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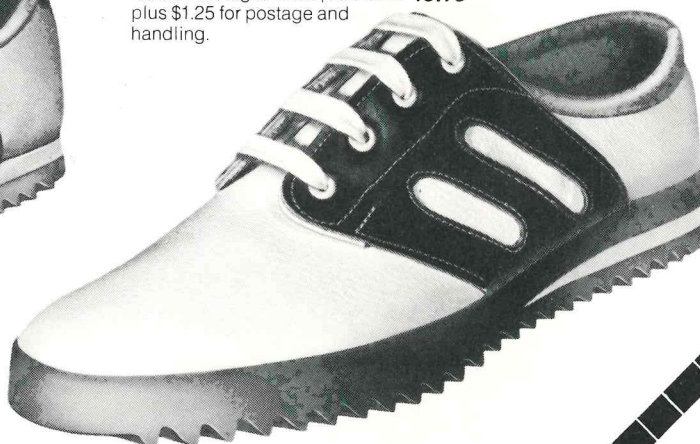
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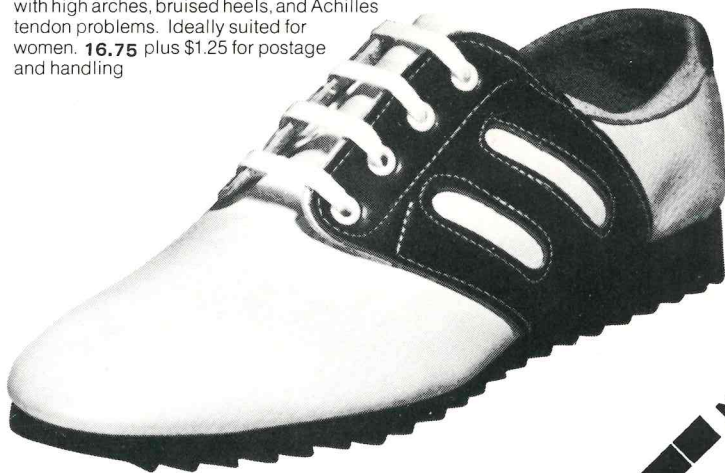
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# RUNNER'S WORLD

Volume Ten — October, 1973 — Number Ten



**COVER:**  
Andy Hornbaker and Roger Wilcox practice hill racing at its extreme—up Pike's Peak. Hornbaker set a masters record for the run. (Tom Perkins)

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## FROM THE PUBLISHER

If you are thinking about running a marathon and you are not quite sure of your conditioning or your desire to do so, just listen to this man's story.

Joe Runner walked into one of our Starting Line Sports shops right after a recent marathon in which he had run. He looked tired and he told the manager that he really felt bad. He started feeling bad about 15 miles, and by the end of the race he was really gone. But he wanted a new pair of shoes and he purchased a pair of Tiger Bostons. He left.

Two months later he walked into the store and said he wanted to return the shoes. The shoes were in very good shape. In fact, they had never been worn. We asked why.

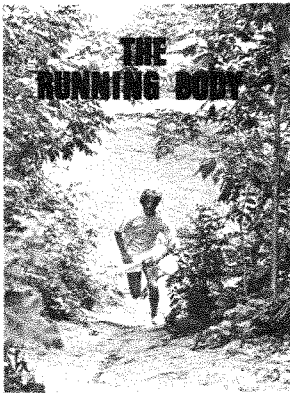
It turned out that he got home and started thinking about how he felt and about running in general. He decided that the marathon he had run was not all fun, and yet everyone had been telling him that this was one big climax to running. He didn't like that kind of climax and decided to hang it up.

He may decide to start running again, but the way he talks, he won't. He probably wasn't that much into running, either, but he was enjoying it. Now he is not running.

So, to make a long story short, I don't think just anyone should run a marathon. I have run eight of them and I wasn't in shape for any of them. In all, I felt pretty bad and many times I was thinking if it was worth it or not. However, when I run a distance I am really ready for I never feel this way. During these races I do hurt, but it is a good hurt—the same kind of hurt I would also feel in a marathon if I was as prepared.

Running is fun and we should keep it that way. Is it worth just making it through 26 miles 385 yards and then get so discouraged that you stop running? However, if you are ready to run one both mentally and physically, of course do it.

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Few runners can say. Most know more about their car's engines than they know of their own inner workings. Yet the processes going on inside themselves are at the root of fitness and athletic success.

Many of the physiological processes can be controlled, or altered, or at least lived with more comfortably. But first one has to know what these are. It isn't easy. Most of the machinery is invisible, and wrapped in the mysterious language of the scientist.

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What explains it? How can a country whose entire population wouldn't half fill New York City produce top runners one after another? What's the secret?

The writer, Matti Hannus, says there are no secrets as far as technique is concerned. The Finns have adapted Arthur Lydiard's methods to the situation. These methods can apply anywhere, and Hannus tells what they are.

The real secret is the enduring tradition of Finnish runners: the country, the atmosphere, most of all the personality of the Finn. These are seen through stories of individual runners from the pre-Nurmi to post-Viren and Vasala eras.

Until now, most of these stories have been locked behind a little-spoken, complex language. Matti Hannus, a Finn himself, offers the most complete English study on this amazing country.

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# BIGGEST, TOUGHEST, OR BEST?

**C**ompetition among races is like competition among individuals. To a point, it is healthy. It is healthy if it strengthens the competitors, and brings more out of each than they could produce alone. The healthy point is passed, though, when competition diminishes either or both.

As their number grows, US long distance races are competing with each other—for runners and for attention. Usually the competition is healthy. This is a word of caution to the minority that go beyond that.

This is about the Bigger-than-Boston fantasy, and the "Est" Syndrome. It's about races that want so badly to be "more than just another race" that they end up being less.

Bigger than Boston. We could fill half of this column with names of marathons that have tried to outstrip the classic and have failed. They've failed because they've missed the point of Boston.

It didn't set out to become a classic. That marathon started smaller than most local road races do now. It never has had much of a budget. No international stars are flown in at the Boston AA's expense. The prizes aren't much.

Boston's secret is its longevity, a tradition that has grown richer through the years. There will never be another Boston because no new race can overtake Boston's 77-year head start. No amount of money, no amount of recruiting, no array of prizes can age a race instantly.

The "Est" Syndrome is related to Bigger-than-Boston. It applies to those races which persist in promoting themselves as the "toughest race in the world," the "biggest race in the world," the "longest" or the "fastest."

What does it all mean? It means that as races get more competitive, it takes more hills, more rough terrain, more people and longer distances to stay ahead. And in the end when the hills are so steep, human traffic is so heavy, or distance is so long that we can't run, it means nothing.

Races are to be run, and they are for the runners. Races that start with the intent of becoming spectacles miss this point.

Big-company sponsorship is the coming thing in long distance racing. In theory, this support is valuable to a once impoverished sport. But what hidden costs are yet to surface?

What kinds of results do sponsors want for their money? How are they wanting to twist the sport in order to meet those demands? What happens to the money if the race doesn't produce?

What happens, for instance, to the Keokuk marathon, sponsored by Ajax Widget Works, if this event isn't outdrawing Boston three years from now? Where will the \$10,000 budget be then?

We welcome the new support that distance races are enjoying. But we fear the possible consequences of this. One recent example indicates this fear is justified.

A high-spending affair in the East drew unexpected criticism from influential members of a local running club. The president said he questioned the wisdom of spending thousands of dollars on a single race, which this year would draw no more than a few hundred runners.

Instead, he said, why not spread the wealth? Use the same money to carry on a solid year-round racing, developmental and educational program touching thousands of runners. The big race went on as scheduled.

Competition is healthy when it is on a realistic level, when the competitors are fairly evenly matched. A beginning runner knows he can't expect to start at the top, without a long building period. So why should a race insist on starting there?

## DEFINITIONS

If the present trend holds, there'll be a lot fewer "joggers" mentioned in these pages from now on, and there'll be less mention of "marathons."

It's not that we have anything against the people some people call joggers, or that we're down on marathons. Indeed, these are the lifeblood of our operation.

It's the *words*, the overuse and mis-

use of the words, that are grating us so much that we're using them less and less as time goes on.

"Jog." Say it a few times, in various forms: jog, jogging, jogger. First off, just listen to the sound of it. It sounds harsh, abrupt, mildly shocking. Jog has a jarring, jostling feeling to it.

Listen to the word and think of the images that go with it: overweight men jogging themselves out of their inertia, jogging their flab as they struggle into motion.

Listen to the ways jogger is used: as a Madison Avenue advertising slogan, as an inferior category of athlete, as a label of ridicule and scorn.

We don't need the word jog and its derivatives. It has the ring of faddism to it. It artificially separates us into categories. And we already have a perfectly good word for what we do.

"Run." Run, running, runner. Run-n-n. The word has a nice, smooth, flowing sound to it. It's the perfect word for the activity. It has a rhythmic image. Run is a solid, dignified, old word that has room for all of us. If you're breaking contact with the ground, you're running. A run is a run is a run...

Try this. Say to the next *RW* reader you meet, "Oh, so you're a jogger." Ten to one he'll answer, "I'm not a jogger. I'm a *runner!*" That's reason enough to phase out...uh, that other word.

"Marathon" has the opposite problem. It's such a magic word that it attracts hangers-on. In the last month alone, we've heard of races all the way from four to 185 miles with the word marathon worked into their name.

There are mini- and maxi-marathons, quarter- and half-marathons, super- and ultra-marathons. Too, too many non-marathon marathons.

There is only one marathon. That's the one which is 26 miles 385 yards, no more and no less. Other distances are just as legitimate, and they shouldn't have to leech off the marathon for their glory. Let them find their own name.

Perhaps these are petty arguments over semantics. But words shape the way people think of themselves. And words like "run" and "marathon" shouldn't have their meanings clouded needlessly.

# NEWS AND VIEWS

## Self-Protection

Kaj Johansen's article, "Two Running Encounters," in the June issue has stirred a great deal of comment. Some responses were published in August. Here is a last word from Johansen in his own defense.

I feel constrained to reply to those who have offered rebuttals to my descriptions of primitive but effective solutions to canine and human harassment of road runners.

Reader Fanelli would rather heap invective and obscene gestures on his tormentors. He and I appear to disagree on methods only. For me, though I can hurl billingsgate with the best, I find this solution both uncouth and ineffective.

Reader O'Neill, on the other hand, raises the unpleasant and entirely appropriate sceptre of the legal consequences of pedestrian self-protection. Unfortunately, he offers no further solutions beyond a whimsical tale of a successful compensatory litigation involving a hostile dog with a well-to-do owner.

For me, as a civilian, I am a standard pathetic bleeding-heart regarding dogs, kids and people in general. Once out on the road, however, bitter experience as the unwilling target of verbal abuse, rocks, bottles and vehicles aimed in my direction has taught me a distinctly survival-oriented paranoia. I'm not the only one, either.

"The dog, it seems, is the major nemesis of distance runners—dogs and the sort of guy who likes to drive beside you on the road going 'Hut! Hut! Hut!' (He made) the rueful observation that a runner's reaction to hecklers is often violent and excessive.

"Jack Bachelor is one of the mildest men I know. But I've seen him go berserk when people bother him. Me, too. Once a couple of guys stopped at a red light after bugging us, and we ran right over their car, over the top and across the hood, and kept going. Sometimes it's been worse than that... Maybe it's the

adrenalin we generate. We don't bother them. Why should they bother us?" (New York Times Magazine, Feb. 15, 1973)

Thus spake Frank Shorter. This greatest of contemporary distance runners has been the target of so much abuse in his own home town that for a time his family reportedly was forced to ride *armed escort* during his training runs.

The syndrome of tormenting those who do not conform to the standard American slob image is well recognized by all of us who do very much running on the roads. And I'll wager a tort to a tourniquet that for every purse-lipped display of legalistic pecksniffery about the jurisprudential consequences of protecting oneself on the public thoroughfare, there are a hundred abused road runners who empathize with my description of the way things really are.

From Kaj Johansen

## Walking's Fate

Elliott Denman, a newspaper reporter from New Jersey, was a 50-kilometer walker with the 1956 Olympic team.

Race walkers, those third-class athletic citizens, are about to be trod upon again, if what I read is true. The word has gone out in various European publications that race walking's future in the Olympic Games is dim. (It seems that this same word is slow in getting out to the US international leaders, or perhaps the word has indeed reached them and they do not seem to feel any action is necessary.)

The race walkers, at this stage, know not where they stand. One report had it that the International Olympic Committee (IOC) recommended elimination of the 50-kilometer walk and retention of the 20 only for the 1976 Games. Another had it that both distances were out and the Olympic distance was to become a compromise—30 kilometers. Another report had it that these were only the "thoughts" of the IOC, and that the final decision rested solely with the International Amateur Athletic Federation (IAAF).

Whatever the case, race walkers are justifiably on edge these days. They would indeed like to know if the sport has an Olympic future.

We hear that the IOC has added women's rowing and women's basketball to the Games. Fine. But apparently to get the women rowers and basketball players into the Olympic Village, some-



Munich 50K bronze medalist Venyamin Soldatenko. (Shearman)

one has to be evicted. Who else to evict but those race walkers?

These race walkers are the people (1) who are true amateur athletes, who basically appreciate small favors and who aren't in the habit of using Olympic gold medals as springboards to professional careers; (2) who do not demand national subsidization to continue training; (3) who did not cause a single "incident" over rules, procedures, judging, etc., at Munich, which cannot be said for almost every other event on the 1972 program; (4) and whose sole driving *raison d'être* is to gain the ultimate athletic honor of competing in the Olympic Games, which can hardly be said for at least half of the other Olympic participants.

These race walkers, if required, don't even demand a slice of time at the Olympic Stadium. They would be very happy to perform in their 20- and 50-kilometer races on an enclosed park course. A five-kilometer circuit would be just fine, and I hear that one is already established at Montreal for just that purpose. No traffic need to be tied up. Just give us a five-kilometer circuit and we'll have our races.

This could be a big plus for the Olympic organizers. If the Olympic Stadium capacity is to be reduced drastically, as I hear it is to cut costs, then at least the Olympic organizers can present one event "free"—to all those shut out of the stadium. These visitors can go home knowing they saw at least one Olympic start and finish "live."

Race walkers are track and field's most discriminated-against minority. It's about time for our own civil rights bill.

From Elliott Denman

# Fit for Football

Russ Harris directs the Aerobics Activity Center, a branch of Dr. Kenneth Cooper's fitness complex in Dallas.

Dr. Kenneth H. Cooper and his staff at the Aerobics Center have been evaluating and training individual professional football players during the past off-season. And Dr. Cooper reports that many teams are now incorporating some Aerobics-type conditioning for a number of reasons:

- Delay in the onset of fatigue, and hopefully a reduction of injuries.
- Improved performance in the third and fourth quarters.
- Improved performance in the later games of the season.
- Prolonged professional careers.

Prior to participation in the Aerobics conditioning program, athletes received a complete physical examination which includes a maximal performance stress test. This measures performance while exercising, can uncover hidden disease and measures the body's ability to consume oxygen.

Most well-conditioned athletes, such as quarterback Roger Staubach of the Dallas Cowboys, have high endurance capacities and low body fat, Cooper found. Just before he reported to the Cowboys' training camp this summer, Staubach's performance on the treadmill charted him in the upper 3% of evaluations (over 3500) done at the Aerobics Center. His lung capacity was 7.1 liters—approximately 140% of predicted. And at a weight of 193 pounds, he had 10.78% body fat—15% being ideal for athletes.

During the off-season, Staubach supplemented his usual weight training program with Aerobic conditioning at our center. Once he achieved a level of three miles in 21 minutes and two miles under 13 minutes, frequent interval training was added. This included five half-mile runs at 2:45 and 440s at 70 seconds.

After this training, Dr. Cooper pronounced Staubach "in superb condition which should enable him to perform at his optimum level." Cooper believes that with physiological evaluations of athletes, a more scientific approach can be taken to developing the proper conditioning programs.

For example, a maximum per cent body fat could be established for each player based on his position instead of arbitrarily picking a scale weight in pounds, which often is misleading. Also, mini-

mal standards on the treadmill stress test, based on the athlete's specialty requirements, could be determined.

According to Cooper, conditioned defensive backfield men should endure 25 minutes on the Balke Stress Test, which would indicate a maximal oxygen consumption of above 56.0 milliliters per kilograms per minute. Such a performance would correlate with a nine-minute 1½-mile run. Cooper would classify offensive linemen as "highly conditioned" based on a 22-minute treadmill performance, correlating with a 10:15 time for 1½ miles.

From Russell Harris

## Scenic Ypsilanti

Sid Gendin is a professor of philosophy at Eastern Michigan University in Ypsilanti. This is his contribution to the series on sites and sights.

Some people may think that Ypsilanti cannot compare to San Francisco, Chicago and all those other towns that have been getting free publicity in *RW* recently. But they are wrong. Ypsilanti has a running spot that compares favorably with any in the world. Ypsi—as the natives call it—is the home of Eastern Michigan University. Eastern Michigan is the home of Bowen Field House, and Bowen Field House contains the town's only 220-yard indoor track. This is *the place* to run.

Let me describe its charms. First of all, it has a brightly lined border so that no one ever gets lost. I have never heard a tale of any Bowen FH runner getting lost on the course. Secondly, it has a roof which is in pretty good condition. Even in the worst rain storms, the careful runner, by picking his lanes, can go for miles with nary a raindrop falling on his head. Thirdly, there are two strategically-placed water fountains. Distance runners hardly need to be reminded how nice it is to have these around.

### THOUGHTS ON THE RUN

Running means more than moving from here to there. Its real meaning lies in the experiences en route: places and people, sights and sensations, pains and pleasures. The thoughts of one runner, Joe Henderson, capture the essence of the running experience. Guaranteed to spark your thinking.

116pp., \$2.95 from Runner's World, Box 366, Mt. View, Calif.

But I have saved the best for last. Most distance runners have a very deep aesthetic sensibility, and when they do their running they love to breathe deeply and enjoy communion with nature. Here Bowen FH is unsurpassed! There are no trucks giving off their foul fumes, no hungry Doberman Pinschers trying to put you on a crash diet by removing 10 pounds of ugly flesh from your legs, no stupid wisecrackers to tell you that if God had meant people to move fast he would have invented the bicycle, and no distractions of any sort to keep you from your communion.

And what communion you can have! Four absolutely magnificent walls bound the track on the east, west, north and south. These walls start near the roof and are breathtakingly long, reaching all the way to the floor. None but philistines will fail to appreciate that. Each wall is very different from the others. For example, the long east wall stretches along the backstretch and, if that weren't enough, actually has all the field house and university records posted on it.

A visit to the east wall is an absolute must for the Ypsi tourist. Many times have I watched with the greatest pleasure, of course—many persons whom I would not have suspected of being statistics nuts staring at the big board for five minutes with their heads lifted up like sun worshippers. Every runner is sure to accept the challenge of seeing how many records he can memorize as he comes around each lap.

The east wall is the greatest, naturally, but believe me you shouldn't sell the others short. I could rhapsodize about them interminably. But every real runner owes it to himself to come here and see them for himself. I don't want to prejudice his imagination with my own descriptions. But I must mention briefly the west wall which has a very big door through which members of the Eastern Michigan University track team are constantly passing. Once in a while I feel like asking one of them where he is going, but I am too embarrassed. I am afraid one of them will say he is going outside for a run and the silence with which I would have to greet that answer would be too much of a strain for us both.

Finally, I should mention that although 10 miles on this track can be run in a standard 80 laps, those who have not quite gotten the hang of this delicious experience can run in the sixth lane and cover the distance in 69 laps. But that is like cheating yourself out of 11 delicious candy bars.

From Sid Gendin

# DOUG SCHMENK



Doug Schwab photo

At 5'3", 110 pounds, Doug Schmenk is by his own admission an unlikely looking national champion. He feels that because of his small stature people have never really taken him seriously as an athlete. Here again is another fine example of how wrong appearances can prove to be.

It is awfully hard not to take him seriously now. His winning time of 2:15:48 at the national AAU marathon makes him the seventh fastest American marathoner of all-time. His time is the 14th fastest ever run by an American.

This takes on even added significance when one reviews the highlights of his high school and college running career. At Westminster High in southern California, Doug ran a 4:37 mile and managed a 10th place finish in a cross-country league meet. At Cal State Fullerton, it was pretty much the same story. He finished 110th and 90th in his two NCAA college division cross-country meets.

Looking back on that time, it is clear now to Doug that the distances were too short. What he lacked in leg speed, he more than made up for in dedication and perseverance. His first marathon, as a high school junior, was a 2:56 effort. Fifteen marathons later, he has demonstrated a steady and remarkable improvement—which, as yet, shows no sign of leveling off.

Doug, at age 22, has just completed his student teaching assignment and is currently doing graduate work in math at Cal State Fullerton. He runs for the East Los Angeles Track Club.

**RW:** I don't recall seeing all that much publicity about your win in the national championship. Do you have any feelings about that?

**Schmenk:** Yes, I have to admit it did bother me that I received so little publicity. After all, this was the biggest race I've ever won, and you always like to have others know that you've accomplished something.

I wouldn't be totally honest if I did not say that glory is part of the reason why I run the marathon. But it's hardly the sole reason. I can think of several others. It's an outlet for my emotions, a way of relieving

tension, and a challenging and self-satisfying way to prove to myself that I have what it takes. In fact, now that I think about it, all of my friends are runners, too. You might say that running is more than just a sport to me, it's also my social life.

Because of these reasons, even if I didn't get a shred of publicity, I surely wouldn't stop running because of it. It fills too many other needs for me. My goals in running do not necessarily depend on the amount of publicity and recognition that I get.

**RW:** What sort of specific long-range competitive goals do you have?

**Schmenk:** My primary goal is, of course, to make the 1976 Olympic team in the marathon. Besides the marathon, I generally think of most races in terms of training. I don't get seriously psyched up for a 10-mile race, for instance. In the future, I'd like to try and run a good three-mile or six-mile, but only because I think that being able to would really help my marathon. I have run 13:42 (for three miles) and I'd like to be able to run close to 13:30 and 28:00 (for six). The mile is a lost cause. I only ran 4:37 in high school, and my best mile now is still only 4:16.

I think that I have the potential to run around 2:12 for the marathon. I feel that if I keep going the way I'm going now, it will just come. Things didn't work out at this last year's Olympic Trials, but then they didn't work out for a lot of people. Anything can happen in a marathon, but you still have to have the goal of doing well.

**RW:** What happened at the 1972 Trials?

**Schmenk:** I dropped out at about 20 miles. Prior to the Trials, I had built up my mileage to over 200 miles a week. I felt good and was running well. That is, until I got a stress fracture in the metatarsal area of my foot. I lost a lot of valuable training time and wasn't able to do the kind of conditioning that I would have liked to.

I can't really say that I was disappointed because I didn't really have any

high expectations about making the team. I think that if I would have had the chance to get in the proper training, things might have been a little different. But who knows? So many guys bombed out last year. The only thing to do is to start preparing for next time.

**RW:** And what does that involve?

**Schmenk:** Well for me it's a matter of running a lot of miles, and being able to do so consistently. I don't really consider myself a particularly hard trainer. I run hard sometimes, but hardly all of the time.

Like today, for instance, I ran about 13 miles in the morning, at a moderate effort. This evening, though, I felt good and went out and ran hard fartlek for 11 miles in 61 minutes. I try to run hard, really hard, at least three times a week. I don't do much interval work. I generally get on the track about once a week and do something like 20 quarters in about 68. I also do a lot of hills. I think that they're really important.

I'm pretty much convinced that I don't have any more talent than anyone else. I think that my success is due mostly to the fact that I train consistently. I haven't missed a workout in over a year.

**RW:** What sort of weekly mileage do you do?

**Schmenk:** Right now I'm running about 150 miles a week at six-minute per mile pace. I consider this the mileage that I need in order to simply maintain. I'm not shooting for any races, and this is just working on base conditioning. The important thing is that I stay consistent.

On occasion, I'll try to run over 200 miles in a week, but I don't believe that it's something you should do for long periods of time. Two hundred miles a week takes at least three hours a day of



pure running. It takes so much time that, when I'm doing it, I almost can't stand myself.

During the Christmas holidays this year I ran 240 miles during one week. I'm not sure that that really helped me, except maybe psychologically. I just wanted to get my all-time high. I built up to it and had weeks of 180, 180, 230 and then 240. When I hit 240, it seemed as if all I was doing was running. During that period, I also logged my longest training run ever—40 miles, non-stop, in four hours. After that, I had a week of 170 and another 160. I ran 2:18 at the Mission Bay marathon (in San Diego) off of that.

**RW:** That seems like an awful lot of miles to run the week before a race.

**Schmenk:** I don't generally like to downtrain before a race. At Mission Bay, for instance, I ran 21 miles the day before the race. I don't think that it takes that much out of me. I admit that it might do me some good to rest more, but I just don't feel right if I don't run every day. The week before the nationals (AAU marathon) I ran 140 miles, with 17 of them the day before.

I get pretty nervous if I don't run, and I'm always afraid that my stomach is going to get a little messed up if I miss a day or change my procedure too much.

I just like to keep everything regular.

**RW:** I take it then that you don't believe in special diets.

**Schmenk:** No, I don't go on any special diets. I'm living at home now, and I pretty much eat what I get. In fact, it seems that the more consistent I keep things, the better I run.

For instance, I don't even like to stop for water during a race. I've never yet, and I don't really plan on it in the future. I'm sometimes afraid that if I take a drink, it might mess up my system and increase the possibility of getting a sideache. A lot of people say that you have to keep taking in liquids. Maybe they're right, but I don't think that passing up the water stops has ever hurt me. It surely didn't hurt me in the nationals.

**RW:** In retrospect, how do you feel about that race?

**Schmenk:** The AAU race went really smooth. I was never really in any trouble. I could have run a little bit faster, if I was pushed, but not much faster. I was more concerned with staying relaxed and holding on to my lead than I was about running an all-out effort.


The only time where I had any doubts was at about 12 miles. The pace just felt like it was too fast for me. At

that point, I said to myself that it was all or nothing. I decided to stick with it. Sometimes you can feel bad for about a mile, but if you just hang on and tolerate it, you'll start feeling a little better. This is what I hoped would happen, and it did.

When I did find myself early in the lead, I remember feeling pretty emotional about it. With all the work I've put into running, it's hard not to be. The initial realization that I was finally going to win a big one was almost more than I could handle. For a while, I thought that I was going to start crying or something. Then, when I did finish, it was no big thing. I was surprised that I was so calm.

**RW:** Besides the obvious thrill of winning a national championship, is there anything that particularly sticks out in your mind about that race?

**Schmenk:** Now that you ask, yes there is. With about two miles to go, I ran by a group of spectators. I had a good lead and was running well. To my surprise, instead of clapping or shouting encouragement, they wanted to know where the leader was. I guess that they thought that I'd been lapped or something. I sometimes get the feeling that people look at me, see how short I am, and conclude that I'm just not the type that can be a good runner. I enjoy proving them wrong.



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# RUNNING AWAY FROM WORRIES

*Movement is strong  
medicine, capable of  
draining off destructive  
tensions or producing  
painful withdrawal  
symptoms.*



# NATURE'S OWN TRANQUILIZER

"Years ago," Aaron Sussman and Ruth Goode began their book *The Magic of Walking*, "scientists were predicting the evolution of a race of men without legs, thanks to the automobile. Nowadays, we know they were wrong. It is not our legs we are losing. It is our minds."

Movement, self-propelled movement, is strong medicine. With it, the body stays healthy. Without it, we deteriorate. We know that. Less obvious is the effect movement has on the mind. The head apparently reacts to this kind of exercise the same way the heart does.

We really can run away from our problems—the everyday ones that cause pressure, tension, anxiety to knot up our insides and put us in black moods.

