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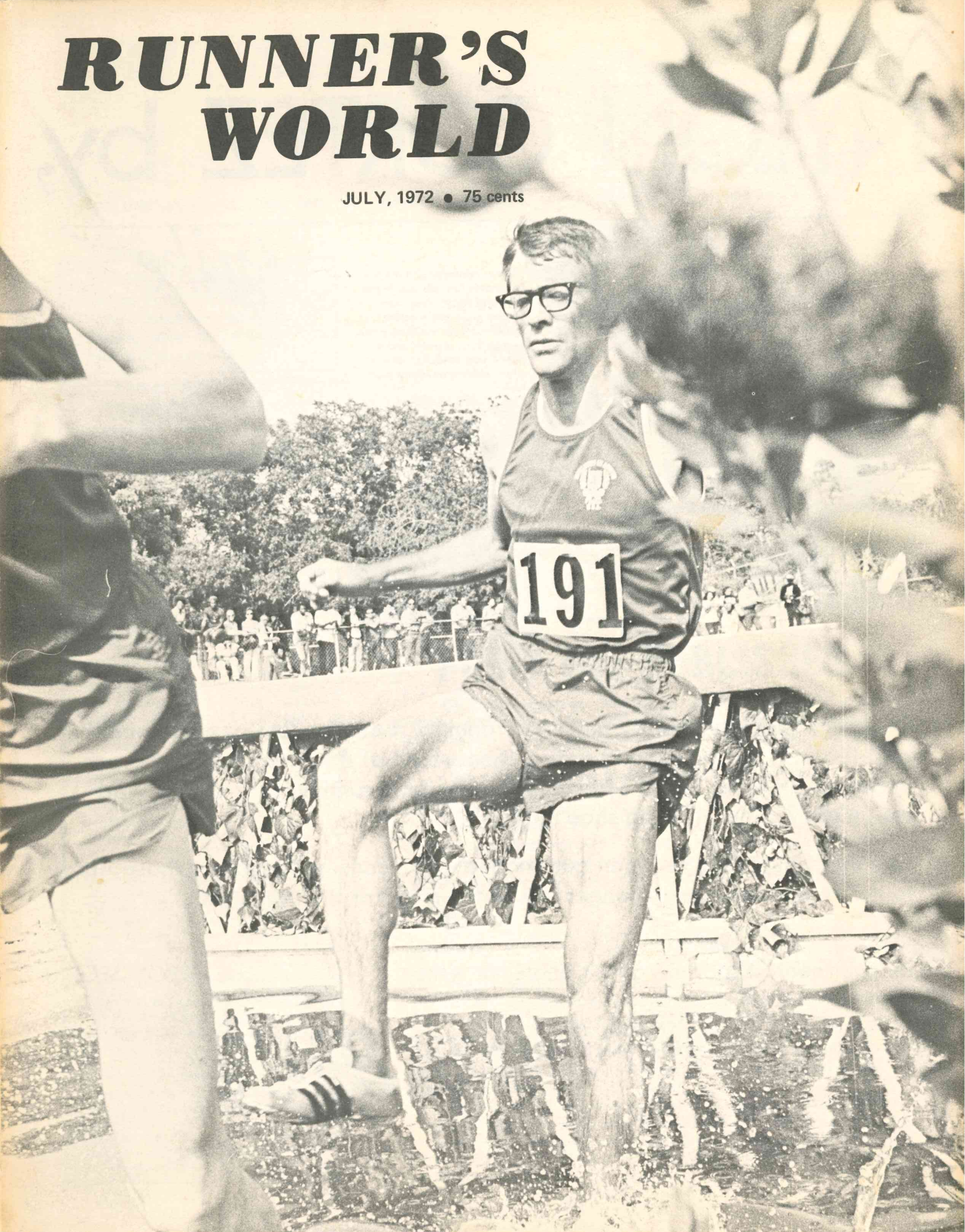
JULY, 1972 • 75 cents



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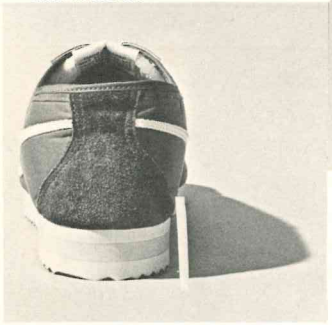

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RUNNER'S WORLD

VOLUME — Seven July, 1972 NUMBER — Four

COVER:
Bob Price has made a number of international teams as a steeplechaser, but never an Olympic team. That was his goal—and everyone elses' in his class—as he raced through the spring season. (Photo by Stan Pantovic)

RUNNER'S WORLD
Mailing: Post Office Box 366
Office: 2562 Middlefield Road
Mountain View, Calif. 94040 USA
Phone: (415) 969-9700

PRESIDENT & PUBLISHER
Bob Anderson
EDITOR
Joe Henderson
SUBSCRIPTION MANAGER
Rita Anderson

EUROPEAN EDITOR—Wilf Richards
STATISTICIAN—Roger Gynn
SENIOR CONTRIBUTORS—Percy Cerutty (Australia); Ted Corbitt; Geoff Fenwick (Africa); Hal Higdon; Dave Prokop (Canada); John Romero; Martin Rudow; George Sheehan; Tom Sturak; Pat Tarnawsky.
SPECIAL CONTRIBUTORS— Richard Amery (Australia); Tom Bache; Pax Beale; Pete Burkhart; Bob Carman; Nat Cirulnick; Nick Costes; David Costill; Elliott Denman; Tom Derderian; Jim Dunne; Fred Grace; Frank Greenberg; Mick Hamlin (England); Bill Indek; Don Jacobs; Janet Newman; Des O'Neill; Natalie Rocha; Walt Stack; Skip Stolley; Hugh Sweeny.
ARTISTS—Bill Canfield; Jeff Loughridge
PHOTOGRAPHERS—Don Chadez; Rich Clarkson; Tony Duffy (England); Donald Duke; John Goegel; Bill Herriott (Canada); Jeff Johnson; Jeff Kroot; Rick Levy; Jay McNally; Horst Muller (West Germany); Steve Murdock; Stan Pantovic; Ed Reed; Mark Shearman (England); Paul Sutton; Steve Sutton; Peter Tempest (England); Walt Westerholm; Don Wilkinson.

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FROM THE PUBLISHER

Our expansion goes on. Just recently we hired a new editorial staff member—George Beinhorn. George is 30 years old, has been running since 1969, can speak and translate German, Spanish and Portuguese, is a good photographer and a good writer.

George will be doing our final proofreading on all publications, some editing and rewriting and other editorial duties. George is really interested in running and bicycling, and with his skills he will be of great help to us.

The name *Runner's World* no longer covers all our activities here. We now have a bicycling magazine (*Bike World*), we do outside typesetting and layout, we are going to start a retail sport shop (Starting Line Sports), and we have other plans. This is why the overall name for the business will now be World Publications. I am still the sole owner so really the only change is in the name.

We are really getting cramped in our small 1000-square-foot office, so we're moving. The move into our new 2500-square-foot building starts July 1, and we should be settled by Aug. 1. The address is 927 Industrial, Palo Alto. This is about five blocks from the present location.

Our next issue will be mailed early. The September issue will be mailed Aug. 10 so that you will have it before the Olympic Games. We'll have good pictures and information to help you enjoy the Games to the fullest. If you would like a copy mailed to you by first class or airmail in addition to your regular copy, the cost is $1.00 for first class and $1.25 airmail (this does include the cost of the issue).

We are going to start paying for articles. In submitting articles, you must request that your article be considered for payment. Otherwise, we will assume that you have donated it. The payment scale will range from $100 down to $5.00. If you are interested, send for additional information and our requirements.

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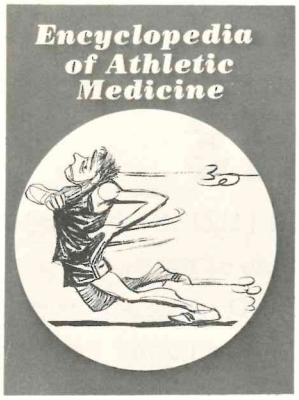

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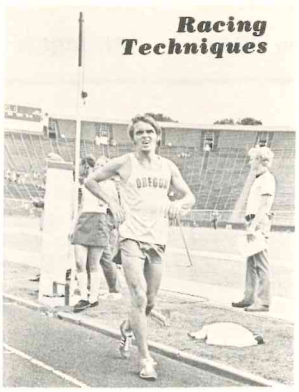

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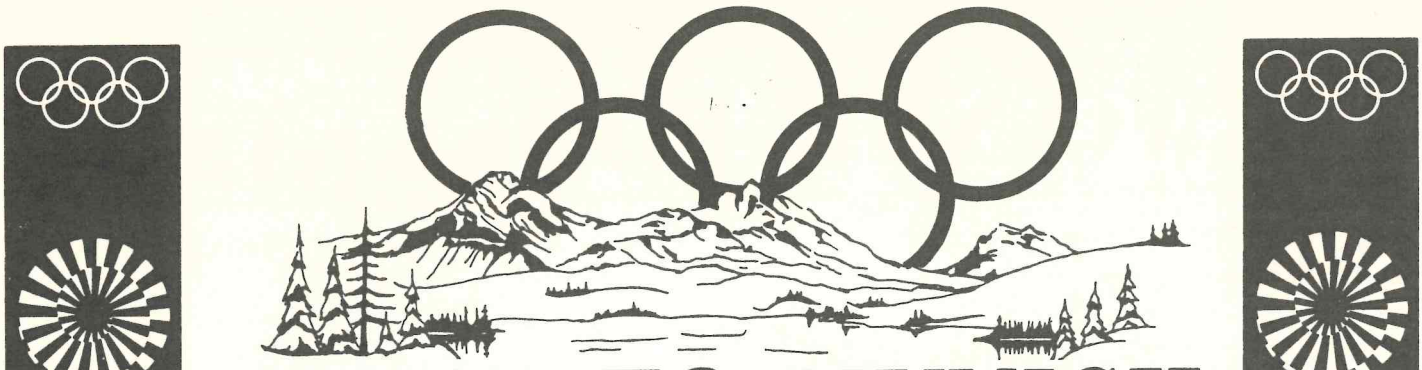


ROAD TO MUNICH

The *Runner's World* publication schedule demands that this issue go together in early June so the magazine can be published and in the mail by the first of July. This is the way the schedule always works, and it usually works fairly smoothly. Not so this time. The timing of this issue is awkward. It goes to the printer before the Olympic trials, and you're probably reading it after the US men's and women's teams have been selected.

This time, because of the schedule restrictions, we're having to deal in the area of dreams and speculations—what *might* be happening to certain individuals at Eugene and Frederick.

This was written on June 1. Within a few weeks, about 200 men had qualified for the men's trials. A hundred women runners had made it to theirs.

The season of hope and heartbreak is well underway. Madeline Manning-Jackson, the 1968 Olympic champion at 800 meters, is back from a long layoff and is as fast as ever. Rudy Haluza, top US 20-kilometer walker in the '68 Games, is back, too. (At 41, Haluza was one of the oldest athletes still in the running, or rather, walking.) Also '68 Olympians Tom Laris and Tracy Smith. Only one pull is strong enough to get them restarted.

But there are also the Marty Liquoris and Don Kardongs. Liquori battled foot trouble and lost. He couldn't even run the trials. Kardong came off a brilliant indoor season and ran into mononucleosis. He most likely lost out before the trials, too.

For the survivors, dreams were scheduled to meet reality in early July. Nine of every 10 athletes in the trials were fated to stop there. The 10th got to go on to face even higher odds at Munich.

The runners featured in this issue were talking about what they wanted to do. From your viewpoint on the other side of the trials, you can see how many of these dreams are still intact.

The problem now is keeping them that way for another couple of months. The US trials are so tough to get through that they almost become an end in themselves. In some events, the British have the same situation. Cliff Temple of the *Sunday Times of London* speculates on the marathon: "We've got a half a dozen men capable of going 2:12, but the question remains whether they will have to do so much just to get on the team that they'll be empty shells at the Olympics."

This whole process of hope and despair doesn't only happen with Olympic prospects. It happens with all runners. That's why we feel justified in spending a third of this issue on the plans of a few runners. All runners have their own little "Olympics," and the closer they get to them the steeper the odds become. Nine-tenths of them can't match dreams with reality.

We all play out our own Olympian dramas. The runners here are good enough that they have to play theirs out in public, as Marty Liquori and Jim Ryun have done for years. The Olympic Games magnify everything even more. But the basic process is the same for them as for the common plodder.

The idea in giving 15 or 20 pages to Olympic prospects is not to point out the distance that separates them from us, but to show how close together we are.

One reader wrote in the last issue that "your magazine lacks articles about Olympic champions. And becoming Olympic champions is really what it's all about, no?"

Another has said the opposite: "There is an overemphasis placed on the Olympic Games. Too many athletes live only for the Games, an attitude which the press and public encourage... Too many athletes, it seems, feel that nothing is worthwhile in track except the Olympics. These are the same ones, perhaps, that are always announcing their retirement 'after the next Games' and apparently are getting the least possible enjoyment or satisfaction out of the sport."

In our view, both letter-writers are right and both are wrong. Yes, finding one's *personal* "Olympics" and winning there is indeed what running is all about. But saying that the only thing worth doing in running is aiming for the big Olympics, and that the only people worth writing about are the ones who win there...well, that's not what we have in mind.

We want to put the Olympics in perspective—as a single meet that represents all meets, with individual athletes who stand for all athletes. The Olympics and its competitors are examples of what events and people can be. We're justified in writing heavily about the Games if the stories inspire other runners to action. However, if they're read passively, we're no better than a fan magazine.

The *Runner's World* philosophy, if it can be called that, is that the most important runs in the world are the individual's own. Read our Olympic coverage with this in mind.

Not only this issue, but the next two will be Olympicized. And besides these *RWs*, we'll be publishing a booklet on the subject. There are special plans for the September issue. It will come on the heels of this one. As soon as the trials are over, the work on it will be completed. The magazine—containing mostly pre-Olympic features—will be in the mail in early August so you'll have it before the Games open.

That one will have the ultimate in dreams and speculations, from runners who have been successful in meeting them thus far.

Runner's World Interview:

WINZENRIED & LUZINS

BY TOM STURAK AND JOE HENDERSON

Mark Winzenried and Juris Luzins have reached the same place from different directions.

In 1968, Mark was an 18-year-old freshman at the University of Wisconsin. He almost sneaked onto the Olympic team that year. In 1968, Juris was between his junior and senior years at William and Mary. He says he wasn't even thinking about that Olympics.

That year's Games changed them both. The near-miss left Mark hungry. Besides that, he learned a lot from the experience—and from Pete Petersons, a coach at the training camp. Luzins says he got miserably out of shape that summer, but decided that fall that, "I've got four years to work now. Maybe in '72 I can be there."

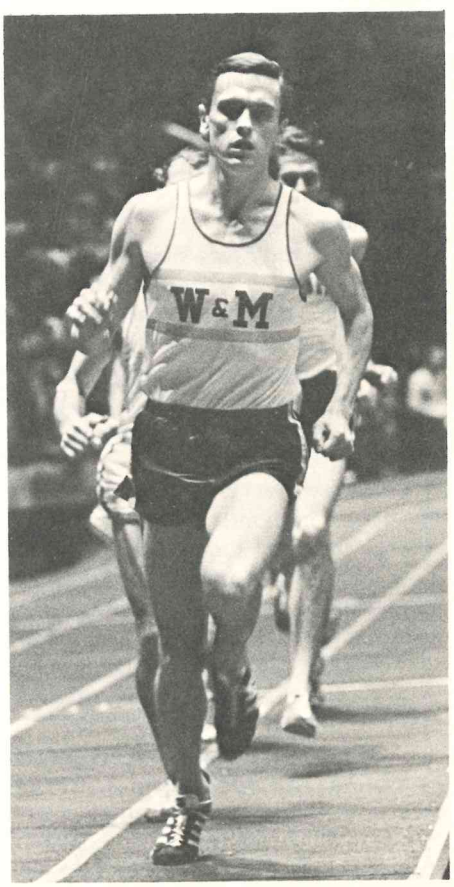
Winzenried lives in Santa Barbara, Calif., now. He went there specifically for Petersons' coaching. Luzins, now a Marine lieutenant, is where he wanted to be when he started training hard four years ago.

These two are the top American 800-meter men. They're so close to each other that they're impossible to separate. Juris (pronounced "Yuris") has the fastest time at this distance, but not by much. Juris has run a metric 1:45.2; Mark has done 1:45.6. Luzins is the American record holder at 1000 meters; Winzenried holds the world indoor mark at 1000 yards. In their nine races last year, Luzins was ahead six times. But in four of those, Winzenried was a tenth-second or less behind him.

So much for the similarities. Now the differences. Juris is the older of the two. He's 25 years old. Winzenried is 22. Mark is a racing freak. Petersons says he would rather race than train, and last summer in Europe Mark raced more than 20 times—usually against world class competition. Luzins approaches his races more cautiously.

Winzenried has great speed. He started as a quarter-miler and has been in the 46s at that distance. Luzins says he's the slowest of the leading 800 men. His best quarter is about 48. He makes up for that deficiency with great power. Juris has been a miler for much of his career, and has been giving extra emphasis to it this season. He recently ran 3:58.2.

Since joining Petersons, Winzenried has switched his approach. His training is more distance oriented, and he



Laying the groundwork for their current success, Mark Winzenried (left, photo by Don Wilkinson) and Juris Luzins (right, photo by Steve Murdock) race as collegians.

too has been running big miles. Mark ran 3:59.5 this spring. The two of them were just honing down their two-lap speed when interviewed. It was the first week in June. They had raced in Los Angeles on Sunday (Winzenried beat Luzins by three-tenths). Mark came back the next day and tried to break Juris' American 1000-meter record, and narrowly missed it. Tom Sturak talked with Mark after that run. Joe Henderson interviewed Luzins two days later after Juris had loped to an easy win in the Interservice championships at San Jose.

MARK WINZENRIED

RW: *Mark, you fell a little short of the American 1000-meter record today, but you ran 2:18.0. That's your personal record, right?*

Winzenried: Yes it is. I ran this distance in Europe three or four times last summer, but I didn't break 2:20. I was running 1:46s in the 800 around that time, too.

RW: *Yesterday you ran 1:46.6 for 800 meters. I can't remember being so impressed by a half-mile. You led from start to finish. You ran 53.3, 53.3. You were in command all the way. Did you run according to your plan?*

Winzenried: Actually, I was hoping to be maybe a little bit faster at the quarter—maybe 52.5. I wrote down my splits afterwards and studied them, and they're all pretty consistent—except on the second 220 I slowed down to 27.8. I think if I would have held up on that second 220 and run 26-point-something, it wouldn't have affected me that much on the last lap. You just have to be mentally sharp each section of the race. That's the trouble. A lot of people get through the first 220, hear the split and say, "Oh, that's good." They hear 26, and automatically they think 52. They just double it. But then they fall asleep and blow the whole thing. You've got to be concentrating—aware of how fast you are going—all the time, if you want to hit a good fast pace.

RW: *It would seem to me then that what you're attempting to do is learn to control sections of the race, and run it more or less even. In the past, you've had a reputation of being a "blazer." Maybe this was because of the way you ran in 1968...*

Winzenried: I did that mainly because I was young and didn't know how to run. I just ran scared. Now I've learned a lot, and Pete (Petersons) has helped me so much. I'm more experienced, older and more mature.

RW: *Are you trying to run even, or do you still like to run a little faster on the opening lap?*

Winzenried: I think, economically, it's good to run even. Right now I'm running 53-53 laps. It doesn't feel real comfortable right now. But after a few races at 53-53, it's going to feel comfortable. Then I can put it down maybe a little more and try to run 52.5-52.5. It won't feel good the first time, but the second time it'll feel a little better, and the third time maybe I'll be able to float through most of the race pretty comfortably. Each time I run it, I'll be able to get closer to the tape before I start to really feel uncomfortable. So what we're trying to do is gradually push that even pace down by racing hard quite often. Last Sunday, I ran a 1:47.5 880 in practice—alone. Then I rested two days and ran a 770 at 1:44 half-mile pace. Then I rested a couple of more days and ran these two races.

RW: *Obviously, you thrive on competition. You've run four top-flight times in the last week. And you plan to run Friday night and Saturday night, too. Do you think this is best for you, based on your past experience?*

Winzenried: I've studied all my races in Europe last summer and have made graphs—all kinds of charts to see if I could see any kind of curve. It's pretty obvious that I started out running some mediocre times—going through fast paces and then feeling rotten. But the more I did this, the easier the first lap became. Then by the end of the summer I could go through a 52-flat and it felt really good. If you can get through a 52 easily, then you're going to run a stronger second lap. If you get through a 1:19 660 easily, you're going to run a stronger last 220. So what we're trying to do is float a good 660-770 at a fast pace. Each time we do it, it becomes more familiar to the body so that the last 110-220 will be stronger. The more I do this, the easier it becomes for me.

RW: *Last summer, you ran 23 races in 2½ months. Weren't your last ones your best?*

Winzenried: Yes, and my last five were in a 10-day period. I had two 1:46.2s, a 1:46.4, a 1:46.6 and a 1:47-flat within a 10-day period. And it's just because of the 51.5-52 pace that I got used to. We'd hear 51, and it felt easy...relaxed, whereas at the beginning of the summer I ran 51 and felt like I was beginning to tighten up already.

RW: *You're now in a sharpening period. But earlier in the season, you said you were putting in about 85-90 miles a week. What kind of work was this?*

Winzenried: Last fall it was straight distance, hill work, fartlek. I ran the national AAU cross-country meet as a workout. September, October and November I was mostly doing this. Then December, January, February, I still did a lot of distance, but two days a week we went on the track for volume interval work. In March, we started getting on the track a little more. Instead of two times a week, we'd go Monday, Wednesday and Friday—three days. Then the other days we'd go out for a fartlek or a distance run. In April and May, we were on the track quite a bit. We'd still run 5-6 miles in the morning, but we'd be on the track maybe four times a week. Now my only distance is in the morning, and maybe on Sunday. I do three or four easy miles in the morning, then either a good quality workout in the afternoon or just striding with some sprints for recovery.

RW: *How long have you been training with Pete Petersons in Santa Barbara?*

Winzenried: I've known Pete now for four years, but I've only been working close with him since Oct. 18. I arrived in Santa Barbara that day, then we've become very close. I was going to go wherever Pete was. If Pete had gone to Alaska, I probably would have gone to Alaska to train. I have that much confidence in him.

RW: *How has he affected your training specifically? Has he changed your workouts radically in any way?*

Winzenried: We work together a lot on workouts. But the thing is, he has given me the guidance. Before, I was kind of on my own to do what I wanted. I worked hard, but I didn't know if I was doing the right work. Sometimes I might go out and do too much, or not enough of the right type of work.

Pete has really helped me in that I know I'm doing the right type of work at the right time of the season, and that I'm not doing too much or too little. He knows when to quit, and what type of workout to do. If you're tired, he knows what type of workout to do to get back a little snap as you're still working. Before, I'd go out and work hard every day—tearing my body down. Now he knows when I'm tired and how to get the spring back in my legs. It's the guidance he has given me.

A lot of times he'll ask me, "What do you feel like doing?" and I'll suggest what I think. We'll maybe combine a little of what he thinks with a little of what I think. He's very creative in his workouts. We don't repeat many. We'll do one, then we'll go on to something else the next time. He has taken some of the things I used to do, what he thought was good that I did at Wisconsin. We'll do some of those and mix them in with what he thinks are good.

RW: *In March, you ran a mile under four minutes. A lot of people were surprised to even see you in the mile. They still think of you as a quarter-miler/880 type because you have good speed. Back in your high school days, you ran the quarter under 48, and you've done 46-plus on relays. Have you done much miling before?*

Winzenried: My junior year (of college) indoors, I ran 4:01.9. I ran the mile/half doubles during the indoor season all through my junior year, and then a little bit my senior year. This was in dual meets, indoors, so it's quite a bit different than running a big meet outdoors.

It's a good check on your strength work. In my case, I came up from the quarter-mile, so my strong point was speed and my weak point was endurance. So we've been working on strength and endurance for the last two years. It has been a conscious effort to improve my strength. It was just a good check to see if I was progressing in that area.

RW: *As you are probably aware, the 800 is considered the poorest record on the books in the running events. Do you agree?*

Winzenried: The 800 and half-mile have poorest records. I think it's because people are afraid to run the half-mile the way it should be run. The way it has to be run is that it has to be a sprint. Everyone is running the first quarter really slow. It's like a chess match, with everyone jockeying around. It's a big tactical thing the first quarter, and then they sprint the second lap, and you're always running 1:47-1:48 with laps of 55-53 because everyone is playing chess the first lap instead of getting out there and running 51. People run 51 and it just blows their mind because they're not used to it. But if they could get in the habit of going out 51-51-51 all year long, pretty soon that 51 is going to be a float and they're going to be strong on that second lap. The Europeans put "rabbits" (pacers) in their races. They go out in 51 and pull people through, so they get good times. Over here, if you don't have a leader in there, you go 55 and you have to run 51 to get a decent time. That's very difficult to do.

RW: *It has been said that the 880 is the closest thing to body contact in track and field. There seems to be a lot of tactics involved. How much do you take this into account when you're planning a race?*

Winzenried: I'm getting to the point where I'm worried only about myself. I don't worry about what other people are going to do. I know what I want to do, and I concentrate on going out and doing it. Before, I worried about what everyone else was going to do, and that's where I ran into trouble.

RW: *Both the Trials and the Games require racing on three straight days. Are you trying to prepare for that by running your back-to-back races?*

Winzenried: It's kind of what I'm trying to do. I'll run twice this weekend—Friday and then Saturday. The next weekend (at the AAU), I'll run Thursday, Friday and Saturday. And then I'll have 10-12 days before the Trials. During that time, I'll just gain back all the snap and spring and hope that I've pushed that float that I've talked about down to where I can get through a fast 660 comfortably.

The way I'm preparing for a good race is kind of like taking a big snowplow and just moving that snow out of the way. The next time I run the half, I have the place plowed. I run to the 1:46.6, say, and it's much, much easier the next time. Then I plow out a little bit more. The first time it's hard, the second time it's a little bit easier, and the third time you're kind of floating. After that, I'm much more relaxed at, say, the 770 and I'm going to have a stronger kick. I have more explosiveness at the end of the race. It's not something strange or foreign to my body. My body is used to that fast pace.

