if he starts out in a mean frame of mind, panting for breath, leaden and wholly disoriented. But he who would stop is a fool with a short memory. He has forgotten the deep satisfaction that would have been his had he the guts to continue.

The novice should also be skeptical of the suggestion that his running schedule be flexible. He should instead set himself a reasonable program and stick with it. The seasoned beginner who misses a workout is more apt to have done so from a reason other than physical exhaustion.

Myth: *Running is fun.*

Truth: Running is more-so hard work and sometimes very hard work. To the person past his prime, it is a discipline first, then a sport. He who finds otherwise is not exerting himself enough. He can be running faster than his companions and yet will obtain fewer physical and mental rewards than they if his effort is less. By all means, he should have his easy day, but don't let him lean on the faulty premise that running should always be fun. That's a lame excuse to avoid the tough going. He should regard running as a worthy challenge—that demands the best a man can give.

Myth: *You'll be amazed at your progress.*

Truth: He is more likely to be amazed at his lack of progress if his years are

much beyond a score and 10. The experts have grossly underestimated the time element. They have led their followers to believe that an initial investment of some 150 minutes per week will soon have them loping countless miles over hill and dale. Many a person has doubtless slunk back sheepishly to the family bosom after failing to live up to those expectations. Should you know of such a victim, please prevail upon him to return. His experience was not unusual.

The mature but rusty individual must spend years to attain maximum conditioning, and he should be made to realize that. The climb up the ladder of physical improvement is not so rapid as was promised. Once really on his way, however, the person of courage will rarely turn back.

Myth: *Runners are sexier.*

Truth: Only if they think so.

Myth: *Not everyone should run.*

Truth: Perhaps the authors pushing this myth are engaging in a bit of reverse psychology, appealing to snobbery, or simply letting the weak of will off the hook. The truth is every mature person who is healthy, and most who are not, should run. Anyone with misgivings should start very slowly but with the clear understanding that his body will respond only in measure to the effort expended. His object should be to run at his natural pace throughout his stages of development. He shall be reaping many benefits even while distance traveled remains constant. Speed should never be a matter of consideration for the non-competing neophyte.

The runner should completely ignore also those statistics from the laboratories that purport to advise how rapidly the heart should beat to obtain specific cardiovascular improvement. Any pace is beneficial to the circulation—and that includes walking according to virtually the entire medical profession. Let the beginner proceed then as he will.

That's it, the viewpoint of a man on a cement treadmill who has also given unsolicited instructions to Gen. Eisenhower on military tactics, to Rocky Marciano on fighting stance and Pope John on achieving sanctity.

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 \$9.95, 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:

Replace inner sole.

Reinforce weak or torn stitching.

Replace worn shoe laces.

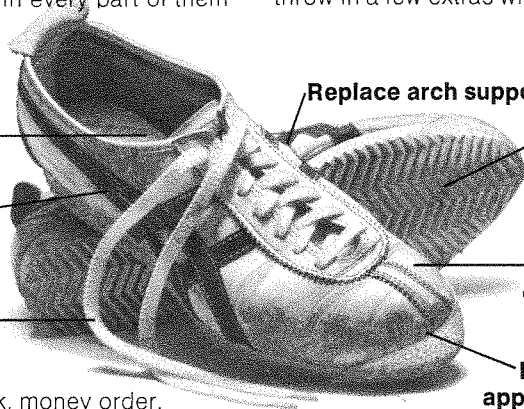
Replace arch support.

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NEWS AND VIEWS

School Road Runs

Paul Farhi is a high school distance runner from Los Angeles.

In March, Rich Kimball became America's first International cross-country champion by winning the junior title in Italy. Not exactly stop-the-presses news, but certainly an achievement of some merit—if only to distance runners.

The cross-country development of young Kimball's cannot always be undertaken if one would follow the current high school program of two- or three-mile races. Combining that with track races of two miles and less can breed a limited runner—one unaccustomed to the rigors of the longer International and college-length distances. The responsibility of developing future champion teams—on the senior as well as junior level—may then lie with the successful development of road racing as a supplement to the prep runners' regular diet of track and cross-country, or the expansion of road racing itself as a high school sport.

Apparently, though, the relative newness and newfound popularity of road racing has led to some distaste among many high school coaches. They philosophize that road racing on the weekends is not necessary and is, in fact very detrimental to the cross-country or track success of their athletes. For the most part, this is true. The recovery needed after a hard race on the roads often upsets the weekly training routine.

On the other hand, some coaches include one or more selected road races as training during the regular seasons. The racing experience, they feel, along with the training these runs provide are invaluable. Then again, a race of any kind is sometimes the only way they can get some of their lazier athletes to train over the weekends.

If there is some disagreement among coaches as to the merits of high school road racing, there is an even greater difference of opinion among prep athletes. Many outstanding distance runners (perhaps on their coach's advice) have shied away from road races, claiming that such

1974 Canadian National Marathon Championship Saturday 1 pm October 12, 1974



Awards

Canadian National Awards
First 6 Finishers
First 3 - 3 man teams

Canadian National Masters Awards

Oktoberfest Open Awards
Ages 18-39 - First 18 Finishers
Ages 40-over - First 6 Finishers

Ladies - First 3 Finishers

Certificates to all Finishers
under 4 hours

Starting Point: University of Waterloo

Excellent Facilities: University of Waterloo

Post Race Meal and Presentation

Lodging: Responsibility of Runners

For Entry Form write to:

Mr. Bill Attwell

P.O. Box 382, Waterloo, Ontario.

Closing Date, October 4, 1974.

KITCHENER-WATERLOO
OKTOBERFEST
MARATHON COURSE

Course: Country Route of Hills
and Flats beside two Rivers.

Entry Fee: \$2.00

Course Record: 2:27:02

races "wreck them up." These are often the same athletes whose careers last until only after their senior year in high school. They have failed to expand upon their limited world of the track and cross-country course.

However, the high school marathoner or frequent road racer is usually the one who can be heard bragging, "I'm going to be running for the rest of my life." So chalk up another of the advantages of getting an early start at road racing: it encourages longevity not usually found in track, where it's not uncommon for a runner to retire from competition while still in his early 20s.

If some high school runners feel constant road racing would "wreck up" their cross-country or track seasons, the off-season then would be the ideal time to institute road racing as a high school sport. Those months, December through early March and/or June to August, would be ideal.

Road racing as a high school sport may not be feasible in an age of rising costs when many schools are dropping several sports in an effort to save money. Yet if high school competitions were incorporated into already existing road races, the cost would be virtually nothing.

It's a plan worth considering.

—From Paul Farhi

Bikers' "Boston"

TOSRV: The name means little to long distance runners, but to cyclists it is their Boston marathon. Those initials stand for "Tour of the Scioto River Valley." TOSRV is a two-day 210-mile bicycle trip that each year attracts 2500 serious cyclists.

Actually, it attracts more than that. Only that number are accepted, and unless you get your reservations in within a few days after receiving your application blank, you can forget about doing TOSRV until next year.

I've run the Boston marathon 10 times and lately have had a hard time motivating myself to go back an 11th time. But this year a friend of mine (Edwin C. Johnson, a Chicago management consultant) talked me into doing the cycling equivalent of Boston.

Riding a bicycle in a long touring event like TOSRV is much easier than running in a race like the Boston marathon. For one thing, there is no pressure to win, or post a fast time, so you can undertake the event leisurely. Assuming a certain basic fitness, riding a bicycle is

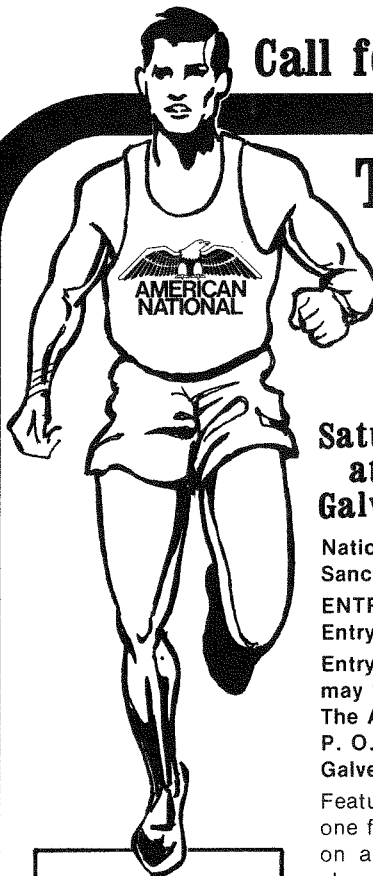
less fatiguing than running even though you go much faster. You don't go into oxygen debt. If you draft another rider (your front wheel tucked behind his rear wheel), you can pedal a few revolutions, then coast. You can't stop you feet while running or you'll fall down.

Your seat gets sore, your hands ache from gripping the handlebars, your shoulders throb from riding hunched over, but the pains are nowhere near as severe as those incurred while running. A number of experienced cyclists warned me of a difficult, hilly section near the middle of TOSRV. I considered it fun because the hills (less steep than Boston) provided

variety from the steady routine of pedaling on the flat—and you could rest while coasting downhill.

We covered the first 105 miles in nine hours, having spent maybe two hours eating or resting en route. Ed Johnson awaited me when I reached the town. He held a quart of beer in one hand and I accepted it as my trophy of victory on the first leg. He had pulled ahead of me in the closing stage, because I had weakened. I had gotten racy going through the hills and fell in with some racers. As in marathon running, you pay eventually for indiscretions in pacing.

Call for Entries



THE AMERICAN NATIONAL MARATHON

Sponsored by American National Insurance Company
Galveston Island, Texas

**Saturday, November 23, 1974
at 11 A.M.**

Galveston Island, Texas

National and Southwestern Championships
Sanctioned by the AAU and the UST & FF

ENTRY FEE \$2.00

Entry deadline: November 18, 1974

Entry blanks and additional information
may be obtained by writing:

The American National Marathon

P. O. Box 2052

Galveston, Texas 77550

Featuring the following competitive events in one full marathon race (26 miles and 385 yards) on a USA Certified Marathon Course located along the beautiful Gulf of Mexico.

MEN'S DIVISION: Awards for places 1 through 75

LADIES DIVISION: Awards for places 1 through 4

PATCHES TO ALL FINISHERS

SPECIAL AGE GROUP AWARDS

Men	Awards	Ladies	Awards
15—39	1—10	Under 40	2
40—46	1—7	40 and over	1
47—54	1—6		
55—60	1—3		
61—over	1—2		

TEAM COMPETITION (AAU team rules)

Trophies or plaques for first 7 teams, medals for all team members.

All marathon runners who complete the course in under 4½ hours will receive an official certificate.

Running shirts will be provided all entrants.

AID-STATIONS: At intervals of 2½ miles

OFFICIAL TIME WILL BE RECORDED at 10, 15 and 20 mile points and at the FINISH by experienced time-keepers.

BANQUET and awards presentation after the race Free to Marathon Runners and their children below age 15; for others \$4.00 per person.

FREE TRANSPORTATION FROM FINISH to Headquarters and to several other hotels will be provided.

SHOWER FACILITIES AVAILABLE

GRAND VALLEY MARATHON

Saturday, November 16, 1974

Three Races: 6½ miles, 13 miles, full marathon

Entry Fee: \$3.00 until November 11, 1974

Late Fee: \$5.00 accepted to 11 AM on Nov. 16

Awards: Male Division 4 age groups; Female

Special T-shirt to each entrant

Certificate given to all finishers

AAU Certified Course

Sponsored by Central YMCA, Noon Y's Men's Club

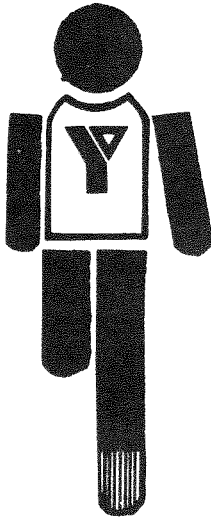
For official entry blanks write:

YMCA Grand Valley Marathon

Central YMCA

33 Library Street

Grand Rapids, Mich. 49502



But I can't think of anybody I know who has run a marathon on Saturday and gotten up to run another on Sunday. The following morning at 6:15, we were back on our bikes again and, despite inclement weather, I found the second day easier than the first.

We reported that we had finished at the check-in counter and were handed certificates attesting that fact. There were no officials recording times or numbers, and some cheaters probably reported that they had finished when they had not, but I know what I accomplished. I can hang my certificate with honor alongside my running awards.

Long distance runners have much to learn from the cyclists of TOSRV. What I liked most about cycling's Boston marathon was that there was no attention given to victory and defeat. Everybody simply took part. They started when they wanted to, finished if they could.

TOSRV discriminates against late-filing cyclists, but not against those who can't match some artificial standard. There is a place within the cycling fraternity for the incidental cyclist, our YMCA jogger, the partially fit person who can participate at the level he chooses. We accommodate casual joggers in marathoning to some extent, too, but not as readily, and certainly not at Boston. There will be 130 marathons held in North America during 1974 and every one of them will declare a winner and award him a trophy. There may have been a "winner" of this year's TOSRV in that somebody got back to Columbus first, but if so his identity went unrecorded.

Several issues ago, I wrote in *Runner's World* that there should be a marathon (if not *the* marathon) at the Olympic Games open to all people of

the world regardless of ability. The response for an Olympic run-in so far has been good. A number of runners have written saying they are ready to participate. One of them is Bruce Kidd, former Canadian Olympian, who has written the organizing committee at Montreal asking that they follow my advice.

Another runner, however, wrote suggesting a time limit be used to separate serious marathoners from those unfit to finish. But what better could exhibit the *true* Olympic ideal than for all people to participate, even if they were only to jog, or walk, a mile of the full course. Time will see whether the spirit of Boston may some day merge

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—From Hal Higdon

Biblical Tales

The impetus for this article was a short note in March "Looking at People" column, the gist of which was that Ahimaaz Ben Zadok was the first "Run for fun, not for prizes enthusiast." Writer Smerka says, "I discovered that not only is the statement incorrect, but in gathering information about this particular matter I came across sufficient information to shed some light on biblical running in general.

The original story of Ahimaaz Ben Zadok comes from the book of II Samuels 18:19-32, which is part of the written historical records of ancient Israel. The episode is related by the biblical author in a very condensed manner. Thus, in order to obtain the complete picture of the Ahimaaz account, one has to consider the extensive oral tradition which has followed the written record. Over the centuries, the great rabbis have taken this vast oral tradition and incorporated it into the written tradition. Therefore, a story of Ahimaaz Ben Zadok which covers only a few verses in II Samuels is a long story known in great detail.

Ahimaaz Ben Zadok was a runner in the army of King David. These runners were chosen not only for their speed afoot but also because they knew how to present messages to the king. As messages were extreme, either in a positive or negative sense, they could shock the king. Therefore, to reduce the chances of this happening, the messengers were especially trained in their diplomatic way of presenting messages. Ahimaaz Ben Zadok was only one of many such runners.

II Samuels tells the story of Ahimaaz's desire to run. We would now have to know why he wanted to run and why Joab wanted to stop him from running. Joab, who was the commander in chief of King David's army in the field, had received express instructions from David that no harm was to come of his son, Absalom. Yet it was Joab himself who killed Absalom.

Ahimaaz was an innocent party to this event. As a runner, he did not know of the orders from David to Joab. In his innocence and enthusiasm, he wanted to tell David that Israel was saved from its enemies (i.e., Absalom and his rebels).

A runner had already been dispatched (in the Hebrew version of the Bible, the

runner is called a Cushite, which is an Ethiopian; it goes to show that the Ethiopians were good runners even in those days). However, Ahimaaz was concerned that such a crucial message would not be delivered to David properly and would, therefore, shock David. That is why he wanted to run.

In fact, he took a great chance in running to David and delivering the message. The army of David had both runners and riders. Each runner and rider had a specific day on which he could be sent. The day Absalom was killed was not Ahimaaz's day. Therefore, Joab knew that if David saw Ahimaaz he would immediately know that the news was drastic one way or the other. Joab even questioned Ahimaaz as to how he would present his message to David. Ahimaaz could only reply that God will help him find the words.

After Ahimaaz over-ran the Cushite and was presented to David, he could not find the words he wanted and remained silent. This was enough of a hint for David to be prepared for the news that followed.

In this story of Ahimaaz Ben Zadok, I think it is clearly established that he did not run for fun, at least not on that occasion.

There are several instances where the Hebrew text specifically refers to "runners" (*rasim*) but where some English translations falsely render the Hebrew word as "footmen," or "messengers." These mistranslations make it difficult to understand the role of runners in biblical times.

There seemed to have been two types of biblical runners: runners who carried messages for civil purposes and those who carried military messages. The role of civil runners is not entirely clear, because they did not figure in very important events. However, we know about military aspects of running from many biblical cases.

In II Kings 10:25 it is the "runners" who are requested to slay the worshipers of Baal. They are not infantrymen but are clearly referred to as runners. So too in I Samuells 22:17, runners are ordered by Saul to slay the priests of the Lord (which they refused to do). These two instances where the runners are required to perform acts of violence seem to confirm that runners had a dual role. They were required to:

1. Accompany the king's chariot while in motion (this of course requires great physical conditioning, especially when they had to run long distances). This role is known from II Samuells 15:1-2, where we are to told that David's son Absalom had 50 runners "running in front of his chariot."

2. To carry out the king's order in times of violence. In other words, their role would seem to be comparable to our secret service guards who run in front of and at the side of the president's car.

Further, it is interesting to note that the runners were held in great esteem, had their own quarters (I Kings 5:20), and in order to facilitate their coming and going (at least in Jerusalem) they had their own special gate through which only they could enter and leave (II Kings 11:19).

One of the most interesting stories in the vein is about Asahel, who was a runner in David's army. Abner was the opposing chief officer of Saul's army. During a battle of the two armies, Abner's forces were defeated and he tried to make an escape on foot.

Asahel caught up to Abner, and while running the two of them exchanged words (II Samuells 2:21). Abner warned Asahel that since he was a warrior and Asahel only a runner, Asahel should capture another infantryman. If he did not do so, Abner would be forced to kill him. Asahel did not take heed of his advice and Abner did slay him.

Why Asahel did not take Abner's advice is elaborated by the most important biblical commentator, Rashi, who based his interpretations on the poetic verse attested in Ecclesiastes 9:11 which reads: "The race is not always won by the swiftest."

Why not? Because the writers of the Old Testament knew a great deal about human behavior. They knew that there was a great deal of luck involved in any human endeavor. And beyond luck lies the frailty of the human condition which manifests itself in doubt, fear and uncertainty, all of which keep many of us contemporary runners company.

There is also a problem with over-confidence. This brings us back to Asahel. It is difficult to look into his mind, but he was either vastly over-confident of his abilities (Abner clearly acknowledged that Asahel was a superior runner) or he had such great professional pride that by knowing others were aware of his undertaking he could not turn back. Both explanations are plausible.

Since the Bible is essentially a book of religion and not a book of secular activities, it seems that sports was not an important issue to record. Thus, as far as the subject of "running for fun" is concerned, it is safe to state that we have no evidence of such activities in biblical times.

It should be noted, however, that in contemporary civilizations such as ancient Babylonia the role of the runners was similar to that of the ancient Israelites. In addition, the Babylonians did have a race for fun which was attached to the ritual activities in the temple. A larger text refers to "the race which they run in the month of Kislev in front of the god Bel and all the places of worship..."

—Lester Smerka

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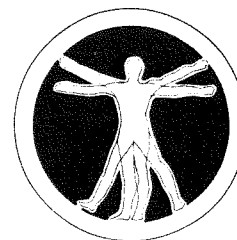
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BERND KANNENBERG

If a vote were taken right now, on the eve of the European Championships, it's safe to assume that Bernd Kannenberg of West Germany would not be named Athlete of the Year.

A good case could be made in his favor: world records at four distances, including the championship distance of 20 kilometers. And an even stronger case could be made after the European meet, where he could win both walks, the 20 and the 50. Almost everyone who is anyone in walking is European, so a double at these Games would be like a runner winning the 10,000 and the marathon at the Olympics.

Still, Kannenberg wouldn't be 1974's top athlete—or even close—in a vote. That's how highly regarded walkers are—even the best walker of this or perhaps any year.

Proof of the regard in which walkers are held is already available. The event Kannenberg won at Munich, the 50-kilo, won't be part of the 1976 Games. The one he will walk in Montreal, the 20, will be the last for the Olympics. That is, unless international officials, meeting in Rome in September, reverse their decision to drop the walks.

After hearing the news of the 50's demise, Kannenberg shifted into a higher gear for the shorter walks. This summer, he set world records at one hour (8 miles 1485 yards), 20 kilometers (1:24:45), two hours (16 miles 1517 yards) and 30 kilometers (2:12:58).

One record he doesn't own is the 50-kilometer. No one has broken four hours on the track (where record times must come) and few have done it on the road. Bernd's best road mark is 3:52:44. (For you runners, that's 3:16 marathon pace—for a marathon plus five miles!)

When he walked that fast in early 1972, it was greeted with almost universal head-shaking and cries of "short course." After all, who is Bernd Kannenberg?

Kannenberg is an ex-wrestler and weight lifter who'd been walking seriously for just two years. At 5'9" and 165 pounds, he "isn't built for walking," his doubters said. (There was, however, never any question about his walking style, which even his competitors agree is impeccable.)

Kannenberg was training high mileage in 1972. He says, "I was doing 250-280 kilometers (155-180 miles) a week. Perhaps the great mileage, when I was very often on the edge of being injured, did me a lot of good. My trainer, Jurgen Kraemer, thinks this is possible."

The walker was injured in the 20-kilometer race at Munich, and had to drop out while keeping pace with the leaders. "I feared an injury after the 20-kilometer," he told *Leichtathletik* reporter Heinz Vogel, "but started the 50 anyway. That was a great nervous strain, and the question remains whether I could master it again. A half-minute weak stretch at Munich and (Venyamin) Soldatenko (silver medalist from the USSR) would have been by me. But the crowds at Munich were wonderful. They really carried me forward, and I had no chance to really think about the danger of a new injury."

Kannenberg put all doubts to rest by winning the Olympic 50 in 3:56:11. No one else had, or has since, bettered that time.

He naturally is upset that he won't be able to defend his title. He says, "Wrestling is a fighting sport and several

competitions in a row are a great physical strain. But I would like to say that long distance race walking is an even greater competitive affair, and I therefore regret that one event was stopped. One of the most competitive events in track and field has been removed from the program."

Kannenberg, now 32, escaped from East to West Germany in 1955. He is an officer in the army, working on the administrative staff of a military sports school in the southern Germany alpine region.