Earlier in the year, Associated Press carried a story on Eileen Waters of San Diego. Eileen, 27, is one of the few American women ever to finish a 50-mile run.

Several years ago, Eileen's younger sister committed suicide. Eileen herself was understandably despondent over this family tragedy. To compensate, she ate compulsively. She started running to lose the weight she'd gained. She found that she lost her despair as well.

"Running just keeps me going," Eileen says, "gets me out of my bad moods. It makes me feel good to be alive. I want to reach out to the world now, to touch it. I'm smiling a lot now."

Running can have a measurable effect on draining away self-destructive tension and conflicts. Frank Greenberg wrote in the September 1970 *RW* about using running in the rehabilitation of mental patients. Paul de Bruhl tells later in this section how running made prison more tolerable for him. Nearly a hundred members of Synanon, most of them trying to shake hard-drug habits, ran the Bay-to-Breakers race in San Francisco in May.

Movement is strong medicine. Two doctors from the University of Southern California reported in a recent *Medical Tribune* (May 9, 1973) that a simple 15-

**"Running offers one of the few chances left to get our feet on the ground—for the sake of our heads."**

**PHOTOS ON PAGE 8 by John Cooper (above) and Doug Schwab (below).**

minute walk was more relaxing than a tranquilizer.

Herbert de Vries and Gene Adams studied 10 patients, ages 52-70. All showed above average anxiety tension. During one test, the patients took the drug meprobamate in a 400-milligram dose. Another day, they took a walk vigorous enough to raise their heart rates above 100 beats a minute.

The walk had the greatest calming effect, as measured by reduction of muscle action and heart rate. Fifteen minutes of exercise soothed the patients for an hour after they'd stopped walking. And there were no harmful side-effects.

Tests with more vigorous movement running, have shown even better results. Doctors from Purdue and Stanford Universities tell of their work later.

Running's calming quality is rooted in our heredity. Our ancestors reacted to threats in one of two ways: by preparing to stand their ground and fight, or preparing to set sail out of the danger area. Either way, the body's chemicals were marshalled for heavy work.

Man still faces threats. In a crowded, fast-paced world, he faces more than his ancestors did. But instead of fighting or fleeing, he goes home and has a martini, or worse. His chemicals have still prepared him for action. But there hasn't been any. The tensions, the urges to fight or flee, may be dulled temporarily by drugs. But the urges stay bottled up inside.

Since modern life offers so much in the way of tension and so little in the way of release, we have to work hard at relaxing. Running is one way. This sounds contradictory—running and tensing muscles to reduce tension. Yet a number of physiological investigations have shown that relaxation is most pronounced after muscular work.

Drs. Paul Insel and Walton Roth of Stanford say, "The most profound muscular and mental relaxation cannot be achieved by just trying to relax. The deepest relaxation, as measured by electrodes inserted in the muscles, follows a period of voluntarily increased muscular tension."

While the body is working, the knot inside is loosening.

Like many other strong medicines, though, running can build a dependence amounting almost to addiction.

One woman distance runner facing a divorce writes, "As the mental pressures grew, I was running compulsively for the first time, really running hard, twice a day. It was helping me keep my head together."

A man threatened by a career-ending injury kept hobbling on. He says, "I have done a complete about-face on running—

from a non-necessity to a must."

When a runner is hooked in this way, sudden withdrawal can be devastating. Tracy Smith, world indoor record holder for three miles, hurt an achilles tendon in 1969 and was out of heavy running for two years.

He says he was "deeply depressed. I had been training for three hours a day, and to go from that to nothing was terrible. I would wake up shaking, and the doctor said it was actually a physical withdrawal. I had so much mental and physical energy and nothing to use it up."

Smith joined the Los Angeles Police Department "because I needed something demanding and exciting." When he started running again, Tracy resigned from the force.

For those who have developed a craving for it and those who are temperamentally suited to start, running is good and healthy medicine. If they're already relaxed when they begin, they can feel even better.

Running offers one of the few chances left to get our feet on the ground—for the sake of our heads.

## HITTING THE HIGH POINTS

BY PETER JOHNSON

Psychologist Peter Johnson works as a therapist at the Chartiers Mental Health and Mental Retardation Center in Bridgeville, Pa.

Mental health is an experience of general well-being—being "together" with oneself, with others and with one's environment. Running and mental health are interrelated. Running is good for mental health, and the reverse is also true.

Any physical conditioning can be emotionally helpful. Just ask a recently converted runner who has lost 20 pounds what his new "religion" has done for his morale. Yet there seem to be other, less obvious reasons why running is especially important to us. Observe the morale of a runner who is sidelined by an accident or an illness. You may have had this experience yourself. You're bogged down with a certain restlessness and a subtle depression—a real down.

This past April was to be my long-imagined trip to Boston, my first marathon under three hours and all that. But four bouts with the London flu sapped all my strength. I attempted my once-a-week intervals on the track but could hardly do one 440.

I was saying things to myself like, "Aren't you lazy today?" "I've heard of the aging process, but this is ridiculous," "I'll never do that three-hour marathon," to just plain "Damn it!" A few days later, when I couldn't do the road work I had planned, a certain lethargy set in and my friends noticed I wasn't my real self. Does this sound familiar?

As a psychotherapist and a runner, I needed to make some sense out of that experience. Why and how did running become so critically important to me? Back to the question of "Why do people run?" I suppose there are as many answers as there are people who run. An *RW* feature, "The New Frontier" (April 73) had some nice articulations on running as an aesthetic experience—and that's how I like to think of running. But many experiences can be aesthetic, so what are the deeper roots of running?

Those of us who are compelled to run can find other compulsions, can't we? In a sense, running can be seen as a compulsion. But can't you think of dozens of worse habits to have? All compulsions serve a psychological function of binding other impulses within ourselves.

I guess you'd say that in a roundabout way running acts out other drives that we may not even be aware of. These drives will vary from runner to runner. Frequently, they have something to do with aggression or anger. It is understandable that in a dog-eat-dog, dog-eat-runner society we all have much more anger within ourselves than we want to know about. And running can do a nice job of working some of that tension out.

So when the London flu comes on the scene and you can't run, what's being done with all that anger? Sometimes—especially if we don't find another outlet fast—the anger stays within us and then starts to do a real job on one's self. And that's what depression is all about—doing a job on ourselves with our own anger.

I want to pose two other ideas. First, it seems that many people find a special identity in running. We like to be known by our friends as being a "runner." "Runner" seems to include an entire ideology that has something to do with ecology, being healthy and being youthful. I much like to think of myself as "runner," a special type of human. And when the flu comes along, I feel that maybe I'm not allowed to call myself "runner." It feels as though I have lost an important part of myself, and that is most depressing.

In a new book entitled *The Natural Mind*, Andrew Weil says that all people have an intrinsic need to experience "altered states of consciousness." We need

to get away from the "straight thinking" of everyday life so that we can do some "stoned thinking." When we're doing "stoned thinking," our bodies have a different chemical balance, we feel high, maybe like a child again. There are alcohol highs, acid highs, meditation highs and, of course, running highs.

Getting into a good rhythm along a country road and gathering enough breath to "moo" back at a cow is some stoned thinking that I enjoy everyday. But when I can't do that because of an illness or something, I do too much straight thinking. That can be boring, and eventually depressing.

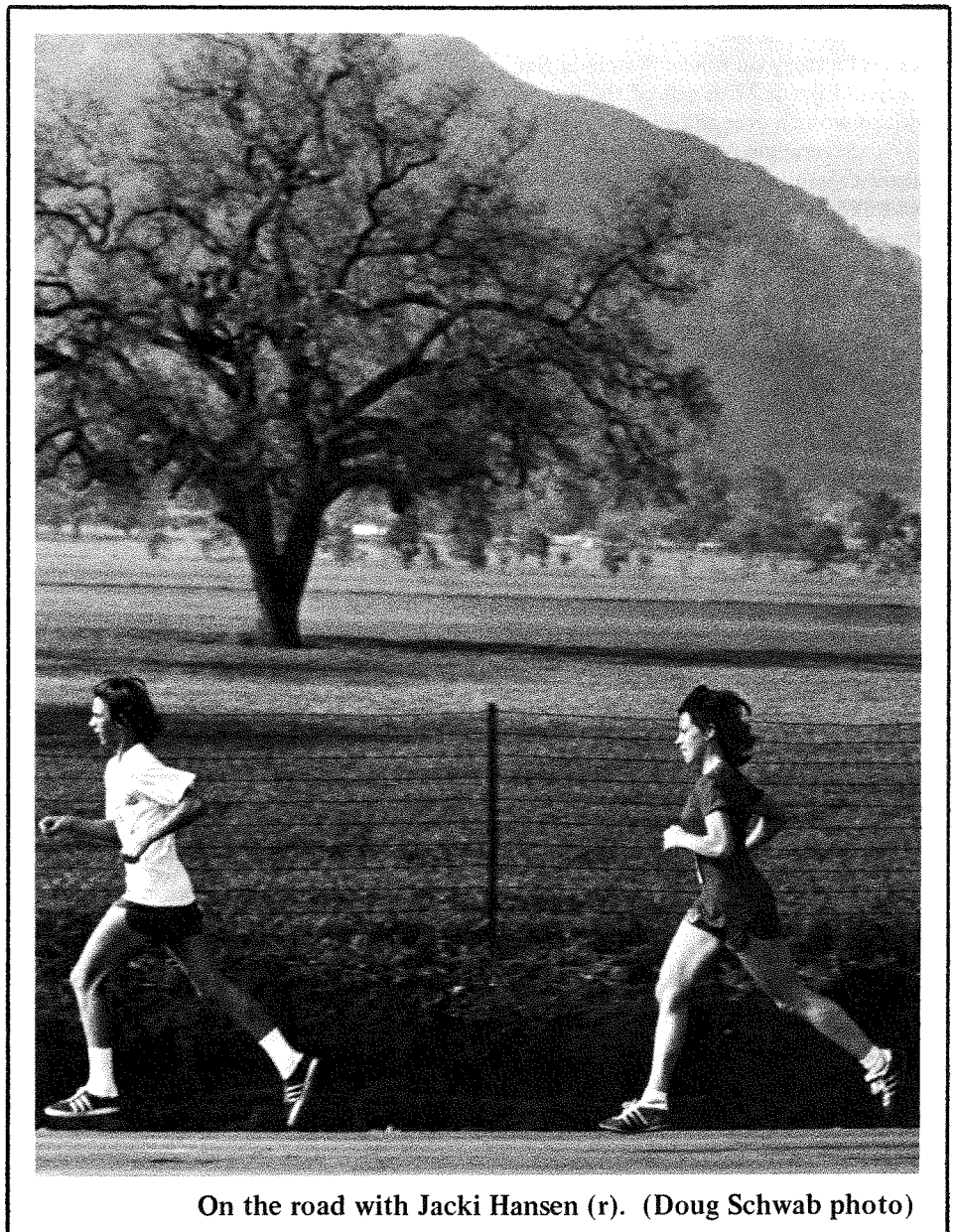
Running is a very important part of many peoples' lives. The highs can be exhilarating and the depressions painful. The three hunches I have that explain the runners' withdrawal syndrome are:

the internalization of anger, the loss of a special identity and the loss of a natural high. Your own theory is as valid and probably as interesting.

## WORKING HARD AT RELAXING

At a certain age, which carries with it a certain level of inactivity, fitness begins eroding like plowed soil under spring rains. The age is about 25, a Canadian study has concluded (see "Running Shorts," Sept. 73). This is the age when physical activity has tailed off drastically and pressures have mounted, creating a most unhealthy combination.

The body deteriorates more quickly between ages 25 and 35 than at any other



On the road with Jacki Hansen (r). (Doug Schwab photo)

time in a person's life, according to the Fitness Institute of Toronto. The doctors there didn't study their subjects' minds, but most likely tensions increased proportionally during this "dangerous decade."

"Chronic tension states," say Drs. Paul Insel and Walton Roth of the Stanford University Medical Center, "are known to be associated with numerous bodily malfunctions such as ulcers, migraine headaches, asthma, skin eruptions, high blood pressure and even heart disease."

The symptoms on the psychological side are no prettier. "Irritability, touchiness, moodiness and depression." Running, the doctors say, "has been shown to relieve some of these symptoms." Running does this by pulling the plug on pent-up tension.

The relief is familiar to anyone who runs. After most runs, there's a feeling of relaxation, even euphoria. But how real is the relief? Has the tense state really been changed, or does the runner simply feel good because he thinks he should? Is he really relaxed, or does he just feel the kind of relief one gets when he quits hitting himself on the head with a hammer? If the effects are real, are they fleeting or lasting?

Conventional opinion among those who deal with the hardcore disturbed is that exercise at best does nothing positive to relieve symptoms, and that it may cause setbacks.

"Until recently," *Executive Fitness Newsletter* reports, "most authorities accepted the theory that exercise increased anxiety and that persons suffering with anxiety neurosis should avoid physical activity. The theory is based on the fact that an injection of lactate (a form of the fatigue product lactic acid) into the bloodstream results in anxiety symptoms."

"Inasmuch as it is common knowledge that exercise caused the release of lactate into the bloodstream, the obvious conclusion was that exercise caused an increase in anxiety." So exercise was ruled out for these patients.

Medical literature contains the results of another study on the mental benefits of running, or lack of same. The authors (W. P. Morgan, J. A. Roberts and A. D. Feinerman, "Psychologic Effect of Acute Physical Activity," *Arch. Phys. Med.*, 52: 422-425, 1971) attempted to measure the benefits, if any.

They tried two experiments. In the first, subjects exercised at heart rates up to 180 beats per minute—at least 90% of maximum. Immediately afterwards, they completed a "depression adjective checklist." Exercise had no bearing on the scores.

In the second list, subjects divided

into exercising and non-exercising groups. The exercisers ran for 17 minutes on a treadmill. The others rested. Afterwards, there were no differences in the anxiety and depression scores.

Could the good feeling after running be all in our heads? Perhaps. But read on.

Dr. William P. Morgan of the University of Wisconsin tested the lactate theory—the idea that exercise negatively alters the body's chemical balance, making it more tense. He found that the lactate released by exercise differed significantly from the chemical substance that had been injected into anxious patients, and that exercise-induced chemical changes led to a "definite decrease in anxiety levels in normal and neurotic individuals of both sexes." (*Medical Tribune*, March 21, 1973)

And regardless of the objective findings in the other set of tests, the individuals insisted they did "feel better" after their runs.

Walton Roth, a Stanford psychiatrist, found the same thing when he observed other men who run with him. "Of the group of 30 regular exercise participants," Dr. Roth says, "about three-quarters, describe a feeling of increased well-being that follows exercising. Often this is described as relief from tension, or a feeling of calmness."

"One person felt no need for his scotch and water if he had exercised in the afternoon. Another claimed that he was able to think more clearly and felt less tired than when he missed his exercise."

Dr. Roth added, "Probably the fact that the majority had extremely sedentary occupations enhanced the effect of exercise. The extreme lack of physical activity during the working day seemed to result in a motoric restlessness and tension."

Note two key points in what Dr. Roth says. These are *regular* runners he has observed, and they are otherwise *inactive* men in fairly high-stress occupations. They are medical professionals. Since they do prolonged, moderate running most work days, Dr. Roth has been able to see long-term results in them. The results with this kind of running and this kind of individual seem to have been good.

Drs. A. H. Ismail and L. E. Trachtman of Purdue University had similar suspicions as they watched faculty members puff their way into shape.

"We were fairly sure," they write in the March 1973 *Psychology Today*, "that our paunchy, sedentary, middle-aged academics were undergoing personality changes, subtly but definitely... By the time they reached the end of the (conditioning) program, they seemed to be interacting more freely and to be more relaxed. Their whole demeanor seemed to us to be more even, stable and self-confident."

Ismail and Trachtman checked their "off-the-cuff impressions" over a four-month period, using refined physiological and psychological methods. At the beginning, some of the men could run no more than a quarter-mile. At the end of the test, though, they were averaging two to three miles a day, with some going five.

First finding: the runners progressed through easily-identified states as they gained fitness.

- **Timid**—Feared heart attacks and ran cautiously, though all had been cleared medically.

- **Sadistic**—"After a while, their fears subsided, and several turned into mildly sadistic types and took great pleasure in defeating others in foot races."

- **Masochistic**—"Instead of getting the greatest satisfaction from beating oth-

### PERSONALITY CHANGES FROM EXERCISE

Results of the Purdue University tests by Drs. Ismail and Trachtman, as reported in the March 1973 *Psychology Today*. Scores are from the Cattell 16 Personality Factor Questionnaire, completed at the start and finish of the four-month test.

	High-Fitness Group		Low-Fitness Group	
	Before	After	Before	After
Emotional Stability	6.4	6.1	4.6	5.4
Imagination	7.3	7.2	5.3	6.1
Self-Sufficiency	6.5	6.6	6.4	8.0
Guilt-Proneness*	4.2	4.1	5.4	6.1

\* Lower scores on "guilt-proneness" indicate increased self-assurance.

ers, a man would try to better his own performances, by driving himself hard and subjecting himself to greater stress."

Next, Drs. Ismail and Trachtman tried to test personality changes, using the Cattell 16 Personality Factor Questionnaire. They separated the subjects into two groups: high-fitness (at the start) and low-fitness.

The Cattell Questionnaire rates 16 traits on a 10-point scale. (Above six is "high," below four is "low.") The doctors chose four traits as most important to this study: (1) emotional stability; (2) imagination; (3) self-sufficiency; (4) guilt-proneness. Runners, they figured, should score well in the first three, and have a low score in the fourth (which is an indication of self-assurance, or a lack of guilt-proneness).

The high-fitness group scored as expected, and was consistent from start to finish. "Imagination" was their best feature. The low-fitness group's ratings soared in the first three categories—particularly in "self-sufficiency," where they shot past the more seasoned runners. The beginners' emotional stability "increased so markedly that there no longer was a significant difference between the groups," the authors said after the four-month test.

One thing puzzled them, though. The doctors thought guilt-proneness would drop during exercise. "Persons with very high scores on (this factor) tend to be worried, anxious, depressed, easily overcome by moods, prone to depressions," they say.

This score should be low, as it is in the fit men. It wasn't. It actually increased as the test went on. Why? Isn't this one of the things running should cure?

Ismail and Trachtman explain that this may have been a temporary effect. The beginners may have realized the extent of their unfitnes for the first time, and they felt guilty about not being able to get in shape immediately. At any rate, the scores of the regular runners show what can happen once they're settled.

## ESCAPING THE MIND'S PRISON

BY PAUL DE BRUHL

Paul de Bruhl currently is serving a 17-year term in the Lorton (Va.) Reformatory after being convicted five years ago of armed robbery. This article is the result of correspondence with

**Dave Theall, president of the District of Columbia Road Runners Club.**

Hidden behind towering brick and concrete walls, or enclosed within barbed-wire security fences is the prison runner. He is the man who would freeze the hands of the clock, who would dare the calendar to advance beyond a certain day, month, or year. He is the man who bids time to violate the laws of the universe and to wait—wait until the day the gates open and permit him to resume a meaningful existence. The prison runner would re-enter the free world the same age as he left it, minus the effects of time upon his body.

The world of the prison runner is one of restriction and monotony. Restrictions are often placed upon the days and hours he may have use of the track. His clothing is limited to the blue denims issued by the institution, and often he must run in heavy work boots instead of the fleet, lightweight running shoes available on the outside.

The monotony of the same track, the same scenery over and over again without change (sometimes for years on end) can tax even the most imaginative mentality. The mind is called upon to create new backdrops, different horizons and artillery-free perimeters.

For the handful of prisoners who run year-round, the privacy and solitude of the track is their reward after a day of empty toil, official indifference and sloppily prepared meals.

Prison was the logical conclusion to the type of life I lived. Beset by personal tragedies, I shucked all the effects of a careful and conscientious upbringing to lead a life characterized by mayhem and destruction. I was a truly anti-social person, so much so I was committed to a mental hospital for a spell while my cases were pending. I even won acquittal by reason of insanity on two indictments, and served over two years of this sentence at the hospital before coming to Lorton.

I have now served 4½ years of my term, and I go up for parole early next year. My prospects for release are good. Everything that has contributed to what I call my "re-socialization" has been prescribed and carried out by me, with no help from prison employees. My changed attitude towards society, my program of education, even my concern for the condition of my body are all positive steps instituted after deep introspection and personal examination.

Prison life is the lowest form of human existence. It twists pliable people into dangerous, irrational mental in-



Steve Barr

valids, and thus accounts for some of the violence you read of in the papers.

There are approximately 1200 men in my medium security section at Lorton. At the peak of the running season, the summer months, 50 or 60 men run regularly. We have access to a dirt track which measures three laps to the mile.

As the result of a recent visit to the institution by members of the DC Road Runners Club, interest has increased. The superintendent has granted permission to organize a track team. All institutions utilize organized programs and activities in an effort to take the prisoner's mind off his circumstances. In this manner, officials are able to keep trouble at a minimum.

But I'm not too concerned with the track team. I'm not an organizer or recruiter. In prison, you mind your own business and stay out of the affairs of others, and in this manner you survive. You don't attempt to impose your activities upon anyone. You "convert" by setting a visual example, and then by making yourself available to inquiries.

I run three or four miles a day. I run to stay alive, to stay young and healthy. I run to fill the time. Idleness is the curse of the prisoner, so he must fill his day with as many activities as possible.

I run for myself. I run against myself, against my own limitations. I'm not really interested in proving that I'm faster or stronger than the next man on the track. I meditate a lot when I run, and I cherish the privacy the track affords. Competitive running is a contradiction to the peace and quiet of solitary running.

Competitive running is a rarity in most prisons. The type of running here is man against himself. The runner knows that after a certain point is reached during a workout, the body begins to feel the effects of fatigue. Just when it seems as though a limit has been reached, some force or hidden reserve materializes that allows him to grind out that extra mile.

It is at this point that the runner achieves the height of satisfaction, for he realizes that all limits can be surpassed through discipline and determination.

All over the country, in every state, city and county, there are prisons and jails with men running for the same reasons I do. Take an interest in these men. Perhaps in some instances you will be instrumental in easing the return to society of one who has come to grips with his problems.

## THE TRAUMA OF STOPPING

"It should come out," the doctor said after looking at the ugly bump on the runner's foot. "If we don't operate,

it'll never get any better. And it could get worse."

The runner gave a resigned shrug, indicating it was okay with him. But he was of two minds about it.

It would be minor surgery, he told himself. The doctor would go in and scrape away a little extra bone. That's all. The procedure is almost as simple as pulling a tooth.

But "minor" surgery is someone else's surgery, he answered. If he's going to take a piece of me, that's major enough, thank you. And I don't walk and run on my teeth.

"A month from now," the doctor said, "you'll be running again." Only a month, the runner said. What's a month beside the years I've already run, and at least that many more I will run if I can get healthy?

What a month is, he answered, is the longest runless period I've had since 1958. And I get withdrawal symptoms after even a day away. Physically, I know I can bounce back quickly from the layoff. But the addiction isn't purely physical.

The doctor didn't trust the runner. And with good reason.

"Normally," he said, "casts are optional in cases like this. But I know runners. I know if I didn't put a cast on you, you'd be trying to run in two days. You'd mess up all the good we've done."

The doctor slapped on extra strips of plaster "just to be sure you don't do anything funny."

Do I get a walking cast, the runner asked.

"No!"

That night the runner was alone

with his thoughts for the first time. A formless terror crept up on him. He tried to move his leg and couldn't.

My God, he thought. I'm trapped. I can't move, and I won't be able to move for weeks. He panicked. He imagined the cast was tightening and shutting off his blood supply.

The runner called the doctor and pleaded, loosen it, please.

The doctor said, "It's not the cast that needs loosening. It's your head. He prescribed sleeping pills.

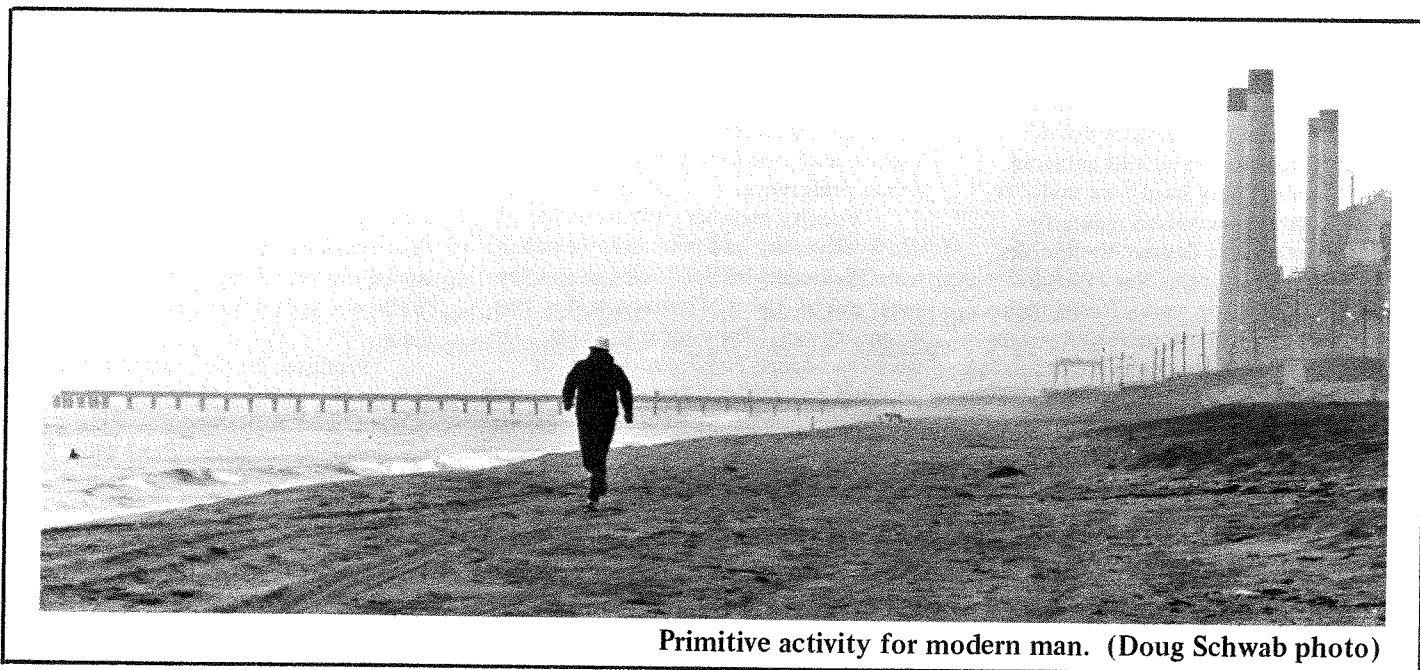
In the days that followed, the runner didn't feel much better. He recalled what he'd seen and read of other runners in the same situation, how they'd built up a dependence on running and had been shaken mentally when it was taken away.

He remembered Tracy Smith, who'd felt "deeply depressed" when he hurt his achilles and couldn't run. He thought of Vince Matthews. Matthews had quit running after the 1968 Olympics but found, "I had a lot of excess energy. I would play basketball and handball in the parks, but it wasn't enough to burn up the energy I had."

The runner thought of his friend, an American record holder, who was now in a mental hospital partly as the result of a sudden stop.

He thought of a letter to Dr. Sheehan at *Runner's World*. "I stopped running in March 1972," the writer said. "The next thing I knew, I was in the hospital suffering from nervous tension and anxiety. What happens to a person mentally and physically when he stops running altogether?"

Sheehan answered, "Your primary



Primitive activity for modern man. (Doug Schwab photo)

problem is the loss of your positive addiction. We distance runners are usually ectomorphs who react to stress with withdrawal. We are ambivalent, moody and unpredictable. Running provides solitude, contemplation and a physical activity we do well."

Sheehan advised, "If you can find another sport with these same features, you may be able to cope. We can keep fit physically with cross-country skiing, biking, back-packing, etc., but this may not be sufficient psychologically."