RW: *You must be pleased with these past two days' running.*

Winzenried: Yes I am. I think something good is going to be coming soon because of it.

JURIS LUZINS

RW: *What is the situation for a runner like yourself who is an officer in the Marine Corps? Do you have ample time to race and train?*

Luzins: The situation is good. As long as I've been in the Marine Corps, I've been able to run as much as I want and need to. In that respect, it is about the same as going to college. You don't need all that much time for running.

All my training until just recently was done at the Marine Base at Quantico, Va. I was there until May 16, when I left Quantico to come out west.

RW: *Was the entire Marine Corps team together at Quantico?*

Luzins: Everyone here (at the Interservice championships) was there. We had a trial period at Quantico from the end of March until the middle of May. Everyone who wanted to compete on the all-Marine track team went to Quantico. Then the choice was made by the officer in charge as to who would be on the team to compete on the west coast. Going on to higher competitions (AAU and Olympic Trials) is a matter of getting qualifying times.

RW: *What restrictions, if any, are placed on you as to when and where you race?*

Luzins: There are none. I pick my own meets. From now until at least the Trials, I'm free to go where I want. The only problem is the financial aspect. Since I'm being invited to most of these meets, my expenses are being paid.

Kenyan Thomas Saisi (center) beat Winzenried and Luzins in Europe last summer. (Mark Shearman)

The problem would come in wanting to compete in certain meets where the money isn't there. The Marine Corps doesn't have the money to send me.

RW: *This is your first time through the Olympic Trials procedure. How do you think you'll hold up through the three-day qualifying grind?*

Luzins: Well, I've been through this kind of thing in the NCAAs one year and in the AAUs two years. Actually, the AAUs were two races on one day, and the third the next—which is even harder, I think. It seems to me I come through a series of races like that better than a lot of people.

RW: *You seem to be running the mile more this year than previously, as many half-milers are. Is this designed to build your strength?*

Luzins: I wanted to get under four (minutes). Getting under four built my confidence, and now I feel I can take it from there. I think my strength is better than last year. Last year, I ran an all-out mile—in September—in 4:01. I ran 3:58 two weeks ago (in May). It was hard, too, but still it didn't feel as bad as that 4:01. So I think I'm stronger now. I'm just not sharp yet. I haven't done any kind of sharpening work, and it looks like I'm not going to get any chance to until after the AAUs. I've got to go into those things blind.

I wanted to train as a miler because I think it's important to have that strength for the half-mile. You run it on a lot of endurance and strength. You don't do it so much on speed. You can bring your really fast quarter-milers up to a half and they just don't produce that well. They'll run a 1:49-1:50. A 45-second quarter-miler can come up by the first lap in 51 or 52 and be so relaxed it makes me sick. But they don't hold up. They tie up in the last 220.

I know personally that I'm never going to have speed much better than a 48-second quarter. That was on a relay, too (with a running start). I know that endurance will be my strong point. That's what I work for.

RW: *What has your training involved the last few months?*

Luzins: In very general terms, nothing faster than a 25-second 220 pace, and that's only on rare occasions. Usually it is a lot slower, longer intervals, longer distance, a lot of morning runs. A lot of times I've gone out and run 10 quarters in 61-62 rather than busting them. The fastest

quarter I've done in a workout is something like 53. And that was after six or seven under 60 seconds. I train with miler Howell Michael most of the time.

RW: *Then have you been training more like a miler than a half-miler?*

Luzins: Well, we've sort of struck a medium between the two. I train something like a miler, and he trains something like a half-miler. We're somewhere in between. We don't do a tremendous amount of volume, which I know a lot of milers do. Some milers do 100-120 miles a week. while we're lucky to hit 70 or 80. That's a max week for us. We think we get enough of this quality type work.

RW: *Since your best quarter is 48-flat, many of the people you run against are considerably faster in basic speed...*

Luzins: Quite a bit. I can't think of any half-milers who *haven't* run faster than that. I have to rely on my strength. I don't know how I do it, but I guess that's the way it works.

RW: *What kind of race, tactically, do you think would be the best for you?*

Luzins: A really fast pace—hard tempo. Like 51 seconds for the first lap. When I've run my best times, my best races, they've been off of 51s.

RW: *The 800 has the oldest world record, and it is said to have the "poorest" record time. How do you explain this?*

Luzins: I feel that the 800/880 is a hard race to run for some reason. I think it's difficult to reach a good time in it, especially consistently. When you come by the first quarter in 55 or 56 seconds, you can just about write off a fast time. But say someone runs 52. That's when you start getting into oxygen debt, and the conditioning for that is different. The conditioning for the half-mile is different from either the 440 or the mile. It's a specific type of conditioning. You have to have a miler's strength and a quarter-miler's speed. The combination of it, and the specific conditioning you need for a half-mile, is entirely unique.

RW: *Mark Winzenried seems to thrive on competition, and last summer you two had quite a series of races in Europe. How did you handle all those races?*

Luzins: I didn't have nearly as many as Mark. He was fanatical. He went over 20 races. That's really kind of crazy. I wouldn't want to do anything like that. I went over with the AAU trip, and we had four races in 14 days. That's where I did my best running. I was just coming out of a slump, and I got the American record in the 1000, and about eight days later I ran 1:45.2—my best. I was really up and feeling good.

I came back to the States for about a week and then returned to Europe for the CISM meet (international military). I really had a good series—four races in three days. In every race, I felt stronger. I then went down to Munich and ran a 1:46.5 for second place. That hurt more than the 1:45.2. Mark was a tenth back there. Then he beat me by a tenth at Bonn, 1:46.2 to 1:46.3. I beat him in Barcelona, 1:46.4 to 1:46.4. I had previously beaten him at the King Games in 1:48.4 for both of us (for yards), and I had beaten him by one or two tenths at the Kennedy Games. Every race was so close it was unbelievable.

RW: *Have you been a half-miler since you started running in high school?*

Luzins: I was fluctuating between the mile and the half all the time. And I always had just enough speed so I could run on the mile relay team. I guess I ran 51.5 in high school for a relay leg.

RW: *Did you run cross-country?*

Luzins: Oh yes. I always ran well enough to make the traveling squad—fifth, sixth, seventh man. That's a funny thing. I always ran just well enough to squeeze onto the cross-country team, and always just well enough to squeeze onto the mile relay team. I went both extremes and found my place in the middle.

RW: *When did you begin to think of yourself as a national contender in the half?*

Luzins: It happened really quick. It just happened overnight in my senior year (1969). I broke 1:50 in the conference meet, and it really felt good. The year before, I had run 1:50.5 there, but I never even thought about the Olympics. I came back to school my senior year totally out of shape. I really started working out then. I remember in the fall thinking, "I've got four years now to work. There's a chance I could be up there." I got in shape during the cross-country season my senior year, and that's the last time I've been out of shape. It has been almost four years now.

RW: *What does the Marine Corps have in store for you next fall after the Games? Do you go back to regular duty?*

Luzins: I have no idea. Probably regular duty. I'm in my last year now, and they'll be anxious to get some work out of me. If I go to the Olympics, they might be so proud of me that they'll keep me around and put me on the mantle. If I don't, it could be just about anything. I'm not even thinking about that. I'm just waiting for them to hand me my orders and say, "Hit the road."

RW: *Are you looking farther ahead than September 1972 as far as running goes?*

Luzins: I'm just about 25. I've got a couple more good years. I might just try to goof around next season. Maybe not even run any halves and just go in the mile. I might have to move up anyway if I run many more years because my speed might start diminishing.

RW: *Does the mile appeal to you because of the glamor involved there?*

Luzins: I wouldn't be going to the mile because of the prestige. I do acknowledge the fact that it is considered more prestigious than the other events because four minutes has been the classic barrier. It's all been built up along the lines of a classic race.

RW: *Do you want to take a serious shot at the mile because it is a "classic"?*

Luzins: That would definitely be a consideration. But I wouldn't want to get that wrapped up in it. I'd just want to be going out to run to enjoy myself. I wouldn't want to go into it as almost a vendetta to set myself up as a top man in this event. Anyway, I think my potential in the mile is limited. I don't think I could get down to what it would take to be international class in the mile, as opposed to international class in the 800. I'm pretty well set on the idea that the 800 is my race. It is the best race I can run.

The world 800 records has remained unchanged since 1962, when two-time Olympic champion Peter Snell (center, in black) set it. (Mark Shearman photo)

EVENT WHERE TIME STANDS STILL

The year 1962 doesn't stand out as one of the best, but it wasn't the worst, either. It didn't have Vietnam (not noticeably, anyway), but it had the Cuban missile crisis. Kennedy was in the White House. Hair was still short, and music straight.

Looking back, the years have passed quickly. Yet it's evident too that a lot of ground has been covered in 10 years. Not all the movement has been progress, but there has been obvious progress in track and field. In 1962, no 440 man had broken 45 seconds, no shot putter was over 65 feet, and the 16-foot pole vault was still news.

The mile record then was 3:54.4; now it is 3:51.1. The 800-meter best then was 1:44.3; it still is. In the two-lap run, time has stopped. It is still 1962, and Peter Snell is still the man by whom all others are measured. Jim Ryun ran equal to that for a half-mile several years later, and Ralph Doubell tied Snell's mark in Mexico City. But while runners were chipping away seconds and tenths from all other records, this one has held up.

This is the oldest standard in a sport which doesn't worship the old. Runners are progress-programmed, and oldness indicates only a lack of forward movement. That's nothing to be proud of when those around you are scratching their way to new peaks.

Gerry Purdy, co-author of *Computerized Running Training Programs,* has devised mathematical tables comparing the quality of running times. Right there in objective numbers it says it. The 800 and 880 are the worst world records. If the 880 were in line with the 440, the record would be 1:43.0. If it were as good as the mile, it would be 1:43.3. No one has gotten close to those times.

Looking at it the other way around, the 800-880 records as they stand are equal to 45.4 in the 440 and 3:54.8 in the mile. Significantly, that's about where those marks were in 1962. But now any number of people have run faster. And no one has run faster than Snell.

Depth in the two-lap races has improved somewhat, as measured by the 50th best performance in the world each year. But even here these events have lagged behind the other. The improvement rate is only half as fast as the mile's, for instance.

The 800/880 is a depressed event that is living in the past—not only on the world class level, but all levels. The question now is why.

In some ways, the 800/880 is the perfect race. The sprints are sterile. They're run in lanes, and there's little man-to-man contact. They're over so soon that drama doesn't have time to build. The longer races have dead space. There are laps where nothing happens.

The 800/880 is the essence of racing—speed, endurance and tactics combined in an efficient package. It is exacting and exciting. It is both a long sprint and a short distance race, with the best elements of both.

It also has some of the worst elements. Roberto Quercetani, an Italian who wrote *World History of Athletics,* says, "The two-lap event (is) said to lie in a sort of no-man's land between what is predominately anaerobic (without oxygen) and predominately aerobic (with oxygen) running." If you run it like a sprint, you'll die. If you run it like a mile, you'll be out of it. This is not quite a sprint, and not quite a distance race. Yet it is treated like one or the other. That's one of the problems.

The 800/880 is an in-between event. It is in the unfortunate position of being stuck between two glamor races. On the low side is the 400/440 (and the relays employing it). On the high side is the 1500/mile. The 800/880 loses both ways. The fastest runners are drawn to the short distance, the strongest ones gravitate to the longer. The 800/880 gets what's left. This is another problem. There are more.

Runners in this race, the 800/880, are workhorses. They are strong and fast. They get run in quarters or miles as well as halves—often in the same meet. The half-mile is poorly placed in US meets. It comes in the middle. If a runner doubles in the mile, he's too tired a half-hour later to extend himself. Or if he's due to run the mile relay shortly after the half, he's going to hold something in reserve. A good half-miler doesn't get many chances to run his race all-out.

Or he may have too many chances. Three different relay events have a place for half-milers—the two-mile, and sprint and distance medleys. In the US, the relays of winter and spring are a major drain on 880 talent. Dick Bank, a leading authority on track and field, evaluates the effect:

"Most of (the) relay carnivals are two-day affairs, so it is not uncommon for an athlete to run three hard races in two days. Worst of all, the 880 that he'll run bears no relation to an actual half-mile race. Tactics, tempo and everything that goes with it are never learned. Man-to-man racing is never encountered, getting out of a 'box' is never a problem, learning the precise moment of just when to make the final move never presents itself. It is an all-out run for two laps of the track with a baton in one's hand, and this contributes virtually nothing to the development of the runner.

"This is why a great percentage of the middle distance talent in the United States (from 880 to 1500) never develops, never learns how to run the race, and is so tired (mentally and physically) by the time of the national championships in June that the majority fail badly, while some have already retired for the season. The really outstanding American middle distance runners of the past 15 years can easily be recalled. There just hasn't been that many."

Overracing and wrong-event racing explain a bit about the lag in US 800/880 running. But this is only part of it, and this part doesn't account for a corresponding lag in the rest of the world.

Mel Sheppard set a world 800-meter record in the 1908 Olympics. He ran 1:52.8. Almost six decades later, Jim Ryun set a world record for 880 yards. He ran 1:44.9. The significant thing about these two races is that Sheppard and Ryun ran their first laps in exactly the same time. All the difference was in the last lap. Ryun accelerated, while Sheppard slowed drastically.

The improvement in 800/880 racing during the 1950s and early '60s resulted from this trend. Runners weren't starting any faster than they ever were. In many cases, they were going out slower. But they were *holding their speed longer.*

Two factors were responsible. First, runners learned the value of steady pacing. And second, their heavier endurance training allowed them to go faster longer.

Roberto Quercetani studied 22 of the fastest 800/880s run through 1956. (At the time, the world record was Roger Moens' 1:45.7.) Quercetani found that the first lap in these races averaged 2.63 seconds faster than the second. In 1967, Roberto ran a similar test. This time, the first lap was only 0.86 seconds faster than the last—and world marks had improved considerably.

"The trend toward even pace is crystal clear," Quercetani said then, "and the above margins are likely to be reduced further...

"It would now be easy to jump to the conclusion that 'oldtimers did it all wrong' by burning themselves out in the first lap. However, let's consider some facts. The staggered start, which makes it mandatory to run the first turn in lanes, was introduced only in 1959, internationally at least. Until then, there was usually a disorderly rush for positions around the first turn. In the case of large fields, those starting in the outer zone of the track often had to fight hard if they did not want to be left behind. Then, most if not all of the champions of the '30s through '50s did not have the physical and mental condition that would have been necessary to carry that initial speed over the rest of the race."

Since Quercetani wrote this, several new runners have joined the list of all-time leaders (though not as many as in other events). The average first lap to second lap slowdown among the top 10 individuals is 1.1 seconds—or slightly higher than the 1967 figure.

This is the current world list, and the pacing pattern of each man. (y=880-yard time, with 440-yard splits; the others are metric.)

Runner/Year	Time	1st Half	2nd Half	Diff.
Jim Ryun '66	1:44.9y	53.3	51.6	– 1.7
Peter Snell '62	1:45.1y	51.0	54.1	+ 3.1
Ralph Doubell '68	1:44.3	51.5	52.8	+ 1.3
Wilson Kiprugut '68	1:44.5	51.0	53.5	+ 2.5
Dicky Broberg '71	1:44.7	50.6	54.1	+ 3.5
Ken Swenson '70	1:44.8	52.2	52.6	+ 0.4
Franz-J. Kemper '66	1:44.9	53.2	51.7	– 1.5
Walter Adams '70	1:44.9	51.9	53.0	+ 1.1
Wade Bell '67	1:45.0	52.4	52.6	+ 0.2
Danie Malan '71	1:45.1	51.5	53.6	+ 2.1

And yet, despite the overwhelming physiological, psychological and practical evidence that even-paced running is best, half-milers still try and tempt their limits. Lap differences of five and even 10 seconds are still common, and not only at the novice level. The result is predictable.

The 800/880 is a stage crying for a star. It hasn't had one performing there since Peter Snell. And Snell has been gone from track for almost eight years now. Ralph Doubell showed potential reaching Snell's two-gold-medal class, but an injury cut short his career earlier this year. Yevgeniy Arzhanov of the Soviet Union has promise, but must prove himself to the world this year.

Perhaps the best 800/880 runner in the world will probably never run his best race. That is Jim Ryun. He is basically faster than Snell, and his distance times indicate he is stronger. But Ryun has only once gone out to tear up a half-mile. That was in 1966. He was a freshman in college, racing against minimal competition. He set a world record of 1:44.9.

Otherwise, Ryun has been too busy with the mile to think about further halves. Even Snell, to a lesser extent, was a miler first. Both trained like milers, while many half-milers were still training like long sprinters. Some still do, even though the event now strongly favors the endurance type. Even Doubell and Arzhanov, more or less specialists at two laps, are known to take regular road runs and to log 100-mile weeks.

The reasoning is simple. Arthur Lydiard spelled it out over 10 years ago when he was preparing Snell in then unorthodox fashion. Lydiard said that a 52-second quarter isn't fast. It doesn't demand great speed. The problem is putting two 52-second quarters back-to-back. That takes great endurance, and no one has yet accumulated that much.

When racing types and amounts have been put into balance, when pacing is mastered, this is the final piece that is going to make the difference—this endurance that allows an 800/880 man to hold on through the second lap after a fast first one.

US runners are seeing it. Men who don't consider themselves milers are running miles this year. In the US, Mark Winzenried, Juris Luzins and Ken Swenson have been right around four minutes. Rick Brown is a sprint-type half-miler, but he too has gone up to the mile.

They've realized that perhaps the way to beat Snell and to bring the two-lap race into the 1970s is to imitate him.

MARTY LIQUORI'S FATEFUL YEAR

"I didn't think about winning (the 1972 Olympic gold medal) until the closing ceremonies at Mexico City. I remember standing there as those 100,000 people waved their handkerchiefs and saying, 'Damnit, I'm going to win.' "
—Marty Liquori

From the television booth above Franklin Field in Philadelphia, Marty Liquori looked on grimly as the milers fought out the last yards of their race. Except to feel a flicker of sadness for Jim Ryun, who was struggling home nest-to-last, Marty's mind wasn't on this run.

Liquori thought back a year, and to how different it had been. It was May 1971, at this same Martin Luther King Games. The race was called the "Dream Mile." Liquori, at the peak of his powers, racing Ryun, who was regaining his. Liquori won, running his fastest time. Ryun ran the best time of his comeback.

At the time, the only question seemed to be, "Who'll win next year's Olympic 1500, Liquori or Ryun?" No one else seemed in the running, not even Kipchoge Keino.

Ryun's up and down racing in the months since has been played out in full public view. His troubles again started right after the King Games, and haven't stopped yet.

Meanwhile, Liquori continued with his best season yet. He raced often and well, into the summer. He kept racing in the fall, having perhaps his best cross-country season. After that, he said, "I plan to work 20% harder this year (1972) than I've been working."

The fact that he'd raced hard for almost a year straight, and that he'd upped his mileage significantly may or may not have had anything to do with it, but early this year Marty's foot injury came back. It wasn't anything new.

Dave Prokop talked with Liquori for *RW* over two years ago. The conversation was prophetic.

"You've had (foot) injuries before," Prokop said. "Does the spectre of, shall we say, final injury which might force a complete halt in running bother you?"

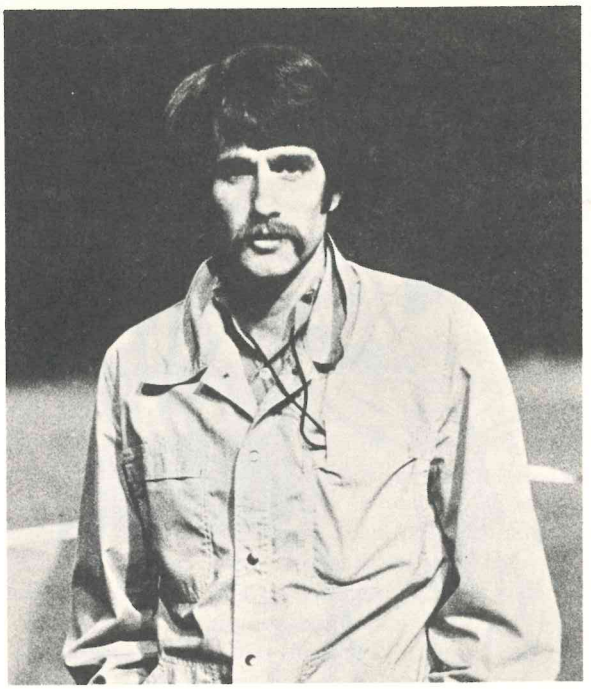
Liquori didn't hesitate to answer, "Constantly. It hangs over my head like a dark cloud. I think it's going to be my biggest problem in the future—these feet."

Other comments came back now to haunt Marty. He had said, "I don't want to have a great year the year before the Olympics, and then in the Olympic year be let down..." He did have a great year in 1971, as he had in 1969, when he ranked number one in the world.

"When you dedicate yourself to being the best," Marty has said, "you begin to walk a thin line, flirting with what is reasonable... The guy who wants to get to the top has to be a little reckless, willing to train harder than anyone ever did before. You have to go past the established maximum. It will either make you or break you."

Liquori ended 1969 by hurting his foot. He ended 1971—another world-leading year—the same way.

As the training time slipped away unrun, Liquori looked desperately for medical help. He visited a podiatrist, who concluded, "He appears to have an unusually small heel bone. I think part of his discomfort is due to the fact that it is small and takes a great beating."



STAN PANTOVIC PHOTO

The doctor fashioned a support for Marty's shoe which "helps spread the pressures on the bottom of the heel," but cautioned that his patient also had a strain (at the point where the arch meets the heel) that is tough to treat without "prolonged rest." Prolonged rest was just the thing Liquori couldn't take just then. Finally, the podiatrist told him, "Use your own judgement as to how to train with this problem."

At first, Marty was delighted with the results. In January, he said that the shoe inserts, along with heel injections, had "given me a permanent solution to my problem. I am confident that for the first time in my career I can do *real* speedwork."

The elation was short-lived. In mid-February, he ran an indoor two-mile—in 8:31—at Houston. The heel was reinjured. Rest was prescribed. Marty rested for two months. No improvement.

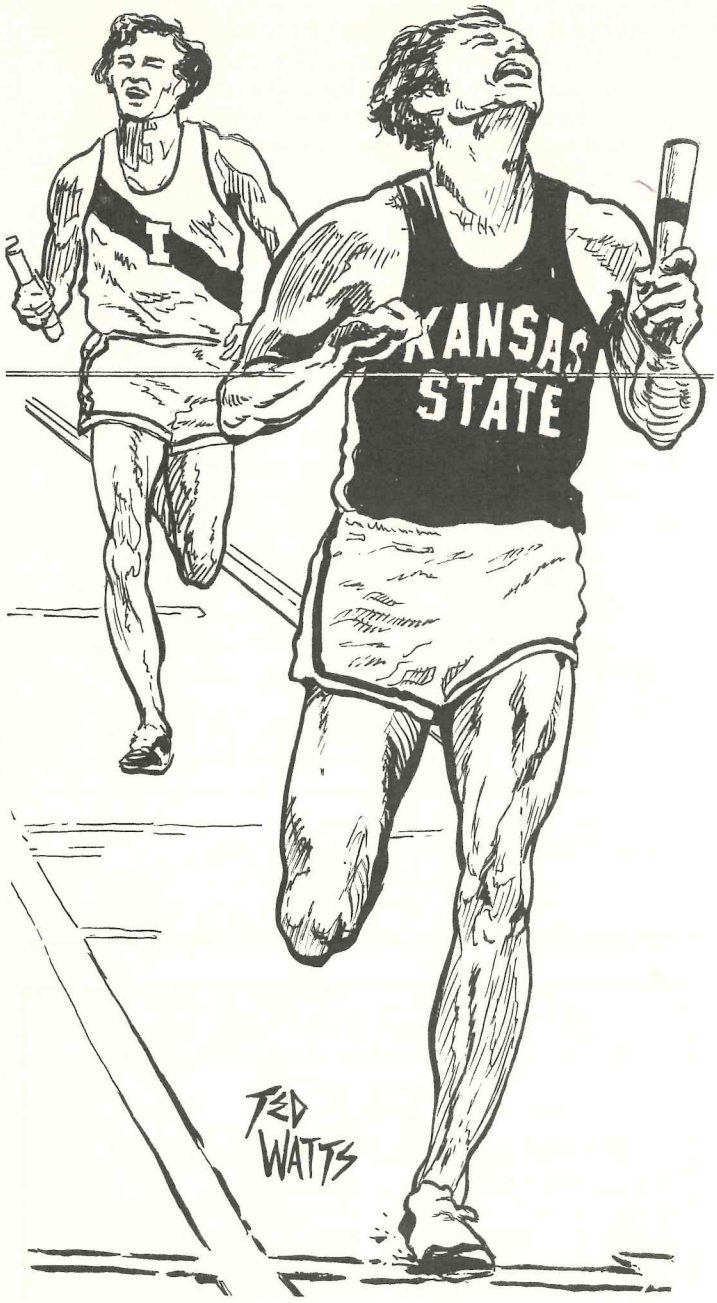
He got more desperate. Surgery was recommended, but he knew that would almost surely mean no Olympics. He rejected that possibility. Then another doctor told him he might have gout. He was treated for that, still without luck.

The Olympic Trials were now less than two months away, and the Games themselves only 3½ months off. Marty had told Dave Prokop in 1970, "I think I really have only one goal—and that's Munich in 1972." He had resolved to win after Mexico City, where, ironically, he had run on a stress-fractured foot.

After watching the King Games mile from the TV booth, Marty told reporters that he would fly to Los Angeles soon to be tested and hopefully treated by an orthopedic surgeon who claimed spectacular success with athletes.

Four days later, the newspapers carried this item:

"Marty Liquori, top miler in the world last year, announced yesterday after a consultation with an orthopedic specialist, that he would run no more this year. Liquori is suffering from a torn muscle sheath in his left heel, and had hoped to recover in time to try out for the 1972 Olympic Games at Munich."



HERE'S HOWE TO RUN THE RELAYS

BY BARRY ANDERSON

They call it "The Circuit." It begins in Texas the first week in April and ends in Iowa at the end of the month. It has three meets: the Texas Relays in Austin., Kansas Relays in Lawrence and Drake Relays in Des Moines.