(The interviewer, Lynne Pellegrini, is an American living in Munich. The former quarter-miler has participated in a 100-kilometer run-walk event of the kind that got Kannenberg into walking years earlier.)

RW: I understand it is a rather interesting tale how you began in race walking. Besides your being a hero at the Munich Olympic Games, for obvious reasons, your victory was of special significance to hundreds of home crowd fans, who lined the streets to cheer for you during your event and then later boasted that they had once been in a race with you.

Kannenberg: Yes, you might say I was "discovered." Here in Germany we have a popular program of public marches and runs, which were introduced in 1963 from Switzerland. There are over 1000 of these public meets a year now, and they feature both competitive and non-competitive walking and running events for men, women, children and soldiers in uniform. In 1968, I was invited to one of these public meets and entered a walk race for soldiers. I competed against military groups from Austria, Canada, England, France and Germany, and won my event.

After that, I continued to enter these weekend meets as a hobby, never doing any real training. Then in September of 1969, a friend persuaded me to compete in the Bavaria state track and field championships. Before my event, he coached me for an hour on the proper walking style.

I finished sixth and was afterwards approached by the coach of the German national team, who had watched me compete and thought I had some potential for the sport. I began training shortly thereafter and then 1970 was my first year of actual competition in race walking.

RW: Your improvement, then, and emergence as the world's number one walker has been amazingly fast.



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Kannenberg: Yes, I improved rapidly during 1970 and 1971, and then in May of 1972 set a world best for 50-kilometers. From there, I went on to win the gold medal in the Olympics with a new Olympic record, and then set four additional records this year.

RW: There was much comment after you shattered the four-hour barrier with your pre-Olympic 50 time of 3:52:44 and much comment that the course was possibly inaccurate.

Kannenberg: My time in Munich (3:56:11) ended all speculation that my world record had been a fluke or perhaps a mistake, because the Olympic course was known to be accurately measured. But I still wanted to further prove that it was possible for me to continually break the four-hour barrier. In 1973, I did this by winning the Lugano Cup world race walking championships with a time of 3:56:52.

RW: According to reports, you dropped out of the 20 in Munich because of an injury. Going into the Olympics, had you expected more success in the 20 or in the 50?

Kannenberg: The 50 has always been my stronger event. In Munich,

with only six kilometers remaining in the 20, I had to quit due to a knee ailment. At the 14-kilometer mark, there were four of us who were substantially in the lead. I do not claim that I would have won the 20 had I not been injured, but I do think I would have won one of the three medals in this event, too.

RW: What do you see now as the ceiling for the 50-kilometer record?

Kannenberg: I think that perhaps between now and 1976, my record could be lowered to 3:50. But in the next 8-10 years, this time will not improve by much more than two minutes. A time of 3:48 is about the fastest possible in the next 10 years. It will perhaps take a new type of walker to beat 3:48.

When I emerged as a world class walker, I was the "new type" of athlete. My athletic background before 1970 was limited to wrestling and weight lifting, and I think experience in these two sports has been a great advantage. It has always been believed that thin, wiry athletes have the best build for race walking. Walkers concentrated their training upon building up the lower body, whereas I have a huskier build with well-developed arm and shoulder muscles.

To set the 50 record below 3:48,

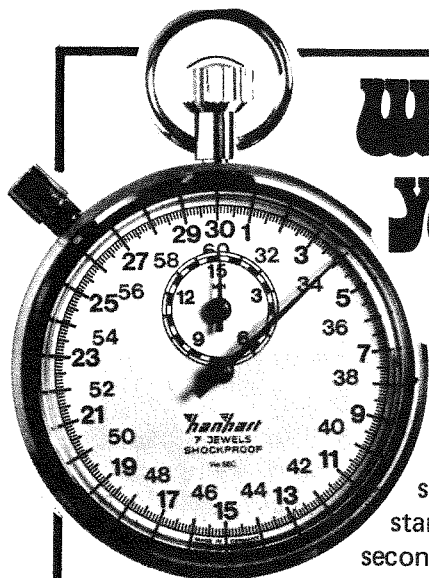
it may again require a whole new athletic type—maybe a man 6'4" tall. The only other possibility of dropping the record below this time could occur on a day with the ideal circumstances of cool weather and a perfectly flat course with a springy surface.

RW: Has the decision by the International Olympic Committee to eliminate the 50-kilometer walk from future Olympic Games had a major effect on your training?

Kannenberg: I have changed my training now and am concentrating on the 20. This transition has been successful, as proved by my world record time for this distance in May. (Ron Laird, American walker living in Germany, reports that Kannenberg's training consists of 40-50-kilometer strolls mixed with nearly all-out 60-90-minute sessions. No intervals.)

RW: Even though you managed to switch to the 20 with little or no difficulty, how do you feel about the IOC's decision? Was it justified?

Kannenberg: In my opinion, this move by the IOC and the International Amateur Athletic Federation was both ridiculous and unjust. The difference between the 20 and the 50 is as great



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as that between the 5000 meters and the marathon. The 50 is an individual sport-art. As an athlete, I simply cannot accept the elimination from the Games of a sport which has as much right to exist as all others. All of the arguments voiced on the side of the IOC can be easily contradicted.

RW: As you understand them, what were the reasons behind this decision by the IOC?

Kannenberg: There were many, but the chief arguments were that the 50 was somewhat of a nuisance. Complaints were lodged that from the standpoint of meet organization, the preparation for this event was too time-consuming and too expensive. It was claimed that too much work and money were involved in setting up the course and in fencing off the entire route to keep the spectators away from the walkers. In my opinion, much of the work that went into the 50 in Munich was unnecessary. Preparations could have been scaled down and handled in a much simpler manner.

And if indeed the 50 was such a nuisance, then it stands to reason that the marathon run is just as much if not more of a problem, as far as meet organization. There were officials who were in favor of eliminating this event, too, but due to tradition this would never be possible.

The marathon is one of the forefathers of the Olympic Games. If the marathon had been walked instead of run by the ancient Greeks, then the 50 would

be a traditional race, too, and would never have been disinherited by the IOC.

RW: Do you see any possibility that the IOC will ever revoke its decision?

Kannenberg: Yes, I think this is possible, and for this reason, too, I will continue competing in the 50 when I have the opportunity, although concentrating on the 20. I foresee the possibility that the IOC may someday reverse its ruling, reinstating the 50 and instead dropping the 20.

The definition of the race walk itself—the matter of style and technique—is best realized in the longer distance. In the 20, there is always the danger that the legal walking style will be violated since speed is the major factor. In the 50, this danger is practically non-existent. Here, the walker is forced to pay careful attention to his style in an effort to conserve stamina.

RW: What is race walking's role in the overall sport of track and field? Is walking on the same level as other track and field events, or was the IOC's decision typical of any recurring discrimination aimed against walkers?

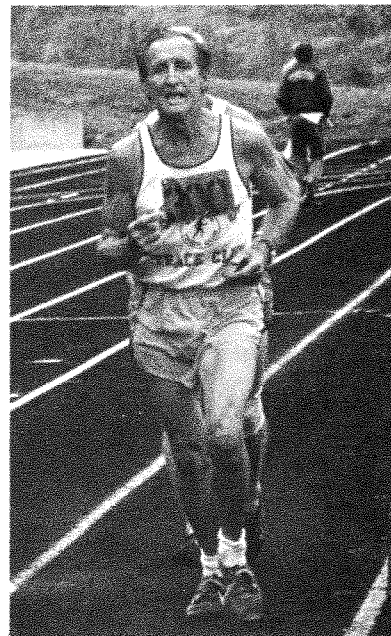
Kannenberg: Race walking has traditionally been track and field's stepchild. Walkers have always taken the backseat because their performing style is “funny-looking” and their event is not too popular. These are perhaps two more reasons behind the IOC's elimination of the 50 from future Olympics.

I am sure that consideration was given to the fact that we race walkers are a minority group and would offer the least amount of resistance to the removal of our event. If the 5000 meters had been dropped, of course the outcry would have been heard clear around the world!

RW: What are your specific goals for the future? How long do you plan to continue race walking?

Kannenberg: Right now I have my sights set on the Montreal Olympics. If I make it to these (1976) Games, my performance there will be the turning point in my career. I will have to decide after the 1976 Olympics whether or not to continue in race walking.

I am currently training all year round, either once or twice a day for a total of 2-6 hours and 20-50 kilometers, plus calisthenics and occasional long distance running. I cannot increase my training program. So if I am not within the top three walkers in the world at the Montreal Games, I will probably retire and use the time for my work.



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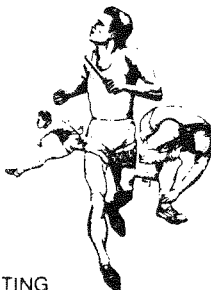
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THOSE WHO THINK YOUNG

by Charles Palmer

"Clear the track, kids. The runners have to use it again!"

The half-amused voice floats across the parking lot from the athletic field below it, and a feeling of *deja vu* runs through me. The feeling evoked is not one of strangeness or dread; instead, a pleasant rush of images and emotions, like from a long forgotten perfume that stirs up fond, explicit recollections.

My reaction on the opening day of the National AAU Masters track and field championships at Gresham, Ore., really is this elaborate. I picture scenes from the regional senior meet here a year earlier...

Bud Deacon, then 62, competing wildly in all directions (13 events in two days, winning more than half of them) while fielding with grace and wit the ques-

tions of amazed reporters who need to find out "what makes him tick." I hear him say, "Ya know, I think these hurdles are the most fun of all. They're a lot of fun, as long as you don't knock one over."

Bill Fitzgerald, with piercing eyes and hawk-like features, yet easy to approach. His age-graded 800-meter (1:58.1 at age 48) rates as an achievement with Jim Ryun's mile. Before long, he asks me about *my* running.

The audience: a handful of people, not many more than the 120-odd athletes—who cheer, ecstatically, by name, for people I've never heard of, and sincerely applaud those even lesser known when they finish, dead last, thrice-lapped. (They can't all be relatives!)

The organizer, Jim Puckett, and



The AAU Masters' meet has a new site, new age divisions and new opportunity for older runners.



PAGE 14: (top) Multi-talented Bud Deacon. (Andreas Lord photo). (bottom) The field in the 5000 meters. (Jim Hulden photo)

LEFT: Pax Beale (right) doesn't break six minutes a mile in the long track races, but he's more than welcome at the "Masters." (Jim Hulden)

his crew: as enthusiastic as the audience and able to make the meet flow smoothly despite a crowded infield of excited children and others who somehow keep out of the way of the action, and *are* the action when help is needed.

I can't get over strolling onto the field with only the camera as a credential. I marvel at the contrast between his affair and a big meet at Eugene a month earlier, where E. Howard Hunt might not have had the pull to get down on the track.

But this year it is a much bigger meet, certainly, in size and importance. I wonder how much will have changed. The colorful entrants will return with their equally colorful friends, but how can they be as relaxed and "real" as they were last year when the meet here must have been merely a cool-down from the championships held the week before in San Diego? How can things be as friendly as before at a larger, more serious event?

I'm turned over to the man whose brainchild the whole Masters program is, David Pain. He's favoring an injury by not running until the 5000-meter race on Sunday, and is now doing a brisk business selling Masters T-shirts and jackets. Since he is largely responsible for these happenings, I'm a bit nervous about asking dumb questions, like, "What races do you expect to be best?" But he willingly obliges, marking on my program the races I shouldn't miss, while giving me a commentary on the race in progress.

It's a short day today and, as instructed, I watch Peter Mundle and Ray Hutton in the day's big race, the 10,000 final. Hatton pulls away from the field, all divisions running together, and wins by a minute. Mundle, one age level above Hatton, is second to finish. (Splitting the old 10-year age groups into five-year divisions is an innovation at this year's meet, as is the resulting need to add a day to the program.)

Twenty-seven runners follow, and the confusion of keeping tabs on the lap counts of each while figuring out who's placing where in which of the seven age divisions leads to one runner running a lap too many. This seems to confirm my fears about how last year's atmosphere can't prevail here at these championships. But coming back the next two days I find out this quickly resolved incident stands out, undistinguished, as the biggest foul-up.

Joe and Sam Loprinzi of Portland, are 59 and 61, and living legends from the sport of a weight lifting. They come to see the Masters run, jump and throw, and to meet a friend not seen for 25 years. Still training continually in numerous forms of conditioning (weights, swimming, yoga, running...who knows what else?), they are among the best-preserved men I've ever seen and look decades younger than their calendar years. Yet the Masters astonish and inspire these two, much as they have done with others.

The meet has gained national attention with the arrival of the CBS TV crew, headed by that erudite wag, Heywood Hale Broun. He quips after a false start, "Old people cheat, too." But his conversations with us between interviews and his TV commentary to be aired two weeks later after the meet show respect for these men. He's impressed, too, with the Masters.

No less impressive or enthusiastic than last year, Bud Deacon is back, continuing his blitz upon what seems like too many track and field events. (For these championships, he seems to have cut back to about 10 events. He won the 400-meter hurdles, pole vault, high jump and triple jump and finished second in the 800.) He says he's having good performances, and a good time, of course.

Bill Fitzgerald is back and still approachable. His efforts for excellence this year involve something non-track fans and the media will completely overlook. He's running all events in Division 1-A, with men up to nine years younger than him, and he's fully competitive, with a chance to win both 800 and 1500.

Fitzgerald places second and third, but with times that are stellar for his actual division and phenomenal for his exact age group. No other 49-year-old has come within eight and 12 seconds of his times of 1:59.5 and 4:12.8. He finishes by holding his own on a leg of the winning Seniors Track Club's 1600-meter relay team.

But without slighting Deacon's overall virtuosity or Fitzgerald's unmatched excellence, I find the spirit of

the meet and my feeling about the Masters as a group captured in the person of the 89-year-old "Tartan Flash," Duncan MacLean, a Scot now residing in London. Almost two decades older than the nearest current rival for longevity at the meet, he forces one to think deeply on age and the human spirit.

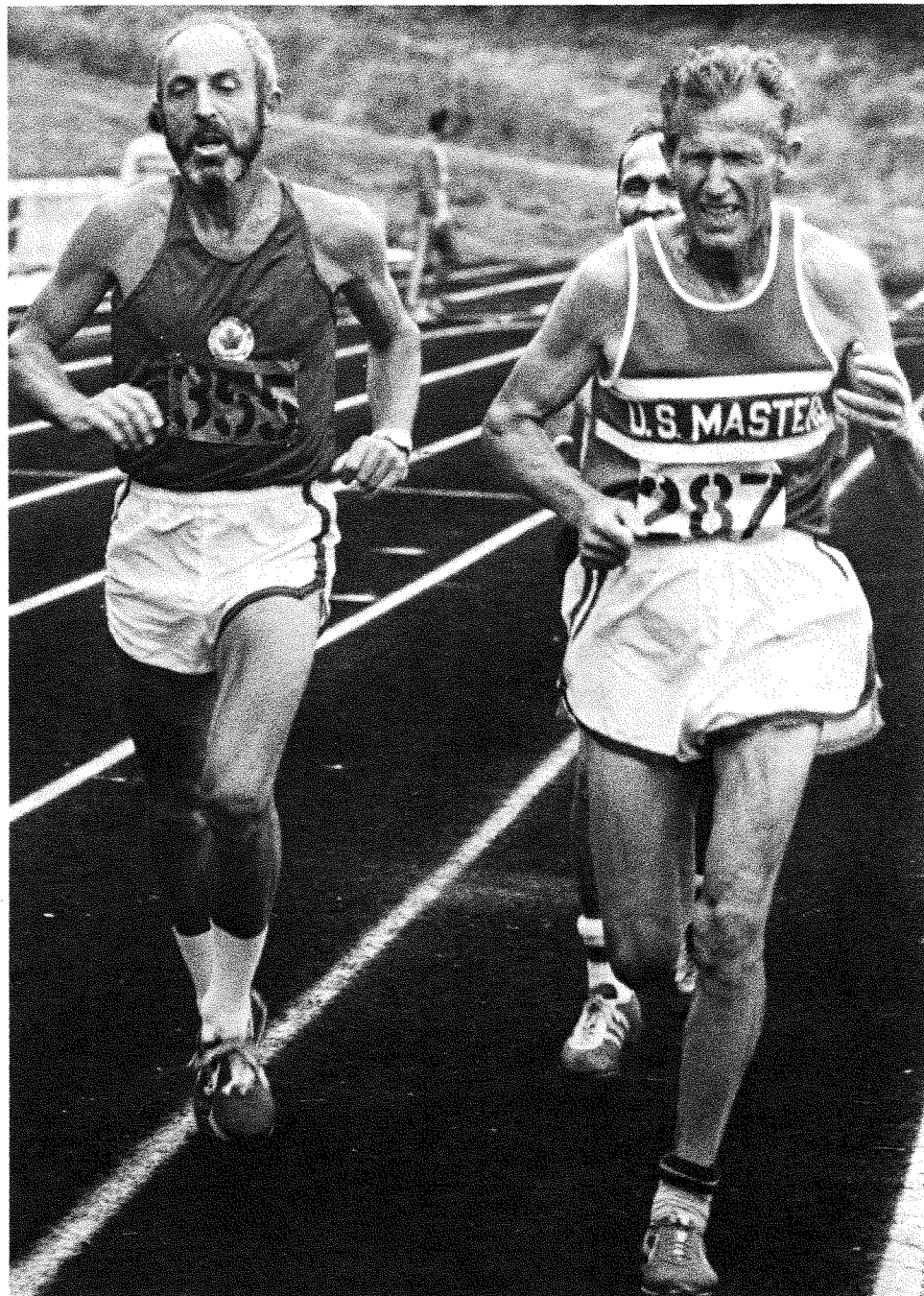
I first approach him with caution and reserve, for I can tell he's under the dominant media spotlight for this meet, as Deacon was last year. He has to be tired of questions and cameras. Also, I react to his age and undeniably frail ap-

John Wall (right), best of the 60-year-olds at 5000 and 10,000 meters. (Charles Palmer photo)

pearance with hesitation, because I'm too afraid I'll find nature has not been as kind to his mind as she has been to his leg muscles.

As I keep meeting him on the field and in the stands, I take more pictures and treat him with less formality. Though his years are plainly evident and he could never be placed in the role of an unbowed, unworn Methusalah, seller of health foods and revitalizing exercises, neither is he a feeble-brained apricot, trotted out for occasions such as this to demonstrate (barely) that age is not deterioration.

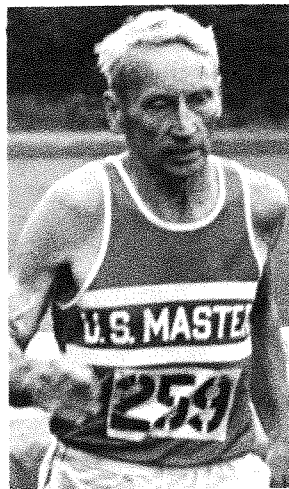
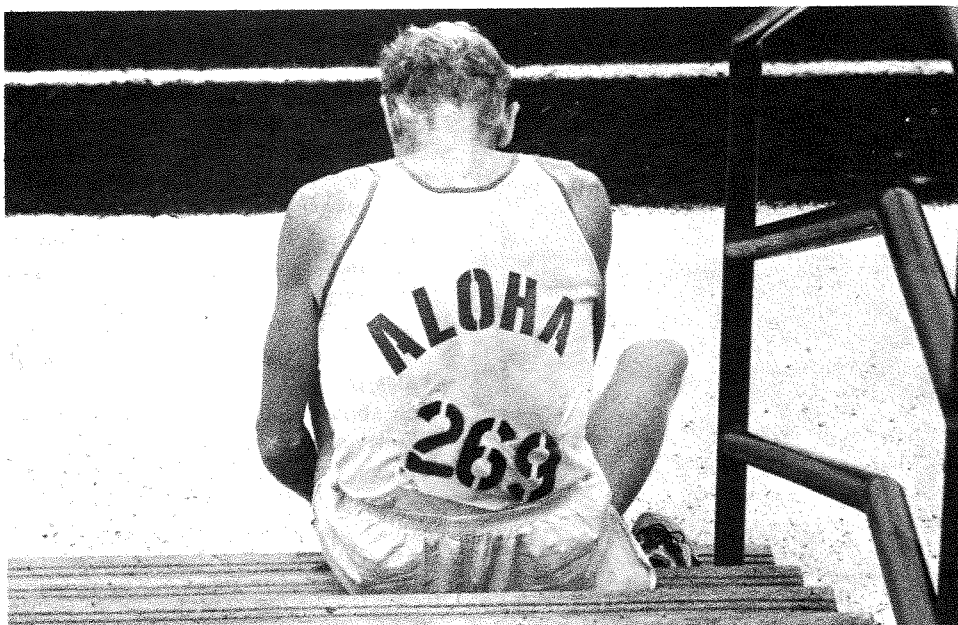
MacLean's world records in the 100 and 200 meters are full complements to the sprint records he held as a youth in the early 1900s. After his races are finished,





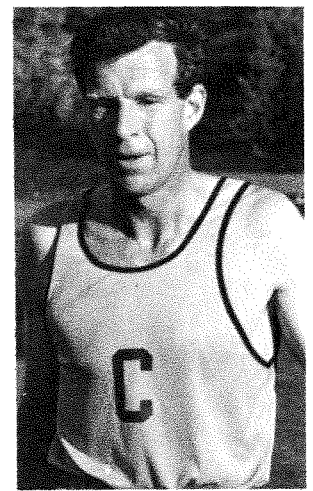
ABOVE: 89-year-old Duncan MacLean lines up behind a young official. (John Ehrenfeld photo)

BELOW: Bud Deacon's message to his rivals. (Charles Palmer)



Bill Andberg, over-60 champ in 800 and 1500. (C. Palmer)

David Pain, who started all of this. (Charles Palmer)



5000 and 10,000 winner, Ray Hatton. (Charles Palmer)

he comes to me, wondering if I'd "like a shot of the four British competitors at the meet," then rounds up the other three.

Who are the Masters? The personal data they sent with their entries shows they are from all walks of life (Norm Bright lists his occupation as "distance runner"), generally having achieved more financially and in status as professionals than their peers. But this generalization provides no clue to why they compete and no correlation to how well they do.

They are unlike mirror athletes—the body builders of the same ages. They are usually slim, but give no illusion from stationary appearances of having found the fountain of youth. The older men show the distinguishing marks of age in much the same way their non-running contemporaries. The young, 40-ish fellows may look like graduate students from across

the track, but at closer range show the wrinkles that must certainly follow squinting into the sun and wind during 50-plus miles per week of training.