The runner with the cast tried substitutes. A day after the operation, he crutched around the block. A week later, he was hobbling a mile. Another week after that, he was bicycling at least 10 miles a day.

But he said there was no life in any of these. He did them out of a feeling of obligation, and to keep from going out of his bloody mind. They weren't the same as running, and they weren't enough. They were like an alcoholic drinking coffee, or a junkie taking tranquilizers. He was used to stronger medicine.

There were physical symptoms: Appetite so low he lost eight pounds, even without burning up much food. An all-day drowsiness and listlessness that left him more tired than when he was running. Waking up at four in the morning, twitching and not able to get back to sleep. Chronic headaches and stomach aches.

All these disappeared as quickly as they'd come, as soon as the non-running month was up. Looking back, the runner sees that his reactions were fairly normal ones.

He remembered the study by Dr. Frederick Baekeland quoted in *Practical Running Psychology* (original source, *Arch. Gen. Psychiatry*, Vol. 22, 1970). Baekeland tested the effects of exercise deprivation. The first thing he found was that it was hard to recruit subjects.

"It proved very hard," he said, "to find subjects who exercised regularly and yet were able to deprive themselves of exercise for a month. Notwithstanding the fact that they were offered higher pay than usual, many prospective subjects (especially those who exercised daily) asserted that they would not stop exercising for any amount of money."

He settled for three-day-a-week athletes, who weren't so deeply addicted. Even they showed withdrawal symptoms. The 14 volunteers had "impaired sleep (a symptom of anxiety), increased sexual tension and an increased need to be with others" during the exerciseless month.

"Among other things," Baekeland

said, "exercise is a discharge mechanism for aggressive drive, while it also contributes to feelings of mastery and self-esteem in individuals who regularly seek it out. Hence, with prohibition of exercise it seems reasonable to expect compensatory increases in the expression of other drives, whose gratification would reduce general levels of drive pressure."

The feelings the runner feels when he can't run are normal, maybe even natural. But that makes them no easier to handle when they're happening to him.

## ONLY IF IT'S YOUR CHOICE

BY GEORGE SHEEHAN

Sports programs have interesting and often confusing results. I spoke last year with a runner who was one of eight survivors in a YMCA class of 300 enthusiasts who had signed up the previous year. Yet at the same time tennis had become so popular at my beach club that the beach was deserted and the ocean was used merely for cooling off after a few hours on the courts.

Professor Ralph Harst of the University of Nebraska has reported one reason why such things happen. Harst's subjects were faculty members who appeared from his description to be normal American males. "With the passage of time," he said, "they tended toward increased obesity, less physical activity, unconcern about health and inclination to 'passive' sports."

And, like most of us, when these teachers turned to recreational sports and exercise some were successful and some were not. Some remained in the programs, some did not. Some improved physically, some did not. Harst's findings isolated one significant variable—sports preference.

Faculty members who were in sports that they had personally selected were the ones who persisted and got the most out of them. Emerson said it over a century ago, "Do your own thing." Do your own sport, Harst discovered, or you will do nothing. For many this sport will be difficult to find ("I tried jogging, weight lifting, isometrics, all of them," said a black belt in karate, "but after a while I got bored. With karate I never get bored because I'm constantly learning new techniques.") Others more fortunate have always known this fulfillment ("I've been running since the age of five," said Finnish sculptor Eino in the June issue, "and

I will be running the day I die. It empties you inside to receive nature.")

If sports preference is the key, where is that bred? Is it, as Shakespeare asks of fancy, in the heart or in the head? I think Eino may have the answer. The heart of the five-year old (or perhaps a few years older) still lives inside each of us. Each of us has tasted of the paradise of play in our childhood and that instinct for play never dies. Success then rests with finding the boy in the man, and having found the boy to find his dream.

We are, the bulk of us, in it for the money. The least and best (if Harst is right) we can do for ourselves is to protect the rest of our day from leisure pursuits directed toward making us healthier, more productive and longer-lived wage earners. Our sport should return us to the paradise of play we knew as a child. Whoever played touch football or roller skate hockey or half-court basketball to lose weight or get better marks in school?

"Play," wrote Huizinga, "is something meaningful but not necessary." Unfortunately, the scientists concerned with play—those in exercise physiology, medicine and physical education—take quite a different view of sport and athletics. To them play is necessary for health and well-being but need not have any meaning. Play can be purely mechanical movement and exercise aimed at a particular result. Their programs, therefore, are based on a serious philosophical error and therein lies the reason for their failures.

It is left then to each of us to find our own way—our own, it cannot be said too often, *unique* way; Emerson, who found gardening "narrowing and poisoning," took to long walks and saunterings without apology. We are now in an age that prides in this sort of individuality but fears it. Choosing where previously things were chosen for you has proven to be a difficult and sometimes tragic burden. The margin for error in living is very small indeed. The number of Americans who find themselves working at the wrong job and living with the wrong spouse in the wrong town seems to be multiplying daily.

Professor Harst's minor research effort on the exercise habits of the faculty of a midwest college seems an unlikely place to look for help. But I value his finding that those who chose for themselves succeeded, those who were regimented did not. The answer, he tells us, is this free, inner-determined choice.

And how should we choose? Try to remember what you were like before you were only in it for the money.



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The first article by Paul Slovic summarizes probably the most extensive statistical analysis of a race ever undertaken. At the time he did the study, Slovic was a statistician at the Oregon Research Institute. He is now studying at the Hebrew University in Jerusalem.

On Feb. 24, 1973, 541 runners started the Trail's End marathon at Seaside, Ore. In the preceding 54 days since the first of the year, this group had run more than 100,000 miles in preparation for the event. The runners' training programs were as varied as their backgrounds and abilities. Whereas some had run close to 900 miles during this time, averaging 17 per day, others had done virtually no training.

The casual, unprepared runner is atypical, however. Most marathon runners are quite concerned, if not obsessed with training. Although only a few of them entertain visions of finishing high in the standings, almost all have personal goals: to achieve a certain time, or perhaps just "finish the distance." Training proceeds with these goals in mind.

The amazing thing about this tre-

# WHAT MAKES A MARATHONER?

by Paul Slovic

Norman Bright, a leading marathoner at age 63. (S. Herriot)

mendous expenditure of time and effort is that most of it is fashioned without the benefit of sound factual evidence. Intuition and hearsay, mixed with imitation and eventually modified by personal and sometimes painful experience, serve to shape the runner's program.

This study is a first step in the examination of the relationship between a runner's training program and his performance in the marathon. It reports the results of a survey of runners at Seaside, in which their answers to questions about their training were systematically related to their intermediate and final times in the run.

The Trail's End race is a particularly attractive setting for such a study for several reasons: It draws one of the largest fields of participants in the US, and the runners cover the entire range of experience and ability, from national and international class to novice.

The survey questionnaire was enclosed with the packet of materials distributed to each runner on the morning of the race. Questionnaires were returned at the post-race dinner and by mail. Out of 441 finishers, 178 men and six women returned the questionnaires. (There were not enough women respondents to warrant analyzing their replies separately, and their results were combined with those of the men. There were only a few returns from non-finishers, and these were not analyzed.)

The survey questions provided over two dozen items of information about each runner. Table One presents some basic descriptive statistics on each of these items for the 184 individuals. Included are the maximum and minimum values in the group, the average value, the median, and the 25th and 75th percentile values (denoted P-25 and P-75).

Each of the 184 respondents was assigned to one of eight categories, according to his final time at Seaside. Table Two presents the average values of the various physical and training measures

for runners in each of the time categories. The implications:

- **Ponderal Index:** Runners who finished under 3½ hours were markedly leaner than those who finished after them. Those who finished above 4½ hours had particularly low values on the ponderal index. The average heights in each of the eight groups were quite similar (three-fourth-inch range from shortest to tallest average), but average weights varied from 137.6 pounds in the 3:01-3:15 category to 163.8 pounds in the slowest category.

- **Prior Completed Marathons:** The fastest runners had considerably more experience in marathoning than did the slower runners. Fewer than 20% of those under three hours had not completed a marathon before, whereas over 80% of those in the slowest category had no prior completions. (The high average in the 3:31-3:45 category is primarily due to one runner who had completed 24 marathons.)

- **Miles Run:** As one would expect, the faster runners logged considerably more miles than the slower runners, regardless of whether the period under consideration was a month, a week, or a single run. The slower runners ran a higher percentage of their total miles in February and had the maximum-mileage week closer to the marathon than did the faster runners. Both of these results are indicative of a relatively late start in the training programs of the slower runners.

- **Training Days Per Week:** There is no surprise here. The faster runners, who were covering much more ground in training, were also taking more training days to do it.

- **High School or College Experience:** Eighty-five percent of the runners who finished under 2:45 had experience on a college or high school track team. The percentages are lower for the other groups, and there is no systematic change from one time category to the next as final time increases. About half of the runners over 2:45 had running experience in high school or college.

## *Statistical analysis of the runners at Trail's End draws new answers and solidifies old claims.*

● **Fastest Mile:** It's also no surprise that the fastest marathon runners had the fastest mile times in the past year. Of interest, however, is the generally fast level of times in all categories, and the fact that the average mile times in the two slowest categories were as fast as those in the 3:46-4:00 group.

● **Illness and Injury:** Of particular interest is the finding that the percentage of runners who reported that their training was interrupted by illness or injury did not differ systematically across the time categories.

A statistical technique known as "correlational analysis" was used to generate equations to predict final time in the marathon. The best single predictor was the runner's fastest mile time in the past year. The equation was:

$$FT = .69X - 12.8$$

"FT" is final time in minutes and "A" is fastest mile time in seconds. Thus, for a runner whose fastest mile was 300 seconds (5:00), the equation predicts a marathon time of 194.2 minutes (3:14:12). Another implication of this equation is that predicted final time decreases about 6.9 minutes for every 10 seconds' reduction in fastest mile time.

Correlational analysis was also used to develop equations that included more than one variable. These equations predicted more accurately than any equation having just one variable. Table Three presents the equations found to provide the best predictions of final time.

Part A of the table has equations that include fastest mile as a predictor. In addition to fastest mile, previous marathon experience, mileage in the previous eight weeks, longest training runs, runs 20 miles and longer, and maximum-mileage week were all-important predictors.

Since not all marathon runners have a recent mile time, equations in Part B purposely excluded this variable. When fastest mile is excluded, age and ponderal index also come into play as important factors.

Of particular interest is the finding that having completed a marathon is associated with a 14- (equation one) to 19-

minute (equations six and eight) reduction in predicted final time, independent of the runner's training and ability. It may be that runners who have previously finished a marathon are motivated to improve their times rather than simply "getting through." Or perhaps the experience gives them confidence that the escalating discomfort can be endured.

The presence of longest run and runs 20 miles and longer in the equations that also included eight weeks' mileage and maximum-mileage week indicates that the more long runs taken, and the greater the length of the longest run, the faster the final time—independent of the total or maximum weekly mileage. In other words, longer runs would be associated with faster times even if total or weekly mileage were held constant.

Using equation one for runners who finished in less than four hours, predicted times and actual times differed by an average of 15.3 minutes. Runners finishing in more than four hours were less predictable. The average error of prediction for them was 32.3 minutes.

The results of this study indicate that equations can be constructed to predict performance in the marathon from knowledge of personal characteristics and training variables. These equations predict moderately well, but there are nevertheless frequent and large deviations from predicted and actual performances.

Generalizations from these results should be made with caution, for several reasons. First, the results may be specific to the particular sample of respondents to this survey, who tended to be older and faster than the non-respondents. Also,

**TABLE 1: DESCRIPTIVE STATISTICS OF ENTIRE SAMPLE**

One-hundred eighty-four runners responded—178 men and six women. Only 148 of them reported a fastest mile time. Note that "ponderal index" is height in inches divided by cube root of weight, and is a measure of leanness (higher the value, leaner the individual). All training information, plus injury/illness statistics, apply to the January/February period.

	Minimum	P-25	Median	Average	P-75	Max.
Final Time	2:20	2:57	3:24	3:28	4:03	5:20
Age	13	20	28	30	40	65
Height	4'10"	5'8"	5'10"	5'10"	6'0"	6'4"
Weight (pounds)	74	140	148	149	160	209
Ponderal Index	12.0	12.9	13.1	13.2	14.1	14.5
Years Running	0	2	4	5	7	24
Prior Completed Marathons	0	0	1.2	2.5	3.0	24
Miles Run (January)	0	100	170	181	237	510
Miles Run (February)	9	100	150	160	200	420
Miles Run (Jan. + Feb.)	9	215	328	340	433	890
Miles Run (week prior to race)	0	24	36	37	48	120
Maximum Miles (one week)	9	45	62	63	77	133
Weeks Since Maximum Week	1	2	2.5	2.7	4	7
Longest Training Run	3	14	20	18	21	40
Runs Over 20 Miles	0	0	.9	1.7	2	10
Days Trained Per Week	0	5	6	6	7	7
Fastest Mile (past year)	7:00	5:40	5:07	5:16	4:48	4:12
Illness or Injury	47%	Having a Coach		8%		
Flu	19%	Self-Coached		74%		
Foot or Leg Injury	24%	Coached & Self-Coached		18%		
First Marathon	35%	On H.S. or College Team		56%		

# REQUIREMENTS FOR SUB-3:00

BY DAN MOORE

Dan Moore, a statistician and marathoner like Slovic, looks at the marathon from a more personal viewpoint in the second article. Moore is employed at the Lawrence Radiation Laboratory in California.

Although there is a surfeit of information on how to train for marathons, most of it is oriented toward the serious competitor who expects to run well below three hours. While such articles may be interesting reading for the "fun" runner, he is usually unwilling to follow the rigorous regimens suggested. Here then is advice from the "back-of-the-pack," a runner who considers running a marathon under three hours an admirable achievement. I am neither a fast runner (my best mile is in the 4:40s) nor a very experienced one. I have run only five marathons, three of which were under three hours.

**Qualifications:** These are what I consider to be the minimum qualifications for a three-hour marathoner.

- *The ability to run 10 miles under 63:40.* I arrived at this figure by plotting pace (in minutes per mile) against distances (in miles) on semi-log paper. This method of determining performance times was suggested by W. M. Rumball and C. E. Coleman (*Nature*, Vol. 228, p. 184, Oct. 10, 1970). The graph for a three-hour marathon is shown below.

- *Enough time to run at least 40 miles per week for two months prior to the marathon.* This figure was derived by putting down 10 miles for one day and adding an average of five miles per day for the remaining six days of the week. While I have met many sub-three-hour marathoners who run more than 40 miles per week, I have not met any who run less. (Of course there will be those who will claim to have run under three hours with less training. I'll bet, though, that these runners will have run a lot more than 40 miles per week sometime during the 3-4 months prior to the marathon.)

These are *minimum* qualifications and don't guarantee a sub-three hour performance. Naturally, it will take some time for a beginning runner to meet these qualifications (it took me a year). Older runners may be able to compensate for their inability to meet requirement one by

TABLE 2: AVERAGES BY TIME CATEGORY

	FINAL TIME (NO. OF RUNNERS)							
	2:20- 2:45	2:46 3:00	3:01- 3:15	3:16- 3:30	3:31- 3:45	3:46- 4:00	4:01- 4:30	over 4:30
	(26)	(33)	(16)	(31)	(19)	(26)	(17)	(16)
Ponderal Index	13.4	13.2	13.5	13.2	13.0	13.0	13.1	12.8
Completed Marathons	4.5	4.3	2.5	1.9	3.1	.8	1.2	.4
First Marathon	16%	12%	38%	29%	32%	65%	35%	81%
Miles Run (January)	300	252	175	147	179	122	96	98
Miles Run (February)	240	192	164	144	158	121	103	115
Miles Run (Jan. + Feb.)	540	444	339	290	337	242	199	212
Miles Run (week prior to race)	50	43	40	35	39	31	28	23
Maximum Miles (one week)	92	80	64	57	62	48	42	42
Weeks Since Maximum	3.2	3.4	2.8	2.2	2.9	2.5	2.0	2.2
Longest Training Run	22	22	20	18	19	16	14	13
Runs 20 Miles & Over	3.0	3.2	2.0	1.1	1.7	.5	.4	.2
Days Trained Per Week	6.5	6.2	6.2	5.5	5.5	5.3	4.4	4.8
Fastest Mile: Past Year	4:39	4:56	5:06	5:13	5:31	5:32	5:45	5:52
Illness or Injury	46%	48%	62%	45%	47%	42%	35%	56%

non-finishers were not included in the results. And the results may be somewhat specific to the particular marathon course, and the weather on race day and during the preceding two months.

One way to test the general application of the present results would be to repeat the survey on another group of marathon runners. This should be done. If it is, questions about mood or feelings during and after the race, and about diet would make an interesting addition to the survey.

**Author's Note:** *I am indebted to Ralph Davis, director of the Trail's End marathon, for his assistance in the collection of data for this study. Thanks also to the runners who took the time and trouble to complete the survey questionnaire.*

*I plan to write an additional article on race pacing, based on the survey, for the 1974 Marathon Handbook.*

*For more details on the project, write to me at RW.*

TABLE 3: EQUATIONS TO PREDICT MARATHON TIME

Abbreviations include: Mile—fastest mile time (in seconds) within the last year; Prev—previous completed marathon (if yes, multiply by one; if no, zero; do not multiply by total number of completed marathons); 8 Wks—miles run in previous eight weeks; Long—longest run (miles) in the eight weeks; 20+—number of runs 20 miles and more in the eight weeks; Max—most miles in one week during the eight weeks; PI—ponderal index; Age—age in years.

Note in the calculations of Part B that you're working with minus figures. For instance, -20 and -10 = -30, not -10.

**Part A. Equations including Fastest Mile as a predictor variable:**

1.  $FT = .51 (\text{Mile}) - 14.3 (\text{Prev}) - .05 (8 \text{ Wks}) - 1.22 (\text{Long}) + 94.0$
2.  $FT = .51 (\text{Mile}) - 15.7 (\text{Prev}) - .05 (8 \text{ Wks}) - 2.86 (20+) + 75.6$
3.  $FT = .51 (\text{Mile}) - 14.9 (\text{Prev}) - .27 (\text{Max}) - 1.34 (\text{Long}) + 95.0$
4.  $FT = .51 (\text{Mile}) - 16.0 (\text{Prev}) - .31 (\text{Max}) - 3.31 (20+) + 80.2$

**Part B. Equations not including Fastest Mile as a predictor:**

5.  $FT = -19.2 (\text{PI}) - 18.3 (\text{Prev}) + .7 (\text{Age}) - .07 (8 \text{ Wks}) - 1.7 (\text{Long}) + 504$
6.  $FT = -21.2 (\text{PI}) - 19.5 (\text{Prev}) + .7 (\text{Age}) - .07 (8 \text{ Wks}) - 3.8 (20+) + 511$
7.  $FT = -19.2 (\text{PI}) - 18.6 (\text{Prev}) + .7 (\text{Age}) - .5 (\text{Max}) - 1.4 (\text{Long}) + 507$
8.  $FT = -20.7 (\text{PI}) - 19.0 (\text{Prev}) + .7 (\text{Age}) - .5 (\text{Max}) - 3.7 (20+) + 511$

training more than the minimum under requirement two.

**Training:** I really don't think that training methods play a very important part in performance of this level. What is important about training is to enjoy it. When preparing for a marathon, I like to take a long run (10-20 miles) on the weekend. But if I am doing something else more interesting, I don't worry (much) about missing a run or two.

These long runs are usually much easier if you run with someone. Let's face it, the last few miles of a 20-mile run aren't usually much fun. But it is nice to have someone to commiserate with after the run. It is hard for someone who hasn't run 20 miles to have much sympathy for someone crazy enough to do it.

I usually take it easy the day after a long run so that I can recover. Running hard or long several days in a row usually results in some sort of injury, especially if the training is a departure from the usual level of running.

**Diet:** As for a training diet for a marathon under three hours, I advocate none. The protein-rich and carbohydrate-enhanced diets are for the serious runners. I have tried a few of the variations and found that my performances did not change. I used to eat a giant breakfast prior to a marathon and tried to remind myself at 20 miles when everything started to wobble that now was the time for the big breakfast to take effect. Now I eat toast and honey, mainly so I won't be waiting for that breakfast steak to come to my rescue.

**Mental Conditioning:** My conditioning consists of thinking "marathon" every time I run. Since I cannot run a marathon under three hours if I stop to walk, during those last few miles of a long run I tell myself "this is the last three miles of a marathon. It's 2:40 so all I need is another 20 minutes at this pace." The important thing is to keep running even in practice runs. If you can't make 20 miles without walking, you won't make the marathon distance under three hours.

**The Marathon:** Basically, the marathon can be divided into three parts: the beginning, the first five miles or so until a constant pace is established; the middle, which lasts as long as running at the constant pace is comfortable; and the end, those last few miles where every step hurts and the mind is constantly arguing with the body over whether or not it is time to quit.

● *Beginning*—The most important

goal during the beginning of a marathon is not to run too fast. I start well back in the pack to avoid being trampled by those who like to cover the first five miles in 30 minutes. I am convinced that the easiest way to run three hours is to run at a constant pace.

Some runners like to get "money in the bank" by covering the "easy" miles at a fast clip. The idea is that when they start to get tired they can afford to slow down, even below the 6:52 pace, and still come out under three hours. What usually happens to these runners, though, is that once they slow down they start getting passed. Those passing them are sub-2:50 marathoners and they aren't nearly as tired as the three-hour candidate who went out too quickly.

Basically, the problem is mental. It's hard to keep up any kind of pace when you are thinking, "Here I am exhausted and these guys are just getting warmed up. What happened?"

My strategy is to start relatively slowly and wait for the "rabbits" to come back to me. Passing people after 20 miles of running provides a tremendous mental lift that can keep you running longer at a good pace.

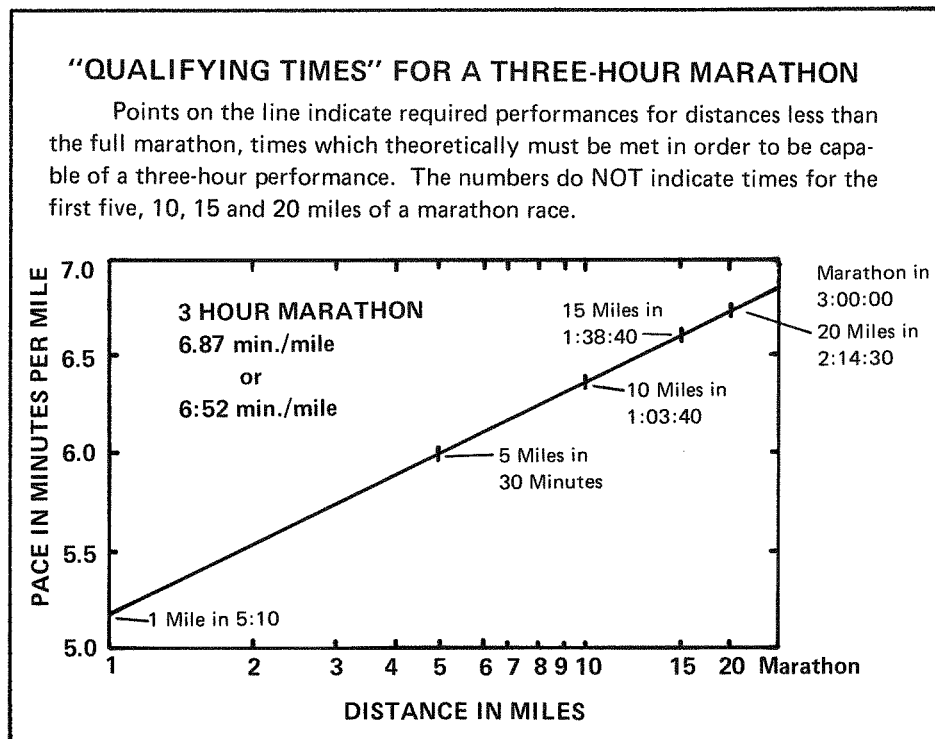
● *Middle*—After settling into a comfortable pace, the main concern of the middle part of a marathon is preparing for the arrival of the painful last part. I am convinced that it is much easier to keep my reserves up than it is to try to replenish them. This is accomplished by taking a drink every 3-5 miles, even when I don't feel particularly thirsty. I suppose

that the good marathoners have mastered the art of drinking on the run, but when my throat is dry I find it easier to walk while sipping my drink. There is no worse feeling when you are tired than choking up on some sticky substance slopping out of a paper cup.

● *Ending*—When that final stage of the marathon arrives, and there is no mistaking it, the mental conditioning is called into play. You must convince yourself, by lying if necessary, that the absolutely worst thing you can do is to walk. This makes you run at least to the next aid station. (It's okay to walk while drinking.)

Another mental aid in running those final miles is to set yourself short-term, easily accomplished goals. I tell myself, "Run at this pace to the next tree," or, if I am running alongside another runner, "Stay with him up this hill." Another useful tactic is to convince yourself, "Gee, I'm not nearly as tired now as I was at this point in the last marathon I ran." If cramps suddenly appear, the best way to get rid of them is to change your stride, but keep running.

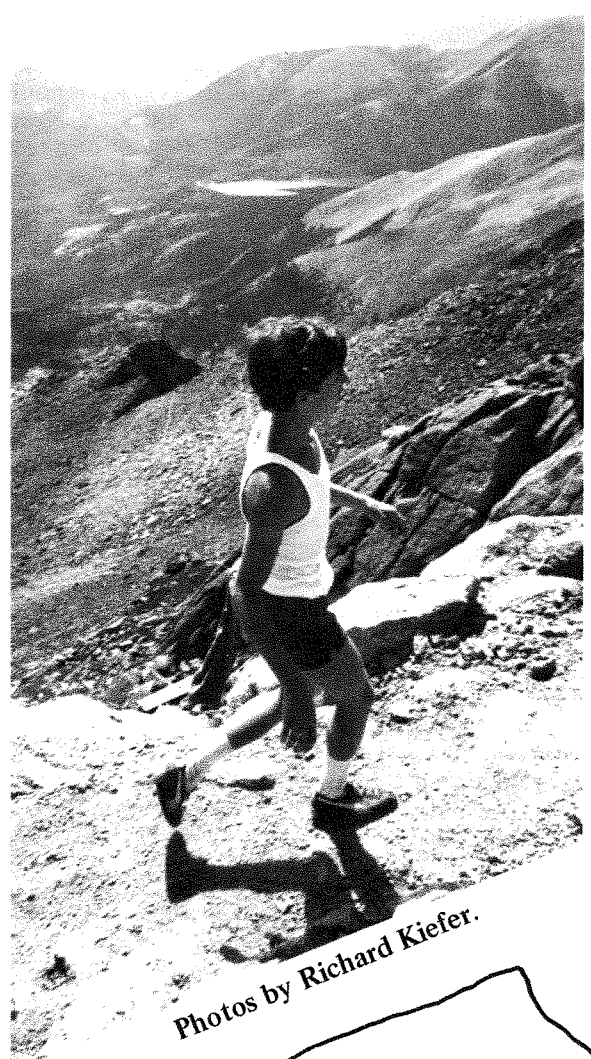
Finally comes that point where you can't even set any short-term goals. Your legs keep cramping and you are panting with each step like a tired dog. You just keep saying over and over, "Run, run, under three hours if I don't walk." If the conditions are right, the day is good and the running gods are smiling at you, the time on the clock when you finally stumble across the finish line will read less than three hours.



*"They shrink for no man, so people who run on them have to do the adapting."*



Ultimate test of hill technique—Pike's Peak.



Photos by Richard Kiefer.

## GEARING YOURSELF FOR HILLS

*"These high wild hills  
and rough uneven ways  
draw out our miles  
and make them wearisome."*

Shakespeare  
(from "Richard II")

Few runners enjoy hills. Some like the advantages hills give them in relation to their opponents. Some like being able to say to the hill when it's behind them, "There, I beat you!" But few like the actual running of hills.