At dozens of colleges in the middle part of the country, this is the entire running year. What comes before is preparation; what comes afterwards is anti-climax. Conference meets are easier. The nationals are for a rare few individuals who have survived months of racing. The Circuit measures a school's running prestige.

The relay meets of April breed a special type of runner. He runs best with a baton in his hand. He gets caught up in the team spirit, or something, and loses his inhibitions when his teammates are counting on him. He forgets how tired he is when he gets the stick with a lead. He runs his guts out in April for good old Moo U., even though he may not be able to run as well for himself later on.

The relay man, particularly the one who neither starts it nor finishes it but is stuck in the middle, has to sacrifice a bit of himself. He must accept the fact that for all the hard running, the school is going to get the glory—not him. In this respect, he's more like a football player than the usual runner.

Relay men don't get famous—at least not until they match their relay times in open races. And The Circuit demands so much of a middle-American runner, that it isn't easy to come off it still filled with run.

Jerome Howe is a solid miler. This year alone he has run 3:56.5, 3:57.9 and 3:59.1. Yet he hadn't qualified for the Olympic Trials by June 1, and no one was mentioning him as a serious challenger. All his best times had been on relays, and despite his times Jerome hadn't shown himself as a threat to Ryun, Von Ruden, etc.

Howe is a product of The Circuit. He's the type of runner who fits in well there. His coach at Kansas State, DeLoss Dodds, says Jerome is the kind of runner every coach dreams of having: "He's done everything we've asked him to do."

What he has done is run relays and more relays. His main one this year has been the distance medley—a contrived combination of 440, 880, 1320 and mile that is only run in the United States and only in the relay meets.

Howe ran his 3:56.5 indoors under Houston's Astrodome (the big banked track has been called the fastest in the world, indoors or out). That was in February, when the 21-year-old senior was still on slowish high-mileage training. The Circuit began, as always, at Texas. He anchored the winning distance medley there—with 3:57.9. Then he swung up to Kansas, and was deeply disappointed ("I let the team down," he said later) with his 4:12.

Jerome was determined not to let the same thing happen again the next week. He was running at Des Moines, not far from his hometown of Treynor, Iowa. While still in high school at this little place, he had broken 4:10. Now this would be his last college race at Drake. At the handoff, Howe was behind Illinois' anchorman. At the end of Jerome's 3:59.1 mile, Kansas State had a "world record." That means something in Austin, Lawrence and Des Moines, and at assorted campuses in between.

Howe is on his own now. The Circuit is behind him. He has graduated from Kansas State and has no school to run for. His teammates aren't depending on him to win them watches (the traditional prize on The Circuit). What about his future?

In the case of this ex-relay man, the future is promising. It isn't that he can't run open races. He just hasn't had many chances. Last year after April, he got a couple, and used them well. He raced in the California Relays, ran 3:59.4 and beat Jim Crawford (runner-up to Marty Liquori in the AAU mile) to win. A week later, Crawford won after Howe got caught up in traffic and didn't escape until the last stretch; Jerome ran second.

Shortly after that, Howe put himself on a long-range training plan that wasn't designed to end in April 1972. He was looking farther ahead than that.

Cut somewhat from the same mold as Jim Ryun as far

as personality goes, Howe is reluctant to make public statements. He said earlier in the year, "I don't really set goals, but I'd like to run 3:56. I'd also like to go to the Trials."

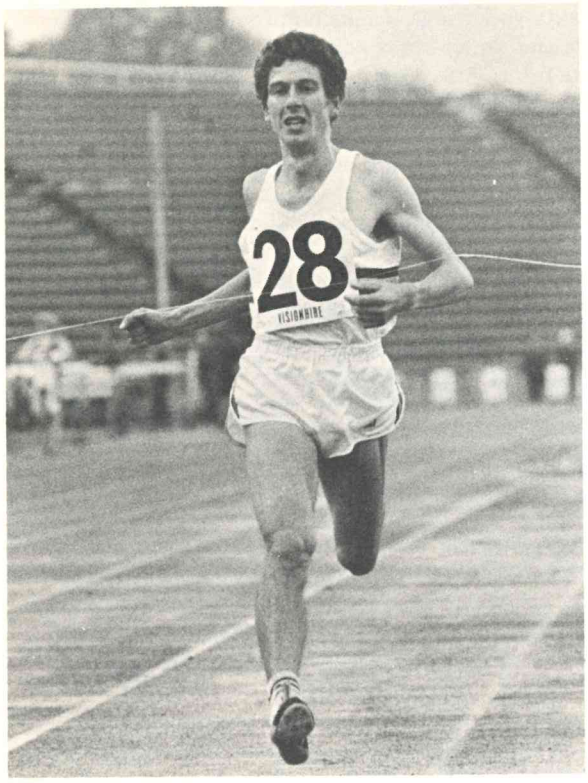
Reflecting on his training since last summer, he says, "I wanted to run long distances early in the year. I got about 800 miles in during the summer and followed that with 22 weeks of 150 miles." His mileage was heavier than ever, and speedwork began somewhat later in the season than it had previously. In other words, he wasn't "peaking" for The Circuit. In April, he continued to run 80-120 miles a week, with a 20-mile run every Sunday.

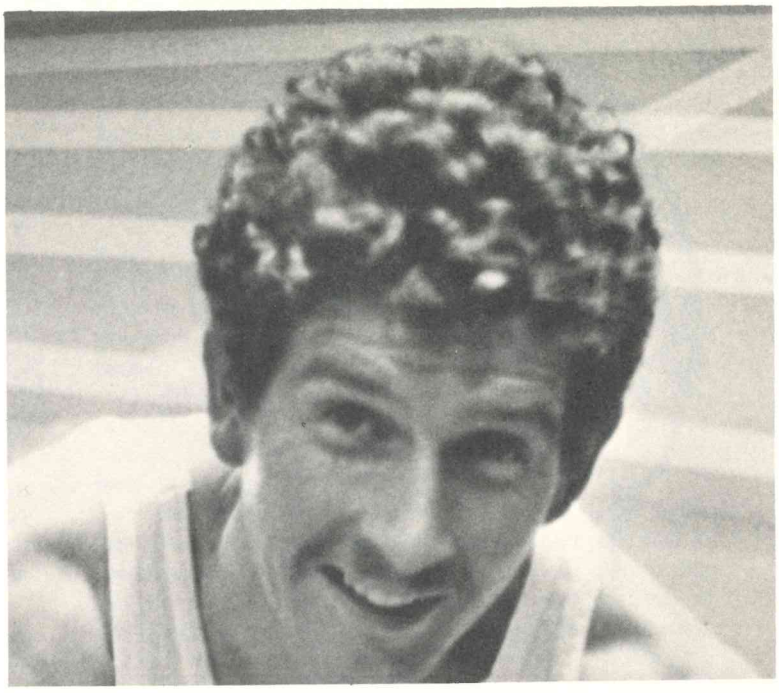
Of his plans after April, he only volunteered, "I hope to improve through the AAU meet with my fall base."

Howe, a soft-spoken midwesterner, would never come out and predict big things for himself in print. But he is aware of how past Kansas State University runners helped the team on The Circuit then helped themselves later. Conrad Nightingale made the Olympic steeplechase team in 1968 after graduating. Kenny Swenson set an American 800-meter record in 1970 after leaving school. Howe cele-

Howe celebrated his own graduation in late May and early June. Within an hour at the USTFF championships, he got his best times in the 880 (1:49.3) and three-mile (13:29.4).

Supplied now with not only relay experience but also fast races on both sides of his favorite one, Howe was ready to run a mile (a metric one in this case) by himself. The result: second place at the NCAA in 3:39.8. He then won the AAU in 3:38.2. The momentum was building.





The latest of the "Flemish Masters," two-mile record holder Emiel Puttemans. (Tom Sturak and Ed Lacey)

PUTTEMANS HAS A PLAN

BY TOM STURAK

When Emiel Puttemans says that the winner of the Olympic Games 5000 meters will have to run faster than 13:20 and that the man to beat in Munich is Ian Stewart, you'd best pay attention. My experience is that the 23-year-old Belgian world recordman means what he says, and he is as astute as he is quick.

Back in February, the evening before his two-mile win at the San Diego Indoor Games, Puttemans told me flatly that (1) his fellow countryman and clubmate Gaston Roelants, though now 35 years old, was "the strongest in Europe" in cross-country; and (2) he himself, though his condition was now "nothing," was ready to run 8:30. Was he right about Gaston? (If in doubt, see *RW* for May.) And the next night, Puttemans himself trounced one of the fastest-finishing two-mile fields ever, in precisely 8:30.4 (incidentally, bettering Ian Stewart's European indoor record).

Perhaps the language barrier cramped his natural style (his English is adequate if unidiomatic), but Puttemans didn't strike me as a man who runs off at the mouth. During our two-hour conversation, he listened attentively and answered all questions candidly. Beneath the softly handsome, Chaplinesque features—brown eyes and curly hair; small, downy mustache—works an alert and keen intelligence. Outwardly relaxed and unassuming, he nonetheless seems always "tuned in" to the task at hand. In brief, a remarkably aware individual who doesn't waste time—on or off the track.

"And Maddaford, he is strong?" Not your run-of-the-mill interviewee, Puttemans asks as many questions as he answers. "The weather in Australia now, what is it like?" Watching me take notes, he quickly corrects my spelling of his first name: not *Emile,* as the press—including the Belgian—often have it, but rather *Emiel.* He is not a French-speaking Belgian, but Flemish. Until he was 14, he spoke only Flemish. Later, he learned French from a fellow worker; and considerable English, German and Spanish from athletes met on trips.

He points out that almost without exception the good distance runners from Belgium have been Flemish: Gaston Reiff, the 1948 Olympic 5000 champion; two-time Boston marathon winner Aurele Vandendriessche; more recently, middle distancemen Eugene Allonsius and Andre de Hertoghe; 1971 European marathon winner Karel Lismont; and, of course, the incomparable Gaston. Roelants, whom Puttemans never refers to by surname (much as no one would Rembrandt) is obviously his inspirational model.

Like Roelants, Puttemans hails from Leuven, a small city east of Brussels, where he was born (Oct. 8, 1947) and attended school for 14 years. Arthur Lydiard once wrote that he had "not heard of a top-line middle-distance runner who did a strenuous job in working hours." Arthur, meet Emiel the Gardener. Lydiard explained (quite resonably) that "the man who labors for a living is not going to feel like training as hard as the man who has been sitting behind an office desk all day." Puttemans believes that, for him, "it is good to work outdoors"—often behind a shovel (he makes appropriate motions)—"except in winter." But as we'll see, he isn't exactly a 100-mile-a-week trainer.

Nor is he a converted sprinter *a la* Juha Vaatainen.

Puttemans started running at age 14 in club cross-country matches. He became a good harrier, but "was not quickly enough for track." At 17, however, he ran his first track race—a 600 meters in which ("I remember always") he was last all the way, clocking a less-than-promising 1:54. Stubborn enough to persist and smart enough to move up, within a year he had run 3000 meters in 8:57 and gradually continued to improve. By 1968, though he failed to win the national title, had he run faster at 5000 than any Belgian but Roelants. Since Gaston chose to compete in the steeplechase and marathon at the Olympics, Emiel's sub-standard 13:51.6 earned him a trip to Mexico City, where he finished fifth in his heat and 12th (last) in the final.

Over the next two years, he showed modest improvement on the track. Then early in 1971 he changed clubs joining the DC Leuven. (If I understood correctly, DC stands for "Daring Club.") He personally credits this move with his subsequent "much progression in one year." Training under Edmund Van de Eynde with better runners like de Hertoghe and Roelants, he began to do "much speed work," which he had never done before. Instead of a couple of paced 2000s or 4 x 1500, typical of his previous track routines, he now ran fast repetition 100s, 400s, even 100s with brief intervals. Under this new regimen, he quickly developed into the latest of a golden generation of "Flemish Masters" whose impact on distance running reaches far beyond their own region.

As is often the case, Puttemans seems to have burst onto the international scene out of nowhere. Awareness of his ability—especially on the American side of the Atlantic—still focuses on his world-record 8:17.8 2-mile—for him an "odd" time and distance that mean less than that he ran the opening kilometer in 2:32.6 and was clocked in 7:44.4 at 3000 meters (unofficially under the then European record); and that he beat Ian Stewart (third in 8:25.0).

The more enlightened fan, of course, knows that the two-mile world record was only one of Puttemans' many superb performances packed into a seven-week period following last year's European championships.

Starting in Mexico City, Puttemans has made a habit of advancing almost unnoticed into championship 5000 finals; the only runner, in fact, to have done so in the 1968 Olympics and both the 1969 and 1971 European championships. He has also made a habit of learning more than just a few foreign phrases at these international meetings. He closely studies his opponents and, more importantly, analyzes his own performances critically. "It was my fault in Helsinki" is how he sums up his 13:36.6 sixth-place finish only 3.6 seconds behind winner Vaatainen (who, he admits, was a "big surprise" on the last lap). "I have no speed and I stay after (hold back), never go before (lead)." These tactics were a mistake for a man who likes to front run and to altar the rhythm of the pace. He had learned a lesson, which during the next few weeks he put into practice in a series of brilliant races against the clock.

Date	Distance	Time	Significance
Aug. 16	3000m	7:45.4	0.4 above European record
Aug. 21	2 miles	8:17.8	world record by 1.4 seconds
Aug. 31	3000m	7:39.8	0.4 above world record
Aug. 29	5000m	13:51.0	"just for winning"
Sept. 3	10,000m	28:01.4	personal best by 1:22
Sept. 7	5000m	13:34.8	personal best by 2.2
Sept. 11	5000m	13:24.6	national record; 6th all-time
Sept. 18	mile	4:01.7	personal best
Sept. 28	2000m	5:01.2	3rd fastest all-time
Oct. 2	steeplechase	8:31.6	personal best by 17 seconds

Over 45,000 meters (28 miles) of competitive running in 50 days: 10 races, one loss (same time as the winner); eight world-class performances, seven personal bests, four Belgian records, one world record.

Puttemans' first visit to the United States this February for a short tour of the indoor circuit was a learning experience. Belgium has not one indoor track, and although I seem to recall that he had raced undercover once or twice in Europe, he refers to the Los Angeles Times Games (Feb. 11) —where I first watched him run—as his indoors debut. In that race, he finished far behind Steve Prefontaine's 8:26.6 and just beat indoor world-recordholder Kerry O'Brien with 8:39.2. The following night, however, at the Athens meet in Oakland, he put together splits of 4:19-4:15 for an 8:34.2 victory over a field that included O'Brien and Gerry Lindgren. Then a week later, the 8:30.4 triumph in San Diego over Don Kardong, Frank Shorter, *et al.*—Rex Maddaford finishing ninth (and last) in 8:41.8. And almost as an afterthought (he asked me how he might get into "the three-mile race in New York"), he climaxed his American indoor junket by taking the AAU three-mile in 13:18.4 for his second European record in as many weeks.

Puttemans likes the US (the color TV, even the food) and he likes running indoors. "But now I have nothing. Maybe next year..." He confirmed my impression that in his first race at Los Angeles he had intentionally let the scurrying Prefontaine go: "I feel directly that he was more strongly than me. I run for second place." Then I mentioned to him that after that race Prefontaine had said something like, "If *that* was the kind of condition the Europeans were going to be in at Munich, well..."

Puttemans smiled indulgently and explained: "You must remember that in Belgium now is winter, is snow, is *glace* (ice); we cannot train for speed, is not possible. This competition for me is good training—that is why I am coming." So when I asked him to describe his present condition, he made a zero with thumb and forefinger: "I have nothing at this moment." Some nothing.

According to a few San Diego runners who tried to go with Puttemans on his twice daily "easy" runs, he would clip off five to eight miles at a pace sometimes as slow as 5:15 per mile. Apparently, during his stay, he never went near a track. But things are different back home when he is seriously into a season.

A typical early summer week goes like this: Monday (following a competition)—30 minutes running in the woods; then to the track for 10 laps with 100 meters each lap at 75% effort. Tuesday—on the track, 10 x 400 (58-61 seconds) or 12 x 200 (27-28) with 100-150 fast jog interval. Wednesday—80 minutes running in the woods (with a few hills), about 20-22 kilometers. Thursday—3 x 1000 (2:35) with 100 interval. Friday—20-25 x 100 at 75% effort, 100 interval. Saturday—30 minutes jogging, finishing with racing pace 400-500. Sunday—competition. On the track, he trains with other runners; in the woods, alone (because "others do this too slowly"). Including warming up and cooling out, his daily "mileage" at most totals 18-20 kilometers (11-12½ miles), with a maximum of 25 kilometers (15½ miles). Normally, he trains only once at day; although for two weeks prior to a major competition (e.g., European championships), he adds a 5-8-kilometers (3-5-mile) second session. Four to six weeks of this routine (with some variation) carries him to a peak—better, a plateau—of conditioning necessary for world-class performances. During this "high" period, he can

race all-out every three or four days if necessary—but only for about four weeks.

Though Puttemans now prefers track, each spring he still competes in cross-country races. During the harsh Belgian winters, he runs "much more kilometers in the woods," only occasionally striding 20 x 100 on the track (but never any longer repetitions). He is very outspoken in expressing his opinions and ideas about training. He feels the hard-speed repetitions with short intervals ("always running, never walking") are essential for top-level track performances. He thinks that continuous volume training is "crazy." When I reminded him of Bedford's plus-200-mile weeks and mentioned Lindgren's plan to run 50 miles a day, he simply responded with an incredulous "impossible." No runner, in his opinion, could hope to maintain such training loads and compete successfully for more than two or three years.

For that matter, Puttemans believes that continous, year-round training of *any* variety is detrimental to performance—in both short- and long-range terms. Twice a year, he takes planned rest periods of 10-14 days: following the cross-country season, late in March; and after track, late in October. During these layoffs, he runs "not one step" and eats all that he can. ("It's good to put on a few kilos," he says. Though slight, Puttemans is well proportioned at 5'7" and 126 pounds.) The importance that he assigns to these scheduled rests is evidenced by the fact that he cites *them*—and not his training—as the reason he thinks he can continue to compete in world-class competition and improve until he is 30. (Roelants, he says, takes three or four such rests a year now that he is older.)

On marginal matters related to training, he seems, as might be expected, eminently sensible. He follows no special diet, avoiding only mayonnaise because he doesn't like it. He'll take a beer ("better for you than Coke") and a little wine, but drinks no hard liquor. He doesn't smoke. As a runner, he has no plans to try the marathon ("never"); but "maybe in four or five years, the hour run"—then amended that he might even try one at the end of this year ("I will run 20 kilometers in one hour").

But before any future plans and above all other considerations, there is Munich. In February, he was still undecided about which event he might enter—indicating that he might even try the steeplechase. His technique is admittedly "terrible" ("I cannot do the obstacles"), but he likes the changing rhythm. No doubt he'd have the benefit of excellent coaching. But my guess is that he'll stick with his favorite race, the 5000 meters.

Whichever race he chooses to run at Munich, he started specifically training this past April—"that is the moment"—to be ready in August. In the steeplechase, he mentions only Jean-Paul Villain of France as a man to beat and thinks 8:22 will be good enough to win. He has obviously thought much more about the 5000 meters. He figures that everyone who makes the finals will have run around 13:30, a pace at which "for winning you must run your last lap in 52.5 or 53." The good finishers will "stay after" and win easily in the heats. In the final, these "very fast runners will stay behind and not do the work."

Several men may come to Munich with marks down around 13:20; but there will be many like himself "who can run 13:30 but finish with only 56, 55, 54. In the final, these runners must go out fast because the others who are very fast will stay after—and the last lap, swoosh, then they go." The sprinters he fears are men like Jean Wadoux, Harald Norpoth, and "Ian Stewart is quickly; O, yoeh, there are enough! I cannot finish with them, not a chance."

And so to win at Munich, Puttemans declares unequivocally, "I will have to lead very, very fast." For him the ideal Olympic 5000 final would be run "very fast in the beginning, same as over 3000 meters in 7:48. Maybe then there are two or three with you, that's all—the rest are gone. Maybe I am dead then, but maybe..."

Of course, in the rarified Olympian heights, basic speed is a relative factor. But Putteman's comparative assessment of his last-lap sprinting ability seems realistic—even though he has kicked in a fast 5000 under 55 seconds and covered the final 800 meters of his best 10,000 in 1:56. "Gaston was the same; he has not the finish. Clarke, he was the same. He never got the medal in the Olympic Games —and he was the best; yes, certainly the best."

Convinced that his only chance at Munich lies in a blazing frontal attack, Puttemans also knows that he cannot do it alone. "When you do that in the Olympic Games, all alone—like Bedford in Helsinki—you are last. Even if two front-run, the sprinters will hang on because there is only one change in pace. With three or more, then it's possible to break away. But alone is nothing; you die before the finish."

He feels that Prefontaine shares the same predicament and hopes that the American will be one to help carry the attack upfront. One can't help but to muse upon the dramatic convergence of these two young, precociously great runners faced with the same problem demanding of the same solution.

Though both are small men and relatively slow finishers, they contrast physically and stylistically as runners: Prefontaine, bursting iwth raw strength, hurtling headlong through barriers of pain and exhaustion; Puttemans, almost fragile appearing, rhythmically driving forward with a kind of "controlled tension." The former's personality nervous, dramatic, buoyant to the point of cockiness. The latter, relaxed, pragmatic, coolly confident. Both are aggressive about their business; one out of temperament, the other out of circumstance. Prefontaine's "other-directed" antics, the constant propagandizing of his prowess, perhaps suggest profound self-doubts. Puttemans' preoccupation with time may reflect an understanding that the ultimate opponent in any race is oneself. Either way, it comes to much the same end.

Psychology aside—and whoever said it's 90% of distance running is wrong; 1% would be enough—to win at Munich Puttemans will, as he says, "have to lead very, very fast. And so must Prefontaine," he adds, "he must do it." Then quickly: "I *will* do it."

Big, closely matched, fast fields like this one are the rule in California's distance races. (Stan Pantovic)

CALIFORNIA TRAINING GROUND

BY JOE HENDERSON

This is the story of an area of the country and of four people who live and run there. They are four among thousands who run in the Santa Clara Valley south of San Francisco, among a million or so who live there.

This is not paradise. Like any area, this one has good and bad points. The weather is nice. Don Kardong, who came here from Washington to go to school at Stanford and has stayed on, says, "I'm addicted to running every day of the year in shorts." Most days are dry, cool and sunny.

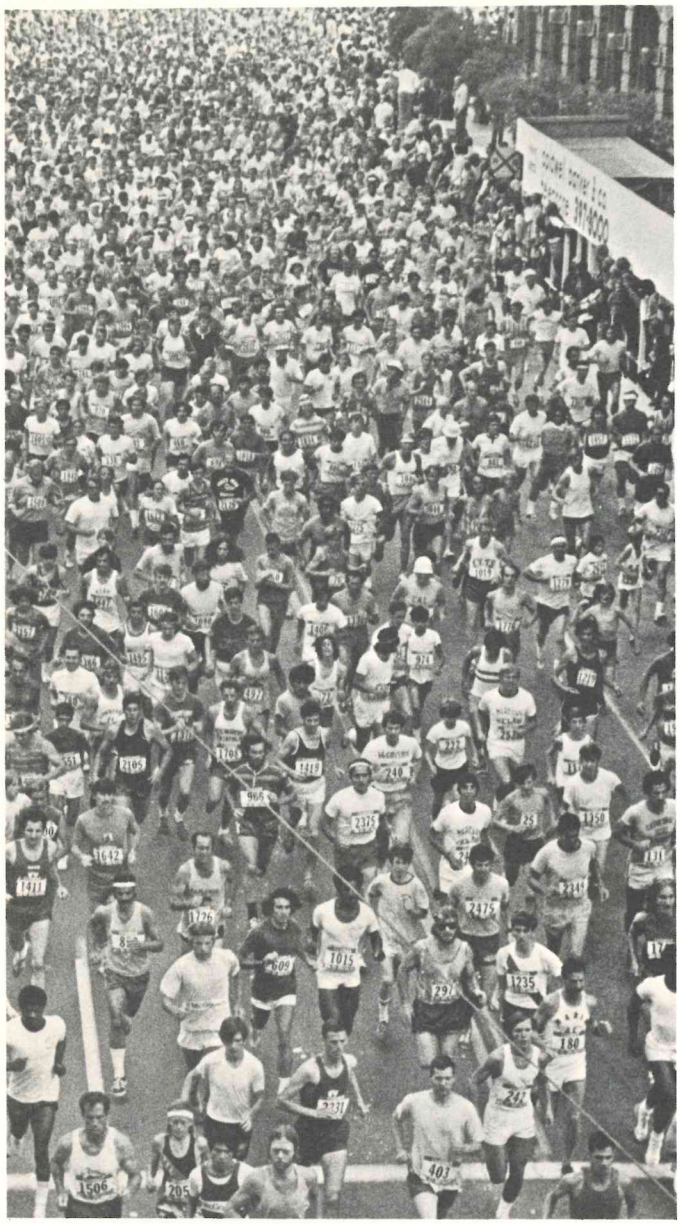
Many are smoggy as well. The valley sits in a bowl beside the San Francisco Bay. Mountains ring this natural basin, and when conditions are wrong—which they often are—the fumes of a million cars are trapped inside. *Runner's World's* office is in the valley, halfway between San Francisco and San Jose. To us, the town name Mountain View is something of a dirty joke. On most summer days, we have a hard time seeing the mountains which are only a couple of miles away.

Still, it is attractive here. Down on the teeming flatlands it may not be so nice, but within running distance are forested mountains. On smoggy days, you can't see what's down below from up there. A runner can pretend he is in a heaven of open roads, tall trees and cool Pacific breezes. The hills and the coolness make living here worthwhile—these and the running scene.

Running is big. One outsider commented, "All you have to do is draw a chalk line on the road and 200 runners immediately show up." It isn't an exaggeration. One recent race—the Bay-to-Breakers in San Francisco—had almost 3000 runners going from the bay to the ocean at the narrowest point in the peninsula. Normal road races number in the hundreds of runners. And there are all-comers track meets (as many as four a week during the summer), big invitational meets, and activity for women, age-groupers and walkers—in addition to the normal school programs. Running is always in season.