Those whose hair has begun to thin seldom bother to comb it into the imitation of youth.

Masters' track is achievement- or goal-oriented, but not necessarily *victory*-oriented. Not all can win, but all can reach some personal goal. As Bud Deacon puts it, "The most important thing to these guys is their participation. I mean, the guy you see puffing across the finish line dead last is really the *best* athlete. His goal is a personal one."

In a nation that routinely sets aside its old, whether at 20 or 25 for road stars, before 30 for most athletes, around 40 for characteristics of physical appeal (much younger for women) and somewhere before the early 60s for productive work or self-support, we need lessons to show us the foolishness and falseness of such wasteful, inhumane attitudes. Masters track, closely examined, is a superb example of a counter-trend and only incidentally a means to maintain physical fitness.

In about 15 years, the big lump of the population called the "postwar baby boom" will be Masters age, "middle age." This will mean a lot more people filling that age slot than we have ever seen.

The attention this group received as a "youth culture" will be incredibly minor next to the *problems* they will face at middle age in this society. We should think now about how things should be changed and problems avoided. Masters track is a small but positive step that will appeal to few, but its spirit should be spread into other areas of contemporary life. Its lessons are many.



PROFILE OF A MOUNTAIN MAN

*Chuck Smead:
top US vertical runner.*

by David Hill

Mt. Elbert in Colorado is the second highest peak in the "lower 48" United States (excluding Alaska). Chuck Smead is probably the only person to have ever run all the way to the top of that mountain. It is more than 14,000 feet in elevation, with a trail that snakes a "super steep" course right up the mountain's face to its summit.

In describing his feelings about running up that mountain Smead told me recently, "It gives you quite a feeling of accomplishment." In all honesty, it is as much an accomplishment as his comment is an understatement.

Smead, at 22, is one of the most successful mountain runners anywhere. He has won the Pikes Peak mountain race twice, both up and downhill in 1972 and uphill in 1973; the Mt. Baldy race in California for the past three years, and the Mt. Evans race last year—to name just a few. In fact, he has never lost a mountain race.

His success isn't limited to the mountains. Smead once held the national high school marathon record. For the past four years he has run for Humboldt State University. He has won the NCAA Division II six-mile the last two years.

Smead never really intended to pursue mountain running for anything more than his own enjoyment. He had been running in the mountains around his home in Santa Paula, Calif. (about 50 miles north of Los Angeles), since his sophomore year in high school, for fun.

"One day I was looking across the valley in which I live, to this small mountain about 2000 feet high," he recalled. "Pretty soon, I started telling people I thought I would try and run up to the top of it. They said I'd never make it. Well, I did, and although it was hard, I was amazed it wasn't harder. After I had conquered it, I decided to go for higher ones."

Smead became interested in mountain racing in 1970, when he found out his favorite hobby was developing into an aspect of track that might eventually be as vital as the marathon.

He defined mountain racing as having to be completely uphill and downhill on some sort of dirt road or trail and with a dramatic elevation change. "Personally," he said, "I consider a mountain race something where you are going to have to get up in the altitude and contend with that. All the races I run have an elevation increase of nearly 4000 feet from start to finish."

Mountain racing usually consists of uphill and downhill segments, as is the case at Pikes Peak. Smead said that these two aspects of mountain racing require special techniques.

"Racing uphill is mostly just a matter of keeping running, keeping your pace as well as you can and just trying to relax. There is no great speed involved. It is mostly just a gut race. You're up at 10,000 feet, it's getting steep and you're going to be sucking gas bad, so you just try and hang in there. The guy who can keep running will usually win the race.

"As far as downhill racing is concerned, you have got to watch where you are putting your feet. You've got to know where the curves and cirques that drop off 4000 feet, like at Pikes Peak.

"Running both up and downhill, it is also important to remember to keep your knees up so that you don't trip and fall on your face."

Smead has developed one important rule he applies to all mountain races:

"I think the most important thing to do before any particular race is to run the courses you're not familiar with. It is important to know what you are up against. That way you will know exactly what it will take to get to the top first."

Because mountain races are usually run on the same course year after year, a new racer can dig into the record books and find out what the winning times have been. By doing this and then running the course once, a racer can figure out where he has to be on the mountain—at certain times—in order to win the race.

Smead adamantly denied that running to the top of a mountain, even up to a day before the race, would hurt a racer's chances. He spoke about one of his past victories.

"I had never run to the top of Mt. Baldy before my first race there. So I went there the day before the race and ran to the summit. It might have made me more tired than I would have liked to be before the race, but the psychological advantage was so great, it was more than

worth it. This is because Mt. Baldy is steep for a while and then it levels off, giving you the impression of being at the top. All of a sudden you look up, and right in front of you is this big mountain with switchback after switchback. If you hadn't seen it before and known it was there, you would probably psych out."

Smead said the psychological benefits of running a course before a race almost always balance out any physical fatigue that might occur. "When you are running in a mountain race, sometimes you get so tired that you want the thing to end. If you know where you are on the trail and how much farther it is to the top, it really helps you mentally—in any race. Otherwise, you will start thinking that maybe there is no end because you have never been there."

Smead said he tries to train as close to the altitude of the race as possible. He does this by finding a mountain on a map that is almost equal in elevation to the one on which he will race. If it has a trail to the top, he will run it all the way up.

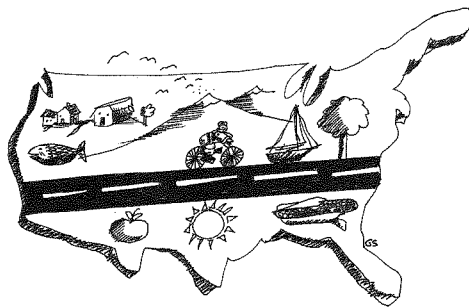
Smead feels he is kind of "naturally mountain trained" anyway, because of the frequent mountain training he has done at home.

"If you really want to be a mountain racer," he stressed, "you just have to get out in the mountains."

He suggested that those who were unable to get to the mountains "at least run up some pretty steep hills. Go out and find the steepest, longest hill around where you live and run it all the way to the top. If you can't make it all the way up, mark the spot where you stopped, come back in a week and try to go farther."

This advice and these observations about mountain racing by Smead can easily be proven valid merely by looking at Smead's success. He explained, "I think if I get in a race with 10 guys that could beat me on a track, I could probably beat nine of them in a mountain race. Like I said earlier, it's just a lot of guts. I'm not blessed with really fast leg speed. But for some reason I have the natural talent for running up mountains. It's my bag."

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EXPERIMENTS WITH ALTITUDE

Nothing else seemed to work until he tried the wheeze - now, breeze - later system for improving running times.

Jeff Lough is an assistant track coach at California State University in Los Angeles. He was a cross-country All-American in 1971.

Distance runners will try anything to run faster. A friend of mine, who formerly competed for the Southern California Striders, used to meet a "chemist" on a street corner in downtown Los Angeles. He would then take a special pill concocted by the chemist that was supposed to increase his stamina.

Today, the runner's wife moans that he didn't even know what was inside that capsule: "It could have been poisonous."

The runner always quickly replies: "It seemed to work."

Distance runners are always looking for a special magical formula that will improve their times and possibly catapult them to fame and glory. Everything's been tried from Dave Bedford's 200 miles a week, to Percy Cerutti's 50 times

by Jeff Lough

up a sand dune, to Mihaly Igloi's four-hour interval sessions, to Bill Bowerman's easy-hard method. For every one champion produced under a certain system, there have been hundreds who have fallen by the wayside.

I know. I searched for years for a system that would uplift me from the masses of plodders who were my racing companions. I tried short fast work, long slow distance, short slow work and long fast distance. I quit drinking cola for six months. I held my breath at repetitions of up to three minutes.

Nothing worked. Then one summer, I packed my problems and went up to the mountains. I worked and ran at 6700 feet. The last half of the summer, I averaged 60 miles a week.

I came down from the mountains that fall, won my conference cross-country and placed 21st in the NCAA Univer-

sity race, making me an All-American. I finished one second behind Greg Frederics and beat Marty Liquori in that race. Five days later, I placed 21st in the AAU meet. My fall training had been about 79 miles a week with hardly any speed-work.

The previous spring, I had been lapped in the NCAA six-mile. In my freshman and sophomore years, I had never finished better than seventh in my conference cross-country race.

The spring after my junior cross-country season, I was injured. I went back to the mountains that summer, trained sporadically and came down to win my conference cross-country. I finished 30th the next week in the NCAA, coming up from 55th in the last mile and missing All-American by six seconds.

Enough of this personal narrative. In short, high-altitude training was a major factor in my minor successes. Absurd, some coaches will say. Success only comes through hard work. True, hard work is

part of any success story, but consider these facts:

The high-altitude Kenyans have asfounded the track world in recent years. Seven medals, three of them gold, at Mexico. Four more medals at Munich. One-two in the steeplechase the last two Olympics.

The Kenyans combine a rugged lifestyle with living at high altitude to produce amazing results. They train at a much lower level of effort than their competitors from around the world.

"Americans train a lot harder than Kenyans. I don't train more than once a day and never on Saturday and Sunday," Kenyan Mike Boit says. Boit finished third in the Olympic 800 meters at Munich and fourth in the 1500. He was the only runner to make both the finals.

Kip Keino set world records and won Olympic gold medals on about 50 miles a week.

Ben Jipcho, their 3:52 miler, 8:14 steeplechaser, claims to run only six or seven miles a day.

Wilson Waigwa, a Kenyan who runs for the University of Texas at El Paso, and surprise fifth placer in the 1973 NCAA cross-country meet, ran 3:40.5 for the 1500 meters (3:58.5 for the mile) back in Kenya and claims never to have run interval training.

A doctor went to Kenya recently with a treadmill and tested mountain people ages 14-40. Some of these untrained Kenyans did as well as top-conditioned American athletes.

Europeans have headed for the hills in recent years. Lasse Viren, winner of the 5000 and 10,000 meters at Munich, and Juha Vaatainen, who won the same two events at the 1971 European Championships, both trained extensively at high altitude in the years of their successes.

Dave Bedford and Gaston Roelants also have trained at high altitude. Bedford, a Britisher, went so far as to train in the Kenyan highlands. Apparently, he had heard that there was Olympic gold in them thar hills. Unfortunately, he lacks a kick.

PAGE 20: A runner's down from lack of air as the 10,000 meters goes on at high-altitude Mexico City. (Mark Shearman photo)

RIGHT: The US team prepared for that meet at equivalent elevation in California. (Steve Murdock)

In the United States, Colorado is rapidly becoming a distance runners mecca. Frank Shorter trained up to 170 miles a week in the Colorado mountains before his Olympic marathon victory. Jack Bacheler and Jeff Galloway trained with him. Both made the trip to Munich with Bacheler finishing ninth in the marathon.

Mike Ryan, formerly of the Air Force Academy at Colorado Springs, Colo., (altitude 7100 feet), never ran track in college but found time away from his studies to win one NCAA cross-country championship (1968) and placed second another time (1969), only five seconds behind Gerry Lindgren.

Ted Castaneda and John Gregorio of the University of Colorado ran 13:10.4 and 13:10.6 in placing second and third behind Steve Prefontaine in the 1973 NCAA track championships.

Gregorio is a great example of what altitude might do for an athlete's performance. He was a 4:23 high school miler. After two years at Mt. San Antonio JC in California, he had run 4:07 for the mile and 14:06 for three miles. Two years of running in Colorado's thin air helped to bring him down to 13:10.

Ted Castaneda, who improved his three mile time from 13:52 to 13:10 in one season, said then, "This is just a prelude of things to come for Colorado runners."

The University of Colorado had two more cross-country All-Americans last fall (1973), and with more recruiting

may soon challenge Oregon as the top cross-country school in the US.

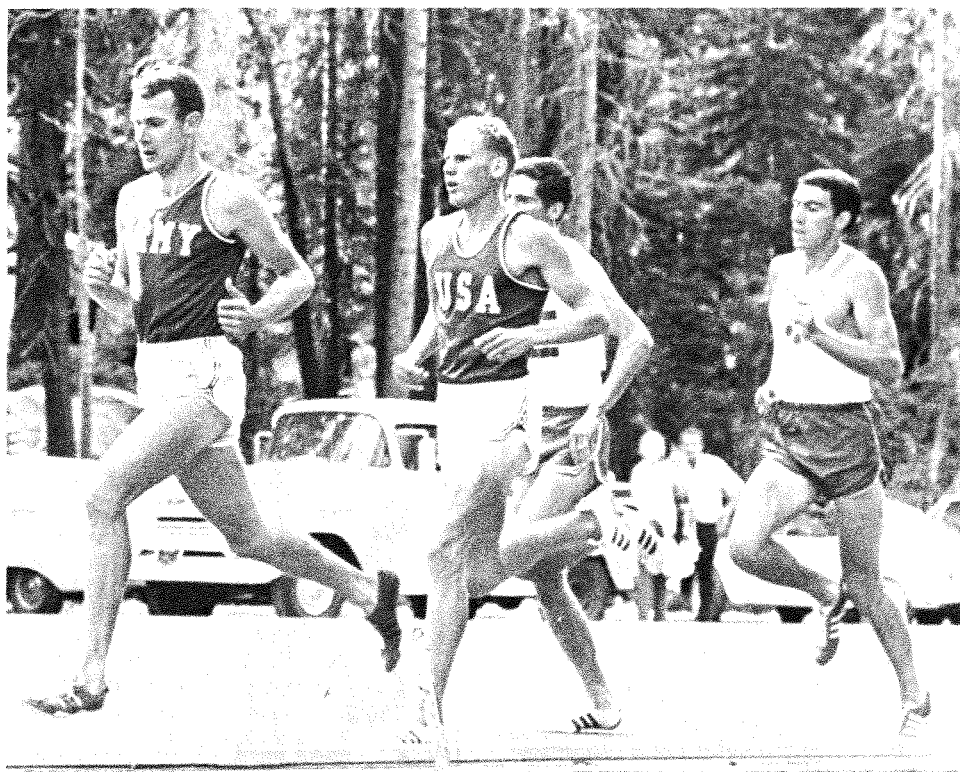
Two other runners who train at altitude are George Young and Scott Bringhurst. Young, a four-time Olympian who never talks much about training, has done much of his running in the mountains around Flagstaff, Ariz., Bringhurst a 27:22 six-miler trains in the hills of Utah.

I'm not trying to say these people wouldn't have done well without high-altitude training. They would have had great success anywhere and higher elevations only enhanced that success. Oregon has had fantastic distance runners, all at sea level. Steve Prefontaine and Emiel Puttemans seldom if ever trained at high altitudes, so it's clearly not a necessity.

But I believe that trend now is to train at least part of the year at high altitude (usually the background work).

TIPS ON ALTITUDE TRAINING

1. Be in pretty good shape before you go to the mountains. Running at high altitude is hard enough when you're running well. It's nearly impossible to get good workouts or cover long distances at 6000 feet when you're unfit.
2. Work into it slowly. Take at least two easy weeks for your body to adjust. High altitude does strange things to you at first.
3. Start your long runs at a fast clip. This puts you into oxygen debt



quickly, so your heart and lungs really get a good workout over the remaining part of the run.

4. When going to the mountains to train, choose an area that has some flat and rolling terrain. Hills are fine, but you can't train every day straight up a mountain. The areas around high mountains lakes are the best for training. In California, two of the best areas are Lake Tahoe (6000 feet-plus) and Big Bear Lake (6750).

5. Drink plenty of liquids (I'm sure I won't have to tell you this). The first time I trained in the mountains, I was dehydrated the whole summer.

6. Get 8-10 hours sleep at night. Running above 6000 feet is very tiring.

REASONS FOR TRAINING "HIGH"

1. Thin air is a resistance factor. You don't have to train as far in the hills to get the same results.

2. Psychological advantage. Coming down to compete can give an athlete a psychological advantage over his opponents.

3. Mountains are usually scenic (lots of pine trees, sometimes lakes and streams) and are good for your head. This is especially true if you attend an urban college or high school.

4. Clean air. I used the mountains to help clean out my lungs after running in the smoggy city all year.

A PLACE TO GET HIGH

BY JOE HENDERSON

"The present tendency is to train at 7000-8000 feet (elevation). This is not really high enough. The effect is simply too small. About 10,000 feet seems ideal... But the difficulty is that there are very few places in the world where the climate at 10,000 feet is tolerable and where reasonable living facilities exist."

—M. H. M. Arnold

Arnold is a British scientist with a special interest in athletics. He was doing research in the Andes in 1972, and wrote of the effects of running at high elevations for *Runner's World* ("Benefits of Altitude Training," Nov. 72).

Richard Heywood read this and heard a loud click in his inventive mind. (He's probably best known for his pac-

ing devices and for coaching his 10-year-old son to the fastest marathon ever run by one so young. See "Listening to the New Beat," May 72, and "My Son, the Running Prodigy," May 74).

Heywood had grown up in southwestern Utah, halfway between Salt Lake City and Las Vegas in the town of Cedar City. The mountains there are high and the skiing is good. It's far enough south, though, that summers are long and mild. In summer, the ski lodge sits nearly empty.

Rich had an idea. Fill the empty apartments with runners, after first convincing them that running at 10,000 feet is good for them.

The convincing isn't too hard if the runner is interested in running faster with no extra effort (after he gets back down, that is). And what runner doesn't want that?

Reasons to run at altitude are easier to give than places to run. The places that are high enough to do much good tend to be a long way from anywhere—towns, from jobs, from transportation lines, even from electrical lines and indoor plumbing.


There aren't but a few areas in the US at 10,000 feet developed enough to support the hundreds of runners Heywood hoped eventually to attract to his high-altitude center. He had it 30 miles up the road from his hometown.

The base camp is near the Brian Head ski area, with the Chalet Village housing right across the street from a lift. The housing sits at 9800 feet. Roads and trails around it go as high as 11,500.

Heywood began bringing runners here from his high school team in Las Vegas in 1972 so he could train them away from the city's heat.

"One of them, Bruce Brown, improved so much that summer," Heywood says, "that he beat all the Utah kids in the *Deseret News* marathon."

1976 Winter Games



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The next summer, Rich had his first formal camp with a small group of runners, mostly young and mostly from his new school in Mesa, Ariz. Again, results were excellent.

He laid plans for expansion and gave the camp the name "Runner's Mecca." He advertised widely for this summer, and appealed not only to young runners training for their cross-country seasons, but older ones wanting vacations in a good running atmosphere.

Mecca offered coaching for those who wanted it, counseling for those who needed it, but not the military-like scheduling of many summer camps.

Mecca's cost was far lower than any motel could offer (as low as \$20 a week for long-term residents). Many young runners found jobs that paid enough to cover room and board, and stayed all summer. I was there for just three days...

I am on the road early, trying to shake off a chill and work out a headache. The mornings are cool to cold at 10,000 feet, even in mid-summer, and headaches come easily on first exposure to the rarified air.

This is a new high in running for me. I'd been as high as 7500 feet before. Running had been manageable at Mexico City and at Lake Tahoe so long as I didn't push the pace or attack any hills bigger than curbs. But I had no idea what to expect at 25% higher.

Would there be trees and grass up there? Would there still be snow on the ground? Would there be oxygen tanks in the rooms in case people couldn't breathe after climbing five steps from the parking lot? Would anybody but a Bolivian tin miner or a Sherpa porter be able to run at all up here?

I'm finding out. Yes, there are trees here—nice tall aspen and cedar groves broken by meadows. No, there is no snow.

The climb from Cedar City to Mecca takes 30 miles to go up 5000 feet. It's a steady but gradual climb. You don't often get a top-of-the-world view. The camp is on semi-plateau terrain. The hills nearby are only that, hills, not mountains. They're no bigger than you'd find almost anywhere else you ran. They only seem bigger because of where they are.

I feel fine going out along the plateau and then down. Chill and headaches are melting away. Plenty of air. Quiet. Nice things to see.

Now I turn around to go back up. Not a bad climb by anyone's standards. But I'm stalling out. My breath is com-

ing in desperate, rasping gasps. Thirty seconds into the hill, I'm barely moving. Oxygen is gone that fast up here.

I usually run at 130-150 pulse. Here, at slower speed, it's 160-170. It takes 130 here just to get up from the sofa and change the TV channel.

I know what Lee Benson of the *Deseret News* meant when he wrote of his first run here: "I'd have been in trouble at any altitude, but this was like pulling a laundry bag over my head and trying to breathe."

Yet there's something in the air up here that makes people want to run—*have* to run. I'm not sure whether it's the runners packed in together or the clean, thin air. Probably a combination.

Rich Heywood hasn't done much running in years. He was a sprinter for Brigham Young University in the 1950s—a sprinter who thought and trained like a distance runner. His weight crept up on him. Not long ago, he weighed 220. He's at 194 now and dropping, and says, "I'm serious this time. I'm going to get my weight down where it belongs and become a road racer." He ran quite a respectable 3½-miler with me at Mecca.

His wife Sandy has never thought of herself as a runner of any kind. Yet one day at the camp, where she house-mothers her own four children and upwards of three dozen teenage runners, she ran a mile and planned to do more.

Judy Appenzeller from Albuquerque came to Mecca with her husband Otto and their youngest son Pete. Judy and Otto are both physicians. She is Australian. He was born in a part of Romania which now belongs to the Soviets. He runs 15 miles a day. She doesn't normally run any. At this altitude, she

ran a half-mile to the grocery store.

Otto thinks Mecca should extend its appeal next year to non-runners and beginning runners who need a bit of motivation. If they don't want to run up here, they won't run anywhere.

July 24 is a holiday in Utah. Pioneer Day. One hundred twenty-seven years ago, Brigham Young raised himself up on his elbow in the back of a wagon where he lay with mountain fever. He said, "This is the place."

The Mormons with him weren't moving any farther. They'd come across the plains and through the mountains for the better part of a year. A quarter of the original 20,000 had died on the trail from Nauvoo, Ill.

After crossing what's now called Big Mountain, the party saw the valley of the Great Salt Lake spreading out as far as they could see. They settled here and spread out to colonize Utah.

Rich Heywood's great grandparents were with the first pioneers. Rich seems related to half the population of Utah, and nearly everyone there seems to be able to trace his ancestry back to the pioneers. This has to do with the religion (almost half of the present Utah residents are Mormon) and with the fact that early-day polygamous Mormons had huge families (Rich's great-grandfather raised 20-some children by three wives.

Salt Lake City celebrates its holiday with a downtown parade. A crowd of 150,000 watches it. The *Deseret News* marathoners pass in front of that crowd—after first retracing the route of Brigham Young's party up to, over and down from the summit of Big Mountain.