In racing situations, straight and level running is enough of a drain without having to climb and to descend. Hills bring in new and unusual demands and rhythm. Shakespeare never ran a cross-country or road race, but he knew. He

knew what hills do to distance and to work capacity.

Hills distort both of them. They make going up seem longer and harder than the same distance on the flat. They make coming back down seem shorter and easier than it should be. And the ease of the descent never fully repays what has been lost on the climb.

Dr. David Costill, noted exercise physiologist from Ball State University, puts away the assumption that uphills and downhills cancel each other out. Costill writes in the *Journal of the American Medical Association's* special sports issue (Aug. 28, 1972) that a "hilly terrain will significantly impair a runner's performance."

Costill tested runners on a 6%

grade—a mild hill rising only six feet every 100. They ran at eight minutes per mile—well below racing pace for them. Costill says the uphill running required 35% more energy than the same distance on the flat. “Running down a similar grade, however, only reduced the effort by 24%,” according to the doctor.

The net loss of energy on even this moderate hill work is 11%. The gap might be expected to widen with steeper inclines and faster speeds, or on repeated hills.

Soviet researchers A. Pisuke and A. Nurmekivi (*Modern Athlete and Coach*, July/August 73) timed runners on repeated climbs up a 150-meter hill with about a 10% grade. Heart rate responses to the hill were compared with those of a flat run—same distance and time.

Early in the session of 10 repetitions pulse rates on the hills were running 10-15 higher than normal at the end of the climb and also after a minute's recovery. By the end of the session, the hill running was producing counts 20-25 higher than on the flat.

The readings were above 200 after the run, and still over 180 after a minute's rest. Counts like this normally are only found in all-out speed bursts on the flat.

It's no surprise, then, that hill running is sometimes called “speedwork in disguise.” Regardless of the slow pace of going up and the relative ease of coming back down, the physiological demands and benefits are much the same as fast running on the flat.

Uphill running is heart-pounding, heavy-breathing, muscle-driving work, much like sprinting. Running down stretches out the stride. Hill running is so valuable in this regard, in fact, that a number of noted athletes and coaches endorse it as a training technique.

Arthur Lydiard uses it as a transitional phase between long distance running and racing. His runners emphasize driving action and knee lift going up, relaxation and stride length going down.

Lydiard says, “The hill running phase is one of the hardest and—although the shortest—the most important phase of my training system.”

Tony Benson thinks uphill sprints improve his finishing kick (“Profiles,” Sept. 73). Jim Bush's quarter-milers at UCLA charge up hills most of the training year (“Inside UCLA's 440 Factory,” June 73). And the Soviets, those tireless experimenters, have data to support these alleged training benefits (“There's Speed in Those Hills,” March 73).

The benefits of training on hills are well-established. But we're more concerned here with racing. And racers

are more concerned with immediate demands than with ultimate benefits. The object is to get over the hills as quickly as possible, without squandering too much energy.

This almost always involves making compromises with the hill, and fighting it only to a point. Hills demand proper respect. They shrink for no man, so people who run on them have to do the adapting.

How to adapt? The way you would if you were riding a 10-speed bicycle in the same hills. You know you can't ride your bike in high gear all the way. You have to shift, pump, coast and brake in tune with the terrain, all the while maintaining a fairly constant pedalling rate and effort level.

If you try to attack uphill stretches in high gear, you grind to a halt from the strain of pumping. If you free wheel it downhill, you run the risk of flying out of control. Gears and brakes regulate effort and speed.

The human body has a far wider range of gears than the 10-speed bike, and a much more effective braking system. The trick is knowing how and when to use this machinery.

Few good articles have been written on hill racing technique. An exception is Al Lawrence's piece in an early issue of *Distance Running News* (July 66) and few runners saw that.

Lawrence, an Australian, ran for the University of Houston in the late 1950s. He was a medalist at 10,000 meters in the Melbourne Olympics. While in the US, Al twice won the difficult AAU-NCAA cross-country double. (The meets are run within five days of each other.)

Lawrence writes that hills “should be negotiated as quickly and as smoothly as possible. I have found the easiest method to do this is the same way a car does—by the use of different gears.”

The analogy is slightly different—he talks of cars instead of bikes—but the point is the same. Coming into a hill on a bike, you feel a pulling at the knees and thighs. You shift down to make pedalling easier and to maintain a constant stroke rate. You bend lower over the handlebars to make better use of the arms.

“In the case of the runner,” Lawrence says, “it is done by the use of different techniques (comparable to gears) at different stages of the hill. The use of different techniques will not only allow smoothness in the negotiation, but will also allow a runner a period of relaxation with the change of style.”

Lawrence's advice on uphill running is this: “On first beginning the as-

cent of the hill, drop your arms low. Now begin a vigorous pumping action parallel to your plane of motion rather than across the body. The knees should be consciously lifted high, although stride should still be kept short. The body should develop a slightly more forward lean than in normal running form.”

The idea is not to maintain a constant speed, but to hold to constant *effort*. Attempting to stick to five- or six-minute speed may mean you're going at four- to five-minute effort. You can't afford it. So you shorten your stride to a more economical one, the way a bicyclist gears down.

Shift back up at the top to match the terrain and your own state of freshness. Lawrence calls for a short breather. “Relax slightly,” he says. “Allow the arms to dangle momentarily at the sides—for about three strides.” Then shift to cruising gear.

On the downhills, runners can relax a bit—much as the bicyclist does—and recover as gravity carries them. But don't forget the brakes!

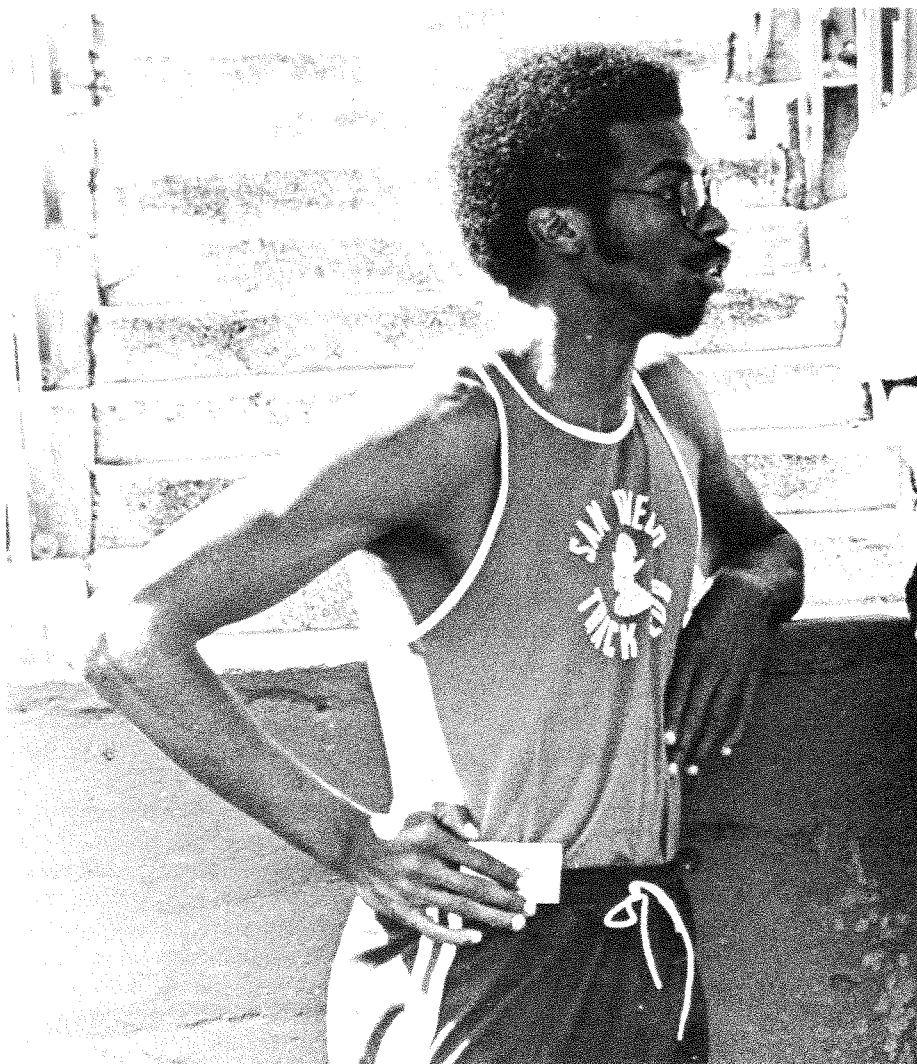
Lawrence says, “Many runners consider that once they have reached the top of the hill, the toughest part of the job is done. They should realize that contained within the so-called ‘easy’ portion of the hill lie many pitfalls for the unwary.

“The easiest, and the most obvious, mistake is to run down the hill too fast. It is far more desirable to sacrifice a few yards by running slower and coming off in good shape.”

The Lawrence Method: “Beginning the descent, the runner should drop his arms lower again, lean forward (this allows the weight of the body to assist with the passage downhill) and keep the stride close to the ground. If the hill is unduly steep, it may be desirable to land heel first so as to provide a slight braking motion. The runner should feel he is holding something in reserve as he descends.”

Al says only release the brakes on the last few yards, which allows rolling onto the flat with great momentum and power. He repeats, “It is absolutely essential for the runner to hold himself together while descending the hill. The runner who comes down with arms and legs flailing in the air might get to the bottom of the hill quicker, but he will have taken so much out of himself with the effort that he is easily passed by the runner who has held himself together.”

To attack every hill without slowing, to spurt at the top, to pull out all stops going down is not the way to stay together. He who pretends he can flatten the hills with his will usually ends up only flattening himself.



“It’s possible to sacrifice too much effort and concentration trying to ‘get out,’ and in doing so expending an inordinate amount of effort in this task, almost defeating the purpose of the start itself. Too much energy expended at the blocks takes its toll elsewhere in the race.”

(Steve Williams photo by Stan Pantovic)

## TRY THIS WAY FOR A START

*The valuable advice that world record sprinter Steve Williams picked up in Europe.*

*by Brooks Johnson*

Brooks Johnson, who coached the US women’s national team this summer, once had a share of the world indoor 60-yard record. Johnson is coach of the Sports International track club in Washington, D.C.

Recently, as I watched a taped version of the US vs. USSR meet on television, I saw and heard something that at first gave me some satisfaction. But this

initial sentiment quickly turned to concern. Let me give the background.

The picture was of Steve Williams getting off to a very good start in the 100 meters. The announcer was commenting on how good Williams’ start was, after having noted in his introductory remarks that Steve was usually a very bad starter. In fact, in track circles Steve was noted for his wretched start, despite the fact that he was the fastest man in the world this year.

Now let’s go back a couple of weeks before the meet. Steve was the premier runner on the US national team headed for Europe in early July. I was the coach of the women’s team. Steve and other athletes were laughing and commenting on their performances at the Nationals. Since their mere presence on the plane was manifestation of them having done well, the mood was light, with a warm give-and-take, with just a little bit of bragging thrown in for good measure.

Williams happened to be talking to Maurice Peoples about how much faster

he, Steve, could go if he had a “good start.” Maurice suggested that he talk to me. Steve approached me and said, “I want you to help me with my start when we get to Germany.” To have the fastest person in the world come up to you and ask you for help with his start is an interesting experience. But again the initial twinge had barely been experienced when concern came to my mind that here is the world’s fastest human feeling uncomfortable about his start.

I told him the way to develop a good start is to start with a philosophy. I’m not going to say there is a philosophy, but I do maintain that to get a consistently good start there must be some kind of rationale involved which is understood by the athlete himself.

First, I asked Steve what bothered him about his start. He stated that he was always last out of the blocks. I related to him that being last out of the blocks is not necessarily an indication of a bad start. Sounds strange? Williams thought so, too. I pointed out to him another



“world’s fastest human” was also supposed to have a “bad start,” yet he won the 1964 Olympics and held virtually every sprint record of significance.

Despite the fact that Bob Hayes was rarely the first out, he was always in command of the race by 25 or 30 yards, and this was most important. His rate of acceleration was superior to everyone else’s, and this was the crucial criterion. Bob would get up to maximum speed before anyone else, and could hold it longer than anyone else. There was something in his start that allowed him to do this despite the fact that people like Charles Greene, Mel Pender and almost any other quality sprinter would have the first few steps on Hayes.

I also mentioned to Steve that the role of the start is to get the runner into the running rhythm that he desires as soon as it is feasible. Breaking it down further, I explained that the start is simply a technique used for overcoming inertia of one sort, and generating inertia of another sort. The law of inertia states that an object in motion tends to stay in motion and an object at rest tends to stay at rest. Thus, the start is supposed to overcome the inertia of being stationary and get you into the inertia as it applies to movement, as soon and as efficiently as possible.

The key word is “efficiently.” It’s possible to sacrifice too much effort and concentration trying to “get out,” and in doing so expending an inordinate amount of effort in this task, almost defeating the purpose of the start itself. Too much energy expended at the blocks takes its toll elsewhere in the race. Often this kind of “rocketing” creates tension and contracting of the muscles that is detrimental to getting the maximum use and extension of the legs—ultimately causing a level of performance lower than possible.

I pointed out to Steve that there are two crucial aspects of running. The first is leg speed—the rate at which one leg passes the other. The second is leg span—the distance in between each stride. There are some sprinters who depend upon leg speed to get the job done (Pender, Greene, Jean-Louis Ravelomanantsoa, etc.). This is particularly the case in smaller sprinters. Taller sprinters (Tommie Smith, John Carlos, Henry Carr) rely more upon leg span to get them through. Valeriy Borzov is perhaps the best example of a balanced mixture of the two. Most other sprinters tend to rely on one aspect or the other, depending upon size. But the Russians, through their scientific approach, were able to get the optimum utilization of both leg speed and leg span from Borzov.

Williams, tall as he is (6’3½”) and with an extremely high split, should not

sacrifice his long suit in an effort to match rhythm with the shorter men—especially at the start. His start should simply allow him to get out under control and provide him with the basis for getting his legs up to their fullest extension as soon as possible.

Another aspect of starting we delved into was the psychological end. Starting, because of the extraordinary focus most sprinters and coaches place on it (not to mention the inherent pressures of the exercise itself), requires a certain psychological preparedness. Most simply put, it requires confidence. In order to accomplish what the start is supposed to do, one must have confidence in the fact that his start is doing what it should for him.

I pointed out that Steve, like Hayes, was being victimized by the press because he was not the quickest out of the blocks—that a constant bombardment in the press and by others about how bad his start was, was not going to serve any purpose. He should not allow himself to be conditioned and influenced by what he read and heard, but rather should look to the objective results. They showed that he was the fastest man being timed over his chosen distance. He must be doing a hell of a lot more things right than wrong, and his start, while it may not appear to be an asset, certainly didn’t appear to be that much of a handicap. Being so far back simply forced him to be competitive for a greater part of the race.

Once in Europe, we continued our talks about starting. During one practice session in Germany, Steve was taking gun starts with the other sprinters and was getting out so badly that he came over to me and said, “Hey, man, this is ridiculous. What’s happening?” I mentioned a couple of very simple things, like his hand placement was not allowing him much room to move. In a word, he was too jammed up in the blocks.

Now you have to understand the petty jealousies that exist between coaches on these teams. Being the women’s coach, I wasn’t supposed to have much to do with the men, even if they sought me out. It was in this light that Steve said, “I’m going inside away from these people. Will you come in and work with me for a while?”

Once inside the indoor warmup area adjacent to Olympic Stadium in Munich, Steve and I began to work. We were joined by Roy Griak, one of the men’s coaches who watched and commented as we analyzed Steve’s starting technique. (Griak obviously had no objection to my helping.) The first thing we did was to move his blocks farther back from the

line, to allow his legs more room and ease to move as they came out. The other thing we did was to have him lift his head up to the angle he used when he came up and out of the blocks.

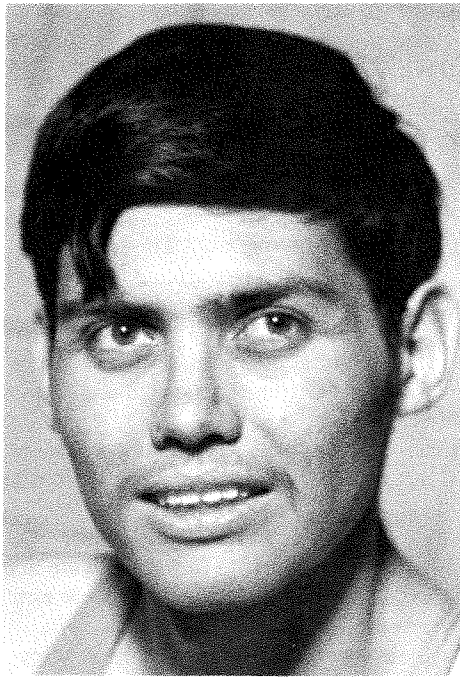
There was an immediate improvement. The action was easier, more fluid, and most of all Steve was more under control when he came out. The look of relief on his face was warming to both Griak and me as we left. Steve’s start in Munich was not spectacular, but he reported later that he felt good and that he was sure it would get better as he gained confidence in it.

But perhaps the greatest single element, responsible for the kind of start he got in Minsk, was something that happened almost by accident. In Italy, we were supplied with blocks that were not attached to each other. They were not attached on a common shaft as most blocks were, but were capable of being placed where the athlete wanted them to be. This was especially important because I encouraged Steve to put the blocks “where they feel most natural.”

To our mutual surprise, they were placed several inches farther apart than ordinary blocks will allow. Being further back in the blocks, he did not feel cramped. Having them farther apart, he was able to come out with a wide stance, giving him greater balance. Having his head at the proper angle for his ascent out of the blocks, he was able to move right up into that natural, long, powerfully fluid stride of his with a minimum of balance difficulties. We “borrowed” the Italian blocks and things kept getting better.

All of the essential elements came together in Minsk, with Steve getting off to a quick start but at no cost to his other natural assets. His time of 10.1 is truly amazing when you consider that the track was notoriously slow, and that he eased up fully 30 meters from the tape. Thus, my satisfaction at being a small part of this performance.

But my concern emanates from the fact that I know there are other sprinters, perhaps not as gifted as Steve, who are right now being victimized and handicapped unnecessarily because they are not sure of the philosophy employed in their starting techniques. I should hasten to point out that the same person who now coaches Steve Williams, coached Bob Hayes. That’s Dick Hill. So I’m not for one instant being critical of Steve’s handling, but simply pointing up the fact that he, Steve Williams, did not understand fully what he was doing or supposed to do. Once he did, the result was just like it would be with any intelligent, gifted, competitive athlete...success.



## *European touring was the last thing on his mind when he entered the AAU track meet.*

Castaneda not only broke the school record—now 27:22.4—but became an internationalist by earning a spot on the US team that toured Europe and Africa.

*The coach told me before going in there (the six-mile), "Ted, I think you can win it." And then in the race, going into the last two, three laps, I remembered he said I could do it and I thought, "I can do it." Then I thought, "Naw, I can't do it. I have no business even being up here." If I had known that Minty was a foreigner, because this was the United States Championships, I would have beaten him. I would have put out extra effort.*

Ted's sudden prominence was as

tour was disappointing for Ted, and for those fans who demand wins or records every race. Ted asked to change events, feeling that he needed the mental stimulation and that his body couldn't stand up to the demands of three fast 10,000s. The coaches said no.

Ted ran hard not to get lapped. He remembers the Russian and African races as torture. He tells about the AAU officials asking the athletes to run in warm-ups in hot, humid Russia so as not to embarrass anyone. And while the US runners were enduring involuntary heat training, the Russians breezed by in shorts.

But he also remembers the beauty of training runs along the Rhine, and the

# TED CASTANEDA'S SURPRISE

*by Jeffrey Arnold*

Writer Jeff Arnold was a competitive wrestler for 16 years before turning to long distance running. He teaches English and coaches cross-country at Pueblo County High School in Colorado.

Except to University of Colorado running fans, Ted Castaneda was practically unknown before this spring. He was the Colorado high school two-mile champion in 1970, but after entering college that fall he almost disappeared from the sports pages.

Then, at the 1973 NCAA championships in Baton Rouge, he and Colorado teammate John Gregorio ran two-three in the three-mile. But victory, and the spotlight, belonged again to Steve Prefontaine. Ted might have remained in the shadow for another year, except for a little problem in the AAU mile a week later.

*I went to shoot for a mile and I didn't make it so I said, I'll try for a six-go for the school record, which was 29:45, something like that. Of course it turned out differently.*

It sure did. Ted's 4:02.7 in the mile trials wasn't good enough for the final, so he ran the six. In that race, he used his kick to move past Scott Bringhurst and Jeff Galloway in the last few yards for a second place behind Englishman Gordon Minty. In the process, Cas-

taneda was as much a surprise to him as to the unsuspecting track fans who thought they knew all the good distance men. In fact, he almost had to be talked into accepting the trip.

*I'd heard about the tour, but I didn't know what would qualify for it. I was just going (to Bakersfield) for a fun run. Then I found out I was on the tour...and it had to sink in for a little bit. I'd been telling my coach that if I did make the tour I didn't want to go, because this has been a hard year for me and I wanted to have a good senior year.*

And then came Munich. A year late, but still Munich—the track where heroes were made. Ted and Jeff Gallo-way moved away early in the 10,000-meter race and helped each other with the lead, but on the final lap Ted's kick brought him victory.

*When I went to Munich, that was the first time I'd been overseas and I really was psyched for it. I told Jeff before the race, "I'm going to try to stick with you." After the fourth lap, it was so slow I said, "I'm going to take off now, Jeff."*

*So I took off and he followed, and from then on we had the lead. It must have been about 70-71 pace, and we dropped it down to about 67. I'd go out and lead for maybe two laps, and he'd go out for two laps. On the last lap, I said, "By golly, if I had to work this hard I'm going to go get it."*

After that, the running part of the

magic of the Senegalese dancers, and getting to know as people the famous names who were his teammates. He realizes that running has brought him things he probably couldn't have gotten without it.

Ted doesn't want to talk about his possible future as an international runner. But he does have goals. He wants to lead his team to the Big Eight championship in cross-country. He wants to improve his track times and especially to run a sub-four-minute mile. And he's looking forward to his third marathon in December.

*It'll be Phoenix probably (Fiesta Bowl). I've got a little revenge motive going down there. The guy (Pete Span) just ate me up by seven or eight minutes. I want to break into the teens (sub-2:20). I think I can.*

*I think every distance runner should run at least one marathon in his lifetime because you go through everything in that race—fatigue, excitement, happiness. Sometimes just unbelievable things happen. That's why I make it a point to run at least one a year.*

Ted's training program has been a satisfying one for him and, except for a mysterious calf injury that kept him from running during the cross-country season of his sophomore year, has brought him steady improvement from the 9:28.8 state two-mile record he set in 1970. Perhaps the most satisfying part is that he has been able to design much of it himself. His freshman year was the first

year Jerry Quiller was in charge of the distance program at Colorado. That was good timing as far as Ted is concerned.

*Jerry isn't the kind of coach who forces things on you. I think if anybody's really had an influence on my running career it'd be him. It's not so much because of the kind of workouts he's shown me but mainly because he's got me psyched about it.*

In spite of his admiration for Quiller, Ted says he's self-coached. He likes to run alone and works out with the team only on Tuesday and Thursday afternoons. He likes to experiment with his workouts and runs varied terrain, using time rather than distance as his yardstick. He likes to "jump around" in track, running events from a 440 relay leg on up. He likes to take the summer off, to rest and "get psyched" for cross-country, but couldn't this summer because of the tour.

If it turns out that the additional training and racing provided additional improvement without exhausting his reserves, you can look for Ted Castaneda to take his place soon as a bright star in the constellation of US distance runners.

**Theodore Stevan Castaneda:** Colorado Springs, Colo. (University of Colorado). 21 years old (born Dec. 26, 1951 at Colorado Springs). 5'10½", 140 pounds. College student. Single. Began racing in 1968 at age 16. Self-coached, advised by Jerry Quiller.

**Racing:** 440-52.4 (relay, 73); 880-1:52.4 (73); mile-4:02.7 (73); 3 miles-13:10.6 (73); 6 miles-27:22.4 (73); 10,000m-28:30.6 (73); marathon-2:27:30 (72).

**Training:** twice a day except Saturday, 6 days a week, 9 months a year. "I really have no idea exactly what I'm going to do each session. I want to experiment with things to see how they work out." The following is an approximation of a cross-country week:

Monday: distance-50 minutes in the morning, 90 minutes in the afternoon. "I try to push hard. If I don't feel like going out real hard I won't but I still go out for the hour and a half." Tuesday: speed-110s or 220s for 50 minutes in the morning, 5 or 6 repeat miles with the team in the afternoon. Wednesday: speed-330s for 50 minutes in the morning, fartlek for 80 minutes in the afternoon. Thursday: some kind of speed for 50 minutes in the morning, 20 x 440 with the team in the afternoon. Friday: distance-same as Monday. Saturday: distance or race.

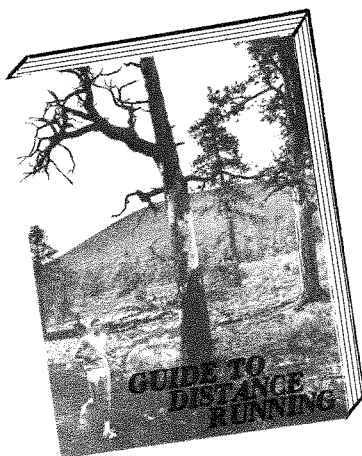
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Steve Sutton photo

# MATT CENTROWITZ'S SUMMER

*When you're a 4:02 miler and an international veteran at age 18, what comes next?*

A June graduate of Power Memorial High School in New York City, Centrowitz brings to the Bronx campus of Manhattan College a brilliant prep record that blossomed from local esteem to widespread prominence shortly after he discarded his cap and gown. With each race, Centrowitz carved a deeper niche into running's circle of success. He did it like this:

His first domestic stop was Mt. Prospect, Ill., for the International Prep on June 9. Running the two-mile for variety, Matt's clocking was 8:56.8 for a New York state record, but he couldn't stay with Craig Virgin who broke Steve Prefontaine's high school record with an 8:41.0 time.

Then came the one he had been pointing towards—the Golden West in Sacramento on June 16. After setting a pace of 57.0 and 2:00, Matt settled down to a 4:08.4 mile victory (and came back for an 8:56.2 fourth in the two-mile. At this point, he said, "I didn't really know if I had the potential. I mean 4:08 is good time, but...")

His breakthrough came the following week in Gainesville, Fla., in the AAU Junior nationals that qualified the under-20 set for European competition. Matt fulfilled his own hopes and confirmed what New Yorkers had predicted with a 4:02.7 mile that was second to collegian Mark Schilling's 3:59.8. Also, Matt had made the US team.

His main goal as a schoolboy had been realized. He wanted to break the school record (which also was the state record) of 4:06 held by his former teammate Tony Colon, whom he was soon to join again at Manhattan. In doing so, Matt ran the fastest prep mile since 1967 and left only Jim Ryun (3:55.3), Tim Danielson (3:59.4), Marty Liquori (3:59.8) and Gerry Lindgren (4:01.5) ahead of him in all-time miling annals.

"I think I sold myself short," admits Matt. "All along Brother Bielen (Power coach) was saying 'four minutes' and I was just 'yessing' him. I was willing

to settle for around 4:04, to break Tony's record. You pass a lot of guys going down to 4:02."

Centrowitz achieved even greater success during his three-week crash course in international competition. He won the West German 1500 in a respectable 3:49.5 and took seconds against Poland and the Soviet Union. In the Polish meet, he ran 3:43.4 (behind Reed Fisher's 3:41.9), equivalent to somewhere under a 4:01 mile depending on the tables used. Only Ryun ran faster as a schoolboy.