It isn't by accident that *RW* settled in the middle of this suburban valley. This is the center of things for anyone greedy for good running conditions. Good running is never more than a short drive away, which is one of the problems as well as the advantages here. *Nothing* is more than a drive away. The mountains are close, the ocean is close, the city is close, schools and jobs are close. It's convenient to live here.

Although I like this area, I'm hoping someday to get



The classic testimony to running popularity in the San Francisco area is this mob scene at the Bay-to-Breakers race. This is only part of the nearly 3000-runner field. (Steve Sutton photo)

out. The pace is too fast here, and too sustained. It wears a man down. The convenience attracts too many people. New ones come in all the time. This is bad. Running is sometimes too good. It's tempting to belt along at full speed every week, all year long. This can be bad, too.

The idea of this story is not to sell anyone on the joys of living in the Santa Clara Valley near San Francisco. At best, we take some bad with the good—like anywhere else. But the unavoidable fact remains that this may be the only place in the United States where a runner can get his fill of running—and then some—for as long as he can take it. Even Eugene doesn't have this ever-present feast.

This fact hasn't been lost to runners elsewhere. The word has traveled. This story centers on four runners with Olympic ambitions, and all came from far away. Tom Laris and Bill Clark are from the east coast. Don Kardong is from Washington and Duncan Macdonald from Hawaii.

They're all here to run. Of the four, only Clark holds a full-time job. Laris just finished graduate school and is subsisting on part-time work until his Olympic future is known. Kardong and Macdonald are getting by without working.

They aren't the only top runners in San Mateo and Santa Clara counties. Eight other distance runners from here qualified for the Olympic trials. With this much talent packed into a small area, there is intermixing. Most of the best runners belong to the West Valley Track Club. Laris (the only non-WVTCer of the nine in this story) runs every Sunday with Clark and others. Kardong and Macdonald live together, and maintain close ties with coach Marshall Clark at Stanford, their old school.

The teams will break up later this summer. Some of these runners will leave the area for good. But new ones will come in and new groups will form. This isn't the kind of place that loses population—running or otherwise.

LARIS & CLARK

Tom Laris and Bill Clark have been through this before. In 1968, Tom ran 10,000 meters in the Olympics. Bill should have. For both, the experience was sufficiently fascinating and frustrating to make them want to try again.

Laris was living in California then, near Oakland where he worked in the accounting department for General Electric. He was happy, naturally, to get to the Games. But full-time job responsibilities left him with less training time that year than he would have liked. The Olympics were at high altitude, and he finished nearly a minute behind the acclimatized leaders in 16th place. He wondered what would have happened under more favorable circumstances...but then remembered he was 28 years old already and had a growing family to tend to.

Clark was a Marine in 1968, with adequate training time. He appeared for awhile to be the country's best 10,000-meter man. Bill won the semifinal trial. Qualifying procedure that year stated that the winner of the semis would automatically go to Mexico City. The runner merely had to "demonstrate that he has maintained his condition." Clark didn't go to Mexico City. He hurt his foot in mid-summer and it didn't recover. It was a tough break, but there was little question that he'd try again. Bill was 24 years old and single.

Laris' comeback officially started in late January 1971. He was racing 20 kilometers on the roads behind Stanford University. Tom had recently quit his job with GE, packed up his wife and two children and moved from the east back to the west coast. He had enrolled in Stanford's graduate school of business.

It wasn't a great start. Laris looked heavy and awkward trying to stay with Alvaro Mejia. Tom couldn't match the fit Colombian's pace and dropped out. He was in no hurry. Patience is Laris' big strength. He had run a dozen years before making an international team.

"I was away from competition for two years," Laris said recently. "I did a little bit of running—maybe 10-12 miles a week. It really varied. Some weeks I went 25-30, some none. But I always tried to stay in the type of shape where I could run 10 miles in an hour. I was never off long enough to get completely out of it.

"At the time, I was working as a traveling auditor for General Electric. I couldn't have run like I am now if I'd stayed on that job. I started graduate school at Stanford then picked up my training again.

"I never thought I'd be able to come back at all; not at my age—I was 30 then. But I guess the fact that I didn't lay off completely made it okay. In fact, I think the layoff helped. I came back hungry. It was the first time I'd really been away from racing in 13 years. I'm running faster now than ever before, my speed and endurance are better, my quality of work is better, I'm better organized.

"Being in school makes everything better. Guys who are working full-time are really at a handicap. They can only get in a half-assed workout in the morning, then they come back after an eight-hour day and struggle though another one at night. School is the perfect setup. It's flexible, and it gives you something to do part-time. You can be hurt by the other extreme, too. I know I'd get bored if running was the only thing I did all day. But the other way is worse. I know. I was doing it in 1968."

Clark moved to San Jose, Calif., in early 1970 after finishing his Marine Corps tour. He went to work, like Laris, in the accounting department of GE. Bill now had a wife (whom he met in Colorado before the '68 marathon trial) and a young daughter.

Foothill College was to become a significant place in Bill's running future. At the time Laris was starting to come back, Clark was in his best form. He ran a two-hour track race at Foothill, a handsome junior college campus backed up against a low mountain range. Bill set five American records in that race last February.

That race may also have set off a long siege of leg and back trouble that hasn't cleared up yet. "In early March," he wrote to Dr. Sheehan, "I experienced a dull pain on the outside face of both calves. This gradually spread up and behind the knees, through the hamstrings and buttocks to the lower back."

He kept running. In August, he ran another long track race, this time setting an American record for one-hour. In September he said, "Initially the pain was not noticeable until after about 45 minutes of running. Now it is much sharper and is present to some degree throughout the day."

The trouble was tentatively diagnosed as sciatica—irritation of the nerves that travel from the lower back down the backs of the legs. This ailment is extremely hard to treat, and it ended the careers of 1964 Olympic marathoners Buddy Edelen and Peter McArdle. Bill was aware of this.

He kept running. He was now taking long runs from Foothill College every Sunday morning with Laris. Treatment by an osteopath, along with stomach exercises improved Clark's condition somewhat. But when I saw him one Sunday morning in December, he said, "I can go six- or seven-minute pace all day now, but that's not going to do me any good. I have to go faster, and when I speed up my legs start hurting." There was an odd stiff-legged, stiff-backed shuffle to his running.

Then someone recommended that Bill get a lumbosacral belt for back support. At the end of February, he told Dr. Sheehan of his progress: "Things are going exceptionally well. After two weeks of little improvement, the hobbling sensation began to lessen, and my workout times decreased. With one good workout under my belt (no pun intended), including some 220s near 30 seconds (I couldn't break 35 before), I undertook the West Valley marathon. I qualified for the trials fairly easily. The belt did not bother me, other than rubbing a few spots raw."

The long Sunday runs from Foothill started getting longer and faster, and both Laris and Clark improved. Tom said in June, "Bill stays with me all the way on the long ones. Earlier, when we were going slower and shorter, he'd stay with me on some, but not on others. He still wears his belt."

The Sunday runs together have helped both. "We alternate a long one and a real long one," Laris says. We sometime go 27 miles in three hours. We start out talking and laughing, telling dirty jokes. But we get very quiet in the last hour as the pace picks up to around six-minute miles."

Clark has a separate partner for his midweek work (Jim Howell, who qualified for the marathon trial) and so does Laris (Jim Dare, a 4:06 miler). Laris says, "Bill and Jim (Dare) have been a big help. They provide the incentive to get started. If I had to run alone, I don't know if I'd have come back. Having them has made a world of difference. In 1968, I was essentially by myself. It was hard. Now my running is almost enjoyable. If you can achieve that on what we're doing, it's really something."

Tom was confident when we talked a month before the trials. "I see four of us up there in the 10,000 at Eugene—me, Shorter, Bacheler and Lindgren." Notice he put himself first.

Clark simply promised a good effort, which he hasn't been able to give often enough.

THE GRADUATES

In March, Don Kardong was on television. He was running the three-mile indoors against the Soviet Union. Leonard Hilton and Don ran one-two in that race. Hilton said in the interview afterwards that he had wanted to run the 5000 in the Olympics. Kardong said he would try the 10. The way they were running then, there was no reason to think they couldn't do it.

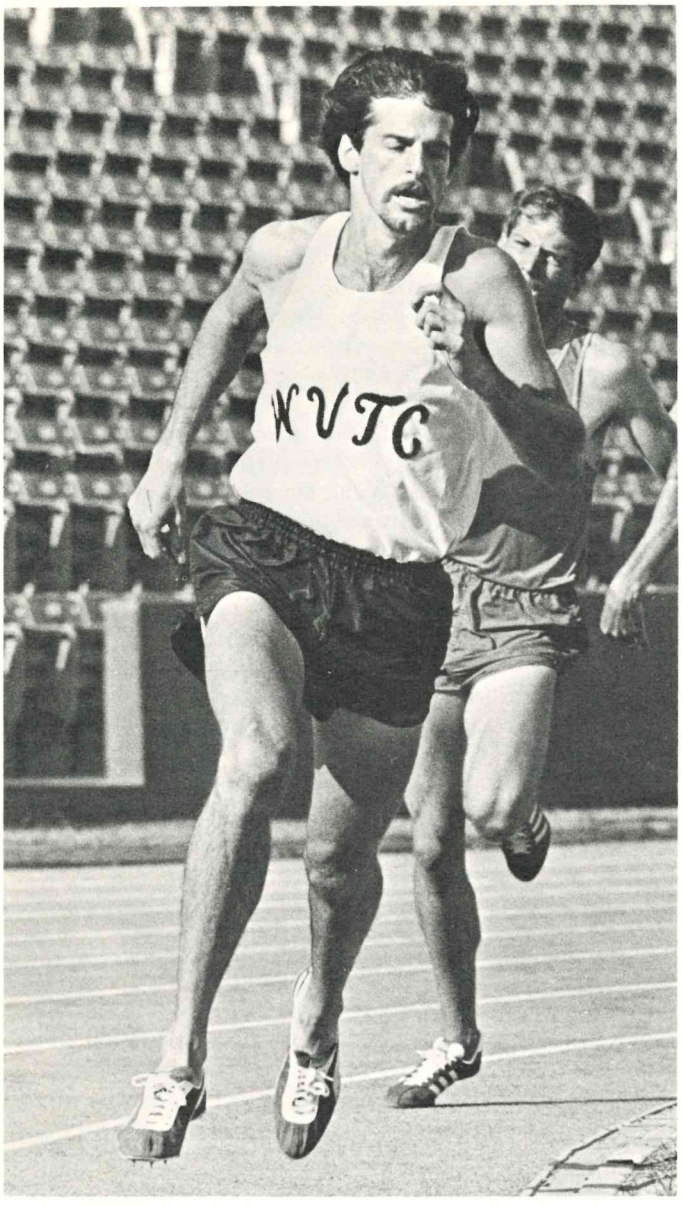
In May, Kardong was watching a televised meet. He saw his roommate Duncan Macdonald finish third in a mile. "I hope I have a chance to make the Olympics," Macdonald said afterwards. "This race encouraged me."

Everyone who is anyone says he hopes to go to the Olympics, but Macdonald could say it with a sense of reality. Take away Fanie Van Zijl (the ineligible South African) and Juris Luzins (the 800 man) and Duncan was left in front among prospective US Olympians in that race. His time was third best among all Americans in the running for the team.

Things had changed a lot in two months. In late March, Kardong was truckin'. He and Hilton had been the brightest new runners on the indoor circuit. Don was out of school and out of work, and happy with both. He had time to train and freedom to race selectively between then and the trials.

In late March, Macdonald graduated from Stanford. He apparently fell into the good-but-not-good-enough category of runners. He had run his share of near-four-minute miles but he had run 4:10s-plus, too. He toyed with long distances and qualified for the Olympic marathon trial, but he was even a longer shot at making the team there than he seemed to be in the mile.

In late May, Kardong was watching that mile from



Duncan Macdonald—the Hawaiian who says it's "too cold" in northern California—has stayed on because of the running opportunities. He has been rewarded with a string of fast miles and 1500s. (Pantovic)

Modesto on TV because he was home with mononucleosis. He wasn't running at all, and hadn't for the past two weeks. Ironically, he may have caught the strength-draining disease because he had too much free time for training. He trained too hard, he thinks.

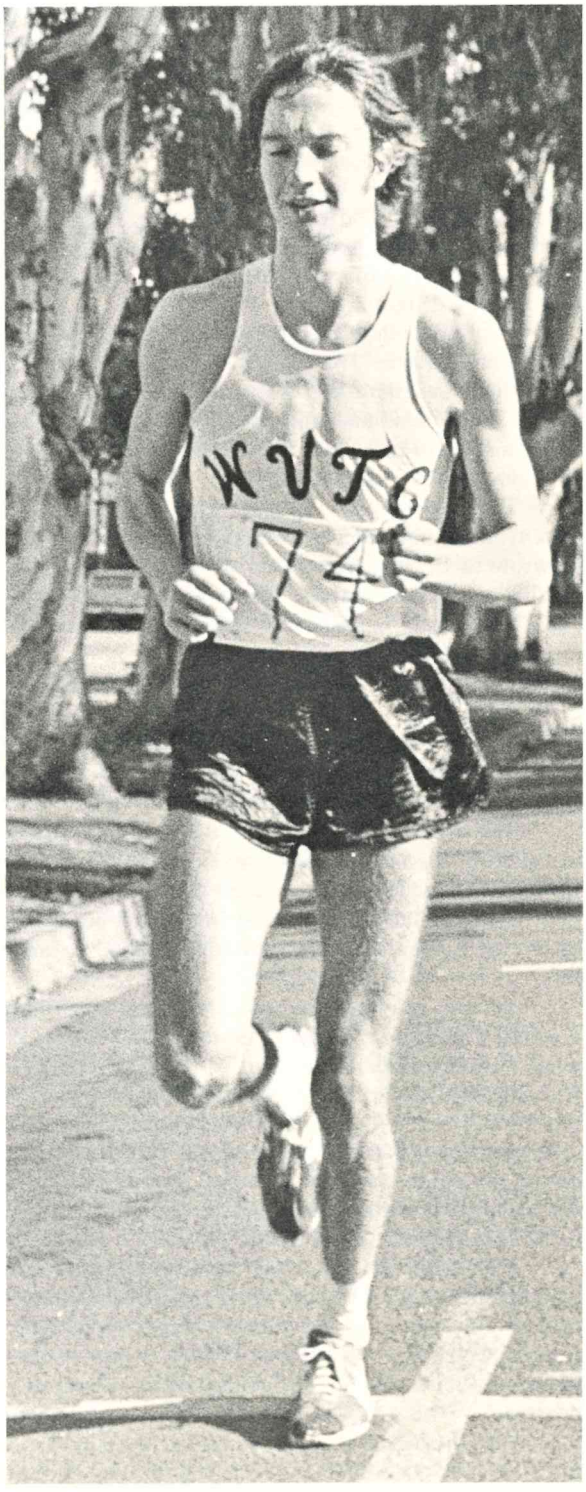
Macdonald, meanwhile, had adopted his friend and former Stanford teammate Kardong's life style. He became a full-time runner, too. But for Duncan, the effects—for the time being—had been all good.

"For awhile after the indoor season, I was running 120-130 miles a week," Kardong says. "Sometimes I went over 140. During a four-week period in April and early May, it dropped to about 105—but I was competing at the same time. I'd never done close to that much during the competitive season before.

"I was working pretty hard in early May, and noticed I was getting pretty tired. I was taking my hardest workouts in the morning...well, it was barely morning. It was about 11 o'clock, so I was running in the heat of the day. I thought I was just tired from the heat. I doubled at the West Coast Relays. My times were so bad I didn't bother to check them. The following Monday, I felt awful."

Don had a severe sore throat and went to see his doctor. The verdict was mono. "I'm sure it had been in my system for some time," Kardong said later. "I went through three or four bad days. My throat was so sore I could barely

In February and March, Don Kardong was as strong as any runner in the country. Then he caught mono.... (George Beinhorn photo)



eat and drink, and I was so tired all I wanted to do was sleep. For 2½ weeks I didn't run at all. I started again on June 1 with five easy miles. I can't say what kind of shape I'm in because I'm limited. If I try to train hard, I'm likely to have a relapse. It takes a long time to get mono out of your system. Ideally, I would sit out a month, but I can't do that this year. There isn't time."

Kardong still planned to do what he could at Eugene, but carried no illusions. The experience of putting everything into running for a year and then having it end like this could have shattered many people, but not Don. When I talked with him, two days after his "comeback" began, he sounded as if July 1972 was far from the end of his running sights.

For one thing, he's in no hurry to settle into a job. "Next year," he said, "I'll go to the University of Washington and try to pick up a teaching credential. And I hope to get another bachelor's degree, too. That would be in English. The one I have now is in psychology."

Don is from Washington. He says he stayed in the San Francisco area after graduating because "I didn't want to be on my own all of a sudden. I didn't want to make a sudden break from the structured college situation to nothing. As much coaching as I get, even now, is from Marshall Clark (distance coach at Stanford). He has been a real help all along. Being here, I can talk to him any time. He knows me and what I need, almost better than I know myself.

"Also I wanted to take a year off and just run. Here we have the nice weather. Washington doesn't have that, and I'm addicted to running in shorts year round. You can't do that up there."

Macdonald, who like Kardong is 23 and single, stayed on for some—but not all—of the same reasons. He and Kardong live in a rented house in Menlo Park, not far from Stanford. Yet they rarely run together.

Macdonald said in March, after his college eligibility had expired, but before graduation, "Kardong has a built-in alarm clock that wakes him up at 11 a.m. every day, so I rarely see him in time for a morning run. I'm looking forward to a similar life of leisure in the near future, but I prefer to get my 10 hours from the opposite direction—going to bed early. I think this will make me healthy, not to mention wealthy and wise."

Duncan shares Don's respect for coach Clark. "Except for my morning runs," Duncan has said, "I am completely dependent on Marshall Clark for my workouts. He has been amazingly patient with me—actually listening when I have something to say, which is all the more amazing when you consider that absolutely nothing I say is worth listening to."

There were things about college that he didn't like. He's happy to be out. "As far as racing goes," he says, "I think leaving the college program has helped me. The coaching was great, but there were pressures associated with school and team competition that I do not like."

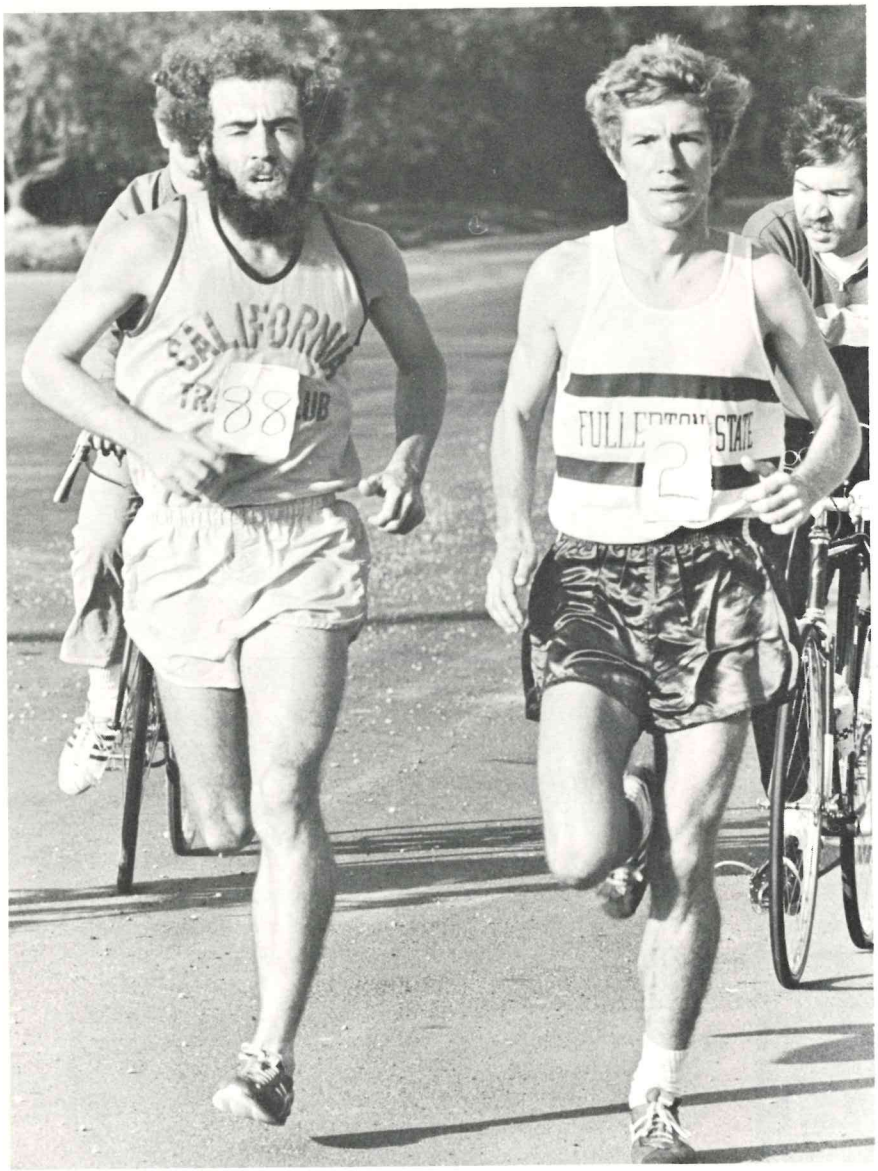
Duncan is perhaps the lightest-training 2:21 marathoner in the world. He said after running it in February (for second place behind Kardong) that 50 miles is a big week. One reason was school. "I run as much as I am going to enjoy," he says, "but get my sleep rather than run after a hard night of studying. When I get out of school, I expect my mileage will go up somewhat."

The thing Macdonald doesn't agree with Kardong on is the weather. While it seems warm to Washingtonian Don, it is cold for Hawaiian Duncan, who says, "Another reason (for the relatively light training) is that I have a habit of getting sick easily here on the cold mainland." Considering the isolation of his home state, though, he stays.

Macdonald's mileage hasn't gone up significantly since March. The weather here remains cool most of the time. Duncan is improving, he thinks, because he is staying loose. "There is not that feeling that if I don't win, the world will come to an end."

If this reasoning has helped Macdonald get as high as he has since March, it has also kept Kardong from getting too low.

LEFT: Alvaro Mejia (No. 7) has the entire Colombian distance team training on the San Francisco Peninsula. (Steve Sutton photo)



Mark Covert (left) and Dave White. (Don Chadez)

". . . The coach doesn't dig this marathoning. He complimented our 2:17s with the infamous quote, '2:17 doesn't score points at the nationals.' But our success lies in the marathon, so that must be the direction we take. . ."

THE COLLEGE MARATHON CENTER

BY JON SUTHERLAND

Mark Covert was steaming mad. His frizzy hair and beard, which wrap around his face like a Christmas wreath, made him look all the angrier.

"These damn guys are giving me the runaround," Mark fumed. "I called one place about getting my marathon time certified and they said they didn't have the authority. I called another place, and they didn't have it. I finally called the head of the Olympic Track and Field Committee, and he said to phone the meet director in Eugene. When I finally talked to someone who'd give me a straight answer, he said the standard was to keep bums from cluttering up the field."

This is what really had Mark hopping–being called, by association at least, a "bum." Covert had been one of the victims of the retroactive Olympic Committee ruling that marathon qualifying times had to come from certified courses. He ran 2:22 in January. Then he got the word. "Sorry, you'll have to run another one. This is no good."

"What do they think marathoning is," Covert asked no one in particular, "a pleasant stroll around the block?" He wasn't going to run another. He figured he'd done what he had to do.

"I've been running 160 miles a week all spring," said Covert, "and I still don't even know if I'm officially in the trials."

Then, looking as if he had a sudden inspiration, he smiled and said, "Hell, I'll be there. I've worked hard for this, and no one's going to stop me now. I'll be running in Eugene whether they want me or not."

Covert's persistence paid off. Once in, he made three marathoners from his school–Fullerton State in southern California–among the top 20 qualifiers for the trials. Mark, a 2:22:35 man, is the slowest of the three at this point. But he has only gone the distance once, and is a fighter.

His teammates are Doug Schmenk and Dave White. Schmenk ran 2:17:45 in mid-January. White thought he had done 2:17:15 a couple of weeks later, but a wayward bicyclist had guided him the wrong way around the track and cut the course a tenth-mile short. (Covert paced White the first two-thirds of this race.)

All three of them were on the Fullerton State team that won the NCAA college division cross-country championship last fall. Without knowing them and the situation, one might assume that the three work well together and have special guidance at the school. This is only partly true.

Covert tends to go his own way. He was a state junior

college champion at Los Angeles Valley College. There he trained with Laszlo Tabori, one of the first sub-four-minute milers and a pupil of Mihaly Igloi. Tabori uses a version of his own coach's severe interval methods. They mesh well with Covert's hard-driving personality, and he thrives on these workouts. He still trains with Tabori. Mark, a 28:08 six-miler, "red-shirted" this spring so he could get in more work. This separates him from his teammates.

White and Schmenk are about Covert's age but seem younger. They are smaller and more innocent looking. Where 21-year-old Covert is fairly burly for a runner (5'8", 154 pounds), 20-year-old White is slim (5'8" and 130) and 21-year-old Schmenk is shortest and lightest (5'3" and 115).

Dave was one of the fastest high school track men in the country several years ago. He broke nine minutes in the two-mile. But then his short distance development seemed to stall. He wasn't one of the top runners on the national championship team last fall (nor, for that matter, was Schmenk; Covert was the second man behind Tim Tubb).

"I had a difficult time starting marathoning," White says. "All through high school, my coach kept discouraging the idea. I was running a hard 18 miles every Sunday, but he kept telling me I couldn't make it. Every chance he'd get, he'd put in a bad word about marathoning. I couldn't understand his contempt, because he'd never even seen a marathon, much less run one. So how could he know how I would do?"

Not until last December, after cross-country, did Dave get his chance. The Culver City race, he says, "answered a lot of questions I had. I was hoping for 2:30. I ran 2:22:55 and was delighted. I hadn't really found a particular race to concentrate on. After Culver City, I became a marathoner."