The race starts on the east side of the mountain, at a spot distinguished only as a breeding place for mosquitoes, for the cows that graze there unfenced and because it is 26 miles 385 yards from the Brigham Young Monument in Salt Lake City.

The run up the mountain begins at dawn, apparently not so much to keep runners cool as to get them to the city in time for the parade.

The course climbs in the first six miles from 6400 to 7400 feet. Coming down from an elevation nearly twice that high is of great advantage to the Mecca runners—psychologically if not physically. It's a boost to one's confidence, knowing he has run at an elevation almost twice this high.

Once over the summit, the road drops most of the rest of the way—3100 feet in all. It can be a fast course for

those who don't pound their legs to death on the switchbacks.

The Mormons came this way with pushcarts, following the creek beds and tying logs to their carts to keep them from running away. It's incredible to think that they got through. The mountain drops almost vertically in places.

No wonder Brigham Young was ready to stop after this. History doesn't record what he said besides, "This is the place." But it might have been, "One mountain like this is enough. Who knows how many more of these there might be?"

The grade of the highway is rather easy to handle by comparison. But one mountain like this is enough for runners, too. It takes a toll in blisters, stitches and pounded legs that is even higher than the usual marathon's cost.

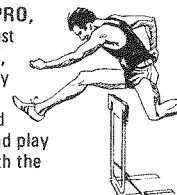
Then once onto the parade route with three miles left, many legs refuse to function any longer. Many runners, now beyond embarrassment, stop in full view of thousands of people.

Nineteen of the 20 runners from Mecca finish. Some then leave for home in Arizona, Illinois, California, Michigan, Texas, New York, eager to see how they can run with a full quota of oxygen. Others climb into vans for the long drive back to 10,000 feet.

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by Joe Henderson

The first time I heard a name put on it, it didn't make any sense. Leevi Seppanen called it the "exchange method" of training. He said it originated in Germany, and that it's now widely used by the Finns.

Seppanen is a Finnish coach who recently toured the US on a "traveling scholarship." He spent one morning in my office and another morning on a long run, struggling with the English language (his English is a lot better than my Finnish) and trying to explain his country's methods.

While what he said was fascinating, little of it was new information. Regardless of what our booklet title (*Finnish Running Secrets*) says, the Finns have few secrets. The closest we came to uncovering anything new or secretive about Finnish running was this "exchange method." And it isn't really hidden or Finnish.

As Seppanen said, it is German in origin. A German man, whose name I didn't write down, formalized the idea. The name "exchange" doesn't say anything about it. But perhaps that's because so much was lost in the translation from German to Finnish to English.

A better name might be "change-of-pace" training or "simulated racing." These give more precise meanings to the

method the Finn was describing.

In simplest terms, this is speedwork for people who hate conventional interval training but still must work on speed. It is a substitute for racing for those who don't have regular chances to race.

This is a kind of training which combines elements of intervals, steady distance (both fast and slow), fartlek and time trials, but is unlike any of them. It has more continuity than start-and-stop intervals, yet gives more speed than steady running. It has the element of pace control which free-form fartlek lacks. And it mimics races and time trials without being as exhausting.

The Finns use "exchange" runs over their race distance or the greater portion of it. But they vary their effort. Segments of the run are easy, some are moderate and some are as hard as the race itself. But there is never any of the stopping, walking or slow recovery jogging of interval training. The run is continuous.

For instance, a four-minute miler might run his first quarter in an "easy" 72 seconds, do a "hard" 60 on the second lap, a "moderate" 66 on the third, and finish with another hard 60 for a total time of 4:18. The run can be split all sorts of ways. But the point

is that it combines efforts in a continuous run.

This of course isn't the runner's total training. It's only one of many elements in the total strengthening-sharpening process. With Leevi Seppanen's runners, it makes up 2-8% of the mileage.

This system which teaches runners to accelerate, to know and control pace, to run fast when mildly tired, isn't unknown in the United States. It reportedly is a staple of the distance program at the University of Oregon. And it is being used successfully by distance coach Don Riggs at San Jose State. (Riggs is a onetime Oregon assistant.)

"Exchange" running is based on two important and somewhat conflicting principles of training:

- Training is "specific." It has to be similar to the race both in terms of distance and pace to do much good.

- It can be *too* similar. In other words, you can't run an all-out race every day in training and expect to survive. Maximum efforts must be rationed.

Apparently, training runs of roughly racing distance and at an average effort of about 90% are specific enough to do some good, yet mild enough not to invite breakdowns. The "exchange" runs accomplish this, and do it probably better than steady-paced efforts because a good part of the run is at race (100%) tempo.

Even the staunchest LSD advocate admits that regular race-tempo work is essential to racing success. I'm the strongest slow distance supporter I know, and I've said "race regularly" in all my writings on the subject. (The most recent example is *Run Gently, Run Long*, where there's a chapter on picking up speed.)

I'm convinced that racing about 5% of my miles will take care of all my speed needs. And racing is the most exciting way to go fast. But this puts me at the mercy of the race schedule. What if there are no races at the distances I want to run, or there are no races at all on the week I want to "sharpen"?

I'd probably do without. But I'd advise others in a similar mess to simulate racing with the "exchange method."

Here's how to do it:

1. Set up a change-of-pace run of about your current racing distance, combining "easy," "moderate" and "hard" efforts based on your current ability.

2. Find current best time on Table One (if distance is six miles or less) or

TABLE ONE: PACE FOR SHORT AND MIDDLE DISTANCES

Find approximate best race time, then determine even pace for fractions of that distance by looking at the times to the left. See Table 3 for percentages of effort at this pace.

440y	880y	Mile	2 Miles	3 miles	4 miles	5 miles	6 miles
50 sec.							
55 sec.	1:50						
60 sec.	2:00	4:00					
65 sec.	2:10	4:20	8:40	13:00			
70 sec.	2:20	4:40	9:20	14:00	18:40	23:20	28:00
75 sec.	2:30	5:00	10:00	15:00	20:00	25:00	30:00
80 sec.	2:40	5:20	10:40	16:00	21:20	26:40	32:00
85 sec.	2:50	5:40	11:20	17:00	22:40	28:20	34:00
90 sec.	3:00	6:00	12:00	18:00	24:00	30:00	36:00
95 sec.	3:10	6:20	12:40	19:00	25:20	31:40	38:00
100 sec.	3:20	6:40	13:20	20:00	26:40	33:20	40:00

TABLE TWO: PACE FOR MIDDLE AND LONG DISTANCES

Find approximate best race time, then determine even pace for fractions of that distance by looking at the times to the left. See Table 4 for percentages of effort at this pace.

Mile	2 miles	3 miles	6 miles	10 miles	15 miles	20 miles	Marath.
4:00							
4:30	9:00	13:30	27:00	45:00			
5:00	10:00	15:00	30:00	50:00	1:15:00	1:40:00	2:11:06
5:30	11:00	16:30	33:00	55:00	1:22:30	1:50:00	2:24:12
6:00	12:00	18:00	36:00	1:00:00	1:30:00	2:00:00	2:37:19
6:30	13:00	19:30	39:00	1:05:00	1:37:30	2:10:00	2:50:25
7:00	14:00	21:00	42:00	1:10:00	1:45:00	2:20:00	3:03:33
7:30	15:00	22:30	45:00	1:15:00	1:52:30	2:30:00	3:16:39
8:00	16:00	24:00	48:00	1:20:00	2:00:00	2:40:00	3:29:45
8:30	17:00	25:30	51:00	1:25:00	2:07:30	2:50:00	3:42:51
9:00	18:00	27:00	54:00	1:30:00	2:15:00	3:00:00	3:56:00

TABLE THREE: EFFORT FOR SHORT AND MIDDLE DISTANCES

"Hard" effort is within 5% of maximum. "Moderate" is 5-15% below maximum. "Easy" is 15-25% below maximum. See Table 1 for total time at these efforts.

100%	-5%	-10%	-15%	-20%	-25%
50 sec.	52.5	55.0	57.5	60.0	62.5
55 sec.	57.7	60.5	63.2	66.0	68.7
60 sec.	63.0	66.0	69.0	72.0	75.0
65 sec.	68.2	70.5	73.7	78.0	81.2
70 sec.	73.5	77.0	80.5	84.0	87.5
75 sec.	78.7	82.5	86.2	90.0	93.7
80 sec.	84.0	88.0	92.0	96.0	100.0
85 sec.	89.2	93.5	96.7	102.0	1:06.2
90 sec.	94.5	99.0	103.5	108.0	112.5
95 sec.	99.7	104.5	110.2	114.0	118.7
100 sec.	105.0	110.0	115.0	120.0	125.0

TABLE FOUR: EFFORT FOR MIDDLE AND LONG DISTANCES

"Hard" effort is within 5% of maximum. "Moderate" is 5-15% below maximum. "Easy" is 15-25% below maximum. See Table 2 for total times at these efforts.

100%	-5%	-10%	-15%	-20%	-25%
4:00	4:12	4:24	4:36	4:48	5:00
4:30	4:43	4:57	5:10	5:24	5:37
5:00	5:15	5:30	5:45	6:00	6:15
5:30	5:46	6:03	6:19	6:36	6:52
6:00	6:18	6:36	6:54	7:12	7:30
6:30	6:49	7:09	7:28	7:48	8:07
7:00	7:21	7:42	8:03	8:24	8:45
7:30	7:52	8:15	8:37	9:00	9:22
8:00	8:24	8:48	9:12	9:36	10:00
8:30	8:54	9:19	9:43	10:08	10:32
9:00	9:25	9:50	10:15	10:40	11:05



Training for those who hate intervals but need speed. (S. Pantovic)

table two (if distance is above six miles).

3. Determine average pace per 440 (for short and middle distances) or mile (for long distances) for the total distance to be run.

4. Use Table Three of Four to calculate percentages of effort. "Hard" is within 5% of maximum; "moderate" is 5-15% below maximum; "easy" is 15-25% below maximum. Include some sort of all three, with the average being about 10% less than all-out.

5. Refer back to Table One or Two for total times at the desired effort.

Confused? Well, maybe some examples will help. Say you're a five-minute miler who can also run about 10 miles in an hour and a marathon in three.

You learn from the tables that your maximum pace for a mile is 75-second quarters. You can go six-minute miles for an hour and a bit below seven minutes during an all-out marathon.

So these are your 100% efforts for the three distances. This is "hard" running for you. "Moderate" running is about 10% slower (or 82 seconds, 6:35 and 7:40). "Easy" is about 20% below all-out (90 seconds, 7:10 and 8:20).

You mix these three paces as you please, generally starting easily and finishing hard. The total times should work out to approximately 10% below maximum—or 5:20 for the mile, 66 minutes for 10 miles and 3:20 for the marathon.

If you can get the same speed benefits from this, while enjoying it, that you did from intervals while detesting them, you've made a good exchange in any language.



*Their form
is closest to perfect.*

WATCH THE YOUNG GIRLS RUN

by Richard Westbrook

Westbrook is an elementary school physical education teacher in Fort Walton Beach, and coaches running at the junior high and high school levels.

During the years I have run, taught and coached, I have studied runners ranging in ages from 5-21 years of age, both male and female. I relate only what I have observed, worked with and tried to correct (sometimes successfully). I have not used control groups, slide rules or computers. My tools are a stopwatch, camera and runners.

I have reached this conclusion: technically, the best natural distance runners are children. Further, the best natural distance runners among the kids are the young girls, ages 8-12.

I must qualify the term "best." I mean those that run with obviously less expenditure of energy for their level of performance than the rest of their group. The girls may not have better times than the best boys, but the best boys and the best girls run with the same technique. This technique is the "form" of their running that helps or hinders their running more than any other factor.

Running is regarded as such a natural activity that form is often overlooked. I've heard fellow coaches say, "He is the best I've got. I'm not messing with his form." If that coach would "mess with" his runner's form, that runner probably would be even better after a period of adjustment. Instead their search is for better and better conditioning and thus, better speed... no thought to technique.

"Technically, the best natural distance runners are children. Further, the best natural runners among the kids are the young girls, ages 8-12." (John Marconi)



Overlooked is the fact that in many cases technique adjustments will improve speed. Coaches change a sprinter's start, a long jumper's approach, a discus thrower's turns... Why not a distance runner's style or technique of running, especially when it will make him more relaxed in the long run?

Back to the girls and why they are better technicians than the boys. The better runners "run tall." Their upper body stays perpendicular to the ground. Almost every one of my poorer runners leans forward, and some lean backwards. This causes a weight imbalance that must be compensated for in the legs. The majority of the girls run tall (straight); the boys lean.

The arms should be carried in a low position. The wrists are level with the waist, with slight movement above and below this waistline. This is a very relaxed position. Again, the girls carry their arms low. The boys have their arms high, hands even with the pectoral

"The girls at this age have no previous athletic experience under a coach. No one tells them how to do it, so they rely on their kinesthetic instinct, and this brings out their naturally efficient style."
(Doug Schwab photo)

muscles or midway between the waist and pectorals.

The hands are next. The girls are dainty with their loosely cupped hands and loose, relaxed wrists. The boys clinch their fists as if they're going to slug the girl running ahead of them. Some boys run with hands straight and stiff. Either way, they aren't relaxed, and this causes a needless energy expenditure.

Body rotation (rolling the shoulders) is held to a minimum with the girls. The boys roll and run. The upper-body twisting throws the arms out of a smooth rhythmic swing and often causes a re-

duction in the arm swing. This twisting uses more energy than a smoother, gentle swing of the arms.

The stride also differs between the sexes. The girls tend to have a shorter, more economical stride than their male counterparts. Their lead leg doesn't overreach. The footplant tends to be under the center of gravity. The boys plant their feet farther out in front, having more leg extension. The boys' run isn't as smooth as the girls'. The boys have a high kick-back with their heels coming closer to their gluteals than the girls do. The footplant for the girls comes naturally. They just start out with the heel striking first. Then, there is Joe, bouncing around on his toes, striking the ball of his foot first and mostly staying there.

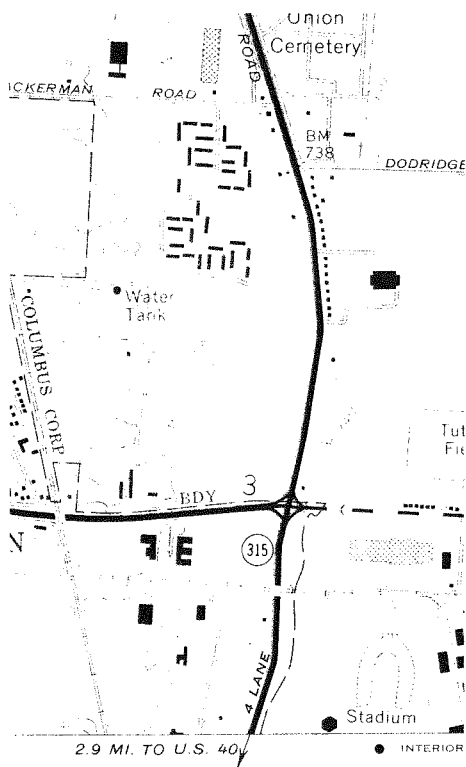
The overall action of the run is one of relaxation for the girls. The boys seem to be constricted or overextended. The boys aren't as smooth; they have an obvious bounce to their run; they have wasted upper-body action in relation to the girls.

I have traced at least part of the cause of the differences. They stem, I think, from the activities of the boys and those of the girls. To keep it brief, the girls at this age have no previous athletic experience under a coach. No one tells them how to do it, so they rely on their kinesthetic instinct, and this brings out their naturally efficient style. The girls do not pay much attention to the athletic heroes on TV. They do not copy anyone's style.

The young boys, on the other hand, are very much attuned to athletics of all types. They study the top athletes and copy them. One important fact that effects the boy's running style is that their games are based on sprints or sprinting distances.

Football, baseball, basketball and various playground games use the short sprint as basic locomotion. The boys become accustomed to running on their toes, leaning forward, and this lends itself to some upper-body constriction and stride deviations. Thus, they transfer this running style to the distance runs.

Boys who are for some reason not interested in sports, do not emulate the sports figures and do not watch sports on TV fall into the same group as the girls of that age. They are free to follow their basic instincts as to a running style, and they run with the smooth, relaxed fashion of their sisters. Changes made in the other boys have resulted in steady progress after a short period of adjusting to the new form.



TAKING THE MEASURE OF COURSES

by R. B. Buckner

Dr. Buckner is an assistant professor in the department of geodetic science at Ohio State University. He teaches surveying and mapping.

Most runners like to have some idea of how far they have run during their daily training. Distance accuracy is even more important in a race. Most of us have run in races where we are convinced of inaccuracies in either the "splits" or the total distance. The inaccuracies may amount to several tenths of a mile or more. This is due in part to an apparent lack of appreciation of the importance of accuracy to runners, but is probably more often due to the inability of some race directors to make accurate measurements and failure to check the measurements using logical independent methods.

Maps are excellent tools for laying out and measuring courses, and for check-

ing distances measured by other methods. The accuracy that can be achieved will probably not be good enough for certifying courses with the AAU, but still can be surprisingly high.

The accuracy is good enough to check training run times over known distances within a few seconds and sufficient for race officials to check for blunders in race course distances which have been laid out by more accurate methods. Several types of maps are also useful for general route planning as they show the hills and other terrain features.

The best readily available maps are probably the 1:24,000 (one inch = 2000 feet) scale maps published by the United States Geological Survey (USGS). These maps are made to high accuracy standards and show many details other than just roads. Ordinary street and road maps are useful only for very rough planning as they are usually not very accurate and do not show details other than the streets.

WHERE TO GET MAPS

USGS maps now sell for 75 cents each from either the Distribution Section, USGS, 1200 S. Eads Street, Arlington, Va. 22202, or the Distribution Section, USGS, Federal Center, Denver, Colo. 80225. The choice of addresses depends on whether you want maps for areas east or west of the Mississippi.

The eastern office also has maps of Puerto Rico and the Virgin Islands. The western office has maps of Alaska, Hawaii, American Samoa and Guam. Alaska residents can order Alaska maps from the Distribution Section, USGS, 310 First Avenue, Fairbanks, Alaska 99701.

Other information concerning maps may be obtained from the Map Information Office, USGS, Washington, D.C. 20242. This office or the distribution sections have indexes of the maps available in each state and a useful booklet entitled *Topographic Maps* which explains map scale, the various maps made by the USGS, map symbols, map colors and general uses of maps by the general public. Both the indexes and the booklet are free of charge.

MEASURING FROM A MAP

The most simple situation would be where the course is a straight line between two well-defined points, such as two road intersections. Align the corner of a piece of paper very carefully with one of the road intersections, and align the edge of the piece of paper with the road. If the distance between the intersections is shorter than the

dimension of the paper, mark the paper using a sharp pencil where the road intersection appears. If the distance on the map exceeds the paper dimension, mark on the map and realign the paper. Continue around the perimeter of the paper for long distances.

Next, select the desired graphical scale at the bottom of the map and convert the map distance to ground distance. There will be a choice of miles, feet or meters. To get the ground distance, simply lay the edge of the piece of paper along the graphical scale, shifting it and marking it as necessary, until you are measuring within the fractional portion on the left side of the scale.

The mile scale is subdivided into tenths—and the hundredths can be estimated. The feet scale is subdivided into 200-foot segments from which values to the nearest 50 feet (one-fourth of this smallest division) can be estimated. With some rationalization, the nearest 20 feet can be attempted. Similar precision can be attained using the metric scale.

Now, what if the road is curved or changes direction? To measure around street corners or other places where the route changes direction abruptly, pivot the piece of paper at the abrupt change. This is best done by aligning the edge of the paper along a straight portion (but with perhaps a fraction of a millimeter overlapping at the pivot point), then holding a sharp pencil or pin vertically at the direction change (into the very edge of the piece of paper), and pivoting the paper until its edge is realigned around the street corner or bend in the road. Make the pivot points frequently around a curve so that the distance is accumulated accurately.

Do not use map scaling wheel gadgets. They are not accurate enough.

ACCURACY OF DISTANCE

The accuracy in the final distance determined from a map is a function of (1) the map accuracy; (2) how carefully the course can be plotted on the map, and how carefully the distance is then scaled from the map; (3) how many twists and turns are involved in the course; and (4) the total distance itself.

National Map Standards of Accuracy dictate that 90% of the well-defined map features shall be plotted correctly within one-50th of an inch. This high standard is used by the USGS and other agencies, but not usually by road map publishers.

If the course is entirely on roads or trails already plotted on the map, the accuracy should be quite high. However, if the course involves short-cuts, goes over

trails not on the map, or if any map features have changed due to new construction, then an additional error is introduced.

An error in scaling a distance from the observed or plotted course also exists. Like the plotting error, this one can be significant if due care is not exercised. Always use a sharp pencil and take precautions for avoiding slipping of the piece of paper while pivoting. Most of the accumulated error probably arises from generalization in rounding the curves and in approximating where an actual change of direction occurs (as done by the runner on the ground).

Another part of the scaling error is in getting the distance from the graphical scale. Align the paper's edge and check distances with great care, using only the scale on the map since it generally contains whatever shrinkage that may be present in the map sheet.

It seems logical that the more turns there are, and the longer the course, the greater becomes the difference between the distance scaled from the map and the actual distance traveled by the runner. Yet the errors do not accumulate in direct proportion to the distance or number of twists and turns, but tend to compensate since they are random in nature, assuming good measurement techniques are used.

I would say that a well defined course with or without curves and turns can generally be scaled from a map to within 150 feet for distances of five to perhaps 10 miles. Distances of 10 to 20 miles may contain errors of 200 or 300 feet. A "certified" marathon course can certainly be checked within one-tenth of a mile and probably closer.

Some "certified" courses have been known to be off more than this. I know one marathon that was about 0.8-mile short when I checked it using maps. The course was changed the next year and this time it was more than a mile long. Mistakes like these could easily have been found using maps, or a variety of other methods. They certainly showed up in the finishing times.

PRACTICAL USES

With imagination, the reader should be able not only to measure favorite runs, but also to lay out some "exact" (within 150 feet or so) distances for training runs or races.

The process for a loop course becomes one of trial and error. First, measure a course which looks like it is about the right distance. Then change the route slightly to add or subtract distance. Then scale the revised route,

revise it, etc., until the desired distance is obtained.

Out-and-back courses are the simplest, especially where the terminal point happens to be near some prominent terrain feature. When it does, measure the map distance from your exact turnaround to the feature and then estimate or measure your turnaround from that feature on the ground.