Matt concluded his extended season with a 3:46.4 on the first day of the Russian meet. On the second day, he ran the 5000 meters as an alternate (not counted in team scoring) and was third in 14:17—with a 13:48 through three miles. Only four preps have ever run faster at the metric distance.

In terms of his track future, Matt's efforts wouldn't be worth the shoes they were run in if not for the maturity and perspective with which he moves into the next phase of his running life.

"I've had to make everything else second to track," says Centrowitz. "To be honest, I haven't given up a lot. Other guys get their thing on Friday nights... at dances. I get my feedback on Saturday afternoon. Everything is geared for Saturdays.

"Man, almost four minutes. It's taken a couple of weeks to sink in. I've had to readjust to it."

At Manhattan, which won NCAA and IC4A indoor titles last year, "I'll just be one of the guys the first year, says Centrowitz. "I'll gradually get more responsibility. This is Mike's (Keogh) last year; then Tony (Colon) goes the following year. And Joe's (Savage, injured) probably is not coming back. You just mature into it."

After four full years of running, after cross-country, indoor and outdoor competition, after thousands of miles of training and racing, Matt says, surprising himself, "I'm not tired. I haven't lost a bit of enthusiasm."

*by Marc Bloom*

Now that I've gotten a taste of the big-time," says Matt Centrowitz, "I don't want to let it go."

The big-time, for Centrowitz, has been a series of post-season summer invitational meets that elevated his running fortunes to the brink of world-class status—while he was several months away from his 19th birthday.

If the four-minute mile can be considered such status, then Matt is teetering on its edge, confident that his talents will meet the challenges of the stopwatch and a demanding college career.

If Centrowitz can sustain that spirit and maintain good health, a rare combination in competitive running, he'll be able to make a serious bid for the '76 Olympic team, which, he states flatly, is one of his major goals. "By then," Centrowitz says, "I should know where I stand. If I'm just 3:58 or 59, okay, that's it." But faster, of course, much faster, is what it takes, and Matt hopes to take it all.

His past medical history has little room for optimism. As a sophomore, Matt hobbled through part of the spring, still running 4:20.4. A six-week bout with strep throat took the steam out his junior year, yet he recovered and ran 4:13. (If healthy, "he would have hit 4:08," says Coach Bielen.)

Last winter, when 4:10 indoors seemed likely, Centrowitz developed tendinitis problems. It may have been a blessing in disguise, rationalizes Bielen, who knew it's difficult if not impossible to be at a constant peak during the pressure-packed 40-week New York season.

Those setbacks were not caused by—as sometimes happens—overzealous coaching. With control and discipline, Bielen brought Matt along gradually. He mixed up his events for variety and experimentation. He gave him ample rest and plotted a course that would have Centrowitz peak at just the right times. Matt's training was relatively moderate, relying heavily on a strong distance base with little interval work. In fact, last spring he barely got over 60 miles a week.

At 6'1" and 170 pounds, Matt seemingly would appear comfortable scampering down a sideline with a football in his hands. He is a steamroller. Without the slender torso and graceful stride of the distance running prototype, Centrowitz is a bull among horses, charging, not galloping, but visually effortless just the same.

Runners like Matt are supposed to be bred in the wide open spaces, training on dirt roads flanked by the harvest of wheat or corn. In Matt's case, it has been the congestion of midtown Manhattan where Power is situated and skyscrapers and incessant traffic. For a pleasant workout, though, Central Park is a short run away. Also, in the Riverdale section of the Bronx where Matt lives, is Van Cortlandt Park, whose sprawling 1146 acres contain an abundance of hilly trails for training and racing.

Dozens of colleges wanted Matt Centrowitz to run for them. So why does he choose Manhattan, the "neighborhood school," when the dream of most high school runners is to take the

money and run—out of town? "It's coaching," explains Matt. "(Fred) Dwyer. I feel he's the best. I've seen him work with the kids at a meet and at workouts, the way he handles the runners. Last year, I wanted to go to Villanova. But Manhattan seemed like they wanted me more."

Growing up in New York City tends to harden young athletes like Centrowitz, stripping them of their youthful naivete. Whatever wide-eyed idealism Centrowitz may have retained apparently evaporated during the European tour, perhaps more memorable to him for the off-the-track activities than for the meets themselves.

"Listen to this," says Centrowitz, anxious to relate his experiences. "It took us 30 hours to get to West Germany. Planes, buses, delays, everything. So the night before the meet Schilling and myself went to the hotel bar to have a beer before going to bed. Schilling was tired and said he just wanted to beat the Germans," not caring about total victory. "So he just laid behind and kicked with 200 to go." (Schilling was second in 3:54.1 to Matt's 3:49.5.)

Schilling subsequently was reprimanded by AAU officials for "fooling around," according to Centrowitz, and he was not permitted to compete in Poland. "They (US officials) said he was tired and needed a rest," said Matt. "Me and Schilling were close. He said he was in 'great shape.' It was plain to everyone Healey (Joe Healey, head coach) didn't know what was going on."

Schilling was forced to run time trials, Matt says, in order to get back for the Russian meet. Matt recalled Schilling, two days before the Russian 1500, putting in a 3:02 (three-quarters), 2:00 (880),

56 (440) and two 28s (220) with little rest between each distance. Then he was allowed to run. He won the race.

"All the (distance) guys gathered in coach Isom's (their distance coach) room after the meet," says Centrowitz. "We celebrated and had champagne. Schilling made a toast that began, 'To the only coach who had faith in me...'"

There were travel hitches as well. A flight booked from Frankfurt to Stuttgart in Germany was overbooked and Matt was just about the last one to board. "The stewardess wasn't going to let us on," recalls Centrowitz. "Then, coming home, the plane was overweight and the Russians charged the AAU \$2000. They didn't have the money, so some kids didn't get to take their baggage home. They won't get it until the money's paid."

The best part of the tour, says Centrowitz, were the guys he got to meet—people like Schilling and Virgin and Robbie Perkins, Dale Scott, Terry Williams, Keith Francis. "We plan to meet again at the NCAA cross-country meet," says Matt.

One deficiency in Centrowitz' running is a lack of a strong kick, the kind that enables milers to come off a fast pace and still run 26 seconds or so for the last 220. Centrowitz can drive for 500 or 600 but doesn't have the final burst that has characterized many a world-class miler.

"I'm gonna have to work on it," says Matt, unsure of just how he will do it.

Manhattan has recruited four other champion New York area milers who have broken 4:15. Will this help or hinder Centrowitz, who is accustomed to delicate care and a lot of attention?

Says Matt: "I'm looking forward to running against these guys. I can work with them. We have a lot in common. We all want the same thing."

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# CATCHING UP WITH PUTTEMANS

by Tom Sturak

In February 1972, Emiel Puttemans first came to America for a series of indoor races. Despite the fact that he then held the world outdoor record at two miles (8:17.8), he was virtually unknown on this side of the Atlantic.



This past May, he returned for a weekend of competition in California and received well-deserved star billing.

Since finishing a surprise second (27:39.6) in the 10,000 at Munich, Puttemans had produced an unprecedented output of stunningly fast performances. During the weeks immediately following the Games, he lowered the world marks at 3000 meters (7:37.6), three miles (12:47.8) and 5000 meters (13:13.0). Then, following a scheduled layoff and a rigorous cross-country season (11 meets in three months), he ran three brilliant indoor races, including the historic "triple-decker" of Feb. 18 in Berlin where he established new world standards at 2000 (5:00.0) and 3000 meters (7:39.2) enroute to the fastest two miles ever indoors or out (8:13.2).

So far this summer outdoors, Puttemans has further enhanced a growing reputation as one of history's great distance runners. Contrary to his own protestations, he has proven himself to be as tough a competitive racer as he is a calculating record-breaker. Though he has run many fast times since June—including second-fastest performances ever at two miles (8:16.4) and 5000 meters (13:14.6)—new world records have so far eluded him. But he has been undefeated at his favorite distances, handling—often in the finishing sprint—the likes of Ben Jipcho, Rod Dixon, Dick Quax, Ian Stewart, Dave Bedford, Lasse Viren and Steve Prefontaine.

The following interviews and impressions were recorded on May 27 during the Vons Classic Invitational track meet:

The big, clocklike thermometer high on the peristyle registers about 70 degrees, but here on the floor of the Coliseum at a little before three o'clock, it's well over 90. Puttemans takes easy warm-up sprints, partly in the shade of the tunnel. I saw him last in February 1972 (see "Puttemans Has a Plan," July 72 *RW*). He seems even more frail than I remember—except for the muscular legs.

This time Puttemans comes heralded: "The Belgian Bombshell." If he un-

derstands the announcer, he won't appreciate the *faux pas*. "Flemish Flash," perhaps, would be more precise and more to his liking. He sports tailored sweats of dull gold and matching custom-made Adidas spikes. (Afterwards, I inspect the shoes. They are as light as gymnastics slippers: mostly nylon with spare bands of leather reinforcing; minimal four-spike plate; most intriguingly, the bottoms are covered with what appears to be Velcro fastener material.)

The announcer gives the impression that this race will be an assault on Viren's world record of 8:14. Puttemans, squinting from the sun's glare, tells me maybe 8:25. Strider Dave White, a 1:48 half-miler (not the marathoner), has agreed to be the rabbit for two laps. He looks perplexed: "Hey, if I understand Puttemans, he wants 26 at the 220 and a 54 quarter—on the way to two flat?" I check. A misunderstanding: 28 and 58 will be okay. (But two-flat for 8:25!)

During the race, I stand near the 220 post with Puttemans' coach, Marcel Mouton, who calls out splits. White pulls Puttemans through 59.1, 2:01.5, then steps off the track. Emiel smoothly drives on through laps of 63 and 64, reaching the mile in 4:08.2.

It is never a race. More than 50 yards back, Paul Geis, Chris Stewart and Tracy Smith look hot and bothered—even vaguely embarrassed—as they strain but fall farther behind. After a 64.2 fifth lap, Puttemans begins to slow. But a 62 final quarter brings him in at 8:26.6—fastest time in the world to date.

While Puttemans is dragged off to face television cameras, I talk with Marcel Mouton:

"Are you satisfied with Emiel's performance?"

"Very, very good. But too warm, too warm. He tired over the last 600 meters; last 600 meters was no very good. With cool weather, easy maybe 8:20. This is early season for him; this is the first real race today. Yesterday, he run in Modesto one mile, but very easy."

"What is he going to concentrate on this year?"

"We don't know: 3000, 5000, 10,000, steeplechase."

"Does he have any particular goals? World records?"

---

*Between trips to the U.S., the Belgian has built a reputation as one of the best ever.*

"Twenty races to make this year."

"Why did not Emiel come to the United States this past indoor season?"

"In winter in Belgium is cross-country. But next winter, I mean for him to come to this country for the indoors in January."

"Does Emiel still work as a gardener?"

"Yes. He works every day as a gardener."

"How many times a day does he train?"

"For the moment, once a day. But beginning 15th of June, he train for one month morning and evening every day. Interval work only; high quality, fast. Early in the season, he runs 800, 1500, one mile—no 5000. On 12th of June, he will run 5000 in Stockholm." (On that occasion, Puttemans ran 13:26.8.)

At 3:40 p.m., Rick Wohlhuter breaks the world record for the 880 with 1:44.6. Puttemans and Mouton seem only mildly impressed: "It is late season here, yes?"

In the tunnel, Emiel and I escape the sun and find some boards to sit on. Mouton scurries after, telling his charge to zip up his sweat jacket. Puttemans insists that he's not cold, that the shade feels good. We talk:

"Last year, you told me you would definitely run the 5000 or perhaps the steeplechase at Munich. Why did you run the 10,000?"

"Before Munich, I was hurt—six, seven weeks before—and had no training for 14 days. Tendinitis of the knees. And so I'm not training speed work; I couldn't do it. And I'm training always in the woods, woods; long distance. And the last week before Munich, I do speed work. I don't do it before, you see, because I couldn't do it. That's the reason I'm not running so good in 5000."

"During the 10,000 heat with Bedford, did you know how fast you were running?" (They ran 27:53.)

"Yes, I'm seeing on the clocks (pointing as if to a scoreboard)."

"Well, what did you think? The pace was very fast for a heat—world record pace. Why so fast?"

"Why? I could not say (to Bedford), 'not so fast!' You see, when you are together, you can not stopping." (Earlier, Mouton told me that Puttemans ran too fast in his 10-kilometer heat because "he is inexperienced, too young.")

"Do you think it bothered you in the following races?"

"Yes. Not in the final of the 10 kilometers; but in the heats of the 5000, I was feeling tired. And then in the final,



**Since finishing second in the Olympic 10,000 last year, Emiel Puttemans has set six world records—three indoors and three outdoors. He's looking forward to more of the same. (Photos by Stan Pantovic)**

I was nothing, was nobody. Could only follow."

"Yet, last year you said that you would have to go out very fast in the 5000 at Munich, maybe 7:48 for 3000 meters, to win."

"I couldn't. I was tired. But in Brussels afterwards... (alluding to his world record 13:13.0). So, you see, I know I can do it. But you cannot do it every day, you see, when you have much races before. When a man misses training and has much competition, he cannot every day run a record."

"If you had not been injured, would you have run only the 5000 at Munich?"

"Yes. Not 10,000; only 5000."

"Why do you think you were able to run so fast after Munich?"

"Ah, because I *like* to run good times. This year in one month, I hope to do the same. After Munich, I was unable to train normally, you see. I'm training a month farther, then stopping completely, and then do cross-country."

"Have there been any changes in your training pattern?"

"Yes. This winter I do much more speed work. And because of the speed

work is the reason I got the indoor record of two-mile, 2000 and 3000."

"Harald Norpeth has been quoted as saying that running must now be your profession, implying that you do not work as a gardener any longer but only run."

"That's ...no, no the truth. (Puttemans says this almost sadly.) You come to Leuven and you see! Every day, eight hours a day."

"Still out there with the shovel?"

"Yes! (He's emphatic and serious.) But it is good for me, I'm sure."

"Do you receive any help from the Belgian government?"

"Yes, that I have, the days that I am away for international competition. The day I am away, they pay me just the same as I earn at work. In one year, all together, I'm about 35 days away. You couldn't lose it when you are married—not possible, you understand?"

"Last spring, you wrote to me that after Munich you hoped to run 3000 meters in 7:39, 5000 in 13:20, 10,000 in 27:55 and two miles in 8:15. Now that you've achieved these, what are your goals for this year?"

"I don't know. But I will run very fast in the two miles, because I lost my record. Viren take it, and I should try to run the same time as I have indoors—8:13. I think I can do it; in two months, I can do it."

"Last night at Modesto, you ran a mile in 4:03.6, but you apparently don't think it bothered you today? Was it that easy?"

"Yes. It was a tactics race." (Somewhere I recall hearing that his last lap in that race was around 53 flat.)

"I understand that in your indoor two-mile record race you passed the mile in 4:03.2. Yet your best-ever mile is only 4:01.7. How fast do you think you could run the mile if you really tried?"

"In a good race, I think just behind four minutes; I think 3:59.5." (On July 2 in Stockholm, Puttemans placed fourth in 3:56.0 behind Jipcho's 3:52.0.)

"One more thing: Today, why did you want to run two minutes at the half-mile if you were thinking of doing only 8:25?"

"Because, so, when you run 2:04 or 2:05, everybody can run 2:04 or 2:05. But it's better to run faster—it's not so easy but..."

"Everybody over *here* doesn't go out in 2:04 or 2:05!"

"Yes, but because later when I am in good condition, always I must pacing very fast because I am running faster races. Also, I am not so quickly in the sprint as many others."

# CRUISING ALONG AT 60-PLUS

*A grand old man of  
marathoning and a  
novice sprinter aren't  
slowing down for age.*

Retire at 60 or 65 years of age? Don't mention it. Retirement is for old people, at least according to two runners in that age group. Their backgrounds as runners couldn't be less alike, but their conclusion is the same: keep running.

Few American marathoners can match Johnny Kelley's record. He has won Boston twice, has run in the Olympics twice, has completed almost a hundred marathons and holds eight age-group records at that distance. Kelley has seen almost everything in the sport.

It is all new to Casey Witkowski, who has just started racing at the other end of the scale—in the sprints. It is all new and fascinating, and a little frightening, to him.

## MARATHONER JOHN KELLEY

BY RALPH WILLIAMS

My initial suggestion to another member of the family who holds sway in our decision-making that it would be fun to drive the 330 miles to Westfield, Mass., to participate in the Berkshire Masters 10-mile road race was met with about the same enthusiasm as a suggested trip over Niagara Falls in a barrel. However, the issue was pursued to some length, and the Saturday before the race we were driving to Westfield. Upon arrival, we checked in at a Howard Johnson motel and were assigned to room 236.

"Have many runners checked in for tomorrow's race?" I asked the desk clerk.

"Oh, about a half a dozen," I was told. "Johnny Kelley checked in a little



John Kelley (r) at the end of another Boston. (Rick Levy)

while ago. He always stays with us for the race. He's in room 234."

"Johnny Kelley? In 234? No foolin'!"

Already the trip was proving successful because the name Kelley is as synonymous with running as Spitz is to swimming, Nicklaus to golf, or Chamberlain to basketball. By past performances and records, John A. Kelley, 65, of East Dennis, Mass., has firmly established himself as one of the all-time great runners in the country.

On the street, I could not have distinguished Kelley with his touseled gray hair from a host of other elderly gents who might have been passing by. But when we met by chance in the motel stairwell the next morning, there was no mistaking his identity although I had never seen him before. By his agile step and slightness of frame—he told me later he weighed 127 pounds—I simply *knew* who he was.

A brash self-introduction on my part and a common purpose for our being in Westfield earned me an invitation into Kelley's room to meet his wife and to discuss at some length the fine subject of running.

"John," I said, "isn't it 42 Boston marathons you've been in?"

"Yes, I've been in 42 of them, have won two—in 1935 and again in 1945. I've placed second seven times and have placed third within the first 10 finishers 19 times."

"You've also been on several Olympic teams, haven't you?"

"I was on the US Olympic team which went to Berlin in 1936. And I was also on the Olympic team in 1940 which was supposed to go to Finland. But because of the war threat, the United States didn't send a team to compete that year. (The Games were subsequently cancelled.) Then in 1948, when I was 42 years old, I was on the Olympic team which went to London."

"How long have you been running?"

"Well, I've been in 1178 official races from one mile up since 1927. And I've been in 96 full-length marathons and finished all of them except three."

With this prodigious marathon background, should anyone really be surprised to learn that Kelley established the world record for that distance in the over-50 age bracket when at 54, he ran 2:37:42? You talk with the man, you read about his records, you run with him, and you *know* he's going after marathon number 100. Don't worry, he'll make it! And how many besides?

When asked how much running he did to keep in condition, Kelley said that he does about 10 or 12 miles a day, six days a week.

The conversation went for half an hour or so. We discussed a number of aspects of running, including training habits, running shoes, diet and cold weather running. I learned, too, that John Kelley has as second avocation. He paints with oils and operates his own art studio in East Dennis. While I've never seen any of his work, I must conclude that if he is as adroit at applying oils to a canvas as he is at placing one foot ahead of the other, then he's an artist of the first rank.

Until the Berkshire Masters came along, I had been in exactly two races in my life and this, measured against Kelley's impressive background, gave me a feeling of ant-like insignificance.

That afternoon 126 masters assembled at the Berkshire Athletic Field for the race which was to start at one o'clock. One runner came in an auto bearing Massachusetts license "RUN RUN" while other cars bore plates from Maine, New Hampshire, Vermont, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland and Ontario.

I watched Kelley warm up for the race. There was nothing impressive about his preparation—nothing suggesting the



stamina and running power of which I knew he was capable. On the contrary, he ambled about rather daintily at a pace a youngster could maintain; and in retrospect I saw him as a spark creeping lazily along a slow-burning fuse on its way to the charge at the other end which would explode (and did) with the starter's gun.

When Kelley passed me a short distance from the start, it did not take me long to realize that I could not maintain his pace. The only thing I could do was watch the distance between us increase and wonder to myself about the gift of power he possessed which I—11 years his junior—lacked.

Kelley's time for the Berkshire 10-miler this year was 1:06:23, which is creditable in anybody's book. But he yielded first place in the over-60 division to younger blood when John Wall, 60, from Baltimore, Md., edged him out with a time of 1:05:03. Kelley, however, still holds the Berkshire course record for the over-60 division. At age 63, he ran 1:04:40.

If Kelley's prowess as a runner is diminishing somewhat, I for one am willing to forgive him because he still is capable of putting on incredible running demon-

strations. He must certainly be regarded as the prototype of the "complete" runner, an iron man of distance running and "big league" all the way. He concedes nothing until after the race and it is obvious that he intends to run competitively until he stops breathing which, at his present rate, is a long ways away.

There isn't the slightest doubt in my mind that Johnny Kelley is actually looking forward to age 70—at which time he will probably be recognized as the fastest 70-year-old in the world.

The past accomplishments of John A. Kelley are enough to stir up the imagination of and inspire any of the multitude of young and excellent runners in the business today. Perhaps someday one of them will exceed Kelley in his exploits. But whoever is to accomplish this must face up to the reality that they have a hell of a lot of ground to cover between now and then. And even if this does happen Kelley's name will not soon be forgotten.

Meanwhile, at 65, when most men are looking for escape hatches to avoid the unnecessary expenditure of energy, Johnny Kelley is still going strong.

Joe had done his homework. He'd gotten hold of results of previous masters meets. The 100 was won in 12.8, but second place was only 14.1. Joe knew what he could run himself, and he knew that his father was almost as fast. He felt Casey could run pretty well against other 60-year-olds. His biggest job was to convince Casey that he ought to try. Joe kept harping on it. And at last Casey reluctantly agreed to train a little.

Casey set certain informal conditions for his training. All running, of course, would be on the track. Although Joe was a marathoner, at ease in shorts and singlet on the open road, his father still had the usual inhibitions of the non-runner: run on tracks, wear long pants to and from the track, don't run at night, wear Bermuda-length shorts and high stockings to keep the legs out of sight.

Don't laugh, my fellow runners. Think back to the first few times you ran through the streets dressed in what most decent, average people would think of as "your underwear." It's quite a first step for a 61-year-old factory worker to take.

But once Casey took that first step, once he decided to "train," to cut down to two cups of coffee per day from his usual 10, step on the scales in the morning, to phone his son to ask about when their next workout together would be—in short when Casey decided to join that ancient and honorable society known as "the running fraternity"—there was no slowing him down.

He spent a rainy Saturday afternoon in his garage (still safely out of neighbors' sight) with a book from the Scotch Plains Library about sprint starting positions. He began to massage his leg muscles when at home, and to take little walks around the plant when at work. He learned to warm up before taking his daily sprint to the parking lot by bending and stretching. His foreman even asked why he was getting so restless at around quitting time. He lowered his weight from 178 to 167.

As the day of the big race approached, Casey's anticipation increased. After three long weeks of training, sometimes running as much as two or three times 110 on as many as four days per week, he felt ready for anyone. Joe was surprised his father was doing as much as he did. But Joe worried. How could a 61-year-old guy get in shape by running just two or three times 110 four days per week for only three weeks?

Not knowing the ins and outs of competitive running, Casey had expected to run at Randalls Island wearing his usual uniform of Hush Puppies, long stockings, knee shorts and a white tee-shirt. Why not? It was good enough to practice in.

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## NEW SPRINTER WITKOWSKI

BY HUGH SWEENEY

"Look out. Clear the way. Here comes the old guy!"

Down the 300-yard tunnel connecting the 5000-man Clark, N.J., roller bearing plant with its employee parking lot sprints 61-year-old Casimir Witkowski. Occasionally, he's followed by one or two considerably younger co-workers. Sometimes a younger man will beat Casey out the door and into the lot, but not often. There isn't a man within 25 years of "the old guy" who can stay up with him.

Until this year, however, Casey wasn't a "runner." He didn't dash to the parking lot for athletic, or even health, reasons. He just wanted to get to his car in a hurry, and to leave the lot before anyone else did.

By following this routine, he'd be able to beat a lot of traffic on the Garden State Parkway and get home to dinner early. He usually arrived home 20 minutes before a neighbor who worked on the same shift at the plant.

Casey had never considered entering races. He'd run a few races in elemen-

tary school, and he had been fast. But for the last 50 years or so, no races. He hasn't been entirely divorced from track and field, however. His son, Joe, was a below-average varsity distance man at Penn State, and eventually ran 2:30:13 at the Boston marathon in 1972.

Casey had gone to a few of Joe's meets. And five years ago, when Joe—admittedly no speed-merchant—was still running 880s in dual meets, Casey would almost stay with him over 100 yards. So Casey knew that the runner's world existed, but he'd never dreamed of participating in it himself.

The Joe heard about the expanding masters program on the east coast. Whenever he visited his father, Joe would drop hints: "I wonder how fast you could run 100 yards." "You know, I see quite a few older men at the races I go to—men in their 50s and 60s who seem to be having a good time." "Dad, I'll bet there aren't many men your age who can run as fast as you."

Casey was adamant. He didn't have time. He wouldn't be caught dead in shorts. He was too old. But his protests began to get weaker. Joe sent for an AAU card, which arrived without explanation at Casey's house. The AAU card was followed by an entry blank for the July 19 Eastern Regional masters track meet, to be held at Randalls Island in New York.

But son Joe, knowing of the tradition of the Randalls Island track, would not allow a degradation of that hallowed ground. His father had to look good.

They finally decided on blue Tiger Marathon shoes, a purloined red Bloomfield High School shorts and a yellow Central Jersey Track Club tee-shirt. Casey insisted on high stockings, to at least partially cover his legs. Joe yielded on the stockings.

On race day, Joe and Casey arrived at the track early. Casey ran a few warm-up sprints. He looked great. Good lift, good stride, good spring, good whatever the hell else it is which makes sprinters "run good."

Unfortunately, I can't give this portion of the Casey Witkowski story a happy ending. If a high school boy feels inexperienced running in his first meet, imagine how Casey felt! The other competitors, hard-bitten survivors of other masters events, wore shirts which showed they came from as far away as the Cumberland AC, Baltimore OC and Rochester TC. They all wore pin-spikes. Several used a crouch sprint start. They'd been over this route before.

When the gun went off in the 100, Casey started well and looked like he had a chance at the 50-yard mark. But it was a rainy day, and the "all-weather" track was under the weather. Wearing flats, Casey never had a chance, but he still finished a fairly close fourth in the field of eight. He was in contention at least, and he was happy to have done as well as he did. The winner had run only 14.0, and Casey was only two-tenths back.

Joe, on the other hand, was disappointed. He felt he'd failed as a coach. Why hadn't he insisted on spikes? Maybe he should have trained his father differently. He'd let his old man down.

The 220 wasn't scheduled to go off for another 2½ hours. No use waiting in the rain. Joe and Casey decided to call it a day.

The big meet is over, but Casey Witkowski hasn't stopped running. Casey even goes to the track by himself sometimes and as he sprints along the Clark High School football players, recognizing that he runs every day, shout, "Hey, pop! You like to run?"

"You bet I do," answers Casey, "I sure do!"

It looks like he will develop into a contending over-60 sprinter if he maintains his interest. My only worry is that the son will take his own coaching role too seriously, and will over-zealously push his old man too hard. Why can't the kids let the adults run for fun, without trying to be so serious?

# FASTEST CONTINENT-CROSSING

by Bob Cooper

Fifteen-year-old David Cortez, holder of numerous age-group world records, ran the first leg, a steep climb of 2000 feet from Half Moon Bay on the Pacific through towering redwoods. Desiree Wilson, a 17-year-old blonde, ran the anchor leg from Manahawkin to the beach at Ship Bottom, N.J. In between, 13 members of the Redwood City (Calif.) Striders ran through 15 states on 3421 miles of America's highways.