Schmenk got started earlier. His high school coach was agreeable to the idea, but then Doug didn't have as much at stake as White, either. He didn't show the same kind of early speed. Schmenk took to the longer distances more than White and Covert did, though.

"I decided on running at least one every year," Schmenk says. "Everyone talks about it (the marathon). It's just something that has to be dealt with." He ran 2:46 the first year, 2:29 the second, 2:24 the third, and 2:17 the fourth.

Schmenk is the team's legendary mileage maker. "In 1971," he says without sounding impressed, "I averaged 19.8 miles a day and often went into really heavy mileages." Averaging 20 miles a day adds up to at least 140 miles most weeks. "Heavy" mileages are those he ran at the end of the year.

"I put in a lot of miles over Christmas vacation and prepared better than ever for any race. I ran 441 miles in 14 days. I tried to get 30 a day in two workouts. Three times I ran three-a-day, and on one day I only ran once—a 40-mile run. I was ready." Two weeks later, Schmenk ran his 2:17 at San Diego, breaking the course record by five minutes.

Covert is interval oriented. Schmenk obviously is distance conscious ("I only show up for one interval workout a week because I need the longer runs."). White comes somewhere in between. Dave says, "I personally like to do two days a week of intervals because I have had good success with them."

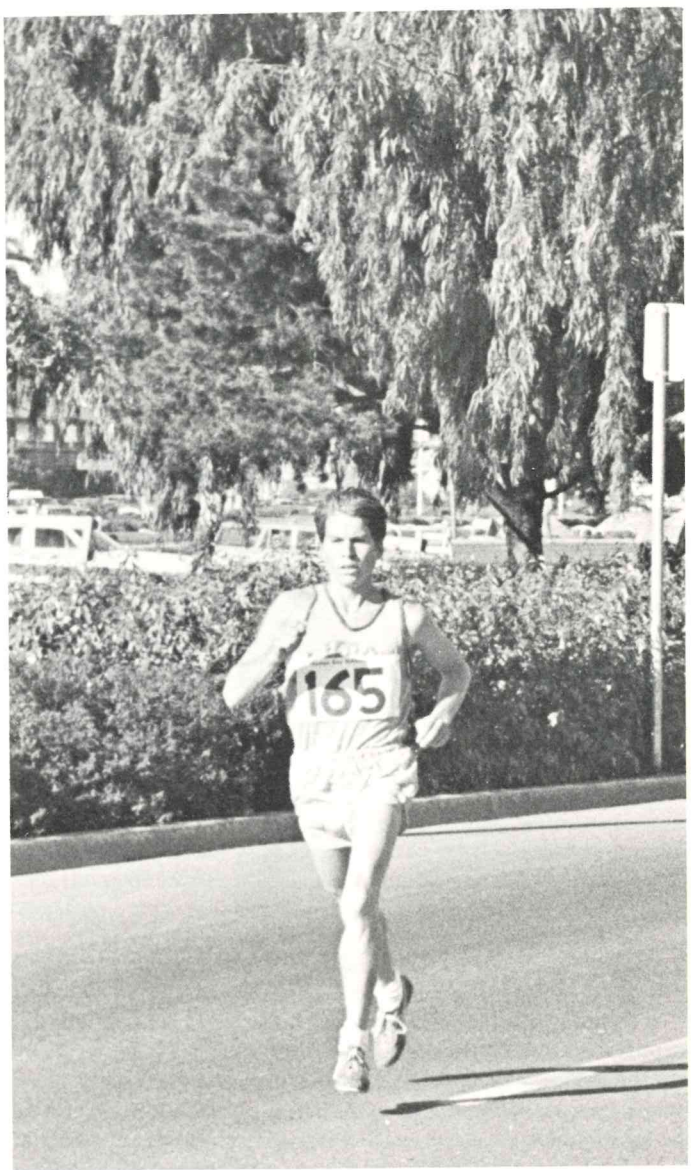
The big advantage of being on the same team is that, regardless of training interests and emphasis, they can get together for their long runs. They all take these. Schmenk describes them.

"At school, our afternoon runs are usually 10 miles or more. And on Sundays, Dave and I will get together and run 18 miles. Someone always feels good, so the pace rarely lags. It takes a couple of miles to get going, but after that the pace stings. We're kind of trying to run away from each other—politely, with no hard feelings."

While Covert left the Fullerton State team this spring, Schmenk and White stayed. They set aside their marathoning ambitions for awhile in favor of track.

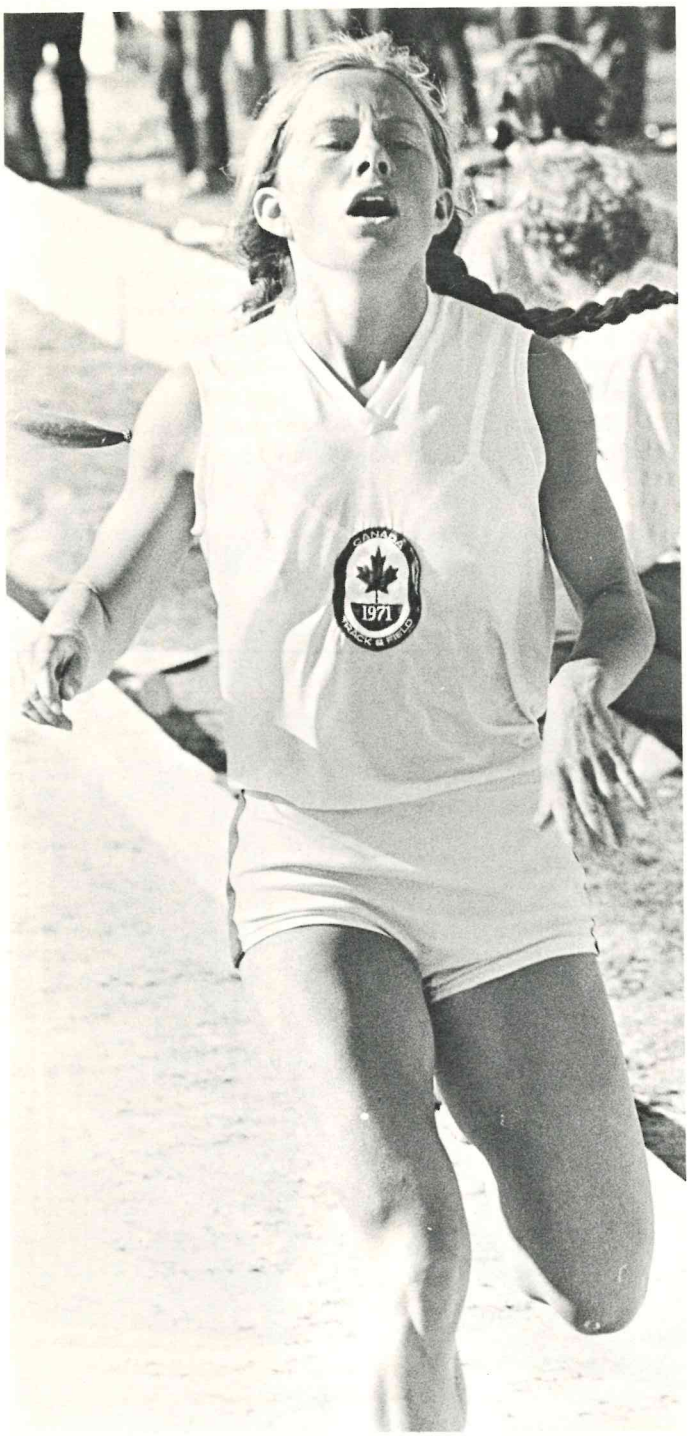
"The coach doesn't dig this marathoning," Schmenk says. "He complimented our 2:17s with the infamous quote, '2:17 doesn't score points at the nationals.' But our success lies in the marathon, so that must be the direction we take."

No one could stop Covert from going that way. Schmenk and White were slowed only briefly.



The fastest of the Fullerton Three (through the Olympic Trials) was Doug Schmenk. The 5'3" marathoner has done 2:17:45. (Don Chadez photo)

HOW WOMEN RUNNERS MEASURE UP



BY JANET NEWMAN

The so-called lonely world of the distance runner had belonged almost exclusively to the male. But the beauty and the joy, as well as the solitude, of long distances have been experienced by increasing numbers of women over the last decade.

Such organizations as the Amateur Athletic Union are proceeding at what many people feel is a too cautious rate in sanctioning long distance events for women. But sanctioned or not, well over a hundred women ran marathons last year, and countless others competed in road runs at all distances (in addition, of course, to the thousands who ran the more conventional track and cross-country races). None dropped dead.

Still, the mile is just becoming an accepted part of the track schedule, and 1972 will be the first year for the 1500 meters in the Olympics. Two-mile and 3000-meter races have been run primarily on an exhibition basis. The women's cross-country distance is 2½ miles. Above that, forget it–at least officially. The woman who wants to run longer distances has no choice but to compete in men's races (which she can do, says the AAU, only if she is scored separately).

The AAU is running in place until is has definite data on the physiological and psychological aspects of distance running. As data accumulates, incidentally, it increasingly favors the women who want to run long. But at any rate, the women are running anyway, regardless of the AAU's stand. And few race officials seem willing to stand in their way.

Unfortunately, there is still relatively little evidence to convince the AAU of what the women distance runners pick up intuitatively: Running feels good; how can it be bad? Without solid evidence to support them, they agree with distinguished running writer Ken Doherty, who says that "women are runners by nature, just as men are."

LEFT: Canada's Thelma Fynn-Wright will be in the first Olympic women's 1500. (Pantovic)

Doherty, however, qualifies his statement by adding, "... though of course within a more limited range of distance/pace."

The range of distance is increasing as many top female runners now log 70-100 miles a week. The pace is increasing, too, with women running under 2:50 in the marathon (less than 6:30 per mile), and correspondingly fast at other distances. In other words, they're running as fast as or faster than many adequately trained males.

As more women participate in longer distances, both range of distance and pace will increase. Clearly, women's physiological makeup has not kept them from doing as well in the distance events as they have in the shorter ones. Yet questions remain about male/female differences–as related to *how* they run, not to *whether* they should.

Data on female distance runners is scanty and we must rely, for now, on studies of women in athletics generally, not just running.

Fears, prejudices and misinformation exist concerning women in sports. Yet, says women's coach Dr. Harmon Brown, "From a physiological point of view, females can participate in the same sports as males." However, it is important for the athlete, coach and official to be aware of the physiological differences which indicate that men and women cannot compete together *on an equal basis.*

H. A. de Vries, in *Physiology of Exercise for Physical Education and Athletics,* sums up existing information:

• The differences in sports performances can be attributed partially to the ratio of strength to weight—which (after puberty) is normally greater in the male. Women have a smaller proportion of muscles in relation to a considerably larger amount of adipose (fatty) tissue.

• The ratio of heart weight to body weight in women ages 10-60 is also a factor limiting sports performance. Women have only 85-90% the heart size of men.

• Males have a higher basal metabolic rate. But when evaluated in relationship to muscle mass instead of surface area sex differences disappear. Thus the difference would have significance only in respect to resting heat dissipation, not for the efficiency of muscle capacity.

• Men have an advantage in blood content. Many women are chronically anemic, due to an iron deficiency. Men, in the age group 2-30 have, on the average, 15% more hemoglobin per 100 milliliters of blood and about 60% more erythocytes per cubic millimeter. This combination of factors gives men a greater capacity to carry oxygen.

• DeVries points out that women have a lower Erbolungs Quotient, which indicates the degree an individual must encroach upon her anaerobic reserves to perform at a given level.

• Cardiac cost, the measure of stress on the heart for a given workload, shows that girls 12-13 work most efficiently. There is no further improvement with increasing age. The male, on the other hand, at age 12-13 has only one-third the cardiac capacity of males in the 31-36 age group.

• Maximum oxygen consumption peaks at an early age for women, too. Eight- and nine-year-old girls have the highest oxygen consumption, then they decline to age 15; after that, it remains constant. Boys peak at 15-16 and maintain that level througn young adulthood.

• There seems to be disagreement about the trainability of women. De Vries reports that the female adjusts to heavy training in much the same fashion as males. Yet researchers Klaus and Noach say that at the age of greatest trainability (20-30) women respond to training with only 50% the improvement of men. They feel that women shouldn't compete in events longer than 1000 meters.

By contrast, though, DeVries states that by far the greatest percentage of injuries is found in sports that require explosive efforts: short runs (53%) and the long jump (31%). It is difficult to avoid the conclusion, says de Vries, that such activities are not suited to the female's musculoskeletal system.

Women in general have bones, muscles, tendons and ligaments that are more delicately constructed than those of men. And the overall incidence of athletic injuries to women is double that of men. The incidence of injuries involving overstrain—such as contractures, inflammations of tendons and tendon sheaths, periosteal injuries—is four times as great as for men.

• As far as gynecological problems are concerned, no disturbances of the onset of menarche have been found, nor is there evidence of dysmenorrhea as a consequence of athletic participation. Athletic women generally have quick and easy deliveries. Women shouldn't train during pregnancy, says de Vries, because of hazards to respiration and circulation. Unfortunately, he didn't specify at what point in pregnancy one should terminate training. Several women have won Olympic medals while pregnant, and one prominent distance runner whom I know nearly delivered her healthy son at the track.

The effect of the menstrual cycle on athletic performance has long been a subject of debate. Different conclusions have been drawn from different studies. In one study of 70-80 female athletes at the Tokyo Olympics, gold medals were won by ladies during all phases of the menstrual cycle.

I was able to find only one study that tested training response in a female long distance runner. Ona Dobratz was the subject. While the conclusions are limited because only one runner was tested, they still give some interesting facts about Ona, who later ran a marathon under three hours.

Ona's oxygen transport capacity increased with training, as well as her contractile heart force. Performances on maximal exertion tests improved dramatically as her training progressed. Her hemoglobin level increased during periods of exertion, although there were no differences in resting state hemoglobin as training progressed.

The most significant conclusion of the study by R. G. Knowlton at Southern Illinois University was that "many of the results of this experiment parallel anticipated findings based on results from trained males. The training program was considered to be extremely severe (compared with) convention for female runners. Although there were periods of detraining due to physical injury, training was graded and progressive, and there were no signs or indications that the physical stress was inappropriate for the subject."

In future studies of female long distance runners, serious questions must be posed to determine the difference between biological constraints and societal/environmental constraints. Do females have more fatty tissue because of the role they play in society—that of the "weaker" sex? Are females as slow by nature as world track records indicate, or is it due to the fact that proportionately fewer women compete in athletics? Questions along this line could make for hours of lively debate among AAU officials, physiologists, athletes and coaches.

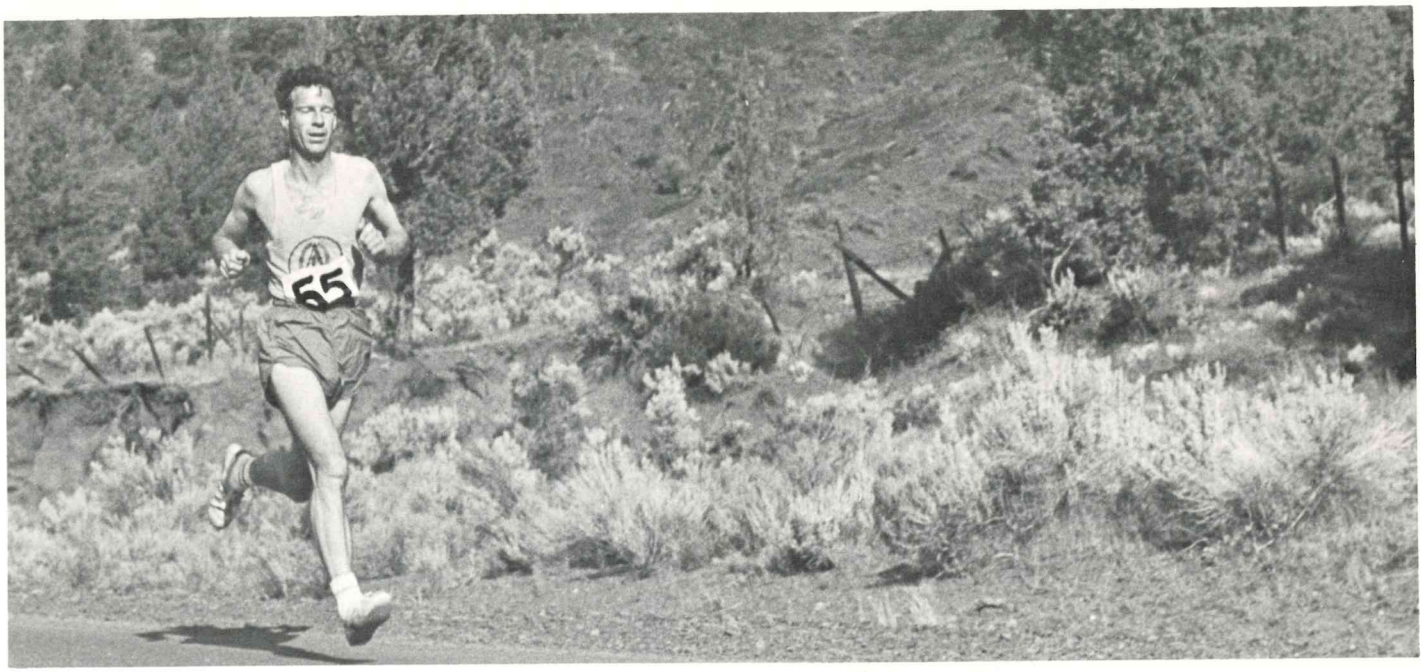
But, as indicated by the findings here, available evidence is lining up on the side of the women who run. The more that's learned, the more credibility is given to the observation by famed New Zealand Coach Arthur Lydiard. He wrote in the early 1960s, in *Run to the Top:*

"Females have a lighter and weaker build and an inferior capacity for physical performance than males. Their bones are lighter and smaller, their muscles are smaller in proportion to their total body weight, and they have less muscle bulk. Usually, the female is one-third less strong than the male in either individual muscle or total strength capacity.

"The cardio-pulmonary reserve capacity of the female is about two-thirds that of the male, and she is therefore unable to obtain the same maximal oxygen intake, ventilation volume and cardiac output that the male can achieve during physical performance.

"The female's loosely-constructed abdominal organs—the inclined pelvis, producing a greater abdominal area, and the pelvic floor—constitute weaknesses in her physique. But in spite of that, she has the qualities to perform the same types of movement and engage in the same physical activities as the male, limited only by intensity and duration. At her own level, she can match the male in engaging in activities requiring speed, strength, endurance and skill.

"...They (women) can train as long as men can train, can run as far as men can run and, like men, can do it seven days a week all year through. A few years ago, most people would have considered this either impossible or unwise."



FASTEST VET YET

ARTICLE AND PHOTOS BY ED PARK

Thirty-one high school runners were warming up for the 3000-meter run at Bend, Ore., in early May. Then the public address system announced that still another runner would be entered, in an unattached capacity.

"With special permission from the coaches of the schools involved, Ray Hatton will also be running the 3000 meters. Hatton is an assistant professor of geography at Central Oregon Community College here in Bend, and is 40 years old."

A buzz of anticipation ran through Bend's track-wise crowd, for they knew about this 40-year-old man and his running ability. But as I stook near the starting line listening to the chit-chat of the other runners, I noticed a quick shift in dialogue from "shoes, pace and tonight's date," to "Who's this old man?" Most of the runners were from out of the area, so did not know of Ray, and I grinned to myself at some of the comments I heard.

"What's he want to run for?"

"Beats me—but I don't care as long as he doesn't get in our way."

"Heck, after a couple laps we won't see him again."

"I wonder if he can even run two miles. My dad's only 39 but he couldn't *walk* that far."

"My dad drives a half-block to the store."

The talk was light-hearted and joking—and even understandable—for when you're only 17, anyone over 40 is definitely senile.

Now the runners were lining up and Ray took his position as fourth man back in the eighth lane. The extras start last. I shouted a last-minute bit of encouragement to him and Ray nodded his thanks. A couple high school boys, holding sweats for their buddies, made a joking remark to me about "old men" trying to compete with kids.

"Just watch," I grinned. "That guy can run."

At the gun the sprinters took the lead to sweep past the stands on the first half-lap at near four-minute-mile pace. The first lap times were those of milers, not two-milers, "...65...66...67...," while Ray strided easily along exactly on pace with a 72, back in about 15th place. The two high school boys commented that my runner wasn't doing too well, but I just smiled, "It's not over yet."

The next few laps proved the point. Ray kept right on his predetermined pace of 72 per lap and steadily moved up along the outside of the string as the early leaders were forced to slow down.

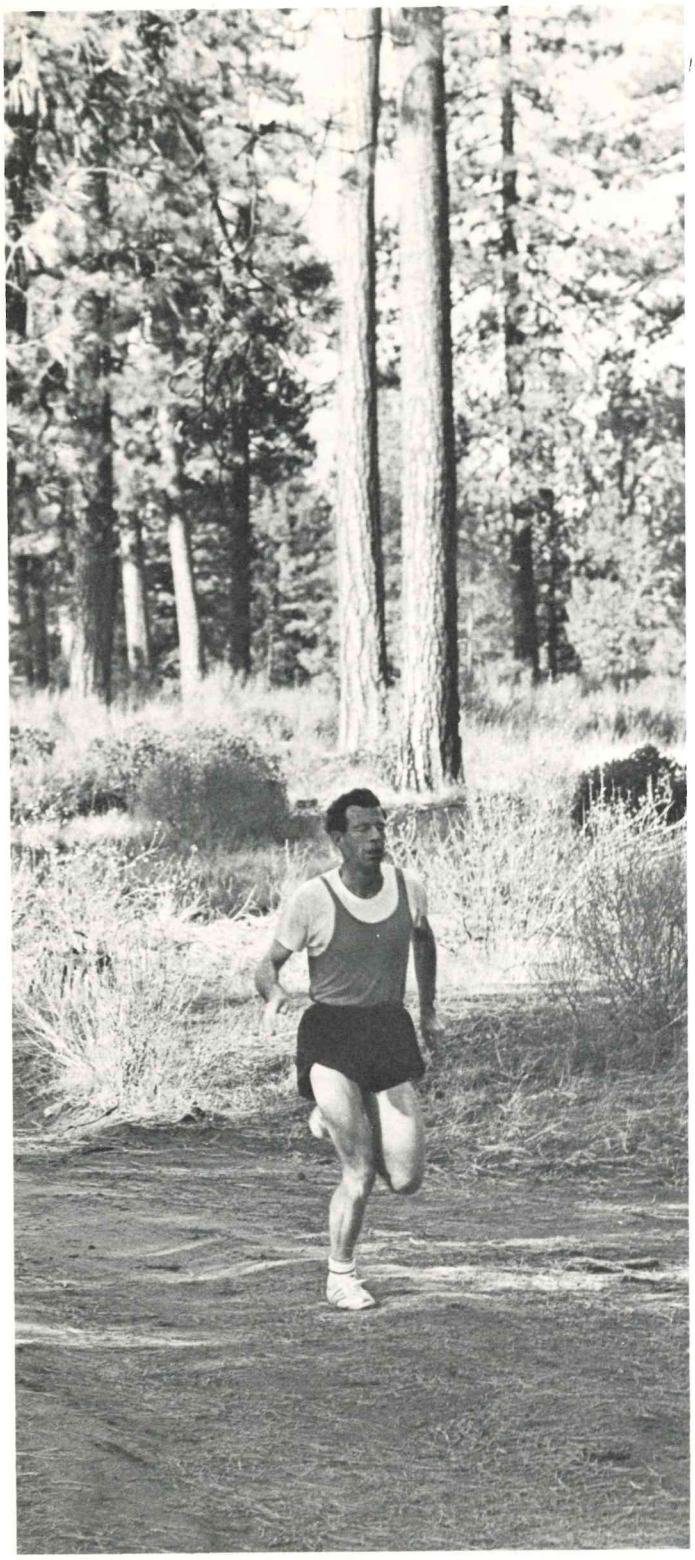
As one runner had predicted before the race, "...after a couple laps we won't see him again." Once Ray took the lead he continued to hit his 72s, pulling a few of the better high schoolers along with him. The two boys I'd been talking with became silent.

Ray won easily, finishing several seconds ahead of the high school winner, a boy who often trains with Ray, Steve Wilson of Bend. (Three weeks later, Wilson ran second in the Oregon state high school mile with 4:15.)

After the run, I listened to the runners as they were warming down and putting on their sweats. One remark was typical of the praise those boys now had for Ray: "They said he was going to run, but I didn't think he'd really *run.*"

Ray's personal aim in that 3000 meters had been 8:57.0, the US veterans record, but he had to be content this time with 9:00.6. The lack of competition, the slow cinder track and the 3600-foot elevation made conditions less than ideal for a record run. Another time, another place...

The difference that competition, track surface and elevation can make had been shown about a month earlier, when Ray had been allowed to enter another race. This time it had been more than 3000 feet lower on the super-



Hatton trains in the woods near his Bend, Ore., home.

fast track at the University of Oregon. The competition was the best in the world at two miles, Steve Prefontaine, and other Eugene-based distance runners. Ray finished last, but his time of 9:17.6 knocked 10½ seconds off the existing world post-40 record.

Then just a week after missing the 3000-meter mark in Bend, Ray again ran with high schoolers. This time Ray again ran his own race, against the clock, finishing the mile in 4:26.0—a world mark by just two-tenths of a second. The world records are beginning to fall for Ray Hatton.

He has been running competitively longer than most runners have been alive. Born Feb. 4, 1932 in Lichfield, England, Raymond Robert Hatton was the son of a wages clerk at a coal mine. High school begins at an earlier age in England than it does in the US, so Ray's first competition was at the age of 11. That was back in the fall of 1943.

Ray's ability and competitiveness showed even then. High school is six years in England, and during those six years, until he graduated in 1949, Ray failed to take first in a race only once, finishing second in a five-mile cross-country run. His best high school track times were 2:15.2 for the 880 and 4:33 for the mile.

After graduation, Ray went to work doing cost computation for a factory in Birmingham, but continued to compete. England has an excellent club program, something Americans certainly could use, and Ray did most of his competitive running for one of these clubs from 1949-56.