Map measuring techniques are more practical to use in most instances than driving a car around the route to check its distance. Car odometers are not very accurate, even when calibrated with mile posts along highways. If your training route goes along trails or is complicated by one-way streets, the auto odometer measuring method is not very suitable. Measuring from a map in the comfort of your home is also quicker, probably more fun and saves fuel.

Courses being planned for races can be first measured using maps, then actually measured on the ground using more accurate techniques. Much time can be saved using maps. Race officials often spend much time driving automobiles, riding bicycles and walking the little wheel type odometers around, only to find that things won't add up the way they wished. So they either "measure" some more, guess the rest of the route, or "fudge" it in some way.

If they would spend all of the trial and error time on maps, then go out and measure the course accurately, they need only go over it *one time*, in its entirety, and when doing so they could easily mark *every mile*, the halfway point, or anything else.

The USGS maps show a lot of detail of general importance for planning road and cross-country runs. Unlike ordinary road maps which usually only show the general street patterns, the USGS maps show the accurate positions of trails, fences, prominent buildings, farm houses, streams, rivers, bridges, woodlands, lakes, orchards, water tanks, radio towers and many other features.

Of particular importance to runners are the spot elevations (usually shown with an X at a crossroads) and contour lines. Using such information, planning can be done to either include (horrors) or avoid the hills, and the spacing of contour lines tells the map reader how long and how steep each hill is.

Contour lines are lines of equal elevation. A shore line of a lake is an easily visualized contour line. The contour lines are shown in brown on the map. They show elevations, in feet, above

sea level. Their "interval" (vertical distance between them) on the 1:24,000 scale maps is typically 10 feet but is sometimes five feet in fairly flat terrain or 20 feet or more in hillier country. The interval is noted at the bottom of the map.

Percent slope means vertical distance divided by horizontal distance multiplied times 100 (to get it in percent). To determine the percent slope, measure the horizontal distance between contour lines or points as interpolated from these lines or spot elevations as shown. Then calculate the slope using the formula above.

At the 1:24,000 scale and 10-foot interval, contour lines spaced 0.5 inches apart represent a 1% slope which is a slope that starts to be noticeable to the runner.

The closer the contour lines are together, the steeper is the slope. Most of us do not ordinarily mind running on slopes of 1-2% over sustained distances. Slopes of 5% are not bad if they are not over a few hundred feet long. Too many slopes of 10% or more, even for short lengths, would be certain to cause noticeably slow times in a race and would "wipe out" the average runners.

SUMMARY

Maps provide an excellent tool for runners and race directors to plan training and race courses. If maps are used, training runs should be fairly accurate, and contain variety and safety. Race courses can be designed to be more interesting and with an accuracy at least within a tenth of a mile with the check provided by map measurements. With this checking technique available, there is no excuse for road courses to contain some of the large blunders in their length that they sometimes do. When gross inaccuracies are discovered or suspected during or at the end of a race, the morale of the runner is crushed, especially if the race is an important one to him. He does not have a fair indication of his true ability when the distance he has run is unknown.

Prior planning using maps can make the run a more fulfilling experience for the runner and can save race directors much time. Maps are a useful planning and measuring tool, for all of us involved in distance running. And they may have a side benefit. If you don't make it in distance running, they might help you in orienteering.

Questions on maps may be addressed to the author, Department of Geodetic Science, Ohio State University, Columbus, Ohio 43120.

BEST OF THE FAST NEW BREED

The nice thing about the flowering of "junior" (ages 19 and under) competition is that it exposes young runners to national and international racing and lets them earn national and international reputations for themselves.

Actually, Ralph Serna and Eric Hulst had all the competition they needed in California. They had each other, international cross-country champion Rich Kimball and plenty more.

But if they had stayed at home, they would have stayed known mostly in their home state. They traveled across the country to the AAU junior meet in Florida. Serna beat Kimball in the 5000 there. Hulst finished second in the 10,000. They both qualified for the US-USSR junior dual, where Hulst won the 10,000 and Serna ran a close second to Kimball in the 5000. They got on national TV, the works.

The two most exciting prospects in high school now are living a few miles apart in southern California—Hulst at Laguna Beach and Serna at Anaheim. They'll compete with each other the rest of their school careers. Seventeen-year-old Serna is a senior and 16-year-old Hulst still has two high school seasons.

Laguna Beach coach Jim Toomey writes about Hulst. John Wells, who works with the distance runners at Loana High School, tells about Serna.

ERIC HULST

BY JIM TOOMEY

Amazingly enough, it has only been two years since Eric Hulst gave up competitive tennis to concentrate on distance running. In those two years, Eric has developed into a holder of several national and age group records. And he recently concluded a truly incredible sophomore year with a victory in the 10,000 meters at the US-USSR junior meet.

Hulst came out for cross-country his freshman year because he liked "just running." Once he achieved moderate success, he made the decision to drop tennis to concentrate fully on distance running. The commitment to pursue excellence in running and putting that above everything else has been the driving force behind Eric. His training mileages have



been as prodigious as his times (4:09 for the mile, 8:59 for two at age 16).

He says, "I run because I like to run, and I am always looking forward to practices and competition. As for people saying I am running too much mileage in practice and too many competitive races, they are wrong. I feel the mileage is necessary and the extra races only help to give me more confidence and a better all-around training program. I feel that not being permitted to train this way would only give my opponents a decided edge in major races."

Eric's training is twice a day, year-round, broken up into four seasonal segments: summer, cross-country, winter and competitive track season. His morning runs average 90 minutes or more, mostly in the hills.

"My morning runs are really enjoyable and give me great confidence," Hulst says. "I usually run for just periods of time rather than mileage, because I hardly ever run on flat terrain. The speed that I run totally depends upon how I feel that day. I never set time goals for my morning workouts, but I do try to run as many

Last winter, Eric Hulst (leading) first broke nine minutes for two miles in a race against Ralph Serna (second from right). (Don Chadez)

hills as possible—the steeper the better."

Most of his afternoon workouts, except during track season, are long runs of 1-2 hours. During track season he usually runs 4-5 miles of intervals every other day. He usually sets time goals in these workouts, but always runs relaxed and without straining. He again performs according to how he feels that day, adjusting workouts accordingly.

Eric's training schedule is planned around the key races and he trains through the rest. Last spring's goals were to be under 4:10 in the mile and 8:50 in the two-mile. The major races peaked for totaled only five: (1) Los Angeles Times Indoor Games where Eric was the first sophomore to break 9:00 indoors; his time was 8:58.4. (2) Arcadia Invitational in which Eric doubled in the mile and two-mile; his times were 4:09.1 and 8:59.8. (3) Southern Sec-

tion meet, national sophomore two-mile record of 8:54.0.

The final meet of the high school season was the California state meet, where the two-mile had narrowed down to a dual between Rich Kimball and Hulst. The race plan was that if Kimball would run 4:19 to 4:21 for the first mile, Eric would stay within one to two seconds so as not to break contact. As it materialized, Kimball ran 4:21 and Eric 4:23. He and Kimball separated from the field, then Rich moved 10 yards ahead until the seventh lap, where Eric took the lead until the first turn of the final lap. Kimball then took command winning in 8:46 to Hulst's 8:50.6. Eric broke Craig Virgin's 16-year-old world record and lowered his own sophomore national record.

The next competitive race was the one Eric had made his season's goal. That was to qualify for the junior national team. Earlier in the year, he decided 10,000 meters would be his best race. Last December Eric had run a six-mile/10,000 meter race which gave an indication of what his chances were. His times were 29:19 for the six and 30:12 for 10,000.

The rest is history. Eric made the junior team at the AAU junior meet by placing second and went on to Austin, Tex., to win the 10,000 meters against the Russian junior team.

In discussing his personal philosophy on running and racing, Hulst states "I run only fast enough to win, and in my area times of 9:00 or better (in the two-mile) are usually needed to win major races. Defeat only helps motivate me to train harder. I love to run against the best competition available and I really feel fortunate to be living in southern California, where there are many excellent distance runners.

"I feel that training and racing must be made fun to have the proper mental outlook towards it. When you are having fun, the hours that you put in are not really that much a sacrifice, and the rewards that you receive only justify your own time and effort spent."

Eric's season goals for 1974-1975 are to break 4:00 in the mile, 8:40 in the two-mile, 13:40 in the three-mile, and 28:30 in the six-mile. His long range goals are to break 8:00 in the two-mile, set world records in the three- and six-mile, and to make the 1976 Olympic team. To some these goals may seem unrealistic, but after being closely associated with Eric and observing him daily, his tremendous progress in just two short years makes any goal he sets seemingly obtainable.

Eric Hulst: Laguna Beach, Calif. (Laguna Beach High School. 16-years-old. (born Nov. 28, 1957), 5'10", 145 pounds. Coached by Jim Toomey. Began racing in 1973 at age 15.

Best times: 880—1:58.3; mile—4:09.1; 2-mile—8:50.6; 3-mile—14:05; 6-mile—29:19; 5000m—14:32; 10,000m—30:12.

RALPH SERNA

BY JOHN WELLS

Ralph Serna made the big news at this year's AAU junior meet when he beat International cross-country champion Rich Kimball at 5000 meters.

Two weeks later in Austin, Tex., at the US-USSR junior meet, Kimball beat Serna by only four-tenths of a second as the two ran away from their Russian counterparts in the 5000.

Although running against the Russians brought out a tremendous "we-they" feeling in Ralph and a feeling of enormous pride in his performance, his greatest personal triumph of the season came at Gainesville (where he had failed to finish the 10,000 the previous night because of a cramp).

Serna explains it this way: "I felt I had to do good in the 5000 because of all the support I had received from the people back home."

"The people back home" had raised the money to send him to Florida.

"Winning made going home a lot easier," said Ralph. "Sometimes the hardest part of losing is facing my school-mates the next day."

As for the race itself, check Ralph's own description: "I knew the race would be fast, and I had to stay on pace. Also I had decided to make my move at the two-mile mark if I was still in the race, thinking I had nothing to lose."

After a 4:31 mile and a 9:10 two-mile, Serna made his move.

"At the two-mile, I felt great and thought there I would qualify for the team," he said. And qualify he did, running the next 300 yards with Kimball and then moving away from the California champion to win by more than five seconds. The 13:45.4 three-mile time enroute was a high school junior class record, surpassing Craig Virgin's old mark.

Ralph's comment to his coach immediately following the race told the entire story: "That made up for yesterday, didn't it?"

Track & Field News called it a

"stunning upset." However, a closer examination of the record might indicate otherwise.

Serna was the sophomore record holder in the three-mile at 14:10.6 until that mark was bettered by Eric Hulst. Although Ralph's concentration was primarily on the mile (he finished fourth in the state in 4:09.2), he was also doubling back each week in the two-mile in meets leading up to the state. He ran a 4:07.6 mile during the season, and had a solo 30:00 six-mile time trial a week before the Florida race.

Ralph got his start in track in the seventh grade and ran a 4:45 mile before his freshman season. As a freshman, Ralph raced to a 3:09.3 1320 and a 4:19.7 mile in his only attempt at that distance. The mile was the second-best ever for a freshman. In 1973, sophomore Serna ran 4:13.2, which at the time was equal third all-time for a soph.

Even though his concentration has been primarily on the mile, Ralph's future seems to be in the longer distances, particularly the three-mile or 5000. His ability to run fast times at all the distances he has tried has been one of his most outstanding qualities.

In addition to being a tremendous performer on the track, he is an exceptional cross-country runner, having placed third behind Terry Williams and Curtis Beck in the southern California 4-A championship as a sophomore and winning as a junior. He met and defeated all the top runners in the area, including Eric Hulst.

Ralph Serna, Jr.: Anaheim, Calif. (Loara High School). 17 years old (born Jan. 10, 1957, Inglewood, Calif.). 5'6", 110 pounds. Coached by Bill Cochrane and Dave Hurlburt. Began racing in 1970 at age 13.

Best times: 440—52.2 (1974); 880—1:55.0 (74); 1320—3:09.3 (72); mile—4:07.6 (74); 2-mile—9:01.4 (74); 3-mile—13:45.4 (74); 5000m—14:16.2 (74); 10-mile—51:30 (73).

Racing: "My normal racing range is in the 880 up to the two-mile. My favorite distances are the mile and three-mile. I prefer to race once a week. I would like to try the steeplechase and marathon before leaving Loara."

Training: Once a day, usually each day for 11 months a year. Weekly mileage has increased from 25 miles per week as a soph and 40-50 as a junior to approximately 60 miles at this time. Workouts vary and are a combination of distance and interval work on all types of surfaces. Recently, some weight lifting has been introduced.



FIVE DAYS ON THE ROAD

It wasn't until I could see the bright July sun shimmering atop the Atlantic Ocean that I fully realized we had made it. Five days of running were behind us. It was all over.

by *Jim Lilliefors*

The original idea of a run from Rockville to Ocean City, Md., had been con-

ceived by Grant Nisson and I during our junior year in high school. Grant has an unusual approach to running. He seems almost oblivious of an upcoming meet and never does any speed work. He runs

for fun and invariably is out on the road for a 10-mile run the day before a meet while the rest of the team is home resting. Grant also is noted for his imagination, which runs wild. So while the rest of the school was planning on how much beer their air-conditioned cars could haul to Ocean City, we were seriously working out plans to run to the popular resort, 160 miles away.

To further our psych for the run, we formed the Marvel Track Club, an underground group composed of three distance runners and one sprinter. We had illusions of overthrowing the track and cross-country teams, but in reality our only project was to take ticket orders for the summer Rolling Stones concert and run to the nearest ticket outlet, five miles away. But we at least looked professional with Marvel Track Club T-shirts.

As the proposed departure date neared, Grant seemed to lose interest in the Ocean City run. He said he had to work and couldn't make it.

And so it was Gary Tuthill that was fated to be my running partner. Gary was the complete opposite of most of the Marvel Track Club members. He never indulged in the common high school practices of drinking, having long hair and only taking school half-seriously. I often think now that everyone seems to have long hair, perhaps Gary will be the new hippie.

We set July 23 as the starting date for our trek to the beach. I figured all I'd need would be a knapsack, some money and a few things to read. Thus I had nothing packed in advance. To the contrary, Gary had a carefully thought out, neatly packed knapsack ready to go a few days before we left.

Only July 23, I was forced out of bed by a rapping on my bedroom window at 5 a.m. I had been out on our houseboat until midnight the night before and felt like blotting the whole thing out. But once I had control of my senses, I jumped out of bed, stuck on a swimsuit, a pair of shoes and a T-shirt, and hastily stuffed a few things into my knapsack. Certain that I had forgotten something terribly important, I stumbled out the front door.

I was immediately startled. No sooner had I left my front porch than a woman seemed to materialize from nowhere and snapped our pictures. Gary cleared up my confusion, explaining, "That's my mother."

The first miles of our journey were little different than a training run. But as we left familiar surroundings it seemed a bit strange. It wasn't until we stopped for lunch 15 miles out that I realized I wouldn't see my house again for over a week.

The first day was the easiest. The miles seemed to click by despite an oppressive sun. Boredom seemed to be the only problem, and I relieved a large degree of it by purchasing a \$5 transistor radio at a Dart Drugstore. This radio was destined to become a very close companion throughout the run.

When we set ourselves to bed by the side of a motel, we were 34 miles away from home. That rate would get us there in less than five days.

The real trouble started the next morning after we had progressed but two miles. Gary began to encounter foot problems. This slowed us so much that it took us nearly five hours to cover the 13 miles to the Chesapeake Bay. Before crossing the bay bridge, we paused at a top rate restaurant for what was to be our most luxurious meal of the run.

Our next problem came in crossing the bridge. It was prohibited to cross the bridge if not accompanied by an automobile, so we had to hitch hike across, which wasn't easy for two sweaty runners in shorts and knapsacks.

Once over the obstacle, we took advantage of our only opportunity to go swimming before the Atlantic Ocean and spent a refreshing hour in the Chesapeake Bay. I'm certain that had it been Grant who had come along rather than Gary we would have done a bit of swimming in backyard and motel pools. But as it was this was our only swim before the beach.

All that loomed ahead now was a boring stretch of Route 50 and a hot sun that was causing the pavement to sizzle.

As the day wore on, Gary's foot problem seemed to subside and we made sufficient progress. I found that my most significant problem during the run was a ragged knapsack which proved most annoying. I had to constantly hold it in place or lose its contents. During the run, a sheet, a book, and several maps and magazines plopped to the road.

At nine o'clock that night, we called home to inform our parents of our progress. After dinner we searched for a suitable place to bed down but found, to our dismay, that the entire area was a haven for bugs. So we kept on going, running and walking, searching in vain for a bug-less area. At 2 a.m., we finally reached a town and somehow managed to send every dog in town into a fit of barking. We tried to sack out there, but the bugs soon became unbearable once again. We moved on.

At 5 a.m., we went to sleep. Our second night of sleep amounted to two hours. At seven we awoke at the sound of a siren. A police officer was waving his night stick at us as the revolving light atop

his car continued to flash. When he told us to leave, we did so without saying a word.

We wearily trudged across the street to get a good meal of pancakes. We were tired but we had gone 51 miles the day before. That gave us 85 miles, better than half of the total distance.

The third day of our run was a loss. We only went 17 miles and gave in to the conveniences of society by renting a motel room that night. Gary's foot was badly blistered and I greatly respected him for making it this far with such a painful foot. He talked of quitting the third day, but once we got the motel room he seemed more optimistic.

Day number four of our run was a return to relative normalcy. After getting our first good night's sleep, we went through the miles fairly easily. Gary's foot ailment seemed less bothersome and the few aches and pains I had earlier seemed to subside.

By this time I think we had begun to form opinions on the quality of gas stations, as they seemed to be our main resting stops. We judged them on the basis of bathrooms, soda-pop machines, food for sale and water fountains. We found, to our displeasure, that very few gas stations contained water fountains.

Our fourth night put us 23 miles away from our goal, Ocean City. Stopping off at still another hick town, typified by the sheriff gathered with various store owners in front of the general store, we inquired if there was a motel in town. Everyone seemed to have a different answer. Some said yes, some said no, and some said they didn't know. Finally, we found a small cabin minus everything but a bed.

Friday morning, the fifth day of our run, we were greeted by a bright sun and we seemed just as bright and sunny because our goal was finally within reach. The last miles were the first miles in quite some time which we had run without some distaste.

It is hard to describe the feeling when I saw the waves crashing into shore, the crowded beach, all of the penny arcades. It was a huge feeling of accomplishment. It was the accomplishment of something not necessary, but something which had often been talked about and which was quite a challenge. It was a good feeling, knowing that for five days we trudged through the monotony of endless highways under the blazing sun.

The next day my parents arrived at Ocean City with some clothes and a tent for us. Ironically, after having taken the most difficult means possible of getting there, our days at Ocean City were mostly rained out.

WHY WE'RE RUNNING FASTER

by Sid Gendin

The most casual track observer knows that nowadays the four-minute mile is commonplace. Marathoners have pushed under 2:10 and who can say where it will end? Almost everybody has explanations, but I am going to show that the standard ones are no good and then present my own pet account.

The three most usual explanations are: (a) training methods are more scientific today; (b) runners train many times harder and run many more miles than in former years; (c) runners are stronger because they are bigger but mainly because of improved nutrition.

Of these, only (b) is true—but it happens to be irrelevant. So far as (a) goes, there are as many methods as there are coaches to impose them on their athletes. There is physiological research going on, as there always has been, but it hardly trickles down to the level of the practically-oriented coach who may sneer at it in order to mask his inability to understand it.

Anyway, physiological research is just an “accessory after the fact,” physiologists examining successful runners to see what makes them tick. But the athlete has been ticking all by himself, having gotten where he is without the aid of the physiologist. Ordinarily, a runner hits on his own idea about training, and if he becomes successful then thousands rush to follow him. Was he successful because of his system or despite it? Nobody knows. Even if he really has a system, nobody knows it. This is hardly the era of scientific training.

Now it is true that runners in 1974 run a lot more than the runners of 1934, who in turn ran a lot more than the runners of 1894. But do runners in 1974 run a lot more than the runners in 1972? Did the runners in 1894 run a lot more than the runners in 1892? Yet in each of these two-year periods, record breaking was going on. Those who proclaim the “running more” theory make it nice and easy for themselves by appealing to 40-year gaps, but they can't explain the improvements over two years.

The same difficulties reappear in



the nutrition theory. The fact that nutritional disease may have been more widespread 40 years ago doesn't mean that individual athletes were suffering from nutritional disease. Does anybody really think that Paavo Nurmi was suffering from a nutritional deficiency and that is what held him back?

Some food faddists, of course, hide behind the phrase “sub-clinical deficiency” to rationalize their determination to take wheat germ oil, no matter what others are doing. Other food faddists are pushing ideas about “supernormal needs” of the athlete, but these ideas have apparently not caught on among professional nutritionists. Anyway, I very much doubt that the Ethiopians

and Kenyans have super-nutritious diets, even if there is such a thing. And has nutrition changed very much in the last 10 years? Can it be that Steve Prefontaine just eats better than Billy Mills did?

As for the “bigger and stronger” hypothesis, I know of no correlations that have been established except negative ones between size and running ability. Would Doug Schmenk or Miki Gorman cut 10 minutes off their times if they grew five inches and gained 20 pounds?

Norman Bright, now in his middle 60s, ran as fast in this year’s Boston marathon as he did in the 1944 edition. Do you suppose he is as good now as he was then? Do you think he trains as diligently?

In 1956, Mal Whitfield failed to make the Olympic team, but it was obvious to those who knew him that he was only a shade of the 1948-52 Whitfield. His form was deserting him, and he didn’t have the same desire. But he ran much faster at the 1956 tryouts than he had in the previous two.

In 1974, Kaj Johansen ran a 2:30 marathon and admits he is nothing but a plodder. Johansen’s time is not much slower than Emil Zatopek’s winning time in the 1952 Olympics. Was Zatopek a plodder? Do you think Johansen makes up for his lesser talent by training harder? If so, you must have been very young when Zatopek was in his prime.

In 1963, Pete McArdle was America’s best distance runner, and his best time over the Van Cortlandt Park five-mile cross-country course was about 25:20. Today, on some teams, that won’t make you the number five man. I have seen kids who ran like cripples—awkward ones at that—run faster than 25:20.

If you remember McArdle, he didn’t run like an awkward cripple at all. As for the idea that these kids train harder than he did, the idea is plain laughable. Maybe they pushed harder? Just preposterous to New Yorkers who even today can easily conjure up that look of agony that was always on Pete’s face when he was making a big effort. McArdle was also a 28:00 six-miler and a 4:03 miler. Dozens of runners who now beat 25:20 in practice have neither his speed nor endurance.