Mike Ipsen, 30-year-old coach of the Striders, spent 10 months bringing this true cross-country relay from conception to realization. Mike says, "It's something I've always wanted to do. For the last 15 years, I figured I'd run across myself. But when the feasibility of that went out the window, I thought about a relay."

The 13 runners, ranging in age from 13 to 30, each ran a two-hour leg followed by 24 hours of rest—meaning each ran two hours later each day of the non-stop effort. Each of the cars—two sedans and a wagon—carried four or five runners with consecutive legs. Each car followed the runners for 8-10 hours before shooting ahead 75 miles for rest. This was the plan, but not all went smoothly. Missed turns, broken alarm clocks and lack of coordination between the cars caused more than a few headaches.

Since most of us had never seen the east coast, the relay served as a three-week course in US geography. We found crossing the Sierras to be much less difficult than running through the Nevada desert where the temperatures soared over 110 degrees.

Given bad advice as to the best non-freeway route, we next swung down through scenic Utah to Arizona and Indian reservation land, before swinging up through Four Corners to Colorado. Starting at 4000 feet, we almost immediately began climbing. During that climb, I scared a bear off the shoulder (though it scared me more), and Doug was nearly attacked by three vicious dogs. I crossed the Continental Divide, over 10,850-foot Wolf Creek Pass, at 6:45 p.m. on July 8. Jose Garza ran the next leg—all downhill and in the midst of an angry thunderstorm.

The running from the Rockies to West Virginia was sickeningly homogen-

ous. Excepting the roller coaster-like hills of Missouri's Ozarks, it's all unbelievably flat for this group so used to seeing mountains, or at least hills, on the horizon. Passing through Wichita, St. Louis, and Cincinnati was all that broke the monotony of innumerable corn fields and booming towns like Deerfield and Uniontown (Kans.), Rosebud (Mo.), Beckemeyer (Ill.), Cannelburg (Ind.), Boston and Marathon (Ohio).

Because Mike's brother was a police sergeant in Wichita, we were really welcomed in there—with a police escort through town as well as extensive radio and newspaper coverage. Four hours past Wichita, the wagon broke down and 13 of us crammed in the two sedans for the next 12 hours. We found the people of Kansas to be very friendly and found the citizens of Missouri to be just the opposite. As Jose Garza put it, "Their horn is their brake." But it was in eastern Ohio that Desiree Wilson was harassed by some teenagers and I was run into a ditch.

Running our legs, however, was that part of the trip we most enjoyed. The part which really wore us down, physically and emotionally, was sitting in a car for hour upon hour in that incessant humidity we came to abhor; or getting three, four and five hours of sleep daily and eating nothing but canned soup and beans plus an occasional treat like cold Spaghetti-O's.

We suddenly entered a different world upon crossing the Ohio River at Parkersburg. If there's an acre of horizontal land in West Virginia, we didn't see it. We crossed three West Virginia-Maryland borders before hitting the rolling hills of southern Pennsylvania. I ran the relay's longest leg (19.5 miles) while touring historic Gettysburg. It was dark so I couldn't find the Address.

Mike handed the baton (a well-worn white stick) to Desiree just three miles west of the waiting Atlantic. Just 17 people—the rest of the relay team, Mr. and Mrs. Jose Cortez, and Doug Peck's Pennsylvanian aunt and uncle—waited on the beach for the magic moment that Desiree hit the water.

The unprecedented relay had taken 19 days, 21 hours, 52 minutes.

Most of us ran 18 legs. It took us 237 two-hour legs to make it across—a 14.4-mile average. A brief description

of the actors in this moving drama follow:

1. **David Cortez, 15.** Each time he has a birthday, Dave prepares to set records for distances from the two-mile upward. He has already finished a 100-miler and run a 2:39 marathon. He'll be a freshman in high school this year. Dave ran a 19-mile leg and had a 17.4-mile average, best on the relay.

2. **Danny Martinez, 13.** Danny is national champion in his age group for the one-mile walk. He ran one 16-mile leg and had a 12.8 average. Danny had a cast taken off his feet just days before the relay began, but he never considered dropping out.

3. **Jose Garza, 16.** Prior to the July start, Jose hadn't run in five months. He approached Ipsen a day before the relay and said he wanted to get in shape for cross-country season. Mike told him, "We're leaving for New Jersey tomorrow." Jose packed his things and spent the next week getting back into shape. His average was 13.8.

4. **Jack Bristol, 24, of Bethel, Conn.** Jack's favorite race is the 50-mile, and he'll fly to the London-to-Brighton 52-miler later this year. The relay was short a car when he flew in 24 hours before its scheduled start, so he bought a used wa-

gon to prevent a delay. He ran a 19.5-mile leg and had a strong 16.9 average.

5. **Mike Ipsen, 30.** Mike's long running career includes completion of a 100-miler and the Pikes Peak marathon. He's better known, however, as the founder and coach of the Redwood City Striders. Like Jose, Mike had to get in shape as the relay progressed. He maintained a 12.5-mile average.

6. **Desiree Wilson, 17.** Already the first female to run in a cross-the-country relay, Desiree could be a great woman distance runner in the very near future. She loves running, but isn't that excited about competing. She ran a 16.6-mile leg in Pennsylvania, and had the relay's sixth best average of 14.1 miles.

7. **Bob Cooper, 19.** Ran a 19.5-mile leg in Pennsylvania and kept a 15.0-mile average.

8. **Doug Peck, 17.** Doug's accommodating relatives let all of us rest in their Parkersville (Pa.) home the three days after the relay. Doug, an avid cross-country skier, then flew to Switzerland. He ran an 18.5-mile leg and had a fine 16.2-mile average.

9. **Frank Cortez, 18.** Another member of the well-known Cortez family of distance runners, Frank's a 2:45 mara-

thoner. His best leg was a 17.6-miler. He averaged 13.7 miles per leg.

10. **Ken White, 19.** "I really learned to respect the pioneers," claims White, who made it across with a 13.9-mile average.

11. **Rich Martinez, 15.** Rich improved throughout the relay until he ran three consecutive 16-mile legs which brought his average up to 14.5 miles—fifth best of the relay.

12. **Dave Wilson, 13.** Along with Danny Martinez, the youngest of the bunch, Dave is already a two-time veteran of the 50-mile. Dave rescued Mike from some dangerous rapids early in the relay. His average was 13.8 miles.

13. **Leroy Rosing, 17.** Leroy's average should have been higher, but an alarm clock was blamed for his incessant tardiness which amounted to several shortened legs. His average was 12.4 miles.

14. **Shirlee Rose, 15.** Shirlee went along to heat up the canned foot, but she courageously ran one leg and part of another when it became necessary. She made 10.5 miles in two hours—the farthest she'd ever run.



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## MEDICAL ADVICE

### STITCH

"I have a solution, or an apparent solution, to the "stitch" problem. I have been plagued with stitches under the right diaphragm after four or so miles since I started running in 1971. Of course, I tried every printed or word-of-mouth remedy to no avail. These included breathing through the nose, bending over at the chest, stopping for great lengths and fasting. Someone even suggested a laxative. Nothing was corrected. My stitches continued.

Then I read in *RW* a comment by an MD relating to a possible cause at the buildup of gas in the large intestine, with resultant pressure on the diaphragm.

My doctor, an accomplished middle distance man, suggested Mylicon. This is an antifatulent which has virtually eliminated my stitches. In effect, it causes the expenditure of gas in the normal physiological manner.

I would like to hear from other readers pro and con on the use of Mylicon. (John W. O'Sullivan Gould, Schoolhouse No. 4, R. D. 5, Lake Pleasant Rd., Erie, Pa. 16509).

### BLOOD IN URINE

**Q:** After an extensive workout, I detected some blood in my urine. My physician prescribed rest and antibiotics, which seemed to remedy the problem. However, this problem has recurred as I've resumed hard running. I have become very concerned over this. How serious are these symptoms? (M.F., South Carolina)

**A:** I have yet to hear of a runner with blood in his urine where anything abnormal was found by cystoscopy or x-ray. Nevertheless, I think it is best to do the tests to clear the air. Do these investigative procedures and rule out some serious problem that might have occurred, coincidentally with running.

This is not a common problem, but not rare either. Frank Shorter is afflicted with this finding from time to time. And I get five to six letters a year on the subject from *RW* subscribers.

A fairly recent study done in New Haven and reported in the *Lancet* in 1971

has supplied us with the best answer. These researchers did kidney biopsies on people with this disorder (one a bicyclist with a 20-year history of passing blood). The biopsies showed minor, non-progressive structural changes. On the basis of this repeated pattern, the authors decided that hematuria (blood in urine) in athletes is a symptom of no consequence.

When it occurs in runners, cyclists and oarsmen, it is apparently due to minor microscopic changes in their kidneys. The authors did not think that infection is the cause of the problem. Effort probably is.

### LOW BLOOD SUGAR

**Q:** I am a sufferer of both hypoglycemia (low blood sugar) and distance running. I would be interested in hearing your opinion as to how the former affects the latter, specifically as to what short- and long-term dietary considerations are necessary. (F. G., Michigan)

**A:** The runner with hypoglycemia presents an interesting physiological problem. The usual dietary treatment for hypoglycemia—a high-protein diet—has been proven by Scandanavian researchers to be inadequate for long distance runners. Paradoxically, the high-carbohydrate diet which causes hypoglycemia in the average individual prevents it in the distance runner. The carbohydrate is stored as muscle glycogen. Activity elevates the blood sugar in the ordinary non-athlete, but causes hypoglycemia in the distance runner—the mechanism being depletion of muscle glycogen.

The runner should use high-carbohydrate diet prior to maximum distance efforts. Otherwise, he should stick to a high-protein, high-fat regimen. In addition, he would do well to train at about the time he begins to have hypoglycemia symptoms. His exercise will elevate his blood sugar without recourse to coffee and quick energy food.

Continuous use of high-carbohydrate diet is undesirable on several counts: (1) weight gain; (2) elevation of triglycerides thought to lead to coronary artery disease; (3) hypoglycemia reactions.

### SCIATICA

**Q:** This summer, I raced a mile every week, trying to improve my time in each race. After the first meet, I felt a little twinge of pain in my hip which I had experienced before when I run hard. Before, when I had this pain, I would ease up in my daily runs. But this time I did not ease up. My hip finally got so bad that I now am uncomfortable even when I sit or lie in certain posi-

tions. The pain starts in my hip and goes down the back of my leg, sometimes all the way to my foot. What injury do I have, and how should I treat it? (W. M., Virginia)

**A:** You are another "sciatic" victim. As in many instances, your problem started with speed work. This arches the back and frequently causes a minimal slippage of the spine. But you undoubtedly also have structural imbalances (some structural and some muscular) which will make this sciatica a continuing problem in your running.

At the very least, exercises to counteract this must become part of your training program. Distance runners develop short, relatively inflexible muscles posteriorly (back of leg) from the heel to low back. This causes lordosis or sway-back. Stretching these muscles is essential, especially the hamstrings.

Hamstring stretching is best accomplished by toe touching in the sitting position. Also, standing and placing the leg straight on a chair in front of you and leaning forward into it. Yoga exercises help, but not those that bend the back backwards.

I also advise a sacroguard—a sacroiliac support you can get in a drugstore for \$5-6.

Usually you can handle slow distance running. If not, I would recommend swimming 20-30 minutes a day for 10-14 days while doing your exercises. This will maintain your cardiopulmonary condition. You should be able to resume running after this period.

### HEEL ELEVATION

**Q:** I have been using a flat-bottomed, no-heel-elevation running shoe for many years. Recently I have had tenderness and swelling of the achilles tendon sheath. I switched over to a pair of shoes with some heel elevation, and this seems to have done the trick. Now I'm curious: does a slight heel elevation really make that much difference in achilles tendon strain? (D. M., California)

**A:** Your experience is not unique. Achilles tendinitis can occur with what appears to be insignificant changes in heel elevation. I am now running with a low-grade tendinitis because I'm too lazy to have the heel of my Cortezes repaired. The first of the three rubber layers has worn through, a matter of only a quarter inch. I had similar achilles problems after the Boston marathon because I used Marathons for that race instead of my higher-heeled training shoes. When you have 5000 strikes per foot every hour, millimeters count.

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Men	Awards	Ladies	Awards
15-39	1-5	Under 30	1
40-46	1-3	30 and over	1
47-54	1-3		
55-60	1-3		
61-over	1-2		

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All marathon runners who complete the course in under  
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# PROFILES



Tom Sturak photo

## HAROLD CHAPSON

BY TOM STURAK

Old runners never die, they just move to Hawaii—and keep on running. Consider Bud Deacon, Norman Tamanaha, and Stan Thompson: all are in their 60s and together hold dozens of Division III age-group records. But perhaps the brightest star yet to rise among the mid-Pacific masters is the latest—and the oldest.

At 70, Harold Chapson burst on the veterans running scene this past April at the Hawaii Masters track and field championships when he obliterated Division IV world marks in the mile, 880 and 220. The mile in 6:05 (better than the old mark by 27 seconds) was Chapson's first track race in 46 years!

A 4:30 miler and 10-flat two-miler at Colorado State University in the mid-1920s, Chapson had done no training or competed in any other sport until 1969, when he took up running following his retirement as a corporation executive. Since then, he has run two miles daily, always timed.

Early this year, Hawaii Masters club member Mike Nagle discovered Chapson running at good pace in a park and encouraged him to undergo treadmill tests by Dr. Jack Scaff, a cardiologist and active marathoner. The results showed Chapson to be in better shape than most 30-year-olds.

A week before the Hawaii Masters

meet, Chapson ran a mile time-trial, wearing heavy tennis shoes, in 6:14—and decided to invest in a pair of running flats. Since his initial success, he has taken running "more seriously." At the Senior Olympics this June in Los Angeles, he set world marks at 400, 800 and 1500 meters. For fun, he entered the 100 and finished second—in the same (record) time as the winner.

**Harold Chapson:** Honolulu, Hawaii (Hawaii Masters TC). 71 years old (born July 11, 1902). 5'5½", 120 lbs. Retired agricultural engineer and corporation executive. Married. Began racing (masters) at age 70. Self-coached.

**Racing:** (all marks set in 1973; all world bests for over-70): 100m—15.3; 220—33.0; 400/440—68.4/69.5; 800/880—2:37.0/2:41.6; 1500m—5:30.2; mile—6:04.0.

**Training:** once a day, two miles on the track in 13:30-14:00.

"I do nothing else; no speed work or interval training. I used to run on the grass in a park but now use the University of Hawaii (Tartan) track, which gave me sore legs at first. I've coached track myself in the past—but no one knows how to train older athletes. There's a dearth of information on over-60 athletes especially. The university is going to use me as a guinea pig to see what they can find out."

## DAVE WHITE

Dave White and Doug Schmenk (see "Interview") have run parallel courses to national class in the long distances—with Schmenk so far staying just a bit ahead.

They were college teammates at Fullerton State. In January 1972, Doug ran 2:17:45. Two weeks later, Dave ran 2:17:44. This June, Schmenk won the AAU marathon (White was fifth in that race). In July, White won the AAU hour run.

White is a year younger and apparently has the edge in speed. But Schmenk has more distance background and can handle more training. The two train together only occasionally.

Dave says, "Doug and I are very close friends. But our schedules often conflict and we rarely see each other more than once a week to train. Probably our biggest difference is in the volume of miles we put in. Doug logs on the average 20-30 miles per week more than I do.

M. Julius Baum photo



"Doug has adapted his body to take the stress and strain of this type of vigorous training through practice, whereas I feel the tightness and soreness of overextending my mileage or of maintaining a fixed amount of mileage for too long."

White runs 100-150 miles in a typical week.

**David Howard White:** Orange, Calif. (Beverly Hills Striders). 21 years old (born March 4, 1952, at San Bernardino, Calif.) 5'8½", 130 pounds. College student, majoring in political science. Single. Began racing in 1966 at age 14. Largely self-coached; advised by Jim Schultz.

**Racing:** mile—4:14.8 (1970); 2 miles—8:54.2 (73); 3 miles—13:42.0 (73); 6 miles—28:21.6 (73); 10 miles—49:19 (72); hour—12 miles 100 yards (73); 15 miles—1:17:04 (73); marathon—2:17:44 (72).

**Training:** twice a day, 7 days a week, 12 months a year; 100-150 miles a week.

"Generally speaking, my training can be divided into two parts: (1) during the season for cross-country and track, and (2) off-season, i.e., during the summer and from November to April. During the off-season, no speed or interval workouts are attempted, and all runs are overdistance in nature. Weekly mileage totals 110-150, with occasional spurts to 160 or more, the emphasis being on volume. (The pace ranges from sub-six-minutes to around seven minutes a mile.)

"My low-volume mileage comes during the seasons, cross-country and track. It consists of one or, at most, two interval sessions per week. Typical interval sessions are 4 x one mile in about 4:30, or 20 x 220 at 31-32 seconds.

"During the off-season, Doug and I often take off on Sunday mornings to run over hills or mountains from 2000 to 5000 or 6000 feet. During ventures

such as these, due to the rise in elevation we may be gone for as long as three hours yet log only 20 miles. But I feel that in one way we simulate the effects of interval training.

"In high school, I divided my workouts on a 50-50 basis between speed and overdistance. For races of shorter duration, such as the mile and two-mile, I believed that this training led to better performances. Upon entering Fullerton State, and having the opportunity to train with Mark Covert, Doug Schmenk and others, the emphasis quickly changed to overdistance.

"I now split my workouts on a yearly basis to 95% overdistance and 5% speed. My thinking over the past few years on the subject of the best training pattern to follow has completely shifted. I am now completely convinced that it is overdistance which provides the tenacity with which a distance runner attains and maintains the physical condition necessary to achieve maximum performance in racing.

"I believe that overdistance runs of 8-25 miles are not only conducive to maximum performance in racing marathons or 15-milers, but benefit the athlete wishing to improve *gradually* his or her time in shorter distances.

"Under this program, I have been relatively free of injuries for the past 2½ years, and I feel this is a definite advantage. I don't believe that the body can easily adjust nor maintain peak performance on a program consisting mostly or entirely of the jagged movements of sprinting. Not only that, but I firmly maintain that for mind conditioning nothing beats running at a good steady pace along territory that has been newly discovered by the runner, far away from the beaten track."

## WILBUR WILLIAMS

BY ORVILLE ATKINS

Wilbur Williams has run around the same 657-yard grass circuit at Dorsey High School in Los Angeles more days than not since 1958. In the last nine years, the majority of the laps have been at 7½-minute mile pace, but the reasons for doing it have varied and the results and rewards have been unexpected.

Wilbur and I have run together most week days since 1969. In between our complaining about how tired each of us seems to be or how sore our "what-sit" happens to be on a particular day, I would mention the word "race" and be greeted with "not me" and "never again."

Doug Schwab photo



But the seed began to grow. In 1971, we were partners in a two-man 14-mile relay and won our "older men's" age group. Now the twinkle in my eye grew brighter. I had the hook planted and had until Sept. 14, 1972—his 40th birthday—to pull the line tight. Wilbur stated later that he competed again "because I was curious to see how I could do."

The results:

Jan. 20—1000 yards (indoors) 2:22.9.

Feb. 17—1000 yards 2:21.5 (American masters record).

April 29—Mile 4:28.1.

May 6—880 in 2:02; mile in 4:27.1.

June 2—Mile in 4:24.3 (American record); 880 in 2:05.1.

June 22—Senior Sports International: 1500m in 4:05.9 (American record); 800m in 2:02.9.

July 6—AAU Masters championships: 800m in 2:02.9 (5th place); 1500m in 4:05.9 (3rd place); 5000m in 15:52.0 (2nd place).

Fifteen months ago, he had said he'd never race again. Now he is an American record holder in several events. What does he think of his record? Well, he is "content with this year's results, but disappointed with the 880 and the way the season ended." He feels he overtrained. He thinks as a senior runner that he became more aware of injuries and that they last longer. He "can't get over the fact that he lost so much speed."

In view of the track background Wilbur has, the results of 1973 are not surprising. In 1947, in the ninth grade, he was a 5'11" high jumper. In 1949, he won the Los Angeles city schools' 1320. In 1951, he was second in the national junior college mile (in 4:30). In 1952, he was the Western States Conference 880 champion (in 1:58.0). In 1957, he ran the 880 in 1:53.9.

The best times and the real knowledge about how hard one can train were learned from 1961-64 under the guidance of Hungarian coach Mike Igloi. An 880 in 1:52.7, a 1320 under three minutes and a mile in 4:11.7 resulted.

Between 1966 and '69, Wilbur did not run at all. And then the desire for fitness caught up with him. He began to run a half-mile a day, and was amazed at how hard it was. Adding a quarter-mile every three weeks, he worked up to six miles. To prepare for his recent races, he added some "Igloi-type" training and finally to prepare for the summer season he ran 10 miles a day. He found that trying to duplicate his workouts from Igloi days resulted in injury, but he continued to work on his speed.

Although he now runs an hour a day and has seen all of the Olympics since 1956, track is only one of the interests in his life. He is married and has 11- and 14-year-old daughters and a 2½-year-old son. He has a masters degree and instructs teachers in how to teach individualized math in an elementary school. He holds a second job supervising 20 school playgrounds after school hours and 35 playgrounds in the summer.

Wilbur is also an avid chess, photography and travel buff. He is as serious about these hobbies as he is about running. In addition to traveling to the countries hosting each Olympics, he took a one-year sabbatical in 1965 and traveled around the world with his family. He has been taking a three-year course in the art of photography.

Wilbur competed in the past for success and glory, and ran in his late 30s for fitness. He competes now for several reasons. Ego, the desire to see what he can do, and fitness are involved. So is the feeling of capturing his lost youth. He enjoys the feeling of knowing he can make his body do something most younger people can't do.

And yet he adds that there is also a feeling of immediacy attached to his competing. As a younger competitor, he always felt that there was another season. But this year he felt that it could be his last. Therefore, this year he overdid, and his advice to an ex-runner coming back is to "take it easy."

Wilbur does not plan to compete more than a year or two more because it takes 1½ hours to two hours a day to get into top shape, and he won't compete unless he can put forth full effort. But I don't think we've yet seen his best results as a senior runner. He is obviously talented, and anyone who runs around the same 657-yard field for a good part of 15 years must be persistent.

# WORLD TRACK TIMES FOR 1973

This list of world best performances for men includes marks received by Sept. 7.

## 100 METERS

10.0	H. Bombach (E Ger)
10.0	M. Droese (E Ger)
10.0	A. Korneliuk (USSR)
10.1	M. Jinno (Japan)
10.1	M. Kokot (E Ger)
10.1	S. Korovin (USSR)
10.1	S. Leonard (Cuba)
10.1	P. Montes (Cuba)
10.1	S. Schenke (E Ger)
10.1	J. Triana (Cuba)
10.1	E. Weise (E Ger)

## 200 METERS

\* = 220-yard time)

20.2	H. Bombach (E Ger)
20.2*	C. Lawson (Jma)
20.2*	D. Quarrie (Jam)
20.2	S. Schenke (E Ger)
20.4	M. Droese (E Ger)
20.4	O. Karttunen (Fin)
20.4	F. Newhouse (US)
20.4*	S. Williams (US)

(7 runners at 20.5)

## 400 METERS

(\* = 440-yard time)

45.0*	B. Brown (US)
45.0*	M. Peoples (US)
45.2	K. Honz (W Ger)

45.2	D. Jenkins (GB)
45.3*	F. Newhouse (US)
45.4	A. Juantorena (Cuba)
45.4	H. Schloske (W Ger)
45.5	K. Farmer (US)
45.5	M. Parks (US)
45.6	M. Fiasconaro (It)
45.6	M. Kukkoaha (Fin)
45.6	J. Redd (US)

## 800 METERS

(\* = 880-yard time)

1:43.7	M. Fiasconaro (It)
1:44.6*	R. Wohlhuter (US)
1:45.1	A. Carter (GB)
1:45.1*	D. Malan (S Afr)
1:45.2	M. Boit (Ken)
1:45.3	Y. Arzhanov (USSR)
1:45.3	C. Silei (Ken)
1:45.3	D. Wottle (US)
1:45.4	D. Fromm (E Ger)
1:45.4	B. Hooker (Aus)

## 1500 METERS

3:34.6	F. Bayi (Tanz)
3:36.2	D. Wottle (US)
3:36.6	B. Jipcho (Ken)
3:36.8	F. Arese (It)
3:36.8	J. Boxberger (Fr)
3:36.8	T. Hansen (Den)
3:37.2	P. Paivarinta (Fin)
3:37.3	R. Dixon (NZ)
3:37.4	D. Quax (NZ)
3:37.7	M. Boit (Ken)
3:37.7	R. Gysin (Switz)
3:37.7	L. Hilton (US)

## 5000 METERS

13:14.6	E. Puttemans (Bel)
13:18.4	D. Quax (NZ)
13:20.6	H. Norpoth (W Ger)
13:22.4	S. Prefontaine (US)
13:23.2	P. Mose (Ken)
13:23.8	B. Foster (GB)
13:24.6	D. Black (GB)
13:28.0	L. Viren (Fin)
13:29.0	P. Geis (US)
13:29.4	M. Kuschmann (E Ger)

## 10,000 METERS

27:30.8	D. Bedford (GB)
27:58.6	N. Sviridov (USSR)
27:59.8	P. Andreyev (USSR)
28:01.0	V. Mochalov (USSR)
28:10.0	R. Juma (Ken)
28:15.6	J. Hermens (Hol)
28:15.8	P. Simonelis (USSR)
28:16.4	P. Mose (Ken)
28:17.8	L. Viren (Fin)
28:18.0	M. Haro (Spain)

## MARATHON

2:11.12	J. Farrington (Aus)
2:12:03	F. Shorter (US)
2:12:24	E. Lesse (E Ger)
2:13:24	Y. Kitayama (Jpn)
2:13:30	B. Armstrong (Can)
2:13:58	F. Le Grange (S Afr)
2:14:06	M. Yoshiaki (Jpn)
2:14:53	J. Foster (NZ)
2:14:55	K. Kimihara (Jpn)
2:15:47	Mizukami (Jpn)

## HIGH HURDLES

(y=120 yards; m=110 meters)

13.0y	R. Milburn (US)
13.2y	T. Hill (US)
13.3m	F. Siebeck (E Ger)
13.4m	R. Bethge (E Ger)
13.4m	M. Wodzynski (Pol)
13.4y	C. Foster (US)
13.4y	R. Stubbs (US)
13.4y	T. White (US)

(10 runners at 13.5)

## 400-METER HURDLES

(\* = 440-yard time)

48.5	J. Akiy-Bua (Ug)
48.8	J. Bolding (US)
49.3	Y. Gavrilenko (SU)
49.5	A. Pascoe (GB)
49.6*	R. Mann (US)
49.6	R. Primeaux (US)
49.6	D. Stukalov (SU)
49.8	B. Cassleman (US)
49.8*	W. Williams (US)
49.9	M. Kodes (Cze)

## STEEPLECHASE

8:14.0	B. Jipcho (Ken)
8:16.2	A. Garderud (Swe)
8:23.8	T. Kantanen (Fin)
8:24:0	E. Mogaka (Ken)
8:25:6	S. Kontosoros (Gr)
8:25.6	D. Moravcik (Cze)
8:26.0	G. Buchert (Fr)
8:26.0	W. Maier (W Ger)
8:26.2	G. Cefan (Rum)
8:26.2	W. Wagner (W Ger)

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# NOVEMBER COMING EVENTS

## NORTHEAST

- 3 Metropolitan Intercollegiate cross-country, Bronx, N.Y. (Van Cortlandt Park; eligible collegians only).
- 3 National AAU 50-mile, New York, N.Y. (Central Park, 9 a.m.; open, masters and junior championships; RRC of New York, P.O. Box 881, FDR Station, New York, N.Y. 10022).
- 4 National AAU Age-Group cross-country, Bronx, N.Y. (Van Cortlandt Park, noon; boys and girls; Kurt Steiner, 1660 E. 21st St., Brooklyn, N.Y. 11210).
- 11 JFK Memorial cross-country, Pittsburgh, Pa. (Schenley Park; men, women and age-groups; John Harwick, 467 Beverly Rd., Pittsburgh, Pa. 15216).
- 11 National AAU Junior cross-country, Buffalo, N.Y. (ages 19 and under).
- 11 Connecticut AAU 50-mile, Bethel, Conn. (open; Wayne Lucas, P. O. Box 323, Newton, Conn.).
- 11 Metropolitan AAU cross-country, Bronx, N.Y. (Van Cortlandt Park, 2 p.m.; 6 miles; open; Joe Kleiner, 2825 Claflin Ave., Bronx, N.Y. 10468).
- 11 Potomac Valley AAU 30-kilometer, Arlington, Va. (O'Connell High School, 2 p.m.; open; Graham Huston, 5314 N. 27th St., Arlington, Va. 22207).
- 12 IC4A cross-country, Bronx, N.Y. (Van Cortlandt Park; eligible collegians only).
- 17 Potomac Valley AAU cross-country, Washington, D.C. (Georgetown University, 11 a.m.; 10 kilometers; open, Graham Huston, 5314 N. 27th St., Arlington, Va. 22207).
- 18 Eastern Regional RRC cross-country, Bronx, N.Y. (Van Cortlandt Park; 9 miles; RRC members only; Kurt Steiner, 1660 E. 21st St., Brooklyn, NY 11210).
- 22 Metropolitan AAU 25-kilometer, Poughkeepsie, N.Y. (10 a.m.; open; Joe Kleiner, 2825 Claflin Ave., Bronx, N.Y. 10468).
- 24 Maryland marathon, Baltimore, Md. (open; Marathon Commission, 610 N. Howard St., 4th Floor, Baltimore, Md. 21201).
- 25 Thanksgiving 5-mile, Manchester, Conn. (open; Red Hadden, 48 Perkins St., Manchester, Conn.).
- 25 Philadelphia marathon, Philadelphia, Pa. (noon; open, Tom Sander, 515 W. Godfrey Ave., Philadelphia, Pa. 19126).