The Birchfield Harriers of Birmingham have a history of winning, having taken the national championships 27 different times between 1880 and the beginning of World War II. While running for Birchfield, Hatton posted some of his lifetime bests: 29:22.8 for six miles in 1954; 14:04.4 for three miles in 1954; 8:57.4 for two miles in 1955; 4:11.2 for the mile in 1956. In 1952, his team placed second to France in the international cross-country championships. The first place runner was Alain Mimoun of France.

In 1953, Ray found time to marry Silvia Harvey. They now have two children, 11-year-old Peter and 7-year-old Janice. The Hattons moved in 1956 to Moscow, Idaho, where Ray was on an athletic scholarship to the University of Idaho. In 1957, Ray helped Idaho take the Pacific Coast Conference cross-country crown.

Ray returned to England in 1958, then came back to Idaho in 1959 to finish school, graduating in 1960. His first teaching assignment was in Sacramento, Calif., where he did little running for a year before joining the Golden Gate Track Club of San Francisco and resuming racing.

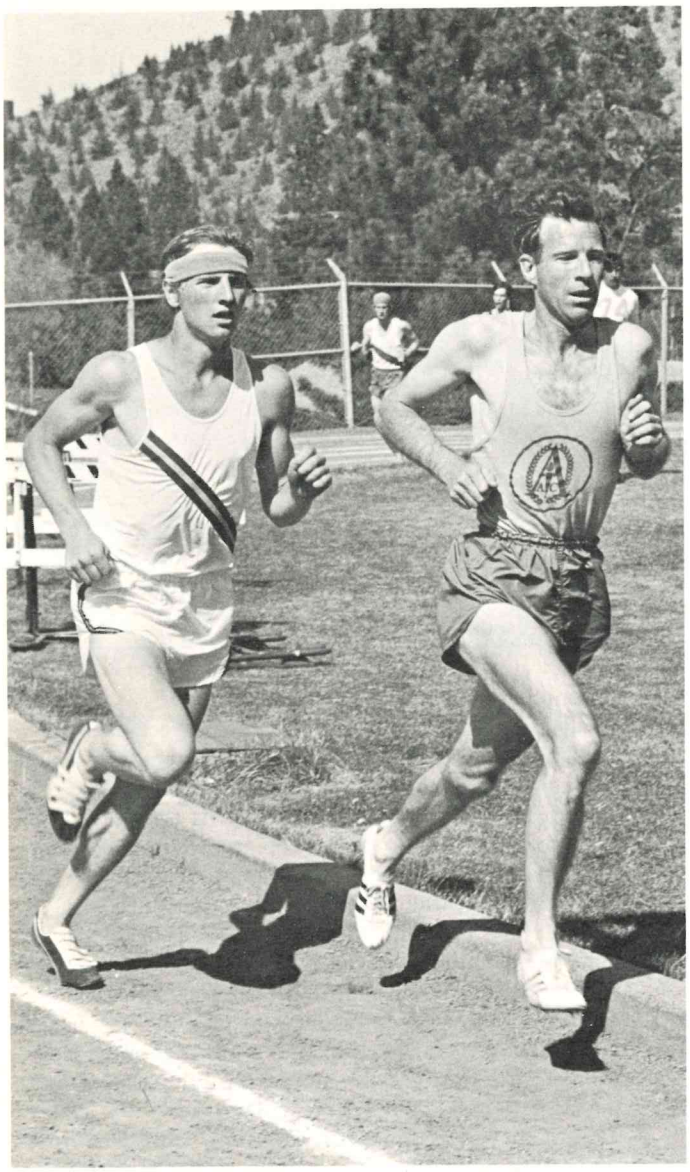
Then there was a competitive layoff for most of two years while working on his master's degree at the University of Oregon in 1965-66. Ray jokes, "There I was in the running capital of the world and too busy with studies to find time to run."

He returned to Sacramento to teach for three more years, this time competing in cross-country and road runs for the Athens Club of Oakland. In 1969, the Hattons moved to Bend, Ore., to assume his present duties at Central Oregon College. There he began to sharpen his training with an eye to turning 40 and having a crack at that wide-open field of veterans world records.

Many men hit the depths of depression when they hit that "life-begins-at" age, but not Ray. During the winter of 1971-72, in the months before that magical Feb. 4 date, Ray could talk of little else except reaching 40. Then—those records!

For most of the past 29 years Ray has been training and competing. "How many races?" I asked him. A thoughtful expression held for long seconds as he recalled back over all those years and all those places. A mumbled, "...and sometimes once or twice a week for years..." Finally a broad grin, and, "Golly, Ed, I have no idea, but it would be well over 1000."

And it's interesting to note that Ray's times haven't slowed much in all those years. His best mile in 1972 is only 14.8 seconds slower than his best ever set 16 years ago.



The 3000-meter race against high schoolers in which Ray just missed the American record.

His 1972 two-mile is only 19.2 seconds slower than his all-time best of 17 years ago. By keeping at it, without any long breaks, Ray has been able to maintain his running ability pretty well.

How does Ray do it? How does he train? I asked him, looking for some special formula, some secret recipe that would reveal how he has been so successful for so long. I found nothing extraordinary.

For one thing, at 5'10" and 135 pounds, Ray is the same weight as he has been for the past 20 years, and his training now is also pretty much the same as it has always been. His total mileage is only about 35-45 miles per week, a low total when compared to those who crowd 200 each week.

But Ray emphasizes quality in all his workouts, just as he does in all his races. I know. I've run with him on the track and through the woods. He trains once a day, every day. Most of his workouts are runs of 6-10 miles. His interval work on the track is mainly 440s, 660s, 880s and 1320s, done a couple times a week.

Normally his longest training run is 10 miles, though he did one of 18 miles last year when he took the wrong fork while running on forest trails. His longest race to date was a 21-mile road race in Sacramento six years ago, but he's thinking of entering his first marathon soon. With that in mind, the training runs will get longer.

And where is he going? Well, right now Ray is a man in a hurry, with his eye on all of the records from about 1500 meters through one-hour.

Finding meets in which he can run is sometimes a problem, so he is thankful for being allowed to run in high school and college meets. During the summer months there are a few open meets around, but the big problem is finding meets that offer some of the distances not often run—such as the 3000 meters. Hopefully, we'll be able to convince some meet directors to add some this year.

Ray feels that all of the US records, and many of the world marks, are within his reach in the next few months. He had a chance at some of them in a Senior International In Los Angeles in mid-June, the AAU Masters in San Diego in early July and the Northwest Masters at Gresham, Ore., in mid-July. Other attempts will be made at whatever open meets Ray can find to run.

And why is Ray in a hurry? He is certainly aware that any record he sets today can easily be broken tomorrow. If he doesn't do it today himself, somebody else will tomorrow—and there are runners turning 40 every day.

In the usual track competitions, we see a young fellow grow and develop over a period of years. He's good in high school, becomes well-known as he grows through college, then peaks in international competition in college or a few years afterward. We saw him coming up and watched his progress along the way.

With post-40 competition, it's different. In most cases, a veteran runner hits the scene completely unannounced. He's been running, of course, all those years through the 30s. At 39, he's in lots of road races, open meets, and so on—but usually finishing back in the pack, behind the 20-year-olds. Then suddenly he's 40—and in the new division. All at once, he is taking firsts in his division and we have a new star on the scene.

With records its the same thing. Today Ray Hatton is the world's best over-40 runner at many distances. But that lofty position can come to an abrupt end at any time, and may easily have between the time this was written and when you read it. So Ray is doing what he can, as fast as he can. In fact, he set another one between the time I started this article and finished it. The latest: a 14:37.0 three-mile.

NEW BEGINNING AT AGE FORTY

BY WALT BOEHM

A phenomenon of the contemporary running scene is runners prolonging their competitive lives well into the 30s, thereby reducing the gap between open competition and possible upper-age-level racing. The net result will be, I predict, a rash of new records for the post-40 years. The multiple post-40 records set by Peter Mundle, however exalted and durable, are being surpassed. Five of them already have been broken this year, and more will be.

These records were not beaten earlier because: (a) the current challengers had wide time gaps since retiring from open competition, or (b) they began running and competing only in middle age. In both categories, performances will, I suggest, plateau at a given level—with minimum possibility for a substantial breakthrough to higher levels. This is so if we agree that good performance in running is a by-product of adaptation to increasing doses of stress (in the form of training) over considerable time, coupled with an indeterminate portion of talent.

My argument is that athletes returning to racing after years of sedentary living, and those moved to begin for the first time, can achieve only limited performances in comparison with those who have competed throughout their youth and adult lives. Examples of the latter are Ray Hatton (who has broken Mundle's one-, two- and three-mile records), Hal Higdon (5000 meters) and Jerry Smartt (six-mile). Substantiation for this argument can be found in the modest levels of performance recorded by runners in Categories A and B.

There is a third category in which I fit. This is for runners who have been relatively active through running (not jogging) and sporadic competition in the 30s, the decade of life most difficult to bridge. Category C will also achieve limited performances, but the performance plateau is generally higher than A and B. There are exceptions, such as Frank McBride, who ran under 4:30 (mile) and well under 2:00 (half-mile) after a considerable layoff (1954-70). He confided to me after the 1971 Penn Relays masters mile (which I won in 4:30.7; he was third in 4:41.1) that he was running harder in training at 40 than when he was younger and able to run 4:13 in the early 1950s.

Because the years 30-39 are the most difficult to bridge and because of the relative newness of post-40 competitive running, there are very few class performers available to establish new records. A few Americans come to mind nonetheless who are active currently and promise to lower all of the middle and long distance records at this level.

The ones besides Hatton, Higdon and Smartt who should further reduce the records are Glynn Wood, Frank Pflaging, Gar Williams and Bill Gookin, who turn 40 this year or next.

Wood, of Washington, D.C., beat Pflaging by a tenth in a 4:27 mile last year on a slow dirt track, and ran 4:19.9 recently. Pflaging, who lives in Maryland, is always in condition and beat me in 1971 with 4:28. Frank was reputedly under nine minutes for two miles in an indoor meet two or three years ago, which indicates his strong condition in the mid- to late-30s age bracket. Williams, of Virginia, is less fleet afoot over the one- to three-mile distances, but he is durable and can be expected to run under existing standards at 10,000 meters, one-hour and intermediate distances if sufficiently motivated and healthy. Californian Bill Gookin, the oldest Olympic Trials marathon qualifier, is doing some of his best running—at all distances— at age 39. None of these men has stopped competing through the 30s.

However, their anticipated performances will be considerably slower than the times recorded by Fred Norris of Great Britain and Michel Bernard of France. We'll have to wait for another generation of Americans who will keep running in serious open competition in order to approach the 4:13 and sub-9:00 "veteran" times of Norris. Bernard, who turned 40 last fall, ran 5000 meters in under 14:00 just before his birthday. Bernard was on France's 1972 international cross-country team after getting wounded last autumn with a shotgun, leaving a number of pellets still in his right leg. If Bernard is interested, he could eclipse all the post-40 distance records, many in one race.

The recent contention of George Young that "we'll see a mile run in less than four minutes by a post-40 runner" is pure speculation unless the likes of Jim Ryun compete uninterrupted at a maximum level until they are 40. This is a situation highly unlikely to be seen in our time, I argue, considering the fragility—both physical and psychical —of runners performing currently at sub-four-minute levels. Witness Ryun and Marty Liquori.

That performances of this order will be reported by post-40 athletes in the indeterminate future is accepted. What becomes clear as we begin to think of middle-aged running is the fact that we know so little of the true capacity for adaptation by man. The limiting factors, in my judgment, are motivation and perseverance—not physical apparatus.

A new 40-year-old, Jerry Smartt (right), paces Peter Mundle in a two-mile—which Smartt won. Tom Sturak runs third. Smartt and other fresh veterans are chipping away at Mundle's records. (Pantovic)

UNLIKELY HEIR TO RYUN'S RECORD

BY HUGH SWEENY

Distance runners are generally religious subscribers to a sort of work ethic which might be paraphrased as follows: "He who trains hard and faithfully will be rewarded with fast times and high finishes. But he who is easy-going and irregular in his workouts will be an also-ran forever."

The gods of modern distance running, we read, have reached their Olympian heights only through tenacious work and effort. Dave Bedford thrashes out 200 miles per week. Herb Elliott went up and down Portsea sand dunes until he dropped. Derek Clayton runs so hard he smashes into trees following a tough training effort. Gordon Pirie forsook employment and security to pursue his training. Emil Zatopek ran in place for hours, wearing combat boots.

The mythology of American distance running has similar heroes. Buddy Edelen lived at the poverty level in England so that he could improve his distance running. Tom O'Hara ran five miles each morning along the railroad tracks. Jim Ryun trained so hard in high school he would fall asleep right after dinner. George Young couldn't afford the time to take his wife to a movie. And Frank Shorter met with "instant success" once he migrated to Florida and began to train hard.

Sacrifice, dedication, self-punishment, hard work. That's the only way to break records, according to the gospel of training literature.

I've been running for quite a few years now, with a notable lack of success. "But I have school and work," I've told myself. "I can't afford to train like these guys I read about. I'll bet the reason they're so good is that they're such hard training little animals."

Slightly over two years ago, I began training with an up and coming high school sophomore, Vince Cartier, at my alma mater, Scotch Plains-Fanwood High School. He'd already run about 9:33 for two miles. I've run with Vince quite a bit, off and on, since then—perhaps once every two to three weeks. During the last two years, he has gone against the gospel.

Seldom running more than 50 miles a week—solid, but not really full effort—Vince has progressed steadily. In March, he achieved the high school distance runner's dream—breaking one of Jim Ryun's records. Cartier ran the indoor mile in 4:06.6.

While this doesn't put Vince in the class of Bedford, Elliott, it does to a certain degree, I suppose, make the average 4:26 or 4:36 high school runner view Vince as "super-human."

Distance runners are not created equal. Having witnessed Cartier's easy rise to his position as perhaps the leading high school miler in the US, I'm convinced that some people—the "super-runners"—are just plain better, and that no amount of training by us "mortals" will enable us to match them. In Vincent's case, the cliche of super-hard work leading to success does not hold. Certainly he does his share of training. But in his case, the key to success is his natural talent.

- **Hereditary talent:** His father, Walter Cartier, was the number one ranked middleweight boxer in the early 1950s.
- **An age advantage:** Vince turned 19 in April. He is a year older than most high school seniors, and is physically older and stronger than many college upper classmen.
- **Physical talent:** Vincent doesn't lift weights. But he is strong and his body ripples with muscles.
- **Mechanical talent:** Cartier is built just the way a runner should be. He has a barrel chest, like Prefontaine; long legs in comparison with his torso, like Bacheler; huge, powerful thighs, like Vaatainen; and a flowing, graceful stride, like Liquori.

A runner with Cartier's physical ability, plus a decent amount of training, is bound to break records. While hard work is important, I have realized while watching his progress that in the end raw talent is probably much more important than any amount of mileage in training.

A closer look at the development of the new high school record holder should be informative. Vince was born April 7, 1953. He is now 5'11" and 155 pounds. His yearly running progress to date:

Grade	Age	Indoor Times	Outdoor Times
7	13-14		5:05
8	14-15		4:56
9	15-16		4:33, 10:10
10	16-17	9:33	4:17, 9:12
11	17-18	4:15, 9:08	4:12, 9:12
12	18-19	4:06.6	4:11, 9:06.8

Cartier's training is almost the same as that of hundreds of other high school distance men. A typical week might include 16 x 440 on Monday, 6 x 880 on Wednesday, 4 x mile on Friday. The other days are distance runs, 7-10 miles, at a slow pace. His track workouts are fast, of course, but probably no faster than those of any other sub-4:10 miler. Vince sometimes goes harder than the week described above. Usually, however, he does less. There are plenty of runners who do these workouts, but very few who run 4:06.

Distance runners who go longer than 10 miles at a clip in practice can take heart, though. Cartier doesn't usually go for ultra-long or punishing workouts, but the long training seems to have helped him the two times he has used it to any extent.

In his sophomore indoor season, he ran several races in the 9:33-9:45 range. But he couldn't seem to go faster. Between indoor and outdoor season, Vince and I ran over-distance workouts on seven consecutive weekends, including three road races—a 30-kilo (Vince did 1:55:28), a marathon (dropped after 11 miles), and a half-marathon (1:14:23). Two weeks after our last "long one," he improved his two-mile to 9:17.

After the 9:17, it seemed to me that Vincent had reached a sort of plateau. From April 1970 until recently, his progress was steady but slow. Although he has been the

VINCE CARTIER (Steve Sutton photo)

best high school distance runner in the northeast for almost two years, his sophomore to senior improvement (4:17 to 4:14, and 9:12 to 9:08) wasn't spectacular.

Then came Vincent's second experience in training with marathon buffs. This February, he went for a few long runs with nearby marathoners Fred Best and Joe Witkowski. Vince also began early this year to run in the morning, by himself.

Forgive me for appearing biased in favor of long distance training. But after Cartier increased his mileage from 40-50 miles per week to 80, his progress was apparent: Feb. 12, a 4:17 loss; Feb. 29, another 4:12; March 11, 4:14.0 indoor mile; March 13, 4:06.6. I repeat, this progress came after adding to his training mileage. Long runs on weekends, four or five miles every morning, and presto, 4:06.6—high school indoor record.

The drop from 4:14.0 to 4:06.6, although a surprise, was not totally unexpected. The 4:14.0 had been in flats, on a 220 wooden track, with a 2:02.9 last 880. Given the fast Tartan track at Princeton, 4:08 or better seemed possible. In his 4:06.6, Vince ran an even pace: 61.0, 2:01.9, 3:03.2. The lack of competition hurt; his last 220 was only 32.8.

Cartier began to cut down on his weekend and morning runs shortly after the 4:06.6 effort. His afternoon interval workouts were becoming harder, as the weather grew warmer, and he told me he was too tired to run fast in the afternoon if he also ran in the morning. His speed was improving, as indicated by best-ever times of 1:53.1 in the 440 and a relay 440 of 50.2. But did the switch from distance to intervals really help?

Prior to the April 28 Penn Relays, Cartier was back down to 40 miles per week. At Penn, in the high school mile, he was outkicked by Gordon Oliver of Bethesda-Chevy Chase, Md., 4:08.5 to 4:11, on Penn's very fast Tartan track.

On a practice run with Vincent, one realizes that he is an outgoing, easy-going trainer. He stops and chats with people he knows, fools around with the school custodians, jokes with the girls. Once, when we were out for a run, Vince decided to stop for some breakfast. Coffee and donuts. Just the thing for a "hard training successor to Jim Ryun." Well, perhaps it's an improvement over the Coke and potato chips he's sure to have when he gets home. No, there's nothing special about the diet of this great athlete. It's high school, all the way.

And does he ever miss practice? Sure. Why not? Vince is certainly not a Ron Hill, who reportedly will hobble a mile or so out of his sick bed instead of missing a day. If during practice Vince doesn't want to push it, so what? Why not just jog around for a while? Tomorrow is another day. It's not that Vince isn't dedicated. He's just sensible about running, and doesn't see the sense in running "just to get X workout in." He's usually eager to run, though, and goes with me every time I call up to suggest a workout (usually an easy jog).

It remains to be seen what Vince will do when (or if) he starts hitting 100 miles a week regularly. Until then, I'll sit back and continue to be amazed at how he runs so well on less mileage than many readers of *RW*, myself included. There's no justice.

Note: *Shortly after this article was written, in mid-May, Cartier came down with mononucleosis. The disease forced him to abandon the remainder of the track season.*

"THE COLLAPSE OF COACHING?"

BY BRIAN MITCHELL

Brian Mitchell, a British national coach, authored the book "Today's Athlete."

"...for most of these people were lacking in the first, the last, the foremost quality of the artist, without which he is lost: the ability to get out of his own life the power to live and work by."

Thomas Wolfe, "Of Time and the River."

I favor the collapse of coaching. That is not to say that I would like to force this, or see it forced, but rather that it will be welcome if ever it comes.

Everything is against there being any collapse of coaching. (The East German team at the 1971 European Championships was said to have 19 coaches with it.) It has even been stated that good athletes are produced by good coaches. I think that good coaches are produced by good athletes; otherwise, quite simply, those who have made a name in association with great athletes would have gone on producing great athletes year after year—which they manifestly did not do. They are truly waiting for the next genius to arrive on the doorstep.

The growing call for coaches (one man in Britain even wants them to be *given* a mystic thing called "status") indicates that there will be no collapse. So the most we can hope for is the growth to maturity of those who want to be coached, whereby they arrive at a stage when they do what an ungrateful New Zealander did. They shove off, into their own lives.

As the actress, Claire Bloom, said, "When I was signed up by Chaplin, I was very much his *protege.* When he said move your head this way, place your hand that way, I did exactly as he said. I don't think I could take that kind of direction now."

This is not to deny the observable fact that coaches operate successfully all over the place. Payton Jordan, Bill Bowerman, Geoff Dyson, Franz Stampfl, Percy Cerutty, Arthur Lydiard, *et al,* have done a lot of good work with their great athletes, and no doubt with those we haven't heard the names of. But men as big as Herb Elliott and Peter Snell have not wanted to continue that way.

Roger Bannister said, "Stampfl can inspire an athlete better than anyone I know." But Bannister did not take a lot of coaching, in both senses of that phrase; he did not *need* a lot, and he did not *receive* a lot. He took the companionship and undoubted intelligence of Stampfl when it was most needed. I would not call that "coaching." I would call it an *absence* of coaching, and just the point. When a great athlete comes together with a very knowledgeable, thoughtful specialist, the sparks will fly. But not one truly genuine athlete has even nedded to be supplied with plugs.

In his *Memoir of James Agee,* Robert Fitzgerald describes how he and Agee were inspired by the critic I. A. Richards, who taught two courses in English literature at Harvard in the early '30s: "He used to create an effect like that produced by turning up an old-fashioned kerosene lamp, and he himself would be so warmed and illuminated that he would turn into a spellbinder, gently holding sway, fixing with his glinting eyes first one quarter and then another of the lecture room."

I have listened to men like Stampfl and Cerutty, and they could (and presumably still can) turn up the kerosene lamp. Yet, if there is no Bannister or Elliott in the room, the light will fade fairly quickly. Proper athletes do not need coaching.

Two points will arise, then. What do true athletes need? And, what do the rest of us need?

The help offered by knowledgeable men ought not to be dispensed with. In literature, I. A. Richards was a very useful contributor, and men like James Agee learned from him. In athletics, men like Stampfl have conveyed their enthusiasm and their thinking to those who have the power to accept and absorb them. The contribution is, however, coming in from outside, and can only be soaked up by the personality of the receiver—in this case, the athlete.

Most will pretend to receive the offerings, or will receive but not retain. No amount of thrusting and squeezing can insert greatness from outside. Even forgetting greatness for a moment, no amount of thrusting and squeezing will even insert that state of mind which, with or without the physical gifts, would look towards greatness. This is something that a man must "get out of his own life." Knowledge and a recognizable passion can be obtained from a coach. They cannot be created by him. A true athlete will need these qualities in somebody else, so that he can match what he already possesses with them, confirming and illuminating his own.

The rest of the athletes, especially the immature ones, need a more direct pressure; and the sooner they stop needing it, the better. Children obviously need this, but they are such a special case that I am not attempting to discuss them here. By "immature" I mean either youthful (as opposed to childish), or weak (not using this in any derogatory way, but just as it would apply to most of us).

As a weak athlete works his/her way towards becoming an artist, so coaching will collapse. It is necessary for the coach to begin his withdrawal as soon as he gets his newest apprentice, so that the new boy may start to grow up. Impart knowledge, then depart!

An English soccer coach said, "I give them an attitude to look for situations, then I leave them to develop these situations." Another one said, "They just needed encouragement." Six months after the second one spoke, his team was at the bottom of its league. Clearly, that team needed something which it had not gotten. And it had gotten a coach. Most of us are like that team, and it is in ourselves that we need to develop some power, or accept that we must go without. The knowledge and the enthusiasm of the other man may still be useful to us *if we are able to accept them.*

So it is to be hoped that coaches will abolish themselves, though the English novelist and sportswriter, Brian Glanville, pointed out in his story, *The Olympian,* that there may be "too much ego-capital involved" for a coach to let a good athlete go. The answer is that we coaches do not have to let them go; we have to play a different and more civilized game, talking to them (even *with* them), and conveying (if we happen to have it) our feeling for the sport. This is not "coaching," and it does not allow us to leap over the barrier in front of the crowd at any melodramatic moment. It is, rather, an adult and sane procedure, not given to imposing itself upon another human being—which perhaps explains those 19 coaches with the German team.

RUNNING AND TECHNOLOGY

BY GEORGE SHEEHAN, M.D.

There were always people around complaining about progress, wishing they were back in the good old days—people who think splitting the atom was a tragic mistake, regard the moon shots as a waste of time, and wish the Boston marathon would reduce its field to a few top athletes.

My view is just the opposite. Today, or perhaps tomorrow, is the good old days. Atomic physics has turned scientists into theologians. The Apollo program has turned engineers into ecologists. And the Boston marathon has turned ordinary men into athletes.

The astronauts are obvious examples of the human body at maximum efficiency. They have a live-in physician, in command of some impressive and sophisticated hardware that measures all their functions that are vital, and some that aren't. NASA has discovered that its most delicate instruments are its own astronauts.

The astronauts' physical aim is survival. The marathoner is seeking excellence. Making the 234,000 miles from Cape Kennedy to the Plains of Descartes and back requires the best medical science can offer. But the 26.22 miles of a marathon are no less demanding, and there are lessons to be learned there that can be taught nowhere else.

Few observers, however, are impressed by the marathon as a research laboratory. In place of the electronic marvels of aerospace medicine and its corps of white-coated professional personnel, the runner is met by a casual volunteer physician who gives him a 10-second interview with a stethoscope applied to his chest.

All the runner gets from this agent of Mission Control is, "Good luck. Next." No one wires him to prevent catastrophe. No one monitors his pounding heart. No one observes his brain waves, or sends instructions about his next meal. He is alone in space without instruments, knowing nothing about disastrous changes in his salt and water supplies, unaware of impending circulatory collapse, ignorant of alarming elevations of his lactic acid.

But, instruments or not, the long distance runner is learning. He is learning, for instance, that running these great distances is not simply a matter of talent and training. The race is not always, or even frequently, to the swift. Disaster awaits those who think all it takes to run a marathon is a slow heart, lean body, strong legs—and lots of free time.