In any college where the standards of intercollegiate competition are very high, the intramural standards are very high. Where the intercollegiate standards are low, so are the intramural standards. Why should the fact that College X has a big-time track program and College Y doesn’t, have an effect on those students who are not athletes at all? My answer is that you develop a sense of what is expected of you and then perform accordingly.

In the June *RW* (“Views of a Walk-on”), Martin Martinelli reports on his

experience at Georgetown University that whenever you ask a freshman how fast he ran in high school (if he claimed to have been a former trackman) “the answer would invariably be ‘around 4:25’ or faster.” I believe this because at Georgetown non-trackmen probably feel both safe giving this answer and self-congratulatory. At Brooklyn College they wouldn’t dare give that answer because they would be claiming to be far superior to anybody on the team. At B.C. the “safe” lie would be a boastful 4:55.

The same phenomenon occurs at the competitive level. When so many runners are piling in between 24:00 and 24:45 at Van Cortlandt Park, the lesser runner supposes that 25:15 is about right for him, and so he proceeds to do it. Lacking any theoretical basis for what he should be capable of or how much he should train, the average runner takes his cue from those around him.

A runner I know at Eastern Michigan University has finished high at the NCAA cross-country championship and has run under 2:59 for the three-quarter mile yet he was running consistently slower than 14 minutes for three-mile races. I told him he ought to be under 13:30, but he replied he was running “only” 80 miles per week. He reasoned that he must have been undertraining because his teammate, Gordon Minty, was running much more than that.

I am convinced that if the world record for three miles was 16:30 and the leading runners ran 300 miles per week, this athlete would have been running 17:30 and chalking it up to the fact that he was doing only 220 miles per week. On the other hand, if the record were 11:30 and leading runners were doing 20 miles per week, this athlete would be running about 12:15 and pointing out that he was running only eight miles per week.

Consider my own case. Twenty years ago, I ran 15 miles in about 1:45. Today I can run it in about 1:35. I have done absolutely nothing to improve. I am six seconds slower than I used to be at 440 yards, and I don’t push myself in practice as I did then. Nor have I built up that mysterious “reserve” that comes from years of running, since periodically I go off running to concentrate on smoking, drinking and gaining weight.

All I am doing is keeping up with evolving standards. Today, good runners my age run 10 miles in about 53 minutes, so I do about 60-61 minutes. I’ll probably run a little slower in five years, but *only if* in five years 45-year-old runners are running slower than

today’s 40-year-olds. If the good 45-year-olds have by that time pushed the standard to 50-51, then I’ll be in the 58-59 range, and I’ll make that time without having done anything special to improve.

We think we’re an improving breed, but we’re not. It is just that with so many people running today, there are bound to be many better performances than there used to be. It is a simple scatter effect. Toss a penny in the air long enough and you will keep breaking your record for consecutive heads—but also for consecutive tails and for consecutive alternations.

Analogously, there are more people running *slower* today than years ago. But we don’t bother to keep records for slowness. What was the slowest time in the 1897 Boston marathon? I don’t know, but I would be surprised if it were slower than 4½ hours. By 1950, it may have been 5½ hours. Today we hear tales of people finishing eight or nine hours after the start. I have seen high school runners today finishing two miles in slower than 13 minutes. I do not recall such a thing 20 years ago. We are attracted to the good and prefer to look away from the painful spectacle of the awful, banishing it from our minds.

My conclusion, then, is this: We have a natural scatter effect in running. We are getting better times and we’re getting worse times. We have athletes who run consistently fast and athletes who run consistently slow. Whether as athletes or spectators, we focus exclusively on the better times.

The budding athlete mistakenly supposes the general standard has gotten higher because he has been concentrating on one portion of the scatter. He takes that scatter for his own personal goals and, depending on a host of factors (not excluding talent), he either contributes further to that scatter or settles into a groove far enough from the top—but sufficiently ahead of Paavo Nurmi—to lead people falsely to conclude that poor Paavo had either a vitamin deficiency, very little talent or didn’t train enough.

Or, if one is ignorant enough, one may even suppose that the three generations or so that have elapsed since Nurmi have resulted in so many evolutionary changes that in their biophysical makeup men of Nurmi’s era were closer to Neanderthal man than to “modern man”—i.e. Steve Prefontaine. But I say that “poor” Paavo is not guilty of the unforgivable crime of inferiority.

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RUNNER'S GUIDE TO VANCOUVER

It is raining gently but steadily. The trail wanders between tall stands of fir, cedar and hemlock, past small lakes where the Canada geese, ducks and other water fowl barely give ground as you pad past, engrossed in your own thoughts, with the soft thrumming of the rain for company. For an hour or two, you need never use the same trail twice, never smell or see the grime of the city. And yet you are only a five-minute drive from the heart of downtown Vancouver. Such are the joys of Stanley Park.

Stanley Park is one of the great city parks of the world. A thousand-acre promontory jutting out into Burrard Inlet, it offers a variety of pleasures and activities—cycling, birdwatching, fishing—to name a few. For the runner, it has everything: scores of miles of trails, mostly through west coast rain forest; a six-mile seawall promenade with views of the city and the mountains to the north across the inlet; miles of good pavement with one-way traffic restricted to 25 miles per hour; acres of playing fields and grass and, to top it all, a cinder running track near the entrance.

This track, Brockton Oval, is the focal point for running in Vancouver and many of the important meets are held there. It is also the starting point for most of the cross-country league races and for training runs. The variety of routes is almost infinite. Stay on the seawall if the day is sunny and you wish to work on that sun tan, or take to the shaded trails to avoid the sun in summer or the wind that whips off the water on a blustery winter day.

From the seawall, the park rises to several hundred feet in places, so there are numerous hills to choose from if that is your desire. If you like watching animals, the park harbors many waterfowl on its lakes, and small animals such as squirrels are common and tame. It is said that there are several deer in the deeper reaches of the forest. Near Brockton Oval there is a small zoo where one can run past dozing polar bears or curious timber wolves, and on a sunny day artists set up their paintings on the lawns near this zoo.

Road running is centered on the park, and all of the major road races are held there. A five-mile course is the basis of the 10-, 15- and 20-mile, and marathon championships. For the most part, it follows the seawall drive (not the seawall promenade which is the setting for the annual seawall race each November) but detours to take in the Rose Garden and Lost Lagoon. It varies from "fairly flat" to "gently undulating," depending upon the condition of the runner. At regular intervals, time trials are held over these courses, conducted by a club which has, in its few years of existence, become closely associated with road running and with the park.

The Lions Gate Road Runners (who take their name from the suspension bridge which spans Burrard Inlet from the park to the North Shore) have through the organization and sponsorship of road races rejuvenated road running in Vancouver to the extent that there is now sufficient quality and depth of road runners to rival the traditionally dominant Ontario athletes. As well, the organizers of Pacific Northwest road races such as the Seaside and Portland marathons now expect a sizeable portion of their awards to be carried off by Vancouver runners.

However, Stanley Park is not the be-all and end-all of running in Vancouver. Wherever you live or stay, there is somewhere to run which is free of major problems. Two universities are particularly well endowed for training, in addition to the usual track facilities.

The University of British Columbia is set in a 1700-acre tract of virgin forest known as the Endowment Lands. However, they are not as well developed with trails as Stanley Park, and those that exist are narrow and muddy for much of the year. But several boulevards with wide nature strips, and numerous beaches and strips of foreshore provide plenty of scope. One popular run in summer is Wreck Beach, which is renowned for its nude bathing. However, "dressed" individuals are not welcome on this beach, so don't linger too long.

Simon Fraser University sits atop Burnaby Mountain on the outskirts of the city. Most of the mountain—which rises about 700 feet above its surroundings—is also virgin bush with a fairly well developed system of trails. During the cross-country season, one of the league races is run over these trails, an event *not* eagerly looked forward to by the "flatlanders."

Another important center for runners is Minoru Park in Richmond, close to the airport. Home of the Richmond Track Club and many of the province's top athletes, it features regular Tuesday and Thursday night track workouts under the lights.

If there is a drawback to running in Vancouver, perhaps it is the climate. Not that it is ever so cold or so hot as to make running impossible, and it rarely snows. But those long months when the sky is always leaden and it always seems to be raining do sometimes dampen enthusiasm and make it just that bit harder to get out and run. Yet summer more than compensates with its long hours of daylight and warm but not muggy days. Then there are those autumn evenings when the air is crisp, the sun is setting beyond the north shore mountains, and the sea is a burnished gold to match the trees that grace the seawall walk.

Should you find yourself in Vancouver for a visit, you will probably be lodged not too far from the park. Make your way to Brockton Oval and you will be almost certain to find someone there to run with. If not, head up the nearest trail or around the seawall and you will be surprised how quickly time flies as you take in all there is to see. The Parks Board and Tourist offices will provide a map, but you don't really need one since it is one of the few places where it is a pleasure to get lost.

For information about training and races, contact: Jack Taunton, 604, 1330 Harwood Street, Vancouver, British Columbia, Canada. Phone 687-9371.

CLASSIFIED NOTICES

Reach over 18,000 subscribers with your advertisement in *Runner's World*. Rates: Meet/race notices 20 cents per word, \$5.00 minimum; general notices 30 cents/word, \$10.00 minimum. All ads must be paid in advance. Deadline for October was August 26, November deadline is September 30.

NIKE-TIGER SPORT SHOES—The largest supply of Nikes and Tigers in the Midwest at the lowest prices available anywhere. Immediate delivery on all orders. Write or call: Nike-Tiger Sport Shoes, 1203 E. Harding Drive, Urbana, Illinois 61801 (217) 367-0808.

JOIN US MASTERS INTERNATIONAL TRACK TEAM—Receive six issues annually Newsletter devoted to Veteran athletics. Participate in inexpensive tours. Compete Florida and Jamaica Dec. 20-Jan. 1. Age group competition men and women 30 and up. Write: David Pain, 1160 Via Espana, La Jolla, CA 92037.

BAY-TO-BREAKERS T-SHIRTS—Souvenir of famous San Francisco distance race—multi-colored, sizes S, M, L, XL. Send \$2.75 per shirt (includes postage) to: Harold DeMoss, Box 967, Los Altos, CA 94022.

COME TO THE MARDI GRAS!—The New Orleans Mardi Gras Marathon, Feb. 1, 1975. AAU certified, flat, scenic lakefront course. Write for details: Dreux Summers, 549 Brookmeade Dr., Gretna, LA 70053.

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UNITED STATES TRACK & FIELD FEDERATION WOMEN'S CROSS-COUNTRY CHAMPIONSHIPS—Nov. 2, 1974. Classes: Girls 10 & under; 11-13; 14-16; Women's Open. Men's Veterans; Seniors 40-49; 50+; Boys 12 & under; 15 & under. Men's Open. For additional information: Vic Godfrey, Athletics, UW-Parkside, Kenosha, Wisc. 53140.

TIGER-NIKE—Tiger or Nike leather Cortez \$18.95. Tiger or Nike Boston \$15.95. Montreal '76, \$17.95. Add \$1.00 pr. postage. Sizes 6-12. The Jog Shop, 1203 E. Warren, Brownfield, TX 79316.

FOOT PROBLEMS?—If you have any it's because the many bones, ligaments and muscles in your feet are not strong enough to withstand the pounding on hard surfaces. How do you build or rehabilitate your feet? If interested send \$1.00 for a 15-page color booklet on the Vimulator System. Frank Vimulator Systems, 455 S. 156th No. 205, Seattle, Wash. 98168.

TEE SHIRTS CUSTOM PRINTED—Sweat shirts, jackets, jerseys. Schools, teams, clubs. Minimum 12: quantity discounts. Free catalog. Mandelker's R2, 2603 N. Downer Ave., Milwaukee, WI 53211.

ST. LOUIS TRACK CLUB EVENTS—Fall footrace, 2 & 6 miles, Oct. 12, age groups. Central USA X-C club championships, 10,000 meters, Oct. 26, team awards. Both events to be held in forest park. For entry information, contact Jerry Adams, 619 Villa Garden Dr., Kirkwood, Mo. 63122 (314) 821-4496.

ALBUQUERQUE MARATHON—Sunday, October 20, 1974 at 8:00 a.m. Scenic Course, Ideal Temperature, between 35-50 degrees. Awards: Open, places 1-25, Seniors (35-39) 1-3, Masters (40-49) 1-3, and Super Masters (50 and over) 1-3. First Woman finisher. T-shirts to all finishers. Entry fee \$2.50. Contact: NMTC, P.O. Box 4071, Albuquerque, NM 87106.

RACING NUMBERS—Bib style or single. Consecutive sets from 1 to 50, 1 to 100, etc. up to 250. Plain numbers in stock or imprint your name or logo—2 weeks. Reusable. Inexpensive. Write for complete catalogue. Reliable Racing Supply, 253 Bay Road, Glens Falls, N.Y. 12801.

HARRISBURG NATIONAL MARATHON—Sunday, November 3, 1974 at 10:30 AM, Harrisburg Central "Y". Certified Course. River front and rolling hills. Finish Penn National Race Course. (Scenery and fresh air unlimited.) Lodging, T-shirts, certificates, awards luncheon, beautiful trophies. Be the guest of Penn National Race Course for the day. For information and entries, write: Jack Scarbrough, Harrisburg Central YMCA, Front and North Streets, Harrisburg, PA 17101.

BROOKS SHOES—At last the great American shoe! Models include: PENN—white leather trainer, DRAKE—blue or red nylon trainer, TEXAS—blue or red nylon racer, SPIKES—red/white stripe or white/blue stripe. Priced \$15.50 to \$17.95. For information enclose self-addressed stamped envelope to: Windy City Sports, 402 E. Virginia, Bensenville, Ill. 60106.

SPORTS FESTIVAL—Orange County, California. The Blue Angels Track Club will host its 2nd Annual Cross-Country Sports Festival Oct. 5, 1974. 10,000 meters, boys age group, racewalks, girls and women's races. Write Blue Angels, P.O. Box 1854, Huntington Beach, CA 92647.

RUNNING—The Journal of the Scientific Study of Distance Running. Articles on nutrition, physiology, medical problems, product testing, training, etc. Subscribe to Volume One (four issues). Three of four issues currently available. Send \$4.00 for Volume One to Running, Box 267, Flagstaff, Ariz. 86001.

THE NIKE-LONG BEACH STATE UNIVERISTY 2nd ANNUAL CROSS-COUNTRY CLINIC—September 21, 1974 at LBSU. Featured guests: Steve Prefontaine, Francie Larrieu, Fred Wilt, Dr. John Pagliano, D.P.M., Dr. Doug Jackson, M.D., and Ron Allice. For brochure write: Ron Allice, Head Track & Cross-Country Coach, LBSU, Long Beach, CA 90804.

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

by George Sheehan M.D.

MEDICAL ADVICE

YOUNG STARS

Q: I have always been interested in the subject of hard training for the young. Why is it that almost every time you read of some phenom breaking a record, you don't recognize the name of the person who previously held the record, even though he was running 1:51 or 4:06 in high school? (A.C., New York)

A: I would guess one or all of the following factors combine:

1. Premature development. Some 16- and 17-year-olds are already men and will not get that much better.

2. Rhythmic performance cycles. Once or twice a year, an athlete gets off a performance a good deal better than his normal capabilities, and is judged by that rather than his true ability.

3. Injuries or overtraining. Our readers report an enormous amount of incapacitating injuries and illnesses sufficient to terminate or hamper careers. One cause seems to be emphasis on speed training without sufficient "bottom" or endurance training.

HAMSTRING PULL

Q: I have been running 8-10 miles daily for almost 10 years. For the last couple of years, I have had hamstring problems. What can be done? (L.S., California)

A: A muscle pulls for one of two

reasons: (a) it is too weak, or (b) it is too short. In a distance runner, the hamstring may be both. Therefore, I suggest you do maximum flexibility exercises for all the muscles in the back of the leg and thigh.

In addition, you should do strengthening exercises for the hamstring. Stand on the good leg, bring your foot in back of you up to your buttock on the back side. Now tighten the hamstring as hard as you can. Hold for 10 seconds. Relax. Repeat for 12-15 reps. Do this 2-3 times a day.

There are times when muscles are more irritable and inclined to go into spasm or pull. Fatigue, dehydration, lack of salt, overtraining, too much caffeine or a host of unknown factors may set you up for this.

You can, however, build up your strength and help yourself in the shorter distances. I suggest you get a copy of the *RW* booklet *Exercises for Runners* and/or John Jesse's *Strength, Power and Muscular Endurance for Runners and Hurdlers*.

Most muscular runners, it seems to me, don't extend themselves enough and are in events too short for their best effort. On the other hand, I think long distance runners could improve in their events if they would do sufficient work on speed and strength.

MUSCLE DEVELOPMENT

Q: All the runners I race against have big, muscular calves and thighs, and mine are so small, it doesn't even look like I have calves at all. Seeing this on other guys makes me jealous and psychs me out. Any suggestions would be greatly appreciated. (R.K. Pennsylvania)

A: You are built for distance, not for speed or strength, and those big, muscular runners are going to have trouble staying with you in the longer distances.

Q: My doctor has advised me not to run because I will develop unfeminine muscles in the legs, particularly in the calves. I am very confused because I thought that "muscle-bound" theory had been disproved. (D.S., New York)

A: The building of muscle tissue through exercise is a subject of controversy. Some types of exercises are said to build strength without bulk.

The probability is that your calves will enlarge to some extent through running, especially if you bounce while you run or get into speed work. If you develop a running style where your thighs do most of the work, this probably won't happen or will be minimal.

I recall staying at a hotel with the Russian ballet, and was struck by the muscular legs of the women dancers. This suggests that jumping motions and use of the calf are instrumental in this development. I think, however, that most observers regard dancers' legs as attractive.

ARMS

Q: I have noted that in the late stages of my races I tighten up in my arms. Would you please give me some ways of solving my problem? What about lifting weights? (R.K., Pennsylvania)

A: This tendency to tighten up is universal. When I run on the track, I usually station someone to yell "relax" as I go by. By the time I get back to him, my shoulders and arms are all tensed up.

"Relax" is the word. From your hips up, your body is simply for balance and breathing. Weight lifting, however, may be worthwhile to prevent the fatigue of the respiratory muscles.

HEART RHYTHM

Q: Would you please discuss arrhythmias? What are they, what causes them, what effect they have on one's health and how common they are? (C.N., Texas)

A: Cardiac arrhythmias are disorders of the heart beat and are usually described as palpitations of the heart. They can vary from simple premature beats felt as something flopping over in the chest to long, continued runs of extremely rapid beats.

The majority of arrhythmias occur in healthy hearts and have no effect on general health. The heart muscle can initiate its own beat, and this is therefore an exaggeration of a normal property. Some people seem to have a tendency to arrhythmias and have them under severe stress.

Abnormal conduction of the pulse waves through the heart apparently makes an individual more susceptible. I have such a condition, known as Wolff-Parkinson-White syndrome. Tension and speedwork without warmup can make my pulse very irregular. I also note some skipping or missing of the pulse at the wrist when overtraining. This occurs when the beat comes too soon and before the heart fills, therefore no pulse wave is initiated.

I believe such benign irregularities are common among runners, ordinary as well as world class. Dr. Joan Ulyot is now using a cardio-recorder to be worn while running. This records a continuous tape of the heart beat. She is finding these irregularities to be quite common.

CLASSIFIEDS—continued

E.R.G.—Our local distributorship is now serving L.A.'s South Bay Area. Save money and get immediate service. Call Dave Holland, 5905 Ironwood, Rancho Palos Verdes, CA 90274. (213) 378-2511.

GEORGETOWN BICENTENNIAL MARATHON, Georgetown, Kentucky, October 5, 11 am. Flat-rolling Bluegrass Country Lanes—Blacktop Course, out and back to downtown festival. Live radio coverage, TV at finish. For lodging-entries, write: Scott County Jaycees, Box 473, Georgetown, KY 40324. Jerry Stone, race director.

THE COMPLETE RUNNER

Who is the Complete Runner?

The Complete Runner may be an Olympic Gold Medalist, bringing the crowd to its feet with a devastating final kick.

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Looking At People



Arthur Dyson

● **Miki Gorman**, women's world marathon record holder, won't be running the first world women's marathon (in Germany, Sept. 22) or any other race for awhile. Miki is pregnant. At 39, she will be having her first child

● A US team of **Judy Ikenberry**, **Marily Paul**, **Peggy Lyman** and **Nina Kuscsik** has been invited to race the German marathon. **Dr. Joan Ulyot** was to go with the team as a runner-manager-interpreter.

● Meanwhile, one battle the women thought they'd fought and won flared up again. The National AAU Masters meet in Oregon had a men-only policy. (Women had been allowed in '73.) **Catherine Smith** had her entry blank returned. When she took the matter to the Oregon Civil Rights Commission, meet officials relented and let her in.

Catherine ran the 100, 800 and marathon. "My times were poor," she says, "but I was motivated to finish the marathon by the director's crack at the halfway mark, 'Come on, Smith, you can run now. The press isn't here.'" The other woman in the meet, **Ruth Anderson**, ran a 3:22 marathon.

Anything unusual happen to you lately? Any new or off-beat ideas you'd like to share? We need this kind of material for the "Looking At People" column. Please send such items to RW, Box 366, Mountain View, Calif. 94040.

● **Dave Bedford** was back in competition, briefly, with a new look and a new tactic. He won the British 10,000 meter title while weighing 11 pounds more than last year, when he set a world record in the event. Bedford, a noted front-runner, switched to a wait-and-kick strategy—"hunted turned hunter," he put it. "What I did is a chicken way of running a race, but it's effective."

He had laid off for four months with an injury, and said, "Six weeks ago, I couldn't run a five-minute mile." Bedford re-injured himself after this race, and announced he wouldn't run in the European Championships.

● **Sheldon Karlin** of Maryland has, according to **Dave Theall**, "set some sort of record of dubious distinction, namely leading in three consecutive major local road races and running off course on all three occasions."

At the first, he strayed early, and ran alone to the end of a dock. The second time, he crossed a highway while everyone else turned right. Finally, he missed a turn 200 yards from the finish. The winners of that one conceded the \$30 merchandise prize to Karlin, figuring he'd earned it.

● **Diane Holum**, 1972 Olympic speed skating champion, now is running long distances. She won the women's division of a 20-mile race in Wisconsin in May.

● **Gaston Roelants**, winner of the steeplechase at the 1964 Olympics, says he'll be back for another Games in '76—this time in the 10,000. The Belgian will be 39 then.