## SOUTHEAST

- 3 Atlantic Coast Conference cross-country, Winston-Salem, N.C. (eligible collegians only).
- 4 Georgia AAU 10-mile relay, Atlanta, Ga. (2 runners per team; Tim Singleton, 607 Lakeshore Dr., Atlanta, Ga. 30305).

- 10 NCAA Regional cross-country, Greenville, S.C. (eligible collegians only).
- 17 USTFF Southern cross-country, Clinton, Miss. (open; Joe Walker, Track Coach, Mississippi College, Clinton, Miss. 39058).
- 22 Thanksgiving 5-mile, New Orleans, La. (City Park Stadium, 9 a.m.; open; Larry Fuselier, 4712 Perdue St., Metairie, La. 70002).
- 24 Georgia AAU 10-mile, Stone Mountain Park, Ga. (9 a.m.; open; Herb Benario, 2278 N. Decatur Rd., Decatur, Ga. 30033).
- 25 20-mile, Boca Raton, Fla. (St. Andrew's School, 3 p.m.; open; Raymond Russell, 2506 N.E. 8th St., Ft. Lauderdale, Fla. 33304).
- 25 18-mile, Daytona Beach, Fla. (11 a.m.; open; Daytona Beach Track Club, 249 Sherwood Ln., Holly Hill, Fla. 32017).

## MIDWEST

- 3 Mid-American Conference cross-country, Athens, Ohio (eligible collegians only).
- 3 Big 10 Conference cross-country, Champaign, Ill. (eligible collegians only).
- 3 Iowa AAU cross-country, Des Moines, Ia. (men and women, open; Butch Hammer, R. R. 1, Carlisle, Ia. 50047).
- 3 Central USA cross-country, St. Louis, Mo. (men and women; Bob Hyten, 1033 Randle St., Edwardsville, Ill. 62025).
- 3 USTFF women's cross-country, Kenosha, Wisc. (University of Wisconsin/Parkside; Vic Godfrey, UW/Parkside, Kenosha, Wisc. 53140).
- 3 Central Collegiate Conference cross-country, East Lansing, Mich. (eligible collegians only).
- 10 Minnesota AAU cross-country, Minneapolis, Minn. (U. of Minnesota Golf Course; men and women; Steve Hoag, 2 Judith Dr., Brandondale Trailer Park, Chaska, Minn. 55318).
- 10 Grand Valley marathon, Grand Rapids, Mich. (Grand Valley State College, noon; open; Don Brown, Grand Rapids YMCA, 33 Library St. N.E., Grand Rapids, Mich. 49502).
- 10 National AAU Junior women's cross-country, Overland Park, Kans.
- 10 NCAA Regional cross-country, East Lansing, Mich. (eligible collegians only).
- 10 NCAA Division II cross-country, Wheaton, Ill. (eligible collegians only).
- 17 NAIA cross-country, Salina, Kans. (eligible collegians only).
- 17 National AAU masters cross-country, Cleveland, Ohio, area (ages 40 and up; John O'Neil, 15610 Clifton Blvd., Lakewood, Ohio 44170).
- 17 Minnesota AAU 15-kilometer, Ft. Snelling-Bloomington, Minn. (open, Chuck Burrows, 1630 Dayton Ave., St. Paul, Minn. 55104).
- 17 Indiana AAU cross-country, Indianapolis, Ind. (Eagle Creek Park, noon; open; Carl Carey, 406 Murphy Lane, Brownsburg, Ind. 46112).
- 24 Missouri Valley AAU cross-country, Winfield, Kans. (1 p.m.; open; Robert Karr, 1003 E. 13th, Winfield, Kans. 67156).
- 24 Hinsdale Central marathon, Hinsdale, Ill. (Hinsdale Central High School, 11 a.m.; open; Conrad Truedson, 3305 York Rd., Oak Brook, Ill. 60521).

## SOUTHWEST

- 3 Gulf AAU 30-kilometer, Houston, Tex. (Memorial Park, 10 a.m.; open; Pete League, 5471 Jackwood, Houston, Tex. 77035).

- 3 Big 8 Conference cross-country, Norman, Okla. (eligible collegians only).
- 11 USTFF Junior cross-country, Oklahoma City, Okla. (ages 19 and under; Richard Carpenter, 2832 N.W. 23rd, Oklahoma City, Okla. 73107).
- 17 Oklahoma AAU 30-kilometer, Tulsa, Okla. (Mohawk Park, 11 a.m.; open; Larry Aduddell, 1849 N. Louisville, Tulsa, Okla. 74115).
- 17 American National marathon, Galveston, Tex. (noon; open; Gerrit Hoogenboezem, P. O. Box 2052, Galveston, Tex. 77550).
- 24 National AAU women's cross-country, Albuquerque, NM. (open and age-groups; Women's Cross-Country championships, P. O. Box 6602, Albuquerque, NM 87107).

## WEST

- 3 Southern Nevada AAU one-hour, Las Vegas, Nev. (U. of Nevada/LV), 10 a.m.; open; Las Vegas Track Club, Box 869, Las Vegas, Nev. 89109).
- 4 Hawaii AAU 10-kilometer, Honolulu, Hawaii (open; C. H. Greenley, 1520 Ward Ave., No. 1402, Honolulu, Hawaii 96822).
- 10 Western Athletic Conference cross-country, Provo, Utah (eligible collegians only).
- 10 Pac-8 Conference Cross-Country, Stanford, Calif. (eligible collegians only).
- 10 Pacific AAU cross-country, San Francisco, Calif. (Golden Gate Park; open; 10 kilometers; Jim Stephenson 132 Del Casa Dr., Mill Valley, Calif. 94941).
- 10 Hawaii AAU cross-country, Honolulu, Hawaii (9 a.m.; open; 6 miles; C. H. Greenley, 1520 Ward Ave., No. 1402, Honolulu, Hawaii 96822).
- 11 Pacific AAU 50-kilometer, Sacramento, Calif. (10 a.m.; open; Walt Betschart, 4120 A St., Sacramento, Calif. 95819).
- 17 Pacific Southwest AAU cross-country, San Diego, Calif. (UC San Diego, 11 a.m.; open, 6 miles; Bill Gookin, 5946 Wenrich Dr., San Diego, Calif. 92120).
- 17 Pacific Northwest AAU cross-country, Tacoma, Wash. (Ft. Steilacoom Park; open; Guy Renfro, 22855 30th Ave. So., No. 8, Kent, Wash. 98031).
- 17 USTFF Western cross-country, Fresno, Calif. (open; Red Estes, Cross-Country Coach, Fresno State University, Fresno, Calif. 93710).
- 19 NCAA cross-country, Spokane, Wash. (eligible collegians only).
- 23 Oregon AAU cross-country, Portland, Ore. (Blue Lake Park, 11 a.m.; open; 10 kilometers; Jim Puckett, Track Coach, Mt. Hood C. C., Gresham, Ore.)
- 24 Southern Nevada AAU 15-kilometer, Las Vegas, Nev. (10 a.m.; open; Las Vegas Track Club, Box 869, Las Vegas, Nev. 89109).
- 24 Cheney marathon, Cheney, Wash. (open; Lawson Van Kuren, 418 Cocolalla, Cheney, Wash. 99004).
- 24 Island marathon, Portland, Ore. (Sauvies Island, 11 a.m.; open; Ken Weidkamp, 14230 S.W. Derby, Beaverton, Ore. 97005).
- 24 USTFF national men's cross-country, San Diego, Calif. (open; Dick Hill, Track Coach, San Diego State University, San Diego, Calif. 92115).

## CANADA

- 24 Canadian cross-country championships, Victoria, British Columbia (men and women).

# RACING HIGHLIGHTS

## TRACK ROUNDUP

The outdoor two-mile record isn't up to the indoor one, and the women's record doesn't compare in quality with the 1500. But Brendan Foster and Paola Cacchi are new recordholders just the same.

Marks from this month:

● **Mile (women)**—4:29.5 by Paola Cacchi (Italy) at Viarregio, Italy, Aug. 8, breaking world record of 4:34.9.

● **Two-mile**—8:13.8 by Brendan Foster (Great Britain) at London, Aug. 27, breaking world record of 8:14.0.

● **400m hurdles (women)**—56.7 by Danuta Pieczyk (Poland) at Warsaw, breaking world record of 57.3.

● **400m relay (women)**—42.6 by East Germany at Berlin, Sept. 1, breaking world record of 42.8.

● **3200m relay (women)**—8:08.6 by Bulgaria at Sofia, Aug. 12, breaking world record of 8:16.8.

● **6000m relay**—14:40.4 by New Zealand, at Oslo, Norway, Aug. 22, breaking world record of 14:49.0.

In the AAU Masters championships, David Pratt (800m), Henryk Kupczyk (1500m) and Larie O'Hara (10,000m) all had times among the fastest ever in their events. The winners by division:

● **San Diego, Calif., July 6-7**—National AAU Masters track championships (Div. I—ages 40-49, II—50-59, III—60-69, IV—70+):

100m—I-Richard Stolpe (Cal) 11.5; II-AI Guidet (Cal) 11.8; III-George Major (Md) 13.1; IV-Ralph Higgins (Cal) 14.8. 200m—I-Jim Lingel (Cal) 23.2; II-AI Guidet 24.7; III-Virgil McIntyre (Cal) 27.5; IV-Ralph Higgins 31.6. 400m—I-Keith Whitaker (Cal) 51.1. II-James Upham 56.5; III-Fritloe Sjostrand (Cal) 1:01.5; IV-Glen Ingram 1:18.5.

800m—I-David Pratt (Cal) 1:57.6; II-Munn 2:17.3; III-Bud Deacon (Hawaii) 2:26.8; IV-Robert Wiseman (GB) no time. 1500m—I-Henryk Kupczyk (Tenn) 4:02.9; II-Mauro Hernandez (Cal) 4:38.1; III-Bill Andberg (Minn) 4:58.3; 5000m—I-Larie O'Hara (GB) 15:09.4; II-Mauro Hernandez 17:13.1; III-Bill Andberg 18:24.4; IV-Noel Johnson (Cal) 25:41.4. 10,000m—I-Larie O'Hara 30:46.6; II-Hall (GB) 35:21.0; III-Bill Andberg 37:08.0.

110m hurdles—I-AI Feola (Cal) 15.5; II-Jonathan Sharp (Cal) 18.7; III-Bud Deacon 22.3; 400m hurdles—I-Jack Greenwood (Kans) 57.5; II-AI Buidy 1:05.0. Steeplechase—I-Bill Stock (Cal) 10:48.8; II-Bob Long (Cal) 12:38.8; III-Norm Bright (Wash) 17:48.6. 5000m walk—I-John Kelly (Cal) 24:03.2; II-Don Johnson (NJ) 27:16.0; III-Larry O'Neil (Mont) 24:03.2;

Women's 200m—I-Nicki Hobson (Cal) 32.2; II-Cathy Hargus (Cal) 34.7; III-Annette Parziale 43.8. 1500m—I-Nicki Hobson 5:25.0;

II-Cathy Hargus 6:27.0; III-Annette Parziale 7:43.0. 5000m—I-Nicki Hobson 20:30.0; II-Judy Simons 23:52.0.

## LONG DISTANCES

Big, bigger, biggest. The Paavo Nurmi marathon in the north woods of Wisconsin attracted well over 300 runners. The AAU's hour run championship (see results below) had more than 500. And in Australia, the City to Surf race was one of the biggest ever with 4300 entrants.

● **National AAU one-hour** (held at 19 sites between March and July; results tabulated by John Brennan): 1. Dave White (21, Cal) 12m 100y; 2. John Vitale (24, Conn) 12m 95y; 3. Amby Burfoot (26, Conn) 12m 90y; 4. Ed Leddy (21, Tenn/Ire) 11m 1716y; 5. Paul Talkington (26, Ohio) 11m 1531y; 6. Larry Olsen (Mass) 11m 1380y; 7. Pat Leddy (21, Tenn/Ire) 11m 1350y; 8. Don Kennedy (25, NC) 11m 1350y; 9. Kevin Breen (21, Tenn/Ire) 11m 1332y; 10. Ron Kurrle (25, Cal) 11m 1320y; 11. Garry Tuttle (25, Tex) 11m 1209y; 12. Mark Gibbens (25, Ind) 11m 1198y; 13. Dan Schlesinger (17, NC) 11m 1174y; 14. Jack Mahurin (30, Md) 11m 1167y; 15. Ken Mueller (36, Mass) 11m 1065y.

Masters (40 & over): 1. Hal Higdon (41, Ind) 11m 677y; 2. Walt Renaud (41, Me) 11m 360y; 3. Dick Bartek (40, Cal) 10m 1755y; 4. Jim Green (40, Mass) 10m 1483y; 5. Jerry Smartt (41, Cal) 10m 1302y...Ed Keyser (51, Cal) 10m 273y; James Oleson (55, Cal) 9m 1272y; Wayne Zook (56, Cal) 9m 1245y... Bob Boal (61, NC) 8m 1724y; Ray Williams (66, Cal) 8m 1508y; Chick Dahlsten (62, Cal) 8m 134y.

Juniors (19 & under): 1. Schlesinger 11m 1174y; 2. Jerry Alexander (19, Cal) 11m 842y; 3. Robert Tillman (17, Cal) 11m 286y; 4. Cesar Silva Mejia (19, Mexico) 11m 126y; 5. Larry Hanson (18, Cal) 11m 66y.

Women: 1. Nadia Garcia (19, Cal) 9m 1625y; 2. Jacki Hansen (24, Cal) 9m 1246y; 3. Karen Parish (14, Cal) 9m 373y; 4. Linda Heinmiller (17, Cal) 9m 303y; 5. Gail Hafley (13, NC) 8m 1585y. (505 runners, 54 over 11 miles, 121 over 10½ miles, 209 over 10 miles, 277 over 9½ miles, 349 over 9 miles).

## RACE WALKING

John Knifton collected national championships at 25 and 40 kilometers.

Results here are those received by Sept. 7.

## EAST

● **Middletown, Conn., Aug.**—6.5 mile: 1. Bruce Clark (Conn) 35:40; 2. Bob Day (Conn) 36:24; 3. Dick Ashley (Conn) 36:45; 4. Manfred Kandschar (40+, Conn) 37:05... 21. Bob Gardner (50+, Conn) 41:44... 71. Barbara Wynn (Conn) 49:53. (92 finished, 15 under 40:00, 44 under 45:00).

● **Ipswich, Mass., Aug. 1**—10-mile: 1. Dan Moynihan (Mass) 51:23; 2. Larry Olsen (Mass) 52:16; 3. Ken Mueller (Mass) 52:27; 4. Mike Sabino (Md) 53:07; 5. Peter Stipe (Mass) 53:16. (100+ runners, 8 under 55:00; from Fred Brown).

● **New London, Conn., Aug. 4**—12-mile: 1. Tom Fleming (NJ) 56:24; 2. Justin Gubbins (NY) 56:59; 3. Sheldon Karlin 57:18; 4. Norbert Sander 57:43; 5. John Dawson 59:01;

6. Tom Derderian 59:02; 7. Gary Muhrcke 59:03; 9. Phil Bonfiglio 59:04... 33. Joe Viverito (40+) 1:06:48... 109. Barbara Wynn 1:25:36. (170 finished, 25 under 1:05, 48 under 1:10; course apparently short; from Kurt Steiner).

● **Rome, N.Y., Aug. 5**—Ft. Stanwix 20-kilometer: 1. Tom Smith (20, NY) 1:06:18; 2. Fran Verdoliva (20, NY) 1:08:39; 3. Tom Siembor (NY) 1:08:54; 4. Bill Tylutki (26, NY) 1:09:59; 5. Rick Ellis (20, NY) 1:10:25... 42. Richard Kendall (43, NY) 1:19:00... 70. Cathy Shrader (15, NY) 1:23:19... 79. Arnie Briggs (57, NY) 1:25:55. (151 finished, 19 under 1:15, 46 under 1:20).

● **Warren, R.I., Aug. 5**—New England AAU 10-kilometer: 1. Dan Moynihan (Mass) 30:05; 2. Ken Mueller (Mass) 31:01; 3. Tom Derderian (Mass) 31:03; 4. Larry Olsen (Mass) 31:04... 8. Walt Renaud (40+, Mass). (86 finished; from Fred Brown).

● **Barryville, N.Y., Aug. 5**—Regatta Day 15-kilometer: 1. William Wilbur (23, NY) 51:25; 2. David Anderson (21, Pa) 51:33... William Brobston (60, NY) 1:11:12. (44 finished, 2 under 55:00, 9 under 1:00; from William Kroohs).

● **Staten Island, N.Y., Aug. 14**—3-mile: 1. Tony Colon (21, NY/Puerto Rico) 13:35.8; 2. Ed Bowes (30, NY) 14:40... 8. Jim Borden (46, NY) 16:41. Juniors: 1. Matt Centrowitz (18, NY) 14:00; 2. Dennis Caiceda (17, NY) 14:46. (21 finished open race, 32 in junior; from Joe Kleinerman).

● **New York, N.Y., Aug. 19**—Puerto Rican-Hispanic 13.1 mile: 1. Tom Fleming (21, NJ) 1:07:10; 2. Norbert Sander (30, NY) 1:08:37; 3. Arthur Hall (26, NY) 1:09:26; 4. Bill Bragg (24, NJ) 1:10:36; 5. Joel Pasternak (23, NJ) 1:11:13; 6. Ferdano Suarez (22) 1:11:46; 7. Hugh Sweeney (27, NJ) 1:12:37; 8. Mike White (17, NJ) 1:13:28; 9. Justin Gubbins (21, NY) 1:13:28.2; 10. Richard Stuke (17, NJ) 1:14:47... 19. Joe Burns (44, NJ) 1:17:27... 109. Nina Kuscsik (34, NY) 1:30:33. (219 finished, 33 under 1:20, 66 under 1:25, 101 under 1:30; from Joe Kleinerman).

● **Albany, N.Y., Aug. 28**—8-mile: 1. J. Shrader 44:10; 2. T. Osler 46:24. (17 finished, 3 under 50:00).

● **Troy, Ala., Aug. 13**—10 mile: 1. Rick Stetson (29, Ala) 56:01; 2. Nick Costes (47, Ala) 56:11. (5 finished, 3 under 1:00).

## MIDWEST

● **Wichita, Kans., June 2**—USTFF national marathon championship: 1. Dennis Delmott (NC) 2:29:40.8; 2. John Branley (Colo) 2:31:27; 3. Tom Berger (Colo) 2:35:26; 4. Roberto Rosales (Kans) 2:39:45; 5. Gary Hardin (36, Tex) 2:51:57... 8. Larry Carter (41, Cal) 3:05:07... 21. Bob Martin (52, Ill) 3:28:41; 22. Laura Shepherd (Tex) 3:29:57. (34 finished, 6 under 3:00, 22 under 3:30, 28 under 4:00).

● **Atwood, Kans., July 28**—10 mile: 1. Frank Rodriguez (23, Kans) 51:43; 2. Carl Becker (17, Kans) 54:58; 3. Wes Crist (24, Colo) 55:23; 4. Scott Tichenor (19, Kans) 56:19; 5. Lee Courkamp (30, Colo) 56:24... 38. Bob Conlon (42, Colo) 1:06:26... 96. Terri Stark (12, Kans) 1:43:27. (96 finished, 14 under 1:00, 32 under 1:05).

● **Michigan City, Ind., Aug. 4**—National AAU Junior 15-kilometer: 1. Gary Washington (Ind) 48:10; 2. Bill Welsh (Ohio) 48:19; 3. Arnold Jackson (Ill) 48:36; 4. Rick Sayre (Ohio) 49:12; 5. David Sutkowy (Ohio) 49:13;

6. Brian Powell (Ill) 49:44. (39 finished junior race, with an additional 63 in the open; overall event won by Washington, 12 under 50:00, 50 under 55:00, 77 under 1:00; from Hal Higdon).

● **Weatherford, Okla., Aug. 4**—Andy

Payne marathon: 1. Mickey Sullivan (Wisc) 52:44; 2. Henry Shawnee 2:56:07; 3. Albert Becken (40+) 2:57:34. (8 finished, 5 under 3:30, 8 under 3:00; from Arne Richards).

● **Cudahy, Wisc., Aug. 5**—USTFF national 10-mile: 1. Jim Drews (Wisc) 52:14; 2. John Lesch (Ill) 52:27; 3. Gary Romesser (Ind) 52:53; 4. Don Clark 53:11; 5. Larry Pusey (Ind) 53:17... John Kotsubka (40+, Wisc) 58:08; William Andberg (62, Minn) 1:03:55. (179 finished; from Wulf Koehlert).

● **Galion, Ohio, Aug. 5**—YMCA 10-kilometer: 1. Neil Cusack (21, Tenn/Ire) 30:49; 2. Drew Mearns (20, Ohio) 31:26; 3. Bob Gutjahr (20, Ohio) 31:37; 4. Paul Talkington (26, Ohio) 31:45; 5. Carl Hatfield (26, WV) 31:47... 48. Bob Cushen (42, Ohio) 36:11. (106 finished, 28 under 35:00, 104 under 40:00; from Al Holt).

● **Hurley, Wisc., Aug. 11**—Paavo Nurmi marathon: 1. Lucian Rosa (29, Wisc/Ceylon) 2:22:50.6; 2. Joe Skaja (23, Minn) 2:26:33; 3. Tom Hoffman (25, Wisc) 2:27:24; 4. Norm Patenaude (28, Ont) 2:27:33; 5. Steve Hoag (26, Minn) 2:27:58; 6. Larry Frederick (24, NY) 2:30:32; 7. Peter Farwell (22, Ill) 2:30:52; 8. James Vedder (32, Wisc) 2:31:54; 9. Brian Larsen (17, Minn) 2:34:59; 10. Chuck Koeppen (27, Ind) 2:35:47... 35. George Branam (42, Ind) 2:45:08... 74. Richard Madison (50, Mich) 2:58:00... 263. Janice Arenz (23, Minn) 3:49:45. (316 finished, 76 under 3:00, 202 under 3:30, 279 under 4:00).

● **St. Louis, Mo., Aug. 11**—15-kilometer: 1. Howard Bryant (18, Ill) 51:13; 2. Bill Parmalee (20, Mo) 54:28... 9. Jac Griswold (43, Mo) 1:01:23... 18. Wilbur Bagby (52, Ill) 1:12:04... 24. Stoke Westcott (60, Mo) 1:39:56. (24 finished, 8 under 1:00; from Jerry Kokesh).

● **Detroit, Mich., Aug. 12**—Michigan AAU 15-kilometer: 1. Dennis Williams (27, Mich) 46:57; 2. Gordon Minty (25, Mich/GB) 49:06; 3. Danny Anderson (Can) 49:16... 19. Chuck Davey (48,) 59:47. (30 finished, 10 under 55:00, 14 under 60:00).

● **Tulsa, Okla., Aug. 18**—9-mile: 1. Charles Cottle (18, Okla) 52:01; 2. Larry Adudell (28, Okla) 52:23... 6. Art Browning (42, Okla) 1:01:18. (11 finished, 4 under 1:00; from Vern Whiteside).

● **Prairie du Chien, Wisc., Aug. 18**—5-mile: 1. Dan Clark (20, Wisc) 25:22; 2. Mark Martin (20, Wisc) 26:01; 3. Dale Roe (26, Wisc) 26:26... Ann Mulrooney (15) 37:36. (69 finished, 19 under 30:00; from Pat Mulrooney).

● **Quincy, Ill., Aug. 18**—Quincy marathon: 1. Ed Steingraber (17, Ill) 2:40:52; 2. Craig Harms (23, Ohio) 2:44:53; 3. David Anderson (21, Pa) 2:46:07... 7. Arne Richards (40, Kans) 2:59:58... 20. Sharon Coghill (33, Ill) 4:13:06. (25 finished, 7 under 3:00, 12 under 3:30, 16 under 4:00).

● **Minnesota, Aug. 19**—Minnesota AAU 20-kilometer (actually about 14 miles): 1. Clint Chamberlain (27, Minn) 1:15:58; 2. Steve Hoag (26, Minn) 1:16:12; 3. Dennis Fee (18, Minn) 1:19:57. (37 finished; from Chuck Ceronksy).

● **Kettering, Ohio, Aug. 19**—5-mile: 1. Dan Dunston 27:21; 2. Stacey Osborn 27:44; 3. Dale Hayes 27:52; (24 finished, 8 under 30:00; from Wavne Yarcho).

● **Fayette, Ohio, Aug. 26**—Ohio AAU

20-kilometer: 1. Rich Lachowski (23, Ohio) 1:17:23; 2. Craig Harms (22, Ohio) 1:18:45... 16. Marianne Hamilton (16, Ohio) 2:13:09. (16 finished; from Larry Armstrong).

## WEST

● **Salt Lake City, Utah, July 24**—Deseret News marathon: 1. William Haviland (Ohio) 2:29:57; 2. George Lysy (Utah) 2:36:35; 3. Howard Miller (Cal) 2:39:11... 4. Doug Sailors (Cal) 2:45:45; 5. Kim Keller (17, Ariz) 2:46:25... 27. Charles Wood (40, Ariz) 3:12:47... 39. Reginald Heywood (10, Ariz) 3:25:25... 62. Mary Mathews (Utah) 3:39:08... 71. Don Logan (58, NY) 3:51:53. (93 finished, 15 under 3:00, 46 under 3:30, 81 under 4:00).

● **Rye, Colo., Aug. 4**—Camp Crockett 10-kilometer: 1. Ron Daws (35, Minn) 34:48; 2. John Hunsaker (16, Colo) 35:19; 3. Larry Hidalgo (16, Ariz) 36:58... 34. Joan Uillyot (33, Cal) 45:22... 44. George Wertin (61, Cal) 55:12. (48 finished, 13 under 40:00, 32 under 45:00; up to 9000-foot elevation; from Don McMahill).