With primitive tools and methods, distance runners are learning to avoid things that stand in the way of excellence, and to pick up the things which promote it.

The distance runner knows now that one thing he needs is good feet, and in the absence of that, the proper shoes. He knows his training must start months ahead—everyone knows that—but also that too much training is worse than not enough. He is finding, too, what heat can do to him, and how to neutralize its effects.

This and more the marathoner has learned: the value of a three-day sugar and starch binge just prior to a race; the danger of a fast start, and the feeling that something very special is happening inside him.

Most significantly, he's learning that these things happen in predictable patterns. They've always happened that way, but it has only been recently that he has seen what these patterns are. Now, he's in a position to control the odds – to make running more a science and less a gamble.

The runner in search of excellence has discovered what Einstein did – that "God doesn't play dice with the world."

AIR POLLUTION

Where there's smoke, there must be fire. But where there's smog, must there be disease? A review of the literature leaves the reader confused and indecisive.

Dr. George Holland of the Human Performance Laboratory, San Fernando State College, reported on the short-term effects of air pollution on human performance. With simulated Los Angeles air—photochemical smog—Holland's subjects showed no significant alteration in cardo-respiratory work efficiency. However, he was not testing maximum work efficiency, which may well be impaired.

The prediction of such impairment follows from the work of a Japanese investigator, Syaguchi. He demonstrated increased airway resistance, apparently due to bronchial spasm, in healthy subjects exposed to 3-7 parts per million (ppm) of sulphur dioxide. Spasm began after the first hour of exposure (which may be a suggestion for limit of a daily run). Sulfur dioxide is the major pollutant in New York air.

Louis Jaffe of the Public Health Service's National Center for Air Pollution Control has reported similar respiratory effects from ozone, the major pollutant in photochemical smog. Thirty minutes in low concentrations (0.05-0.10 ppm) caused irritation to the nose and throat, but longer intervals (like two hours at 0.3-1.0 ppm) caused marked respiratory distress—coughing, choking and severe fatigue. A single two-hour exposure at grossly abnormal (even for Los Angeles) 1.5-2.0 ppm caused two-week disability from cough, chest pains, fatigue and incoordination.

The work of Holland and Jaffe's review highlights the

state of the art in the study of pollution's effects. Not enough is being done, and what is being done is on people with pre-existing bronchitis or emphysema.

We just don't know what is happening to the normal human body in these situations, and therefore don't know what happens to the exercising athlete. "There is," writes Holland "the possibility of an insidious qualitative biochemical effect on human physiology, which can only be identified through careful longitudinal study." So much for the researchers' fact and speculation.

I suspect that, in the long run, exercising in the urban polluted atmosphere will do much more good than harm. If there are days where running produces cough and wheezing, they should be written off. These short-term effects are to be expected, but any long-term impairment should be quickly apparent. We do, after all, live by the stopwatch—if not in time-trials, at least by the speed at which running is comfortable. If that should begin to show any deterioration beyond that expected for certain meteorological conditions (heat, humidity, barometric pressure, etc.) perhaps we should be more concerned.

Such deterioration has not occurred, in my experiences, among dedicated urban road runners. In fact, as their suburban counterpart running on ocean roads I find myself gradually falling behind them.

I think the effects of air pollution on performance and health reside in the top 5% of performance. Hard work and training makes the first 95%. In any case, the general populace's respiratory symptoms and the shortness of breath stem from their smoking and lack of conditioning rather than the quality of the air.

This is not to say that biometeorology and air pollution are not fit subjects for our attention. For the present, however, their effects should be merely recorded in our daily logs for future, not present, action.

BLOOD DOPING

"The prospect is grisly, but the possibilities are limitless," wrote *Sports Illustrated* recently in reporting on the "blood doping" process developed by Swedish physiologist Bjorn Ekblom.

Ekblom's basic scientific research into the transport and use of oxygen by the body has resulted in the too familiar problems of its controversial technological application: the manifold good and bad use of what is essentially neutral information. The information in this case is a method to increase the oxygen carrying capacity of the blood by introducing extra red blood cells into the body.

What Ekblom did not foresee (as few scientists foresee), was the eventual outcome of his theory. He did not anticipate the possible applications of this new knowledge.

The Ekblom guinea pigs, all trained athletes, suddenly found at the end of the experiment that they were "boiling over with energy." Their running capacity had improved up to 20%. "A fantastic feeling," declared one of the test subjects. "The effect was stunning," said one of the observers.

Four weeks before, Ekblom had bled the volunteers of 27 ounces of blood, close to one-fifth of their total blood volume. For one week or so, they felt listless in practice. But this gradually wore off and they were soon back at their peak efforts. Then one month later, Ekbolm reinserted the blood. In what form he will not tell, but we can assume that he picked the cells and maintained them either frozen or in newly developed special solutions which allow prolonged survival of 80% of the cells.

With this injection, the hematocrit (the portion of the red cells in a unit of blood) rose about 12% with a similar increase in the ability to carry oxygen to the heart and muscles and other organs. No wonder the athletes felt they were in overdrive.

The rise in hematocrit has long been known to occur in individuals living at high altitudes. There is a response to the lowered oxygen content of the air. And it is this high hematocrit which is thought to give athletes who come from high altitude areas most of their edge over their sea level colleagues. This edge was well demonstrated in the Mexico City Olympics in 1968. High altitude athletes, you may recall, dominated the distance events. This was especially true in the 5000 and 10,000 meters. Of the eight runners making up the first four finishers in both those races, six came from high altitude areas and the remaining two had long experience at highaltitudes. The obvious advantage of the Kenyan steeplechase runners, who had spent a lifetime at 6000 feet, led George Young to comment bitterly about being the best steeplechase runner of the world at sea level.

Now Young or any sea level runner willing to go thorugh this one-month treatment of blood withdrawal and reinjection can equalize, at least for a few weeks, any supposed handicap of running against athletes from these mile-high areas. And since the hematocrit can also be pushed up by enormous amounts of training, the Ekblom method could be used by those whose running time is limited by economic or other factors.

Writing in 1966, Roger Bannister stated that one's maximal performance is limited by his capacity to transport oxygen. Living and training at high altitudes, he pointed out, will increase this. So will training in the artificial atmosphere of low oxygen pressure chambers. Training for eight hours a day and becoming running machines primed by food and drink, and occasionally resting, is yet another way. All these methods, wrote Bannister, spell the end of the genuine amateur who earns a living in full-time employment elsewhere.

The physiologist, not the chemist, was to bring an end to sport, as Bannister saw it. "Any attempts to show that drugs consistently enhance an athlete's performance are unconvincing," he wrote. "It would be the height of folly for athletes to imagine they could consistently improve their performance with drugs."

No, it would be oxygen transport that would breed the new super athletes, Bannister predicted. And Ekblom is about to prove he's right. At any rate, as the *SI* editor said, the prospect is grisly and the possibilities infinite. Suppose we extend these findings into other sports—sports where millions of dollars and not simply a world's record or an Olympic gold medal are at stake. If a horse can be bled and later reinjected with his own packed red cells so there would be no way of detecting it, you could make a killing at the windows.

Bjorn Ekblom puts it this way: "When I see the results of my laboratory tests, I feel scared. This is a method against which no rules, no matter how strictly enforced, will help. Even if I appealed to the sense of justice of all the leaders and doctors in the world, I'm not sure that someone will not make use for it, say in the Olympics. And what will become of sport then...?"

OUR SECOND BIG YEAR!

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GREAT BRITAIN'S GREATEST RACE

BY WILF RICHARDS (PHOTOS BY MARK SHEARMAN)

Last year the Maxol marathon became a firmly established world class event with an overall high standard unapproached outside the Olympics. This year's race proved even more impressive, with 24 runners inside 2:20 and all but 36 of the 230 finishers beating three hours.

Rather more than the usual pre-race interest had been provoked by one or two incidents of a "competitor vs. official" nature. This was the British Olympic Trial. Originally the event was scheduled to be held on July 2, but several leading runners protested that this date was too close to the Olympic race. The authorities, after some thought, agreed to a change of date to June 4.

Then Ron Hill made it clear that he felt justified in asking to be excused from competing in the race. Hill's contention was that his past performances were sufficient indication of his ability to make the team, and that his chance of winning the gold medal would be that much more certain if he had not to aim for two peak performances. This time there was no compromise on the part of authority. It was made quite clear that no one would gain a place on the marathon team except by qualification in the Maxol.

Hill had spent the winter months largely free from racing. As soon as he realized that training alone would not produce the kind of form needed by early June, he began turning out in the traditional spring road races. He got little encouragement from these, and obviously had some way to go before he could be considered racing fit. As the weeks went by there were murmers of: "Is Ron getting past it?"

But some remembered that all this had happened before, and yet the champion had always found his way back to the top and confounded the critics. Just when it seemed that he was not going to do the trick this time, the tide turned. He came along with a superb performance in a half-marathon, winning against good opposition in a time well inside his own record for the course (an extremely tough, hilly one) on a day when the wind blew with gale-force fury.

And so to the Maxol marathon, with a record entry of over 300 including 35 overseas competitors. Most numerous of these were 19 West Germans, who were making this their own Olympic trial. Bill Adcocks, who had been considered an almost certain non-starter owing to leg trouble, decided to take a chance and was there at the lineup. But Trevor Wright, from whom so much had been expected after his great second to Hill in the 1971 race, was definitely out of action with a more serious foot injury.

MAXOL MARATHON RESULTS

1. Lutz Philipp (West Germany)	2:12:50
2. Ron Hill	2:12:51
3. Don Macgregor	2:15:06
4. Colin Kirkham	2:15:17
5. Don Faircloth	2:15:52
6. Eric Austin	2:15:59
7. Bernard Plain	2:16:18
8. Ferdie le Grange (South Africa)	2:16:19
9. Carlos Perez (Spain)	2:16:27
10. Paul Angenvoorth (WG)	2:16:44

An intriguing entry was the 5000-meter specialist, Ricky Wilde. He saw no reason why he shouldn't "have a go" at this distance, even though he had never attempted anything like it before. "It's all good experience" was his philosophy.

There was no "hanging about" in the early stages. The pace was fast from the outset, with Hill, Adcocks, Alder, Wilde, Bernard Plain, Lutz Philipp from West Germany, and three Spaniards all going inside five-minute miling speed. Philipp, Wilde and Plain were still contesting the lead with Hill as they went through the 20-kilometer mark.

As the relentless pace continued, Hill and Philipp took sole command and the others began to tail off one by one.

By 30 kilometers the two leaders were well ahead. Adcocks and Alder had both retired. Wilde was fading out of the picture as several of the more experienced competitors began to move into position. Plain was still going well and Don Macgregor was coming into the reckoning at the right time. Colin Kirkham and Don Faircloth, too, were looking good.

Hill and Philipp battling it out in front, and half a dozen others all poised to salvage what they could of the rest of the leading positions and stake their claim for a place on the Olympic team.

The two leaders entered the Manchester United football ground together, with the crowd of 10,000 spectators almost all shouting for their local runner, Hill. Round the final 400-yard circuit Philipp used his track speed to good advantage and built a slim lead. Then he slowed to wait for Hill at the tape. Philipp ran 2:12:50, Hill 2:12:51.

It was two minutes before the next man was circling the track, but by the time another two minutes had gone no fewer than 11 runners had found their way to the finishing post, with Macgregor third and Kirkham fourth.

So Ron Hill, Don Macgregor and Colin Kirkham earned for themselves a trip to Munich—Hill and Kirkham not surprisingly, Macgregor more unexpectedly. Of these, Hill has already made it known that he means to have the gold medal. The Belgian, Gaston Roelants, has also been emphatic that this event is the one that he will win. Both have good credentials. But the marathon is usually the event most difficult to assess, and after the Maxol who will deny that Lutz Philipp is also one to watch?

LEFT: It was both Britain's and West Germany's Olympic marathon trials, so Lutz Philipp (left) and Ron Hill were more concerned with beating their countrymen than with beating each other. Yet they ran fast enough to destroy the rest of the fast field. Here they are at 22 miles.

They weren't much farther apart at the end. Philipp set his nation's record; Hill finished just one second behind.

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TENTH ANNUAL UNIVERSITY OF ALASKA EQUINOX MARATHON, September 23, 1972, Fairbanks, Alaska. Run 26 miles 385 yards over ski trail system, on private and public roads, thru woods and fields, climbing 2000 feet from lowest to highest point (start 400 feet ASL); temperature 30-35 race day; trophies for top 5 in boys/girls (10 thru high school), men/women (beyond high school), senior men/women (35 and over). Hikers also participate. In 1970, 200 runners and 500 hikers. Course record 2:59:01. For application/information, contact "Marathon Coordinator," Department of Physical Education, University of Alaska, Fairbanks, Alaska 99701.

4TH ANNUAL CONCORD, NEW HAMPSHIRE, MINI-MARATHON. Saturday, July 22, at 6:00 p.m. AAU sanctioned 14-mile road race starting at the N.H. State Capitol Building. Many awards, including merchandise and medals. One of the top races on the New England raod racing circuit. For entry blanks and course map, write Turtletown Athletic Club, c/o Rick Cricenti, 6 Conant Drive, Concord, N.H. 03301, or post-entries accepted to 5:45 at the Concord YMCA.

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NEWS AND VIEWS

EDITED BY JOE HENDERSON

DISTANCE TIME TABLES

The marathon is overrated. It gets all the attention, and the shorter distances get the short end of things. It isn't quite fair that this should be so, because in between the 10,000 meters (longest track distance) and the marathon there are no less than a dozen standard racing distances.

Few road runners run only marathons. They run 15, 20, 25 and 30 kilometers (all AAU championship distances), 35 and 40 kilos, one and two hours, 10, 15, 20 and 25 miles as well. Some people do better at these than in the marathon. Some just like them better.

The "in-between" distances deserve better treatment than they've gotten. One way to treat them better is to define exactly what times in these races mean. Everyone knows what a 2:30 or 3:00 marathon means. But what about a 10-mile time, or a 20? How does one judge these? How do they compare, quality-wise, with a marathon or any other time?

In-between distances have been so unstandardized and so infrequently run that few runners learn how to measure them. Now we have help. Gerry Purdy, a runner with a PhD in computer science and a briskly selling book (*Computerized Running Training Programs),* has formulated point tables covering all distances.

The value of the tables to a distance runner is that they objectively estimate the relative worth of running times. Other point tables are available for track, but none takes in long distances like Purdy's. Using the tables, a runner can estimate his potential event-to-event and can see, for instance, what a good 20-kilometer time is for him—even if he hasn't run that distance before.

The chart below, adapted from Purdy's tables, compares marathon times with those at some standard distances. (These are taken from the men's tables, but the women's times would be about the same.) Times are rounded off to the nearest half-minute for performances under one hour, and to the nearest minute above an hour.

Notice here that the equivalents of a 2:10 marathon are all better than the current world records. Purdy defends this by saying, mathematically speaking, the in-between records aren't as good as they should be. Could be because they don't get enough attention.

MAR.	15K.	10M.	20K.	25K.	30K.	20M.
2:10	43:00	46:00	58:00	1:14	1:30	1:37
2:15	44:00	47:30	59:30	1:16	1:32	1:40
2:20	45:00	48:30	1:01	1:18	1:36	1:43
2:30	47:30	51:30	1:05	1:23	1:42	1:50
2:40	50:30	54:30	1:09	1:28	1:48	1:57
2:50	53:30	57:30	1:13	1:34	1:55	2:05
3:00	57:00	1:01	1:18	1:39	2:02	2:12
3:15	1:03	1:08	1:25	1:49	2:13	2:24
3:30	1:09	1:14	1:33	1:58	2:24	2:35
3:45	1:15	1:21	1:41	2:08	2:35	2:47
4:00	1:22	1:28	1:50	2:18	2:47	3:00
4:30	1:33	1:40	2:04	2:36	3:08	3:23
5:00	1:44	1:51	2:19	2:56	3:33	3:49

HANDICAPPING THE HEAVYWEIGHTS

In physics, the rate of working is known as power—in common terms, "horsepower." Runners have a horsepower rating if you consider that their weight is moved through a distance within a certain time. Basically, foot-pounds per time unit are generated. A 180-pound man who runs a mile in five minutes creates 190,000 foot-pounds per minute or 5.75 horsepower.

We should recognize this fact that power involves weight moved as well as time and distance. The power generated by a 180-pound man running a mile in five minutes is equal to that of a 150-pounder covering a mile in 4:12. This consideration recognizes the weight of a runner and gives a truer measurement of the energy expended.

To develop a competitive gauge, however, we cannot use a simple horsepower rating. The "Ponderal Index" (from T. K. Cureton's *Physical Fitness Workbook)* must be utilized. This is the ratio of height to the cube of the weight and recognizes the body build differences of the runners.

What we propose is that an ward be made for the runner with the highest horsepower rating. The winner would be the person who created the most horsepower, factored by his ponderal Index. The formula to determine the rating is:

$$\frac{\text{Weight (lbs.)} \times \text{Distance (ft.)}}{\text{Time (min.)} \times 33{,}000} \times \frac{\text{Height (inches)}}{\text{Weight (lbs.) cubed}}$$

Let's consider the power involved in a five-mile race. The chart below indicates that seven runners participated and their times varied from 22:30 to 47:00. The weight range was from 130 pounds to 220 pounds. The winner was the 140-pound runner with a time of 25 minutes and a power rating of 62.14.

Recognizing the weight and body build of a runner not only provides a finer measurement of energy and effort expended, but serves to bring into running the competitor whose body build does not permit him to win a race on time alone.

POWER CONCEPT CHART FOR FIVE-MILE RACE

Runner	Weight (pounds)	Height (inches)	Time (minutes)	Ponderal Index	Power Rating
1	130	66	22.5	13.03	60.02 (2)
2	140	72	25.0	13.87	62.14 (1)
3	150	68	35.0	12.80	43.90 (6)
4	180	69	38.0	12.22	46.31 (5)
5	200	74	40.0	12.67	50.68 (3)
6	215	72	42.0	12.02	49.28 (4)
7	220	72	47.0	11.93	44.62 (7)

BY C.J. MARZEC & C.H. PEDERSEN

OPPORTUNITY OF THE AGES

The seniors and the juniors both officially come of age this summer. Both the over-40 and the under-20 runners and walkers from the United States compete in international competition as teams for the first time. The young men race in Sacramento on July 28-29 against the Soviet Union's under-20s. The veterans will have a full-scale tour in Europe —highlighted by the world championships at Cologne, West Germany, in September.

Now that competition has gone that far, and the AAU has recognized age-group competition on all levels, it's time

everyone realized just what the official age-groups are. They are standardized at the top, but not yet at the grass roots.

The age classifications as set by the AAU for both males and females are: 7-and-under, 8-9, 10-11, 12-13, 14-15, 16-19 (19 and under are "juniors"), and 40-49, 50-59, 60-69, 70-up (over-40s are "seniors," "masters," "veterans," or whatever).

HAPPY ENDING TO DOG TALE

Dogs have four legs and sharp teeth, and they almost invariably win their fights with runners. So often, in fact, that "dog bites runner" isn't news. But here's a dog story with a happier outcome. The runner put the bite on the dog and its owner. Charles Hanson of Weymouth, Mass., and an unnamed neighborhood dog are the main characters.

Hanson writes, "It seems as though some dogs have an insatiable taste for human flesh and blood, and love trying to make a meal of us—well, *hors d'oeuvres* anyway. I cannot deny them this, but the owners must pay for the delectable morsels that run down the street."

A hungry dog attacked Hanson recently. In this case, Hanson got two pounds of flesh. "It took two stitches to close the gash I put in the dog's head," he says, "and an award of $535.72 was given to me by a sympathetic judge who believes runners have some rights. It is too bad that the defendant's insurance covered the award. It should have come directly from his pocket."

AN AUTOMATIC SELF-TIMER

An idea for runners without timers, courtesy of Tom White, Aurora, Ill.: "During the summer, I occasionally run time-trials on the track. I was never able to see a stopwatch when I set it beside the track, so I came up with a cure. I bought a casette tape recorder that runs on batteries, and I record readings from the watch. To make it more realistic, I also record beforehand, 'Runners take your marks. Go!' Then while I run, I have the recorder running. As I go by, I hear my time. The only problem is that it takes time to sit and read off times into the recorder for, say, 15 minutes."

TRANS-AMERICA RUNS (CONTINUED)

For unexplained reasons the nearly 3000-mile run across the United States appeals mostly to men from little faraway countries. They're the ones who have run it most and best. Don Shepherd and Bruce Tulloh, of England and South Africa respectively, did it in the 1960s. An American, Marvin Swiggert, set a "record" of questionable merit last year. But this spring the strong runners—and a walker—from overseas are at it again.

Max Telford of New Zealand started a well-publicized run in April. He is perhaps the best ultra-distance runner every to try it. He was fit, and was strongly backed by sponsors.

Telford had barely gotten underway, however, when he learned that a South African named John Ball had reached the steps of New York City Hall 54 days after leaving LA—a record. Telford had planned that same pace—about 55 miles a day. That would have given him 10 days to play with. Then Ball eliminated that safety margin. Telford broke down in New Mexico with an injured tendon. But he vowed he'd try again next year.

Tom Knatt, a race walker from Massachusetts, also was trying to cross the US, but he too conked out in New Mexico. A bad ankle stopped him after 1025 miles.

Meanwhile, another walker, John Lees of England was last reported to be striding through Pennsylvania towards New York at a steady 55-56 miles a day. Even at a walk, he was expected to be under Ball's mark.

MORE MOUNTAINS TO CLIMB

Last year, there was only Pike's Peak. It was the only US marathon featuring one hill—13 miles up, then 13 down. Now Colorado has a second one, and there's talk of an even bigger one (in terms of height) reviving in California.

The new Colorado race goes up and down Mt. Evans, near Ft. Collins. It is scheduled for July 23. (For information, contact, Charles Wood, 1400 Hillside Dr., Ft. Collins, Colo. 80521.) If you're really a mountain goat, you can double back at Pike's Peak three weeks later.

Back in the 1950s, there was a race to the top of Mt. Whitney—the highest peak in the 48 adjacent states. It was abandoned about 13 years ago. Now a group of central Californians want to revive it. Wayne Van Dellen is the spokesman. He not only wants a sample of interest in this race, but would like to hear about all mountain races (altitude, distance, administration, results, etc.) Write Van Dellan at 37149 Road 192, Woodlake, Calif. 93286.

And then there's the Grand Canyon run—which is sort of an inverted mountain race. It starts by going down, then has the tough part last. There isn't an official race at the canyon—yet—but Jerry Jobski reportedly holds the "rim-to-rim" mark. He ran the Kaibab Trail in 3:08.

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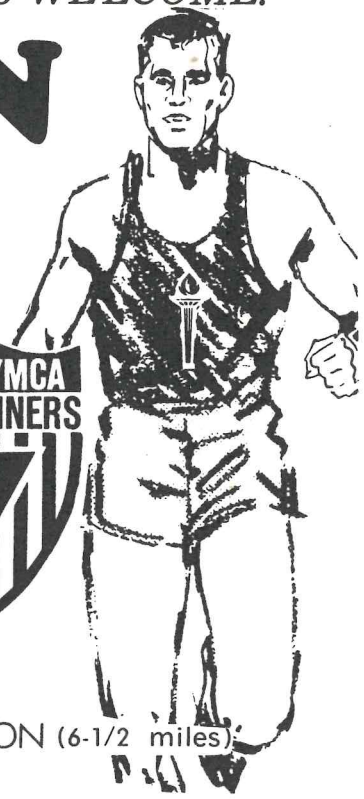

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14-17 years	41-46 years
18-22 years	47-54 years
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Signature _____

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TO AVOID DELAY PLEASE FILL OUT THIS FORM COMPLETELY

MEDICAL ADVICE

BY GEORGE SHEEHAN, M.D.

Send your question(s) or solutions to: Runner's World Box 366, Mountain View, Calif. 94040

CALF TIGHTNESS

After one or two miles of running, I noticed a tightness in my achilles tendons which got progressively worse if I continued to run. Efficient running was very difficult. If I stopped at this point, I noticed that my calves were in a very hard, semi-cramped condition—which suggested that they were pulling on the tendons and causing the tight feeling. After five or six miles, the tightness gradually lessened.

About the time when the tightness was at its worst, my feet began to go numb. This condition reached its peak after the tightness was gone, and stayed as long as 10-11 miles before disappearing. The rest of the run can be symptom-free.

Extra vitamins (including E) and increased salt intake were tried without success. I tried every means of warmup: running, walking, hot showers on the calves, vigorous massage and even ultrasound treatment—all to no avail. Trying to lengthen the achilles by stretching yielded no results. Attempts at changing my running style proved to be worthless. I eliminated every possible factor except one: an inherent calf weakness.

I started a program of jumping jacks, working up from 50 to around 1000 without cramping. As I progressed, I graduated to jumping up and down as hard as I could, and running up bleachers and hills—in short, anything to work the calf muscles until they got sore. The results were unbelievable. Not only did the cramping (and hence the tightness) gradually diminish and then disappear altogether, but also the foot numbness vanished. The two problems must have been connected.

I must point out that this was no overnight cure; it took months of hard work, and best results were obtained when I could work the calves hard enough to get them sore. Even now, I am not completely rid of this problem. It will spring up occasionally. The interesting thing is that its appearance seems to be correlated with an increase in ability. I have to keep my calves one jump ahead of the rest of me in order not to experience any symptoms. *(Mike Maron, Goleta, Calif.)*

RECOVERY AFTER SURGERY

Q: *I have just returned from the hospital after having surgery for removal of my appendix. What is your advice as to how soon I can begin running again? Will I retain any of the endurance I have acquired if I miss a month's running?* (Martha Jensen, Portland, Ore.)

A: Conditioning, according to most authorities, can be maintained with 30 minutes of running, three times a week—that is, if your pulse is kept at 60-70% of your maximum. I would suggest then that stationary bicycling or swimming might be the best way to do this. I recall that one world class swimmer recorded a remarkable time onw week after an appendectomy. And the bicycle—particularly the exercise one—demands very little activity from the stomach muscles.

I would resume running at the time suggested by your physician (in this case, one month), and doubt that you should have any trouble getting back to your full distance.