● **Arthur Dyson**, the oldest active Canadian marathoner, recently did 4:00:43 at Calgary. He is 70.

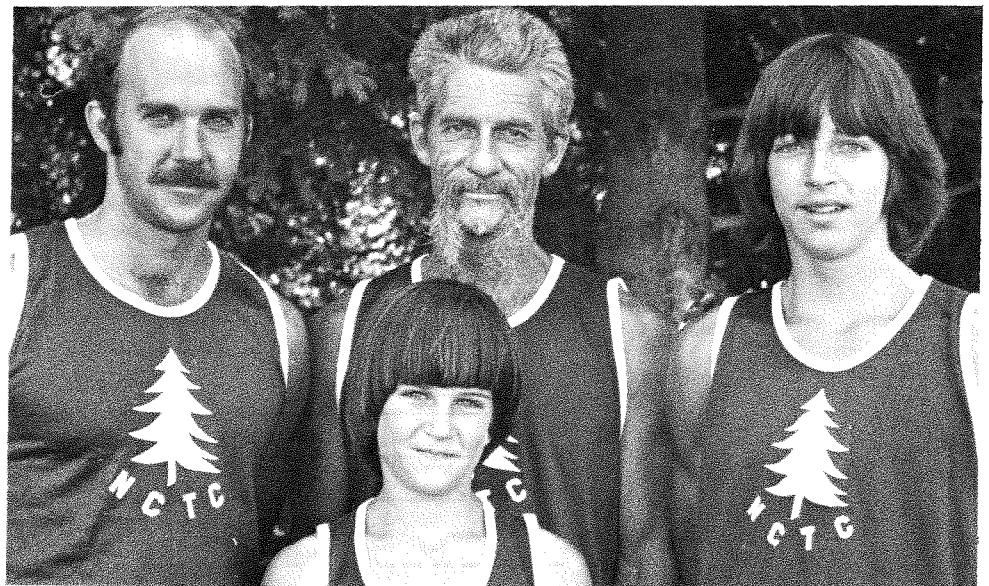
● The **Elsworth Harger** family of Michigan has its own mile relay team—a special kind of team for a special competition. The relay, run at local meets, is scored this way: one point for each second under five minutes, times the age spread of the family-team. The Hargers, whose ages span 36 years, ran 3:58.5 for 2250 points. They say, "We welcome the challenge of any other family relay team."

● Twelve runners are among the first members of the National Track and Field Hall of Fame in Charleston, W. Va.: sprinters **Hal Davis**, **Alvin Kraenzlein**, **Jesse Owens** and **Wilma Rudolph**; distance runners **Glenn Cunningham**, **Lon Myers** and **Mal Whitfield**, and hurdlers **Lee Calhoun**, **Glenn Davis**, **Harrison Dillard**, **Bob Simpson** and **Babe Didrikson Zaharias**.

● **Valeriy Borzov**, the double Olympic sprint champion, wasn't entirely idle during his light running year of 1973. He wrote two books for young athletes: *The Battle Was Over in Seconds* and *Secrets of Speed*. Both are in Russian and haven't yet been translated.

● **Brian Green**, a British sprinter, may hold the world record for 100 meters in street clothes. He arrived at a meet to see that his heat was lining up. Green vaulted a fence, stripped off his jacket and had time only to lace on his spikes. He ran 10.8.

Kirk, Rene, Elsworth and Greg Harger





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OCTOBER COMING EVENTS

NORTHEAST

- 13 Finger Lakes marathon, Ithaca-Marathon, N.Y. (open; James Hartshorne, 108 Kay St., Ithaca, N.Y. 14850).
- 13 Met. AAU 30-kilometer Championship, N.Y., N.Y. (Central Park; 11 a.m.; open; Road Runners Club, P.O. Box 881, FDR Station, N.Y., N.Y. 10022).
- 13 Long Beach Island 18-mile, Long Beach Island, N.J. (noon; open; Bill Fitzpatrick, 18-mile Run, St. Francis Center, Brant Beach, N.J. 08008).
- 20 Atlantic City marathon, Atlantic City, N.J. (noon; open; Ed League, P.O. Box 732, Atlantic City, N.J. 08404).
- 20 Conn. AAU Championship & Open, 15-kilometer, Fairfield, Conn. (Fairfield Univ.; 10 a.m.; open; Jack Boitano, 40 McLeod Place, Stratford, Conn. 06497).
- 20 AAU Masters & Sub-masters Cross-country 5-mile, California, Penn. (Calif. State Col., of Penn.; Martin Uher, R.D. 2, Box 114, Monongahela, Pa. 15063).
- 26 Buffalo to Niagara marathon, Buffalo, N.Y. (Delaware Park, open; Alan Gross, 378 Elmwood Ave., Buffalo, N.Y. 14222).
- 26 International Two Bridges 36-mile, Washington, D.C. (8 a.m.; open; Lee Shelton, 15000 Bitterroot Way, Rockville, Md. 20853).
- 26-27 200-kilometer, Harpers Ferry—Washington, D.C. (C & O Canal Towpath; open; Lee Shelton, 15000 Bitterroot Way, Rockville, Md. 20853).
- 27 National AAU 3000m Team Race, Freehold, N.J. (Freehold raceway; Elliott Denman, 28 N. Locust Ave., West Long Branch, N.J. 07764).
- 27 Power marathon, Washington, D.C. (10 a.m.; open; Lee Shelton, 15000 Bitterroot Way, Rockville, Md. 20853).
- 27 National AAU Jr. 5-kilometer Cross-country, York, Pa. (open; Bob Hoffman, York Barbell Club, York, Pa.).
- 27 National AAU 20-kilometer, Gardner, Mass. (2 p.m.; Bob Campbell, 39 Linnet St., West Roxbury, Mass. 02132).

SOUTHEAST

- 5 International Rice Festival marathon, Crowley, La. (open; Dr. Charles Atwood, Crowley, La. 70526).

- 5 Georgetown Bicentennial marathon, Georgetown, Ky. (11 a.m.; open; Jerry Stone, Race Dir., Scott County Jaycees, Box 473, Georgetown, Ky. 40324).
- 5 Governor's Cup 5 & 15-mile, Columbia, S.C. (10 a.m.; open; Richard Harris, 2436 Robincrest Dr., West Columbia, S.C. 29169).
- 5 Old Hickory Run 1.6, 5.8, 11.2-mile, Nashville, Tenn. (open; Kent Rea, YMCA, 1000 Church St., Nashville, Tenn. 37203).
- 12 Fla. Forest Festival International 13-mile, Perry, Fla. (open; Coach Roy Benson, Univ. of Fla., Athletic Dept., Gainesville, Fla. 32604).
- 26 Georgia AAU 15-mile, Stone Mt., Ga. (8:45 a.m.; open; Don Hale, 1352 Jody Lane, Atlanta, Ga.).

MIDWEST

- 6 Canton marathon, Canton, Ohio (downtown YMCA; open; Tom White, downtown Canton YMCA, 405 2nd St. N.W., Canton, Ohio 44702).
- 13 Covered Bridge marathon, Indianola-Winterset, Iowa (9 a.m. open; Robert A. Kaldenberg, R.R. 1, St. Charles, Ia.).
- 19 AAU 5-mile Cross-country, Texarkana, Ark. (open; Ron Isom, Rt. 7, Box 577 F, Texarkana, Ark. 75501).
- 20 Land of Lakes marathon, White Bear Lake, Minn. (1 p.m.; open; John Christian, Route 1, Box 32, Marie Plain, Minn. 55359).
- 20 Tri-States marathon, Falls City, Nebr. (open; Louis Fritz, Verdon, Nebr.).
- 20 Monroe marathon, Dayton, Ohio (noon; open; Felix LeBlanc, 1013 Tralee Trail, Dayton, Ohio 45430).
- 26 AAU Regional Masters Cross-country, 5-mile, Columbia, Mo. (Gustin golf course; 11:15 a.m.; Joe Duncan, 4004 Defoe Dr., Columbia, Mo. 65201).
- 26 South Dakota USTFF Cross-country, 10-kilometer, Brookings, S.D. (SDSU golf course; 10 a.m.; Jay Dirksen, Track Coach, SDSU, Brookings, S.D. 57066).
- 27 Motor City marathon, Detroit, Mich. (Belle Isle; 9 a.m.; open; Edward Kozloff, 10144 Lincoln, Huntington Woods, Mich. 48070).

SOUTHWEST

- 5 Gulf AAU 15-kilometer, Houston, Tex. (San Jacinto monument; 4 p.m.; open; Pete League, 5471 Jackwood St., Houston, Tex.).
- 19 5-mile, Texarkana, Tex. (Ron Isom, Rt. 7, Box 577 - F, Texarkana, Ark. 75501).
- 20 Tour of Albuquerque marathon, Albuquerque, N.M. (8 a.m.; open; Gil Duran P.O. Box 4071, Albuquerque, N.M. 87106).

ROCKIES

- 12 YMCA Fall marathon, Denver, Colo. (Platte River Dr.; open; Roger Gerard, Denver YMCA, 25 E. 16th Ave., Denver, Colo. 80202).
- 12 RMAAU 30-kilometer, Ft. Collins, Colo. (Blevins jr. high; 10 a.m.; FCTC, Dr. Robert M. Conlon, 1032 Luke, Fort Collins, Colo. 80521).

WEST

- 13 Santa Barbara marathon, Santa Barbara, Calif. (LA Playa Stadium; 7:30 a.m.; open; John Brennand, 4476 Meadowlark Lane, Santa Barbara, Calif. 93105).
- 13 Nike-Oregon marathon, Eugene, Ore. (open; 11 a.m.; The Athletic Dept., 99 West 10th St., Suite 104, Eugene, Ore. 97401).
- 20 Pacific AAU 50-kilometer, Sacramento, Calif. (Walt Betschart, 4120 A St., Sacramento, Calif. 95819).
- 20 Hawaii AAU 15-kilometer, Honolulu, Hawaii (Kapiolani Park; 8 a.m.; open; Don Barrell, 1459 Olino St., Honolulu, Hawaii 96818).

CANADA

- 5 Lions Gate 20-mile, Vancouver, B.C. (Stanley Park; 10:30 a.m.; Jack Taunton, No. 604, 1330 Harwood St., Vancouver, 5, B.C. V6G-1S8, Canada).
- 12 Oktoberfest marathon, Kitchener-Waterloo, Ontario (1 p.m.; Race Director, Waterloo Family Y, 145 Lincoln Rd., Waterloo, Ontario, Canada).
- 13 Marathon, Ile D'Orleans, Quebec (open; Jean Guy Cote, 26 Rue Goudreaux, St. Brigitte De Laval, Quebec, Canada).
- 20 10-mile Track, Toronto, Ontario, (Birchmount stadium; 11 a.m.; open; Bob Madeley, 726 Melten Dr., Mississauga, Ontario, or Doug Laister, 1556 Warland Rd., Oakville, Ontario, Canada).

INTERNATIONAL

- 6 International marathon, Kosice, Czechoslovakia.
- 23 International marathon, Novi Sad, Yugoslavia.
- 31 International marathon, Budapest, Hungary.

WALKING

- 5-6 100-mile walk, Columbia, Mo. (Hickman high school; 1 p.m.; open; Joe Duncan, 4004 Defoe Dr., Columbia, Mo. 65201).
- 13 Iowa AAU 40-kilometer walk, Indianola, Iowa (7:30 a.m.; open; Dave Eidahl, Box 72, Richland, Ia.).
- 19 Nat. AAU 30-kilometer walk, Columbia, Mo. (12:30 p.m.; Joe Duncan, 4004 Defoe Dr., Columbia, Mo. 65201).
- 19 National AAU Women's 10-kilometer walk, Columbia, Mo. (10 a.m.; Joe Duncan, 4004 Defoe Dr., Columbia, Mo. 65201).
- 20 Conn. AAU 15-kilometer walk, Fairfield, Conn. (Fairfield Univ.; 10 a.m.; open; Jack Boitano, 40 McLeod Place, Stratford, Conn. 06497).
- 27 National AAU "B" 35-kilometer walk, Chicago, Ill. (William Ross, jr., 2835 N. Lincoln Ave., Chicago, Ill. 60657).

FUN-RUNS

Run with the Runner's World staff members any Sunday morning of the year—Foothill College, Los Altos Hills, Calif., 10:30. Call (415) 965-8777 for details.

RACING HIGHLIGHTS

NORTHEAST

- **Edgewood, Md., June 23**—10-mile: 1. Sheldon Karlin (24, Wash. SC) 52:00; 2. Vic Nelson (25, Balt. OC) 53:00; 3. Steve Mahieu (27, Balt. OC) 54:41... Jeff Good (19, Howard Co. St.) 58:40... Bob Horman (56) 1:02:22... Marilyn Bevan 1:06:26. (113 finished; from Rich Warren).
- **Atlantic Highlands, N.J., June 30**—Scenic Hill 10-kilometer: 1. Eamon Downey (N. Jersey St.) 32:34; 2. Bob Bazley (Shore AC) 33:05... 10. Colin Beer (40+, Shore AC) 36:53... 26. Hilary Noden (Shore AC) 41:06... 28. George Sheehan (50+, Shore AC) 41:37. (51 finished).
- **Bayside, N.Y., July 6**—RRC of America Nat. Postal 10-mile: 1. Kevin McCarey (20, NYAC) 52:30; 2. Bill Bragg (25, NYAC) 53:46; 3. Joel Pasternack (23, UA) 54:33; 4. Tony Galan (19, St. Anthony BC) 58:25; 5. John Garlepp (36, Millrose AA) 58:48; 6. Joe Burns (45, East Coast AC) 1:00:11... 19. Nina Kuscsik (35, Suffolk AC) 1:07:59... 28. Abe Schwartz (53, Millrose AA) 1:17:27. (31 finished).
- **Bayside, N.Y., July 13**—Met. Assoc. AAU one-hour: 1. Bob Braille (18, Long Island AC) 10m 1497y; 2. Paul Fetscher (28, Long Island AC) 10m 1050y... 7. Joe Burns (45, East Coast AC) 10m 341y... 28. Abe Schwartz (53, Millrose AA) 7m 1420y. Teams: 1. Long Island AC. Women: 1. Nina Kuscsik (35, Suffolk AC) 9m 251y).
- **Yonkers, N.Y., July 21**—10-kilometer: 1. Norbert Sander (31, Millrose AA) 31:30; 2. Tom Nolan (21, NYAC); 3. Arthur Hall (27, Oakwood TC) 32:07... 10. Hal Beal (19, West Point) 34:31... 11. Pat Bastick (40, Millrose AA) 35:04... 34. Joe Pardo (50) 39:55... 68. Susan DeLott (14) 44:39. (93 finished, 10 under 35:00, 34 under 40:00; from Joe Kleinerman).
- **Roxbury, N.J., July 27**—Masters' 6-mile: 1. Vin Fandetti (42) 32:43; 2. Colin Beer (41) 34:29; 3. Walt McConnell (42) 34:57... George Sheehan (55, Shore AC) 37:57... John Wall (60+) 39:09... Percy Perry (70+) 1:01:33.
- **N.Y., N.Y., July 28**—5-mile track & road, 880y track, 2 mile track, 440y track, 1-mile track, for point total: 1. T. Childers 24:19, 2:04.5, 9:29, 55.5, 4:33, 10 pts.; 2. Jonathan Williams 25:52, 2:05, 10:19, 56:08, 4:49, 24 pts.; 3. Paul Coffins 26:03, 2:07, 10:03, 57.0, 4:50, 29 pts.; 4. Hal Ognelodh (jr.) 25:57, 2:09, 10:03, 58.2, 4:46.5, 32 pts.... 22. Pat Bastick (40+) 27:20, 2:16, 10:32.6, 65.4, 4:51, 124 pts.... 55. Anita Scandurra 31:50, 2:25, 12:19, 65.4, 5:34, 307 pts. (126 finished; from Joe Kleinerman).
- **New London, Conn., Aug 3**—John J. Kelly 11.7-mile: 1. Morgan Fennell 56:55; 2. Norbert Sander 57:16; 3. John Vitale 59:04; 4. John Skislak 59:05; 5. Ray Crothers 59:20; 6. Amby Burfoot 59:37... 13.

John J. Kelly (40+) 1:01:46... 103. Elizabeth Franceschini 1:20:31. (144 finished, 7 under 1:00, 26 under 1:05; from Kurt Steiner).

SOUTHEAST

- **Atlanta, Ga., June 22**—Atlanta TC 6-mile: 1. Dennis Spencer (ATC) 31:46; 2. Lee Fidler (Club South) 31:54; 3. Greg Camp (ATC) 32:11... Bill Neace (40+, ATC) 38:15... Elliott Galloway (50+) 42:09... Karen Gamel (ATC) 45:37. (from Bill Neace).
 - **Richmond, Va., June 23**—Rambling Rose 6.55-mile: 1. Rick Magley (19) 36:50; 2. Jerry Pierce (26) 37:17; 3. Joseph Parker (17) 37:48... 44. Cy Van Pelt (41) 45:15... 50. Bernard Middleton (51) 45:42... 75. Lora Cartwright (12) 51:00. (93 finished, 8 under 40:00, 42 under 45:00; from Dave Bowers).
 - **Atlanta, Ga., July 4**—Tuborg Peachtree 10-kilometer: 1. Wayne Roach (ATC) 30:48; 2. Lee Fidler (Club South) 31:24; 3. Don Kennedy (Fort Worth TC) 31:28; Barry Brown (FTC) 31:32; 5. David McKannon (Huntsville TC) 31:34; 6. Greg Camp (ATC) 31:39... Charles Gibson (50+, Chattanooga TC) 36:08... Gayle Barron 38:40. (from Don Gamel).
 - **St. Albans, W. Va., July 6**—St. Albans Town Fair 10-kilometer: 1. Kim Nutter 31:16; 2. Carl Hatfield 32:59; 3. Roger Rouiller 33:15... 20. Woody Sharp (40+) 40:48... 32. Arden Rollins (50+) 46:20... 52. Sandy Triplett 56:13... 53. John Pianfetti (60+) 56:18.
 - **Boone, N.C., July 13**—Mountain marathon: 1. Lee Fidler (25, Club South) 2:55:37; 2. Harold A. Goldsberry (19, Va. Tech.) 3:04:33; 3. Louis Blount (19, Appalachian S.U.) 3:05:14... 12. Tom Baum (43, Shore AC) 3:47:27. (29 finished, 10 under 3:30, 15 under 4:00; from Ed Strabel).
 - **North Little Rock, Ark., July 20**—4-mile: 1. John Barksdale (Davidson College) 22:41; 2. Jerry Burns (Cabot H.S.) 23:05... 10. Denver Prince (41) 27:19... 11. James Martin (50) 29:46. (12 finished).
- ## MIDWEST
- **Madison, Wisc., June 29**—Madison marathon: 1. Tom Slater (22) 2:36:33; 2. Lee Wilcox (35) 2:41:36; 3. Don Fass (20) 2:43:45; 4. Shawn Flanagan (19) 2:44:20... 24. Richard Durbin (43) 3:15:49... 44. Bob Martin (53) 3:49:14... 45. Diane Holum (23) 3:50:51. Teams: 1. Kegonsa TC, 16 pts.; 2. Vilas RC, 29 pts. (59 finished, 32 under 3:30, 49 under 4:00; from Dale Roe).
 - **Monticello, Ill., June 29**—Freedom marathon: 1. Ken Burke (20, E. Ill. St.) 2:29:56; 2. Ed Steingraber (Winged Foot Club) 2:31:46; 3. Chris Chambers (Sugarloaf Mt. AC) 2:34:52; 4. Bob O'Connell (Ill. TC, 25) 2:35:09... Chuck Koeppen (28, Ind. St.) 2:35:33... 41. Tom Griffith (43) 3:17:45... 48. Mal Shurtleff (52, Ill. TC) 3:22:40... 51. Sandy Davis (28, Ill. TC) 3:25:09. (77 finished, 28 under 3:00, 56 under 3:30; from Phil Davis).
 - **Mankato, Minn., June 29**—Minn. AAU One-hour run: 1. Dave Jones (25, UA) 10m 1749y; 2. John Cramer (22, TCTC) 10m 1553y... 18. Bill Rose (49, UA) 7m 1192y. (21 finished, 5 over 10 miles; from John Cramer).