● **Belmont, Calif., Aug. 4**—Ocean to Bay marathon: 1. John Sheehan (Cal) 2:40:36.2; 2. Pat Finn 2:41:31; 3. Steve Fiamengo 2:41:36; 4. Alex Aguilar 2:42:14; 5. David Cortez (15) 2:45:06... 12. Dave Stevenson (40+) 3:05:08... 59. Carol Shelton 4:16:54. (69 finished, 10 under 3:00, 31 under 3:30, 50 under 4:00; climb from ocean to 2000 feet in first 10 miles; from Scott Rayer).

● **Hope, Alaska, Aug. 4**—Resurrection Pass Trail marathon: 1. Chris Haines 2:41:59; 2. John Blair 2:48:07; 3. Nat Goodhue 2:53:08... Marian May 3:25:16; (45 finished, 4 under 3:00, 11 under 3:30, 17 under 4:00; from John Trent).

● **Littleton, Colo., Aug. 4**—National AAU 15-kilometer: 1. Chuck Smead (Cal) 48:23.6; 2. Larry Blancett (NH) 48:40; 3. Damien Koch (Colo) 49:01; 4. Charley Vigil (Colo) 49:18; 5. J. J. Griffin (Colo) 49:50; 6. Tom Hoffman (Wisc) 49:52; 7. Rick Rojas (NM) 50:04... Andy Hornbaker (40+, Colo) 57:50; Donna Messenger 1:09:22. (140 runners; from Joe Arrazola).

● **Manitou Springs, Colo., Aug. 12**—Pike's Peak marathon (actually 26.8 miles): 1. Rick Trujillo (25, Colo) 3:39:46; 2. Chuck Smead (22, Cal) 3:51:42; 3. Ken Katzer (31, Neb) 4:09:04; 4. Ken Young (31, Colo) 4:15:07; 5. John Capps (31, NM) 4:20:40. (19 official finishers in full marathon, 14 under 5:00).

Ascent only: ages 16-18—1. Jack Pottle (18, Colo) 2:43:45. 40-49—1. Andy Hornbaker (40, Colo) 2:39:46. 50-59—1. Larry Fox (51, Cal) 3:17:31. 60-69—1. Walt Stack (65, Cal) 3:57:10. 70-up—1. Rudy Fahl (75, Colo) 4:55:00. Women—1. Joan Uillyot (33, Cal) 3:14:44. (starting at 7539 feet up to 14,110; from Rudy Fahl).

● **Seaside, Ore., Aug. 18**—7-mile 733-yard beach run: 1. Steve Savage (Ore) 40:09; 2. Damien Koch (Ore) 40:45; 3. George Oja (Ore) 41:10; 4. Dave Wilborn (Ore) 41:23; 5. Rich Kimball (17, Cal) 41:24; 6. Russ Pate (Ore) 41:32; 7. Larry Miller (Wash) 41:36; 8. Ray Hatton (41, Ore) 42:01; 9. Ron Wayne (Ore) 42:08; 10. Tim Williams (Ore) 42:22... 146. Caroline Walker (Ore) 48:51... 163. Norman Hansen (50+, Wash) 49:41... 218. Norman Bright (Wash) 52:39. (421 finished, 46 under 45:00, 168 under 50:00; from Ralph Davis).

● **Portland, Ore., Aug. 25**—Masters 6½-mile (ages 40 and up): 1. Ray Hatton (41, Ore) 33:35; 2. John Frey (45, Ore) 39:09... 5. Bill Gorman (50, Ore) 41:49. (26 finished; from Ken Weidkamp).

● **Santa Monica, Calif., Aug. 26**—Sports and Arts Festival marathon: 1. Bill Scobey (Cal) 2:24:12.8; 2. Don Ocana (Cal) 2:36:09; 3. Carlos Alfaro (Cal) 2:39:02; 4. Paul O'Neil (15, Cal) 2:41:03; 5. Ed Chaidez (Cal) 2:42:05... 19. David Parker (40+, Cal) 2:54:03... 55. Clare Choate (1st woman) 3:15:44... 69. John Montoya (61, Cal) 3:20:23... 159. Fred Grace (75, Cal) 4:05:46. (212 finished, 27 under 3:00, 101 under 3:30, 156 under 4:00; from Maynard Law).

## CANADA

● **Victoria, British Columbia, Aug. 5**—Two Lakes 14-mile: 1. Bob Tappin (BC) 1:14:37; 2. Wolf Schamberger (BC) 1:15:52; 3. Jack Taunton (BC) 1:06:09... 10. Ivor Davies (40+, BC) 1:23:07... 16. Sue Taylor (BC) 2:00:05;

● **Vancouver, B.C., Aug. 25**—Palmer 10-mile: 1. Carl Christenson (BC) 50:06.8; 2. Bob Tapping (BC) 50:22.4; 3. Ross Jackson (BC) 50:58.6... 14. Jim Conway (40+, BC) 55:27.4... 24. Jan Grace (BC) 1:02:55.8. (26 finished, 10 under 55:00; from Jack Taunton).

## RACE WALKS

● **Taunton, Mass., July 22**—National AAU 25-kilometer: 1. John Knifton (NY) 2:05:50; 2. Ron Laird 2:07:38; 3. Gary Westerfield (NY) 2:13:49; 4. Steve Hayden (NY) 2:14:18; 5. Tom Knatt (Mass) 2:16:18; 6. Paul Schell (Mass) 2:18:03; 7. Dan O'Connor (NY) 2:19:58; 8. Ron Daniel (NY) 2:26:06; 9. Jim Murchie (NY) 2:27:03; 10. Karl Johansen 2:28:33. (38 finished, 11 under 2:30; from Jack Mortland).

● **Long Branch, N.J., Aug. 5**—National AAU 40-kilometer: 1. John Knifton (NY) 3:29:45; 2. Ron Laird 3:31:14; 3. Gary Westerfield (NY) 3:47:54; 4. Todd Scully (NJ) 3:51:24; 5. Tom Knatt (Mass) 3:52:44; 6. Danny O'Connor (NY) 3:53:11; 7. Steve Hayden (NY) 4:00:49; 8. Ron Kulik (NY) 4:05:51; 9. Bob Rosencrantz (Wash) 4:08:11; 10. John Fredericks (NJ) 4:12:31. (18 finished; from Elliott Denman).

● **West Long Branch, N.J., Aug.**—National AAU Junior 20-kilometer: 1. Jim Murchie (NJ) 1:56:23; 2. Wayne Dankner (NY) 1:57:08; 3. Bob Rosencrantz (Wash) 1:59:12; 4. Dave Semar (Conn) 2:03:12; 5. Randy Mimm (Pa) 2:07:45; 6. Bill Hamlin (NJ) 2:11:28. (18 finished; from Elliott Denman).

● **Broomfield, Colo., Aug. 25**—Rocky Mountain AAU 10-kilometer: 1. Jerry Brown (Colo) 46:05.2; 2. Floyd Godwin (Colo) 46:07; 3. Gary Westerfield (NY) 49:02... 6. George Lundmark (52) 1:03:22.

● **Boulder, Colo., Sept. 1**—Rocky Mountain AAU 50-kilometer: 1. Floyd Godwin (Colo) 4:34:18; 2. Chuck Hunter (Colo) 5:34:05; 3. George Lundmark (52, Colo) 6:16:15.

## INTERNATIONAL

● **Sydney, Australia, Aug. 12**—City to Surf 9-mile: 1. John Farrington 43:16; 2. Kenny Moore (US) 44:04; 3. Terry Manners (NZ) 44:16; 4. Alan Robinson 44:46; 5. Mike Wagenbach (US) no time. (4300 runners).

# CLASSIFIED NOTICES

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**1ST ANNUAL NEWS-FREE PRESS CROSS COUNTRY RUN**—Oct. 21, 2 p.m., Collegedale, Tenn., co-sponsored by Chattanooga News-Free Press and Chattanooga Track Club. 1- and 6-mile. Open with age divisions, 2-mile high school (2 divisions). Trophies awarded plus 150 T-shirts to finishers. Entry fee—\$1.00. Contact: David Gogins, 3804 Wiley Ave., Chattanooga, Tenn. 37412. (615) 624-2388.

**ALBUQUERQUE MARATHON**—Sunday, October 21, 1973, at 7:30 a.m. Awards: Open, places 1-25; Masters, places 1-5; Youngest finisher; First woman finisher; T-shirts to all finishers. Entry Fee—\$2.50. Contact: NM-TC, P.O. Box 4071, Albuquerque, N. M. 87106.

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**SECOND ANNUAL CHENEY MARATHON**—November 24, full one-loop course plus half-course for women, junior and senior high schoolers. For information: Cheney Track Club, 418 Cocolalla, Cheney, Washington. (509) 235-4762.

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**MASTERS' SPORTS ASSOCIATION**—Events for 30 year olds and up. Full cross-country, indoor & outdoor schedules. Entry blanks for Masters' Sports Assoc. & Eastern Masters Cross-Country Championships. Newsletter containing results of Masters competition. Contact: Masters Sports Association, 11 Park Place, NYC 10007. (212) 227-8582. Send self-addressed envelope.

**NORTH CENTRAL MARATHON** — Naperville, Illinois. Saturday, December 1, 1973 at 11:00 a.m. Trophies top ten. T-Shirt top 75, certificates all finishers. Entry \$2.00. Contact: Robert Schrader, 127 N. Center St., Naperville, Illinois 60540.

**THIRD ANNUAL MASTERS INDIVIDUAL AND TEAM AAU**—10,000-meter cross-country championship, November 17 at 2 p.m., Lorain County Community College, 1005 N. Abbe Rd., Elyria, Ohio. Age groups 40-49, 50-59, 60-69, 70 and over. Team race can include any combinations of age groups.

**U.S.T.F.F. UNITED STATES TRACK AND FIELD FEDERATION**—Women's National Cross Country Championships. Men's mid-America cross country championships. November 3, 1973. Classes: Girls—9 & under, 10-11, 12-13, 14-17; Women's open; Men's—veterans 30-39, masters 40 & over; Boys—14 & under, 18 & under. For additional information contact: Vic Godfrey, Office of Athletics, Univ. of Wisc. Parkside, Kenosha, Wisc. 53140. School phone (414) 553-2310; home phone (414) 554-9210.

# RUNNING SHORTS

● Steve Prefontaine set an American record for 5000 meters and came close at three miles this summer, besides running his fastest mile. For this, the AAU's long distance committee named him runner of the year. Pre will be the distance nominee for the Sullivan Award.

Prefontaine received 10 votes from the committee. Boston marathon winner Jon Anderson was next with six votes, followed by Boston runner-up Tom Fleming (4), US 10-mile record setter and track internationalist Jeff Galloway (3) and AAU marathon champ Doug Schmenk (2). Frank Shorter, last year's Sullivan Award (given annually to the country's leading amateur athlete), wasn't eligible this time.

Despite the good times he ran from May on, it wasn't a comfortable year for Prefontaine. He recently told *Los Angeles Times* reporter Jerry Soifer that he had suffered muscle spasms in the back and symptoms of sciatica since April. Pre hurt himself while practicing steeplechase water jumping.

Prefontaine, who lost seven of eight races in Europe as his condition deteriorated, said he went there "only for the experience. I knew I couldn't win because of the back." He says he's optimistic about the future "if I get well."

● A sponsor and a site have been found for the Pan-American Cup cross-country championships. AAU long distance chairman Bob DeCelle says the race, open to all Western Hemisphere nations, is set for Feb. 2, 1974, at Alameda, Calif. International-style (with barriers) men's and women's races are planned, though it isn't known yet how teams will be selected.

DeCelle also plans to propose at the AAU's convention in October that the national cross-country championships be switched from the traditional Thanksgiving weekend date to early March, starting in 1974. He says this would make the race a more realistic trial for the International meet, which always is in March. DeCelle feels it's almost certain now that US teams will run the International regularly in the future.

DeCelle's committee has been puzzling over how to select the men's team.

Officials thought that using the November AAU championship alone wasn't fair because it cut out too many collegians and was too far in advance of the International race. Proposals included a "postal" track run at a number of sites around the country, or regional trial races.

DeCelle polled 100 of the country's best runners—potential internationalists—for their views. They came out strongly against the postal system (88% said no), and against the regional trials (68% no). They want to qualify through the national championships (72%), and to have the leading finishers from that race make the team—not necessarily the country's "best" runners (62%).

● Ted Corbitt, a man who has made some ultra-distance history himself, has been digging into that history. The US 100-mile record holder came up with these facts:

1. In 1887, Charles Rowell ran 100 miles in 13:26 (Corbitt's track record is 13:33)—on the way to a 300-mile time of 58:17. Six months later, Rowell ran 200 miles in 35:09.

2. In 1888, James Alberts ran 400 miles in 84 hours.

3. That same year, P. Fitzgerald did 500 in 109 hours.

Bob Crane, director of the 36- and 185-mile races in Washington, D.C., said on seeing Corbitt's report, "This puts our recent efforts in a new perspective."

● The result is in "Racing Highlights." John Knifton won the AAU 25-kilometer walk. But it wasn't without problems, Knifton told *Ohio Racewalker* magazine:

"The story of my unique preparation for this race really began two weeks earlier. Sunday afternoon found me out training. After seven miles of uneventful walking, I was suddenly set upon by a large, hungry dog, rolled in the road and my arms generally chewed over.

"Twenty-eight stitches and five days in the hospital (with intravenous antibiotics) later, I stepped gingerly back onto the pavement to continue my aborted training session of the previous Sunday.

"Driving to the race, after 120 miles, I was dismayed to find I had left my bag with gear at home. With an hour to race time, I was feverishly borrowing jock strap, shorts and shirt from generous donors. But what about shoes? When I was about to give up in despair, a kind gentleman came to my aid with a pair of bowling shoes. They were half a size too big, but by dashing to the durg store and completely taping both feet, I was able to hobble to the starting line..."

# 24-HOUR RELAY

The 24-hour relay grinds on. Ninety-six teams ran all nighters so far in 1973. This is down from the number of teams that had run at this time in '72, but that's to be expected—there was no Olympic fund drive and so publicity and motivation were perhaps a little lower.

Interest among the "hard core" remains high, though, such as the San Francisco Bay Area's many age-group relay veterans—probably the only group who as a whole "enjoy" the relay (of course, it's a chance to stay up all night). At the *Runner's World*-sponsored affair in San Jose, 21 teams ran 4224 miles, 54 yards. Sixteen of these ran farther than 200 miles.

Twelve all-time and numerous state all-comers' records have been set or broken in '73.

To set a record a team must above all stay healthy. Many record attempts fail when one or two runners drop out from the jarring effects of repeat fast miles on hard tracks and temperatures that range from very cold to wilting summer heat. "Stretching the Energy" in the July *RW* tells of physiologist Pat Reid's discoveries about diet and injuries in the 24-hour relay. Record-shooters would do well to read it.

Here are the 25 best results to Sept. 6 and the current all-time records.

Here are the 25 best results to Sept. 6 and the current all-time records.

1. Blackheath Harriers (Eng.)	291m, 306y
2. West Valley T.C.	284m, 224y
3. Minnesota Footpounders	277m, 200y
4. Indianhead T.C.	269m, 490y
5. West Valley 8 + Cal Aggie 2	268m, 475y
6. New Canaan H.S.	263m, 552y
7. St. Louis Metro H.S.	261m, 1375y
8. Bluegrass Runners' Club	261m, 100y
9. Gulf Coast Striders "A"	259m, 1180y
10. Appalachian AC	257m, 1470y
11. Williams Road Runners	256m, 1393y
12. Loy Norrix H.S.	256m, 1303y
13. Crown Point Track Club	255m, 1631y
14. Newts	252m, 1100y
15. Hickory H.S.	246m, 49y
16. Tampa Six Pack	246m
17. Porterville Striders	245m, 220y
18. Baldwinville 9 + 1	244m, 440y
19. Mercy High "A"	240m
20. Alameda T.C.	238m
21. Webb Jr. High	237m, 880y
22. Linton Devils	237m, 138y
23. Pryor Junior High	235m, 330y
24. Hannibal Coaches' Team	234m, 620y
25. Dirteaters	233m

## CURRENT ALL-TIME RECORDS

World	Olympic Training Camp (Wa)	1970	295m, 269y
Club	Sale Harriers (Eng.)	1972	293m, 378y
Club (US)	W. Valley (Cal)	1973	284, 224y
College	Furman U. (S.C.)	1971	277m, 896y
High School	Dos Pueblos (Cal)	1972	276m, 769y
H.S. (girls)	Crow High Girls (Ore.)	1973	163m, 697y
H.S. Frosh	Crow High Freshman Boys (Ore.)	1973	185m, 710y
Junior High	Webb Jr. High (Fla.)	1973	237m, 880y
Jr. High (girls)	Hook Jr. High (Cal)	1973	170m, 30y
Elem. School	Ocean City Elementary (Fla)	1973	198m, 400y
Indoor	Williams RR (Mass)	1973	256m, 1303y
Walking	Colorado Track Club (Colo)	1973	162m, 275y
Over-40	Seniors T.C. (Cal)	1971	259m, 108y
10-man	Olympic Training Camp (Wa)	1970	295m, 269y
10-women	Kettering Striders (Oh)	1972	223m, 80y
9-man	Kettering Striders "A" (Oh)	1972	272m, 1060y
8-man	New Canaan H.S. (Conn)	1973	263m, 552y
8-women	Baker Girls (Oh)	1972	110m, 440y
7-man	Appalachian A.C.	1972	257m, 1470y
7-women	Fairborn Girls (Oh)	1973	126m, 440y
6-man	Tampa Six Pack (Fla)	1973	246m
6-women	Bede's Speedys (Alaska)	1973	162m, 39y
5-man	Troy State A.C. (Ala)	1972	227m, 720y
4-man	Goleta Striders (Cal)	1972	213m, 904y
3-man	Fresno Pacific Frosh (Cal)	1972	190m
3-women	Pacetroppers (Cal)	1972	115m
2-man	Bowling Green Marathon Club (Oh)	1972	181m, 632y
Police Teams	L.A. Police Department (Cal)	1972	236m, 1630y



John Marconi's photo of a road race on beautiful 17-Mile drive at Carmel, California shows running conditions of rare quality.

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● **T-shirts** — regular cotton t-shirts. Sizes: s (28-30), m (32-34), l (36-38), xl (40-42). Colors: gold, oxford, orange, green, blue. Price — \$1.89 ea.

● **Jog Joy warm-ups** — 100% acrylic warm-up suit both jacket and pants. Sixes: xs, s, m, l, xl. Colors: navy, royal blue, forest green, red. Price — \$21.95.

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# READERS' COMMENTS

## COOPERATION

In the recent Pike's Peak marathon, Roger Wilcox and I ran almost shoulder-to-shoulder through the race. We encouraged each other along, one gaining strength from the other.

Pike's Peak is a hard, physically exhausting race. Therefore, a runner must do all he can to conserve his energy. However, since it is such a fatiguing race, it helps to talk at times with a fellow runner to partially take your mind off the pain. So Roger and I talked as we ran.

As we got closer to the top of the mountain, we were in first place for our age division, and we talked of finishing in a tie. With one mile to go, we checked our watches and found we had a chance at the record. With about 200 yards to go, we checked our watches again and felt we would need to "sprint" to the finish to assure ourselves of the record.

Roger did not feel he had enough left to pick up the pace that much, and he told me to go on and get the record. I reminded him of our plan to tie. But he insisted that if both of us could not get the record, he wanted one of us to get it. He gave me a pat on the back, then almost stopped running and became my one-man cheering section.

The record doesn't mean that much to me, because it will soon be broken. What means much more is that in the great sport of running we have great sportsmen such as Roger Wilcox.

*Andy Hornbaker  
Colorado Springs, Colo.*

## TOTAL FITNESS

Ross MacDonald ("Total Fitness," Aug. 73) raises an issue that "time" runners do not want to face—namely that true recognition of runners cannot be made until both weight and time are considered. If we are to encourage more people to run, the "power" expended in terms of weight, time and distance must be factored into any competitive race.

*C. H. Pedersen  
Birchrunville, Pa.*

I run the three-mile between 15 and 16 minutes and am thin. Seeing (Ross MacDonald) at a race, I would think it marvelous that he wanted to run distance,

and I would *not* regard him as a freak—nor would hardly any serious runner.

We would, in return, expect respect from Ross. We cannot have a large musculature on our slender frames, nor should we try. Many repetitions of light weights (for endurance) rather than a few repetitions of heavy (for strength) is what we strive for.

The danger with Ross's weight is that if—due to career necessity, injury or lack of incentive—he stops his regular exercise program, he must support all that tissue with a below-top-level respiro-circulatory system, which can lead to severe health problems if continued over many years.

The longevity prognosis for us slender, fast athletes is surely good. We have high metabolic rates and lots of nervous energy, which makes it difficult for us to put on weight even if relatively inactive.

*Richard Packard  
Brighton, Mass.*

## DR. SHEEHAN

For at least the last year and a half, I have been reading your magazine and tolerating the half-truths, folk medicine and unscientific reporting of Dr. George Sheehan. From a distance, Dr. Sheehan presumes to know more than the patient's personal physician, even though Dr. Sheehan has not seen the patient or the results of (his tests).

The time has come for George Sheehan to be removed from his position of unchallenged sports medicine expert. There are many men eminently qualified to fill this need, and it should be done. At the very least, you should present a second opinion alongside Sheehan's comments.

*J. Arends, M.D.  
Plano, Tex.*

**NEXT ISSUE:** That amazing little 14-year-old, Mary Decker, is the subject of the November interview. Garrett Tomczak does the interviewing.

Special emphasis for the month is on the way people run—their running form—with hints on how to improve that style.

Other features look at Mel Brodt, the successful coach at Bowling Green State University. And the Springbank International road races,

The static that Dr. Sheehan has been getting stems, I think, from the fact that he's very courageously stepping on the toes of the anachronistic elitist self-image that too many doctors have about themselves, i.e., that only physicians can deal with human suffering and disability.

It requires a certain amount of humility to admit (as Sheehan does) that other members of the health-care team—podiatrists, physiotherapists, nurses—may have as much or more to offer in a given situation than a physician. But a little humility is good for the soul (especially the doctors' souls!), and the ultimate result can only be a markedly improved health-care delivery system, not just in terms of shin splints but rather in terms of all our physical, emotional and social ills.

*Kaj Johansen, M.D.  
Seattle, Wash.*

## BEST?

Why does everyone concern himself with having the biggest marathon in the world? ("Marathon Fuels a Marathon," Aug. 73, and "Marathon's Triple Header," Sept. 73) Why doesn't someone worry about having the best?

*Don Morris  
Boulder, Colo.*

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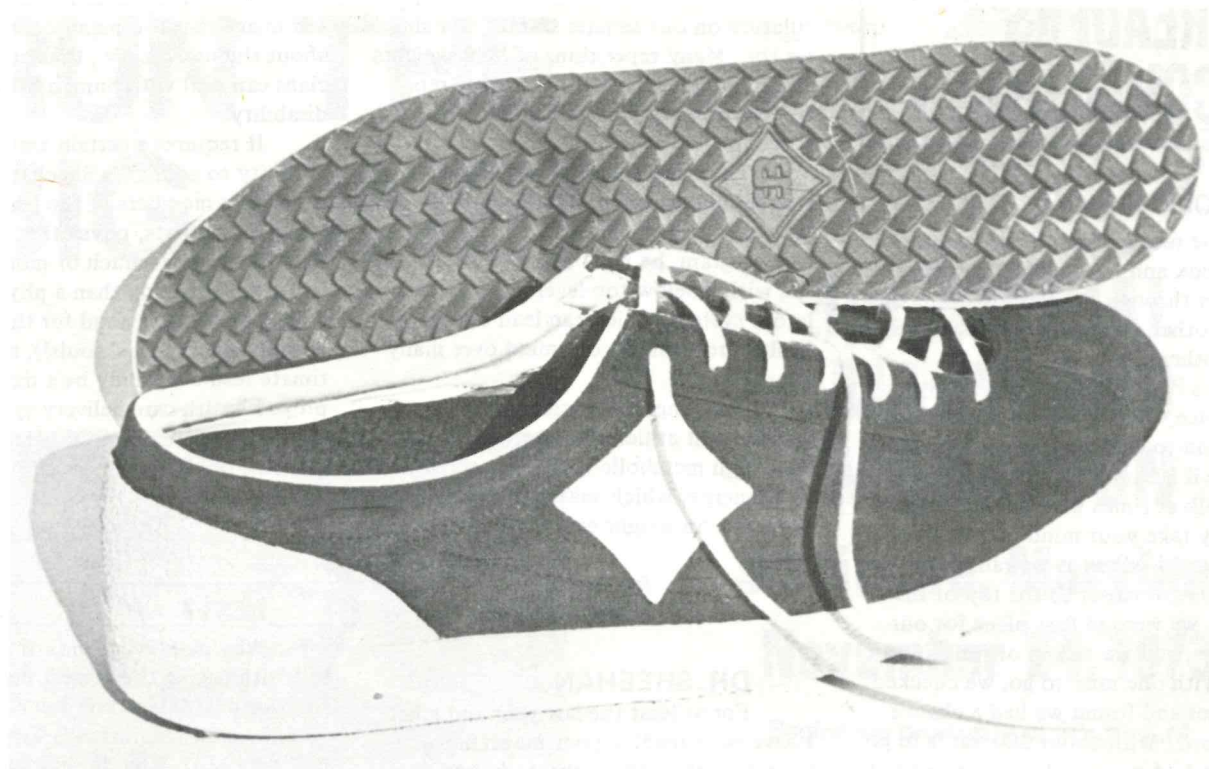
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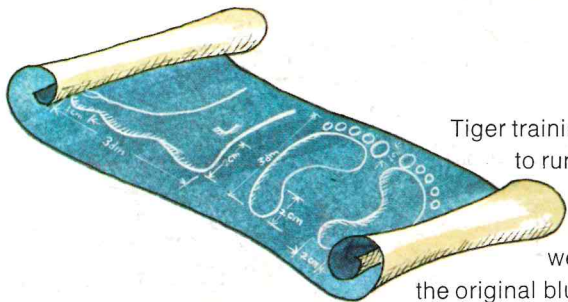
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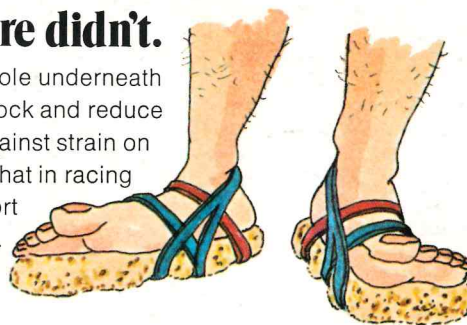
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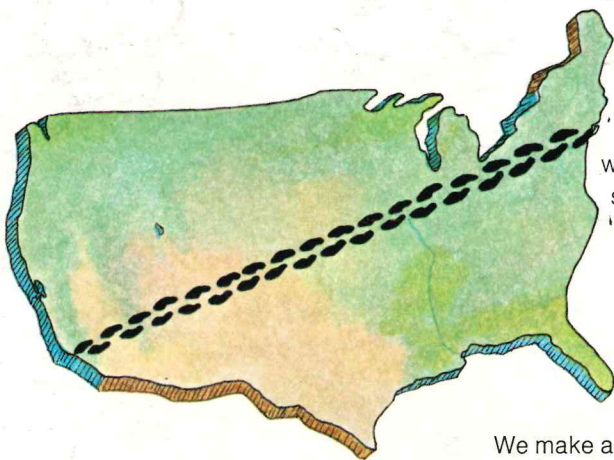
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