- **Grand Forks, N.D., June 30**—North Dakota marathon: 1. Jim Berka 2:50:03; 2. Allen Gilman 2:54:06; 3. Larry Seethaler 2:56:28... 11. Joe Cleary (50+) 3:16:37... 21. Jan Arenz 3:35:57... 34. Clayton Ness (60+) 4:34:55. (37 finished, 4 under 3:00, 16 under 3:30, 25 under 4:00). Half-marathon: 1. Roland Lass 1:20:45; 2. Kent Lorenz 1:20:49... Wanda Arenz 1:49:35. (52 finished, 6 under 1:30). (from Eric Parker).
- **Brookings, S.D., June 30**—South Dakota AAU One-hour run: 1. Randy Fischer (17) 10m 1171y; 2. Mark Adamson (18) 10m 1148y... 6. Harvey Mills (48, Prairie St. TC) 9m 1199y... 12. Charles Roberts (50, Prairie St. TC) 9m 215y. (24 finished, 4 over 10 miles; from Jay Dirksen).
- **Detroit, Mich., June 30**—International Freedom Festival 10-mile: 1. Paul Baldwin 50:42; 2. Don Richardson (Wayne State U.) 51:17; 3. Edward Griffis (Motor City St.) 51:25; 4. Patrick Davey (18, Motor City St.) 51:50; 5. Nick Ellis (Detroit St.) 51:56; 6. Duane Spitz (Detroit St.) 52:27; 7. Gerald Crane 52:27; 8. Donald Anderson 52:57; 9. Mike Boyd (Kalamazoo TC) 53:06; 10. Walter Ganz 54:08... Teresa Ashworth (Windsor Y) 1:11:53. (106 finished, 10 under 55:00, 29 under 1:00; from Ernie Smith).
- **Crystal Lake, Ill., July 4**—15-kilometer: 1. Wil Fieldhouse 51:54; 2. Bill Santino 52:53... 33. Terry Venerable 1:07:58. (44 finished, 8 under 55:00, 24 under 1:00; from Bob Martin).
- **Granville, Ohio, July 4**—5-mile: 1. Richie Smith (22) 24:56; 2. Robin Smith (20) 25:18; 3. Tom Bryant (21) 25:23... 10. Chris Chroniak (19) 27:50... 24. Bob Coldren (41) 29:13... 54. Bill Emmerton (53) 34:26... 78. Bev Ohde (24) 39:13. (106 finished, 28 under 30:00; from D.D. Young).
- **Whitewater, Wisc., July 7**—Whitewater marathon: 1. Tom Hoffman 2:29:48; 2. Peter Farwell 2:31:19; 3. Royce Harnish 2:31:25; 4. Richard Burdick 2:41:11; 5. James Voss 2:47:56... 36. Jeanne Crandall 3:17:14. (68 finished, 45 under 3:30; from Rex Foster).
- **Prairie Creek, Ind., July 13**—15-kilometer: 1. Dean Reinke (21) 47:01; 2. Jim Buell (18) 47:49; 3. Phil Davis (28) 48:49; 4. Jeff Shoemaker (19) 49:15; 5. Greg Johnson (21) 50:04; 6. Chuck Koeppen (28) 50:22; 7. Dan Albert (19) 50:39; 8. Doug Osborn (20) 50:42; 9. Dick Bowerman (24) 50:50; 10. Joe Sherman (18) 51:06... 71. Jim Lambert (41) 1:00:23... 79. Bernie Middleton (51) 1:02:34... 113. Kay Flatten (28) 1:07:21. (178 finished, 33 under 55:00, 68 under 1:00; from Steve Lewark).
- **Clifton, Ohio, July 14**—6-mile: 1. Rick Callison 32:18; 2. Dave Comer (17)... 10. John Merola (42) 37:38... 20. Elver Gaston (50) 43:03. (29 finished, 3 under 35:00, 17 under 40:00; from Felix LeBlanc).
- **Chesterfield, Mo., July 14**—15-kilometer: 1. Bob Fitts (31) 51:56; 2. Jeff Washburn (15) 54:54... 6. Ed Webber (43) 58:07... John Gray (50) 1:10:02. (from Jerry Kokesh).
- **Anderson Indiana, July 20**—Mounds Kiwanis 15-kilometer: 1. Chuck Koeppen 48:53; 2. Greg Johnson 49:58... Bernard Middleton (53) 1:01:49... Lora Cartwright 1:11:52. (26 finished, 6 under 55:00, 12 under 1:00).

o **Columbia, Mo., July 23**—MVAAU 15-kilometer: 1. Bob Busby (25, Kansas City TC) 48:10; 2. Ron Tabb (19, KCTC) 49:32... 8. Ben Londeree (40, CTC) 56:02. (38 finished, 7 under 55:00, 17 under 1:00; from Joe Duncan).

● **Cleveland area, July**—Lake Erie AAU hour run: 1. Kim Nutter (20, WVTC) 11m 1396y; 2. Cletus Griffin (23, Summit AC) 11m 1006y; 3. Don Slusser (22, Ind. TC) 11m 655y; 4. Brian Sobczak (26, Lake Erie AA) 11m 629y. (47 finished; from Roger Rouiller).

SOUTHWEST

● **Richardson, Tex., June 28**—Southwestern AAU one-hour run: 1. Mike Matheny (31) 10m 45y; 2. Billy Chitwood (18) 9m 1615y... 7. Richard Widener (47) 9m 217y... 19. Walt Schneider (53) 8m 340y... 29. Annabelle Corboy (26) 7m 294y. (40 finished, 9 over 9 miles; from Dan Eidem).

● **Tulsa, Okla., July 13**—8-mile Zoo Race: 1. Don Franklin (20) 41:58; 2. Larry Aduddell (28)... 6. Charles Cottle (19) 46:05... 9. Tom Kempf (49) 48:49. (27 finished, 10 under 50:00; from Vern Whiteside).

● **Flagstaff, Ariz., July 27**—Pioneer Day 15-kilometer: 1. Woody Franklin (BYU) 52:30; 2. Scott Giddings 52:49; 3. Fred Emerling 52:55; 4. Dennis Eberhardt 53:08; 5. Kyle Sawyer (19) 53:30... 20. Joe Livesay (40) 58:49... 50. Marjorie Kaput 1:06:26... 52. Reggie Heywood (11) 1:06:55. (100 finished, 9 under 55:00, 24 under 1:00; from Jack Welch).

ROCKIES

● **Aurora, Colo., June 30**—NAAU Jr. 20-kilometer: 1. Lionel Ortega (New Mexico TC) 1:04:57; 2. Ronald Maestas (NMTC) 1:07:04; 3. Ben Montoya 1:08:09; 4. David Segura (NMTC) 1:09:04; 5. Jon Sinclair 1:10:21; 6. Tom Geslin 1:10:44; 7. Steve Allen (Cheyenne TC) 1:11:30; 8. Rob Malory 1:11:53; 9. Dave Sandoval (NMTC) 1:12:05; 10. Bob Arias (Cheyenne TC) 1:12:10. (23 finished). RMAAU Championships: 1. Ken Young (Univ. of Chicago TC) 1:07:19; 2. Matthew Segura (NMTC) 1:09:04. Teams: New Mexico TC, 8 pts.; 2. Cheyenne TC, 22 pts. (36 finished altogether; from Brad Kingery).

● **Ogden, Utah, July 4**—Molestus 13.2-mile: 1. Scott Bringham 1:07:33; 2. Pete Garcia (Weber State Col.) 1:14:57; 3. Weaver 1:15:07... 19. Ron Molen (40+) Beehive TC) 1:25:49. (25 finished; from Jan Cheney).

● **Boulder, Colo., July 4**—4-mile watermelon run: 1. John Gregorio (Colo. TC) 21:25; 2. John Phillips (CTC) 21:26... 22. Charlotte Lettis (SMAC) 30:49. (from Tom Derderian).

● **Kalispell, Mont., July 10**—Kalispell marathon: 1. Ralph Stadelman 2:44:31; 2. James Herriot (Canada) 2:53:46. (3 finished; from Larry O'Neil).

● **Denver, Colo., July 13**—Mt. Evans 14.2-mile, 10,500 feet up to 14,200: 1. Chuck Smead 1:42:06; 2. Ken Young 1:43:37; 3. Jon Sinclair 1:49:52; 4. Skip Hamilton 1:54:09; 5. Don Starbuck 1:55:49... Frank

McCabe (56) 2:22:52. (64 under 2:40; from Roger Gerard).

● **Salt Lake City, Utah, July 24**—Deseret News marathon: 1. Scott Bringham 2:20:24; 2. Laman Palma (Mexico City) 2:25:01; 3. Skip Houk 2:30:47; 4. George Stewart 2:32:58; 5. John Hayes 2:34:01... 7. David Cortez (16) 2:38:48... 13. Paul J. DeWitt (40+) 2:49:56... 15. Tommy Owen (10) 3:07:22... 16. Reggie Heywood (11) 3:10:14... 17. Dennis Egle (50+) 3:10:59... 22. Jim Bole (66) 4:07:12... 23. Abran Salazar (7) 4:21:12. (115 finished).

WEST

● **Westwood, Calif., June 22**—Marathon of the Times: 1. Jack Foster (42, New Zealand) 2:18:24; 2. Neil Cusack (Ireland) 2:19:23; 3. Tom Fleming (New York AC) 2:21:50; 4. John Loeschhorn (WVTC) 2:27:32; 5. Ron Kurrle (Bev. Hills St.) 2:29:10; 6. Ajim Bakshin (Hollywood H.S.) 2:32:11; 7. Kaj Johansen (San Diego TC) 2:33:32; 8. Don Gregory (East LATC) 2:39:00; 9. Joe Carlson (East LATC) 2:40:00; 10. Joe Burgess (Seniors TC) 2:41:38... 19. Matthew Allen (50+, Culver City AC) 3:13:20... 40. Greg Hill (8) 4:11:17. (48 finished, 13 under 3:00, 24 under 3:30, 35 under 4:00).

● **San Diego, Calif., June 26**—PSA-AAU one-hour run: 1. Phil Camp (Navy) 12m 69y; 2. Danny Kasichke (SDTC) 11m 528y; 3. Jeff Rigdon (SDTC) 11m 489y; 4. Frank Bozanich (SDTC)... 11m 44y... Bill Gookin (42, SDTC) 11m 44y; 6. Thom Hunt (16) 10m 1744y... 31. Wayne Zook (57, SDTC) 9m 442y... Karen Gookin (12, SDTC) 7m 1034y. (from Kaj Johansen).

● **Morro Bay, Calif., June 30**—6-mile: 1. Bob Wallace (23) 31:54; 2. Jim Schankel (18) 32:04; 3. Jim Arquilla (23) 32:07; 4. Terry Williams (19) 32:13; 5. Ben Martinez (23) 32:39... 23. Len Thornton (43) 35:36... 41. Sid Toabe (50) 37:21... 122. Mary Carman (13) 43:30... 156. Bud Robinson (62) 47:05... 166. Virginia Collins (44) 47:32... 231. Paul E. Spangler (75) 56:20. (269 finished, 17 under 35:00, 73 under 40:00).

● **Santa Barbara, July 4**—SPA 15-kilometer: 1. Terry Williams (BHS) 47:27; 2. Jim Shankel 47:43; 3. John Casso 48:59; 4. Pat Miller 49:23; 5. John Schmickrath (22, GWAA) 49:41; 6. Ed Surman (18) 49:45; 7. Ajim Baksh (CCAC) 49:50... 57. George Davall (40) 56:30... 98. Jacki Hansen 1:00:38. (112 finished, 7 under 50:00, 42 under 55:00, 93 under 1:00; from John Brenand).

● **Eugene, Ore., July 4**—Butte-to-Butte 10-kilometer: 1. Ken Moore 28:32; 2. Mike Manley 28:48; 3. Ron Wayne 28:51; 4. Tom Heinonen 29:26; 5. Russ Pate 29:41; 6. Jon Anderson 29:53... 125. Lili Ledbetter 39:58. (290 finished).

● **Portland, Ore., July 8**—AAU Masters' marathon: ages 40-44; 1. Pat Bastick (NY) 2:31:21, 2. Richard Bartek (Cal) 2:31:40, 3. John Rudberg (Cal) 2:41:24; ages 45-49, 1. Howard Miller (Wash) 2:36:04, 2. Roger Wilcox (Colo) 2:43:22, 3. Brian Freeman (Cal) 2:43:42; ages 50-54, 1. Frank Grey (Wash) 3:07:02, 2. Michael O'Sullivan 3:16:40, 3. Robert Bruce (Ill) 3:19:17; ages 55-59, 1. James Oleson (Cal) 2:52:26, 2. John Lafferty 2:55:50, 3. Paul Reese (Cal)

3:05:32; ages 60-64, 1. Urban Miller 3:13:16, 2. Albert Clark (Cal) 3:15:56, 3. Wilbur Arnold (Colo) 4:02:35; ages 65-69, 1. Walt Frederick (Cal) 3:38:23.

20-kilometer walk: ages 40-44, 1. Chris Amoroso 1:46:51; ages 45-49, 1. Justin Gundhoney 1:58:08; ages 50-54, 1. George Lushmark 2:04:49; ages 55-59, 1. Max Gould 1:46:51; ages 60-64, 1. Anthony Medeiros 2:00:12; ages 65-69, 1. Larry O'Neil 2:12:35.

● **San Luis Obispo, Los Angeles, and Santa Barbara, July 13, 21 and 27**—Southern Pacific hour-run: 1. Donald Ocana (23, BHS) 11m 1389y; 2. Ajim Baksh (17, CCAC) 11m 1386y; 3. Fred Maier (23) 11m 1256y; 4. Jim Schankel (19, BHS) 11m 1208y; 5. Ron Kurrle (26, BHS) 11m 878y... 24. Richard Bartek (41, SBAA) 10m 1719y... 107. Jacki Hansen (25) 9m 1266y... 126. Ed Keyser (52, SFVTC) 9m 736y... 150. John Montoya (62, STC) 8m 1748y. (247 finished, 23 over 11 miles, 87 over 10 miles, 149 over 9 miles).

● **Portland, Ore., July 13**—Oregon AAU One-hour run: 1. Wayne Ristau (25) 11m 1544y; 2. Joe Skaja (24) 11m 1240y; 3. Randy Brown (20) 11m 765y; 4. Larry Miller (24) 11m 761y; 5. Jim Pearson (30) 11m 88y; 6. Mike Sylvester (17) 10m 1019y... 12. Bill Beckwith (41) 9m 1634y... 17. Marilyn Paul (36) 9m 1124y. (from Robert Paul).

● **Crater, Ore., July 13**—One-hour run: 1. Kelley Jensen (20) 10m 1501y; 2. Leonard Hill (21) 10m 1501y. (11 finished).

● **Salem, Ore., July 20**—One-hour run: 1. Brock Hinzmann (20) 11m 262y; 2. Bob Ladum (28) 10m 1320y... Bill Beckwith (41) 10m 260y... Diana Ford (25) 8m 211y. (29 finished; from Charles Bowles).

● **Fairbanks, Alas., July 21**—Gold Discovery 17-mile: 1. Michael Just (Elmendorf AFB) 1:31:12; 2. Frank Giannino (Elmendorf AFB) 1:37:14... 3. Forrest May (jr.) 1:38:45... Betsy Haines 2:12:36. (48 finished; from Paul Vanture).

● **Auburn, Wash., July 27**—Pac. N.W. AAU 30-kilometer: 1. Reuben Dias (28, Snohomish TC) 1:42:43; 2. Jim Pearson (30, STC) 1:42:58... 5. Mike Cattell (19), 1:55:28... 6. David Soukup (40, STC) 1:57:56. (15 finished).

TRACK

Recent records:

● **800 meters**—1:43.9 by Rick Wohlhuter (US), Stockholm, Sweden, July 18, tying American record.

● **1000 meters**—2:13.9 by Rick Wohlhuter (US), Oslo, Norway, July 30, breaking world record of 2:16.0.

● **3000 meters**—7:35.2 by Brendan Foster (Great Britain), Gateshead, England, breaking world record of 7:37.6.

● **3000 meters**—7:42.6 by Steve Prefontaine, Milan, Italy, July 2, breaking American record of 7:44.2.

● **2 miles**—8:18.4 by Steve Prefontaine, Stockholm, Sweden, July 18, breaking American record of 8:22.0.

● **440-yard hurdles**—48.7 by Jim Bolding (US), Turin, Italy, July 24, breaking world record of 48.8.

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READERS' COMMENTS

ULTIMATE MILE

Dr. Roger Bannister mentioned ("Looking at People," July 74) that the mile record "could be nearer 3:30 by the end of the century." This sounds like a fairly safe assumption, since all that is needed is for Filbert Bayi to run in a mile against John Walker when both are in peak condition. The two have already run a sub-3:50 equivalent in the Commonwealth 1500. If so much as one-tenth of a second is taken from Jim Ryun's 3:51.1 Dr. Bannister's prediction is fulfilled.

But what he must mean is that the gap between the present record and 3:30 would be reduced by at least half, meaning 3:40.5. I feel this is an improbable happening.

It has taken nearly 20 years to reduce the record from Dr. Bannister's 3:59.4 to an unofficial sub-3:50, this coming during a time of revolutionary training breakthroughs. I find it inconceivable that the next 26 years will show another 10-second drop. Improvement comes slower as zero is approached.

*Dave Bacher
Kirtland, Wash.*

CROSSWORD PUZZLE

Answers to Ed Kozloff's puzzle in the August issue: 1. Bikila. 2. Brown. 3. Endurance. 4. Athens. 5. Louis. 6. St. Louis. 7. Hill. 8. Drayton. 9. Mimoun. 10. London. 11. Kolehmainen. 12. Fukuoka. 13. Gorman. 14. Peters. 15. Cusack.

16. Hicks. 17. Zabala. 18. Clayton. 19. Nurmi. 20. Edelen. 21. Pietri. 22. Foster. 23. Shorter. 24. DeMar. 25. Fifteen. 26. Kingery. 27. Fleming. 28. Pheidippides. 29. Hayes. 30. Anderson. 31. Semple. 32. Zatopek.

Photos (from top): Buddy Edelen, Paavo Nurmi, Emil Zatopek.

PHOTO CREDITS: Page 10—Bernd Kannenberg, by Tony Duffy. 13—Guide ad, by Charles Palmer. 18—Chuck Smead, by David Hill. 32—Cartoon, by Bil Canfield. 34—Cartoon, by Bil Canfield. 41—Arthur Dyson, by Sharran Herriot; Harger family, by Mary Jayne's photos.

PROXMIRE

After reading the interview Senator William Proxmire (July 74) I thought how great it would be if the Senator would consent to running for President of the United States in 1976.

In this age when all the "fat-cats" in Washington are interested only in fattening their own coffers, it is refreshing to read of the Senator's interest in the people's problems and his role in checking government waste.

Although the wealthy donors and giant corporations in quest of selfish "favors" will probably not support him, maybe if all of us runners would unite and channel all of our raw energy into campaigning for this great man, we will finally have a "runner" for President.

*W.W. Gee
Sunnyvale, Calif.*

"PRO" COACHES

I am a 34-year-old high school coach who has been running since high school. I love to run and I love to race. But I'm having trouble finding races. Our local road running association is making every race AAU sanctioned. That leaves us "pros" out in the cold since they want to physically keep non-registered runners from cluttering up their races.

I make about \$1800 coaching cross-country and track, and can't justify to my family not taking the money so I can have my amateur standing to run my 2:55 marathons and 59-minute 10-miles. I have no national desires. All I want to run is locally, and I'd even like to see my name in the results.

What are people doing in other states?

*Rick Kleyman
4425 York Ave. N.
Minneapolis, Minn. 55422*

LANGUAGE BARRIER

I just finished the article "Solid and Liquid Energy" (July 74). I struggled and struggled with all the principles and I still don't know what the hell I'm supposed to do.

What I'd really like from an article such as this is some fairly simple conclusions stated in layman's terms. Some things like: "If you're getting up for a 10-mile run, and you're in average condition for such competition, eat such and such, work out in such and such a manner for so many days prior to the event. Don't do such and such or you'll hurt yourself." And so forth.

Now I realize that the author may not be prepared to lay out such a formula—sorta wants to lay out the facts and

let the runners work it out for themselves. But unfortunately, unless you're a doctor of medicine you just can't do that very well.

Above all, don't let my cantak-erous comments stop you from printing such articles. There are them what likes heavy stuff like this and them what can understand every word. I just beg the authors to make their work a little more usable for the rest of us.

*G.B. Leatherwood
Sacramento, Calif.*

FOR THE RECORD

After reading the results of the 15-kilometer run at Scarsdale, I noticed a mistake. It said there were 278 finishers. On my wall, I have a certificate which states that Stephanie Becker finished 279th (and last). I hope that your mistake will be corrected.

*Stephanie Becker
Mamaroneck, N.Y.*

You mentioned ("Looking at People," July 74) that Les Pawson, one of the inductees into the runners' hall of fame, had won the Boston marathon twice. If you check the records, you will see he won it three times: 1933-38-41.

*Les Pawson
Pawtucket, R.I.*

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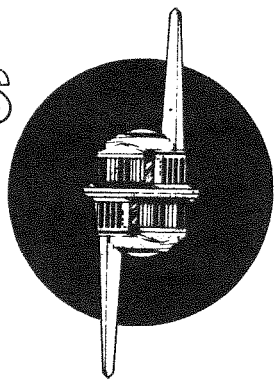
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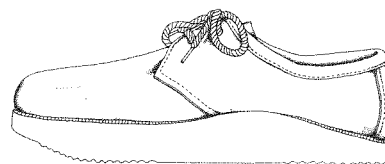
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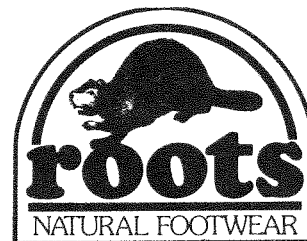
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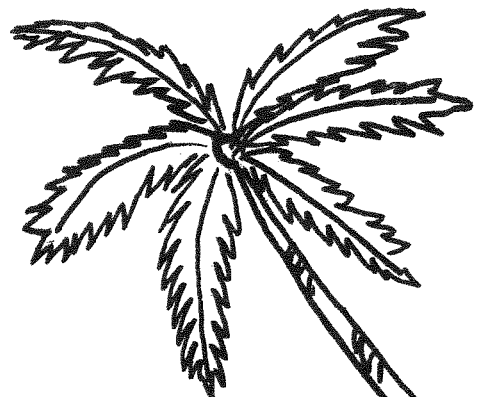
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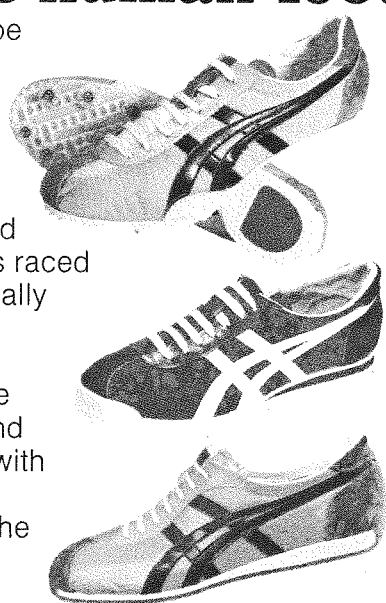
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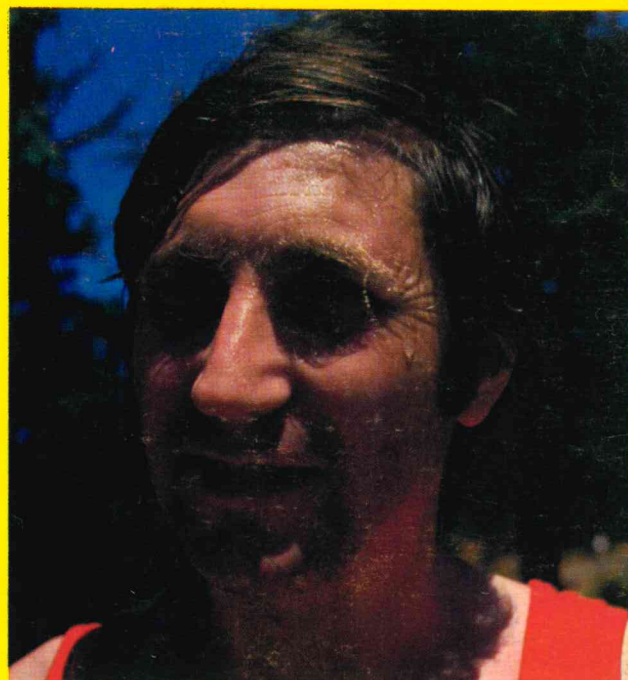
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