RUNNING DEATHS

Q: *Would you comment on the dangers of heavy exercise (such as running) for persons over 35 years of age?*

A: Dr. Paul Dudley White, probably the country's most distinguished proponent of exercise, has a favorite slide he uses in his discussion of heart disease. It is the front page of a Boston paper with a headline telling of five sudden deaths due to shoveling snow. That is what I call heavy exercise, and I'm against it. So is cyclist White. Jogging, on the other hand, is not heavy exercise. Running or sprinting might be, but not jogging—properly done.

This is why Dr. Kenneth Cooper's book is called *Aerobics.* It is a "pay-as-you-go" method which is handled easily with walking, jogging, swimming and cycling. This is why everyone should use coach Bill Bowerman's "talk test." Use a pace that will let you talk to a companion.

In my medical practice, which rarely finds me without a new coronary patient once or twice a week, I have only occasionally seen a heart attack brought on by heavy exercise. I would say the common denominator in most of my patients i stress and tension. Many are the only ones in their company who handle certain problems, so even if they get a vacation they come back to the same problems. Many are work addicts ("How soon can I get back to work?" is a frequent question.) Most are sedentary. Few do more than weekend puttering around the house.

The danger, then, from heavy exercise is mainly from not approaching it with the commonsense attitude of building up gradually and avoiding getting winded. Getting winded means that your body is demanding more oxygen than you can deliver. When that happens, you could precipitate a heart pain or peculiar rhythm.

The answer, in brief, is that the values of jobbing are such that they overbalance the risks. In rebuttal to critics of exercise, Dr. Cooper asks, "How many hundreds of people would now be dead from heart attacks if they *hadn't* started jogging?" Anyone who followed a moderate aerobics program and dropped dead didn't have long to live anyway.

HYPOGLYCEMIA

Q: *Can you advise runners on the treatment of hypoglycemia (lack of energy caused by low blood-sugar levels)?*

A: It is my view that hypoglycemia is a normal state (exaggerated perhaps in some instances) indicating maximum readiness for action. It calls for action about 2-3 hours after a meal. Action stimulates the release of sugar, and automatically elevates the blood sugar level.

People who are aware of or distressed by hypoglycemia should learn to cooperate with this part of our daily rhythms and program their exercise at that time. This is a revolutionary idea, but that's what sports medicine is—revolutionary.

My theory is that the low blood sugar level and feeling that goes with it is the signal that all the calories you took in at the last meal are now digested and stored in the body. You are now ready for action. Diet and medication for what is part of the daily body rhythms is a poor substitute for the necessary physical activity that brings blood sugar back up to normal.

RUNNING THROUGH LITERATURE

BY GERRY HASLAM

In a crucial scene from Ralph Ellison's award-winning novel *Invisible Man,* the nameless protagonist opens a letter of introduction given him by a college president: "To whom it may concern:" it reads, "Keep this nigger boy running." It's enough to alienate the most dedicated jogger. In literature, running is used to represent everything other than what it represents to real runners, or so it seems.

And, in truth, running—and its competitive counterpart, racing—are seldom described in first-rate literature as runners actually experience them, a galling realization for ever-increasing literati among the sweat band and Adidas set. Many runners are possibly seeking in fiction too precise, and—why not say it—too simple a record of experiences, while writers seek more profound symbolic levels.

Man has always run, whether away from predators or after a mate. But man has also historically run for running's sake. Varied cultures have produced folklore concerning runners or running: Greek mythology, Grimm's Fairy Tales, and the Anansi tales of Africa, for example. Running is without question an archetypal experience.

In various mythologies, running has long projected deep meanings indeed. Several native American cultures utilize running, both actual and symbolic, as a means of mystical contact—merging one's consciousness with the landscape through which one passes, and opening one's mind to magic dreams through exhaustion. As a result, such cultures as the Tarahumara of northern Mexico often utilize running to symbolize in their oral literature the human spirit's ability to transcend physical limitations, much as some other tribes use birds' flight to represent the same thing.

No wonder, then, that Able, protagonist of N. Scott Momaday's Pulitzer Prize novel, *House Made of Dawn,* runs. Momaday is the premier American Indian man of letters. Able runs to transcend all the unnecessary obfuscations and complications with which Anglo culture has burdened his mind. He runs in order to become an Indian once more; he runs not away, but *towards* purity of mind and soul.

"He was alone and running on. All of his being was concentrated in the sheer motion of running on, and he was past caring about the pain. Pure exhaustion laid hold of his mind, and he could see at last without having to think."

Hasn't Momaday revealed a universal experience of runners—transcendence of one's physical limitations? Such intense instances of life are more valuable than a tankful of survivor's ribbons.

Perhaps writers of fiction haven't short-changed runners quite so badly after all. Even the earlier-mentioned Ellison reference adds a metaphoric dimension to what "run" has meant in literature. The Oxford English Dictionary literally fills pages with varied meanings of "run," one of the really active free morphemes in English. Ellison's use means roughly to manipulate or constrain, as in a system that runs men's lives.

A related version of Ellison's meaning occurs in yet another important American novel, John Updike's *Rabbit Run.* Harry Angstrom, Updike's protagonist, flees encroaching responsibility. He runs, not as Momaday's Able does, toward reality, but from it.

"Illusion trips him. His hands lift of their own and he feels the wind on his ears even before, his heels hitting heavily on the pavement at first but with an effortless gathering out of a sweet panic growing lighter and quicker and quieter, he runs. Ah: runs. Runs."

And John Steinbeck's classic short story, "Flight," employs still another related meaning: pure physical escape, as contrasted with Updike's spiritual and physical escape. Pepe, Steinbeck's harried Chicano youth, merges media, on horseback or on foot; only his overpowering quest for escape remains vital. "Run" used in this latter sense—to escape some physical harm or captivity—is common in world literature, oral or written. Such variations of related meanings seem endless, and no short study such as this can examine them. After all, even Dick and Jane ran.

A growing number of fictive works have explored the precise experiences of runners competing: Cordner Nelson's *The Miler,* Brian Glanville's *The Olympian,* and so on. Still, only one work in the recent past has examined both training and competitive running effectively, and gained critical acclaim as literature: Alan Sillitoe's story "The Loneliness of the Long Distance Runner."

Smith, the tale's central figure, is a product of the lower level of Britain's working classes. His incarceration in a Borstal seems as natural as breathing, given his background. And, without liking it, even Smith seems to accept it as the natural order of things. Smith becomes the ace of the juvenile prison's cross-country team and is eventually released from the fenced area in order to bound through the dour countryside on morning training runs.

"Halfway through my morning course, when after a frost-bitten dawn I can see a phlegmy bit of sunlight hanging from the bare twigs of beech and sycamore, and...when there's not a soul in sight and not a sound...I got to thinking deepest and daftest of all."

What dreams of Olympic glory cross Smith's mind?

"As I run and see my smoky breath going out into the air as if I had 10 cigars stuck in different parts of my body I think more on the little speech the governor made when I first came. Honesty. Be honest... It's like saying: Be dead, like me...

"By sending me to Borstal they've shown me the knife, and from now on I know something I didn't know before: that it's war between me and them."

Totally without any means to counterattack the larger society that has imprisoned him, as he sees it, for the crime of being poor, Smith uses his excellence as a runner to win back self-respect by defeating the governor and the society which the governor represents. His ultimate triumph occurs in a crucial race. He builds a huge lead, then refuses to win—stopping in front of the finish line and asserting his freedom to determine his own life, even while a prisoner.

"I could hear the lords and ladies now from the grandstand...'Run!' They were shouting in their posh voices. 'Run!' But I was deaf, daft and blind, and stood where I was, still tasting the bark in my mouth and still blubbing like a baby, blubbing now out of gladness that I'd got them beat at last."

For Smith, running is a means of spiritual escape and individuation, running is freedom.

There it is again: *freedom.* All runners, it seems, on one level or another seek expanded freedom through their running. And it is that freedom, not detailed descriptions of blisters or muscle pulls, that has dominated literary expressions of running. The spirit, not the body, has been prime. Certainly a man competes against himself and his human limitations when he races. In transcending those limitations, a new dimension of freedom is experienced. When he humbles an opponent, another freedom with perhaps more intense satisfaction is his. If he does both, hurray, but the former is more vital.

One's animal energy, the fitness that frees a person however briefly from social oppression or technological disaster, is certainly vital. But ultimately running becomes an end in itself. Ancient men ran to rekindle their awareness of man's intimate relationship with nature and to more directly experience their own primal selves. If literature accurately reflects the flight of the human spirit, one must conclude that modern man runs for essentially the same reasons.

BRINGING IT ALL TOGETHER

BY BARBARA VAN SITTERT

I work while I run. Because I'm a "morning person," my four-mile runs before breakfast often are prime-time planning and problem-solving sessions. My seven-mile weekend stints are even better.

I first discovered the dual mental-physical advantages of distance running three years ago when I was preparing for my Ph.D. exams in English literature. It was a grueling ordeal—a week of written exams, followed, a month later, by a four-hour oral exam. I began to run to relieve the monotony of the 12-hour study sessions—and because I knew it wouldn't matter how much I knew at exam time if I was in such poor shape that I got sick. I started with a mile and quickly worked up to two miles, then three.

And to save time, I reviewed: Rosencrantz and Guildenstern, Laertes, Osric—all from *Hamlet.* "Alas, poor Yorick! I knew him, Horatio: a fellow of infinite jest..." And, "The time is out of joint: O cursed spite,/ That ever I was born to set it right!"

"Quite right," I remember saying to myself, "and *that's* why *Hamlet* appeals to the modern mind. It's the existential thing, the whole alienation trip." My mind was rapidly putting together disparate bits of knowledge I hadn't realized I possessed. Later I was able to use it all on the exam.

I continued to run, even after I passed the exams and returned to teaching. Running had become a part of my routine, and so had the cerebration. That's when I began to think about the thinking, if that makes sense.

I recalled what 19th-century essayist William Hazlitt observed of both Wordsworth and Coleridge: they frequently *walked* while they composed their poetry.

I noticed something that should have occurred to me a long time ago: that college students feel frustrated and cornered when asked to write a theme while sitting in straight rows in an English class. They prefer writing at home or almost *anywhere* they can move their bodies, eat, stretch, and work out their thoughts.

I remembered Mortimer J. Adler's famous essay, "How to Mark a Book," in which he contends that even the minute physical action required to mark a book, and thus to react to it, changes one from a passive to an active reader.

It seemed to me then, and still does, that physical activity somehow stimulates mental activity, that an important relationship exists between the two.

I've made a second observation, too: good running-thinking progresses from detail (planning, for me) to problem-solving. Although I have no way of knowing whether or not my mind works in a unique or a universal fashion in this respect, I do know that I can hardly prevent it from happening.

At 5:30 on any morning, I run through the gate to the tennis courts at the school just north of our house. Past half a dozen tennis courts and east onto the track. I fill my lungs with clean desert air—no automobile fumes lurking around this time of day. Around the first quarter-mile, slowly, gathering speed, feeling the warmth spread through my body, stretching out, now, relaxing. Don't forget lunch money for my son; charcoal broiled perch for dinner—take it from the freezer before I leave for work; conference with Phil Bronkhurst at 8:00—trouble with his research paper. No problem.

We're on James Joyce in English literature today. *Dubliners, Ulysses.* I've always had trouble teaching Joyce. He's difficult for students to read at first; there's so much there, the Irish mythology, the subtle references to religion, nationalism, the appeal to taste and smell and touch, the word play. It's no accident that Marshall McLuhan, the prophet of television, began as a Joyce scholar. That's it! Joyce as forerunner of television and pop art.

By the time I've finished 16 laps, the lecture is complete. I'm usually able to use this running-thinking in classes without committing it to paper, although I sometimes make notes to preserve my better stuff for use semesters or even years later. But the point I want to make here is that thinking which begins with detail very often ends in creative thinking.

I don't pretend to be a serious runner. I've never even attempted a marathon. But I do consider myself a serious thinker, at least from time to time. And I do my best thinking early in the morning, when I do my best running.

RUNNING PROBLEMS

The correct answers to the problems in the May issue are the following:

1. There were 61 athletes on the Upper Fig Newton Olympic team.

2. Don is 1.732 faster than Ron.

3. There are 16 possible routes.

4. Willie finished first by 26 minutes 14.6 seconds.

FIND THE ANSWERS...

PROBLEM ONE:

The top five runners on the Victoria and Albert Footracing Association team are Alex, Burton, Cecil, Derek and Ethelbert. Over the past cross-country season, they had the following racing record: Alex beat Burton and Cecil; Burton beat Derek, Cecil and Ethelbert; Derek beat Alex and Ethelbert; Ethelbert beat Alex and Cecil; Cecil beat Derek. For purposes of awarding the prestigious Alf Hacker cup for the best runner in the club, *rank them according to their winning ability.*

–BOB CARMAN

PROBLEM TWO:

A runner can carry a maximum of four days' supply of food and water for a run across the Mojave Desert. It takes six days of running to cross the desert. *How many runners must start in order for one man to get across and for the others to return to the starting point?*

–BOB CARMAN

PROBLEM THREE:

At noon, Brown left Hopkinton on a 52-mile run to Boston and back. Later, his friend White left Boston in a car for a ride to Hopkinton and back. Both Brown and White traveled at a uniform pace. White met Brown twice. Each time Brown was 5.2 miles from Boston. White finished his ride at three minutes and 45 seconds after 4 p.m. *How long did it take Brown to finish his run?*

–JAMES BOLE

PROBLEM FOUR:

One-hundred runners starting with $x ran a benefit. Each runner ran to track A and paid $1 to enter, left one-half of his remaining money at track A's center, paid $1 to leave track A and ran to track B, then track C, and then track D. The same procedure was repeated each time (i.e., runner paid $1 to enter track, left one-half of the remaining money and paid $1 to leave). Each runner finished broke. *How much money did each runner contribute, and how much did the benefit gross?*

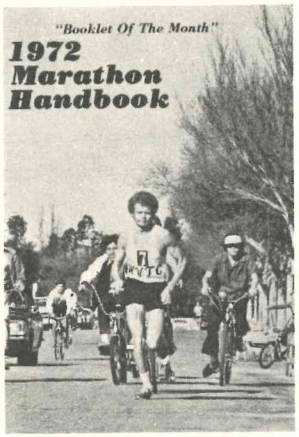
–RON SHAFER

The sheer number of answers to the problems makes it impossible for us to list all the winners in each issue. This would mean running an entire page of names every time, and space is tight enough as is. We encourage readers to continue answering the problems, and sending a supply to new ones to Runner's World, P.O. Box 366, Mountain View, Calif. 94040.

Save You may purchase all three of these booklets at a total savings of $1.00. The regular retail price is $5.95 but until September 1st you may buy all three of these for $4.95.

1972 MARATHON HANDBOOK

Booklet of the month – 7



This is our third **Marathon Handbook** and it is by far our best one. There is 100 pages of good material including our special feature the Marathon Calendar. Over 100 marathons scheduled for 1972 are listed in the 16-page section with important information on each. We have included information on the course, the record, 1971 winner, entry fee, contact, etc. This makes it really easy to plan ahead for marathon races. But this is only one reason why people buy the Handbook. Other features include: complete list of everyone during 1971 who broke three hours, 1971 and all-time U.S. and World lists, age records, and six articles including "Mystery Marathoner," "World's Fastest Women," "Hot Weather Hints," "A Very Special Breed," etc. This completes our marathon section but there's more. We have a three-page section on the "In-Between Events," and a three-page section on "Beyond 26 Miles." And bringing up the rear is the 14-page section on the R.W. 24-Hour Relay. Records, results, stories, etc. are all included.

In all, the 1972 Marathon Handbook is a great buy at $1.95.

1971 R.W. PICTORIAL

Booklet of the month – 8

Photo books are sometimes just thrown together but not this one. Bob Anderson who did the photo-section in "Guide To Distance Running" sifted through nearly 1,500 prints to find the 69 he used in the 52-page 8½x11-inch booklet. Many hours were put into the lay-out of this booklet and it shows. The feature of the booklet is the 10-page section on the steeplechase including a big 11x17-inch photo of that great steeple at the AAU Championships. Also included in the book are sections entitled "The Big Meets," "The Runners," "In The Country," "On The Road" and a special look at Julie Evans—a very good-looking hurdler from England who is now a model.

In all it is probably one of the best collections of photos available today, and all for just $1.50.

1972 RUNNER'S ALMANAC

Booklet of the month – 9

The **1972 Runner's Almanac** should prove to be the best reference book available for anyone interested in running. It is packed full of records, lists, and rules but it goes beyond this, too. There is a 35-page section called the "Runner's Touring Guide." All fifty states are featured in this section and for each one there is information that will prove very valuable. Contacts, major track meets, track clubs, colleges, and other addresses and information is presented in a very readable form. Another major section is one entitled "Who's Who In Running." Over 300 runners and coaches both past and present, are listed in this section with important information on each. There's a lot more, too. You'll find information on past Olympics, time comparison charts, glossary of terms, club newsletters with addresses, etc. You won't read the book cover to cover but it is a book you will refer to time and time again.

With its 148 pages of important information, you can't be without it. A must buy at $2.50.

RUNNER'S WORLD MAGAZINE, POST OFFICE BOX 366, MOUNTAIN VIEW, CALIF. 94040

RUNNING HIGHLIGHTS

• **Lawrence, Kans., April 22**—As he has done so many times before, Jim Ryun thrilled the home folks. He was in the up cycle of an up-and-down season when he ran 3:57.1 for the mile, beating Tom Von Ruden in the stretch by eight-tenths.

• **Eugene, Ore., April 23**—Gerry Lindgren ran with old-time brilliance as he went six miles in 27:30.8. Steve Prefontaine did an equally fine 3:56.7 mile.

• **Des Moines, Iowa, April 28-29**—The Drake Relays had good running throughout. In the distance medley relay, Jerome Howe-anchored Kansas State ran 9:31.8—a world best. (Howe did 3:59.1.) The three-mile had eight men under 13:18—Canadian Grant McLaren leading in 13:10.8, and Sid Sink and Gordon Minty running 13:11.0. Frank Shorter and Jack Bacheler were next. The following day they tried to tie in the six-mile but were split up—Shorter with 27:38.0 and Bacheler 27:38.2. Teri Anderson won the women's mile by 20 seconds with 4:41.6—fourth on the all-time US list.

• **Philadelphia, Pa., April 29**—Kenyans were on both ends of the North Carolina Central relay team which set a world best of 3:14.8. Julius Sang led off with 46.4. Robert Ouko did 1:47.4 for his half-mile after running the first quarter under 50 seconds.

• **Eugene, Ore., April 29**—No one was ever close to Steve Prefontaine as he broke his American 5000-meter record. Steve ran 13:29.8 (after passing three miles in 13:04.0).

• **Formia, Italy, May 11**—Just 13 months ago, Paola Pigni-Cacchi gave birth to her first child. Today she broke the world record for 3000 meters with 9:09.2.

Another fast race for Steve Prefontaine (right)—a 13:31.4 5000 in the NCAA. (Steve Sutton)

Dale Scott (left) breaks the long-standing high school 880 record with 1:48.5. (Steve Sutton photo)

• **Chicago, Ill., May 13**—Ken Young calls himself the "obscure record breaker," meaning both he and the records are little known. He collected six more here: 40 kilometers—2:29:29; 25 miles—2:30:21; marathon—2:37:50; 30 miles—3:01:54; 50 kilometers—3:08:49; 40 miles—4:08:28.

• **Philadelphia, Pa., May 14**—Madeline Manning-Jackson, the 1968 Olympic champion at 800 meters, tied the world half-mile record of 2:02.0. Dave Wottle won the mile (in 3:58.5) from a field that included Jim Ryun (ninth place in 4:14.2). Joe Lucas improved dramatically in the steeplechase with 8:35.0.

• **Bakersfield, Calif., May 20**—George Young and Jim Ryun each qualified for the Olympics in a third event, but they lost the 5000 to Australian Tony Benson. Benson ran 13:36.6, Young 13:37.6, and Ryun 13:38.2. Tracy Smith, (13:40.0), Grant McLaren (13:40.0), Jack Bacheler (13:40.4) and Frank Shorter (13:42.4) followed.

• **San Francisco, Calif., May 21**—After winning his fifth Bay to Breakers race, Kenny Moore said, "My winning again, my time, and race details among the top competitors is only one hundredth of the story of this race. The story is all of these people..." There were 2585 in the 7¾-mile run across the city—biggest field in US history.

• **Liverpool, N.Y., May 21**—Ed Norris' father Fred was a British Olympian and world record holder in the 1950s. Now the younger Norris is an AAU champion, having won the national marathon title. Ed ran 2:24:42.8 in his first race at this distance. John Vitale (2:25:30) and Bob Fitts (2:26:23) came next as the first nine qualified for the Olympic trial.

• **Eugene, Ore., June 1-3**—All the NCAA distance racing was in the Eugene tradition: fast. Steve Prefontaine raced 5000 meters in 13:31.4, with Greg Fredericks close behind (13:34.0). Joe Lucas led a quick steeplechase field with 8:30.2. Six 800 men broke 1:48, with Willie Thomas winning in 1:47.1. Dave Wottle (3:39.7) and Jerome Howe (3:39.8) were fastest in the 1500. And Johnny Halberstadt's 28:50.4 headed a six-man foreign sweep in the 10,000.

• **Redwood City, Calif., June 3**—Francie Larrieu has the honor of being the first woman under 10 minutes for two miles. She ran 9:56.0 here, breaking Doris Brown's world record by 11 seconds.

• **Manchester, England, June 4**—Depth wise, no marathon has ever been faster than this year's Maxol. Twenty-four runners broke 2:20. It was the Olympic trial race for both Britain and West Germany. German Lutz Philipp beat Briton Ron Hill by a second with 2:12:50.

• **Los Angeles, Calif., June 5**—The day after he'd won an 800 in 1:46.6, Mark Winzenried tried for the American 1000-meter record. He missed by only three-tenths with 2:18.0.

• **Los Angeles, Calif., June 9**—Francie Larrieu had no one to push her, but she still broke another of Doris Brown's American records. Francie ran 1500 meters in 4:14.2 and won by over a hundred yards. Jim Ryun got a solid 3:57.3 mile win.

• **Berkeley, Calif., June 10**—Dale Scott broke the national high school 880 record with 1:48.5, finishing a tenth behind Mark Winzenried. Johnny Halberstadt beat a good three-mile field with 13:17.4. Gerry Lindgren, Tom Laris, Jack Bacheler and Frank Shorter were all within three seconds of him.

• **Seattle, Wash., June 15-17**—No pre-Trials lull was evident at the AAU. Surprising Greg Fredericks set an American 10,000 record of 28:08.0 and let Frank Shorter, Tom Laris and Jack Bacheler under the old one. Other winners: 800—Dave Wottle 1:47.3; 1500—Jerome Howe 3:38.2; 5000—Mike Keogh 13:51.8; steeplechase—Jim Dare 8:33.8; 5000 walk—Larry Young 21:39.8.

Johnny Halberstadt in the NCAA 10,000. (S. Sutton)

RACE WALKING

• **East Germany**—Karl-Heinz Stadtmuller, at 19, is the youngest race walking world record holder. He gained the distinction by doing 2:14:45.6 for 30 kilometers.

• **Ocean Township, N.J., April 16**—Shaul Ladany flew here from Israel for this 50-mile track walk. He made the trip worthwhile with a world record of 7:23:50.

• **Columbia, Mo., April 16**—Larry Young walked one of the finest hours ever, compiling 8 miles 415 yards. He was just five yards short of the American record.

• **Greenvale, N.Y., April 23**—The Olympic year AAU 20-kilometer championship race brought out a good field. But Larry Young, who probably won't even be walking this distance at the Games, handled everyone easily. He won in 1:32:43.2. Ron Daniel (1:34:10), Floyd Godwin (1:34:15) and John Knifton (1:35:12) took the next three spots, and 13 others qualified for the Olympic trial.

• **Columbia, Mo., May 7**—Larry Young continued picking up speed in the short (for him) races. He set an American 20-kilometer track record of 1:30:10.0.

• **Sharon, Pa., May 13**—The United States made an easy sweep of it in the Western Hemisphere 20-kilometer walk. Larry Young won with 1:31:59. Ron Daniel, Floyd Godwin and John Knifton were five and more minutes back in the next three places.

• **Lawrence Township, N.J., May 21**—Dave Romansky, who has suffered recently from a kidney ailment, won the AAU one-hour walk championship with 8 miles 80 yards. John Knifton (7m 1466y), Ron Daniel (7m 1376y) and Steve Hayden (7m 1365y) were closest behind.

• **Bremen, West Germany, May 27**—West Germany apparently has found itself a leading walk contender. Berd Kannenberg walked a 50-kilometer road course in 3:52:44.6—fastest time ever by some six minutes. Countryman Bernard Nermerich also broke four hours, by a half-minute.

• **Chicago, Ill., May 27**—Larry Young won the AAU 10-kilometer championship with 44:51, beating Tom Dooley by 21 seconds.

RIGHT: It isn't a workout. This is Mark Winzenried's 1000-meter record try. (Mark is second from left.) (Stan Pantovic)

COMING EVENTS

These are the major events—primarily US races—scheduled between mid-July and the end of September. Though there is a separate listing of walking races, many of the "running" meets also include walks. All known US and Canadian marathons during the period are included. For further information on these and dozens of other races, plus up-to-date results, see "Racing Report"—the twice-monthly newsletter published by Runner's World.

JULY

14-6 Northwest Masters, Gresham, Ore.
17 Northwest Masters marathon, Gresham
22 Sioux Valley TC Classic, Sioux City, Ia.
23 Mt. Evans marathon, Mt. Evans, Colo.
24 Pioneer marathon, Salt Lake City
29 Police Games marathon, Toronto
28-9 US-USSR Junior, Sacramento, Calif.

AUGUST

4 Seafair marathon, Seattle, Wash.
4-5 Junior Champ track, Bowling Green, O
5 AAU 15-kilometer, Littleton, Colo.
5 Ocean-Bay marathon, Belmont, Calif.
12 AAU Junior track, Chicago, Ill.
12 Paavo Nurmi marathon, Hurley, Wisc.
13 Hispanic marathon, New York, N.Y.
13 Pike's Peak marathon, Manitou Spr.
15-7 AAU Junior Olympics, Spokane, Wa.
19 Resurrection marathon, Hope, Alaska
19 Quincy marathon, Quincy, Ill.
19 Marathon, Winston-Salem, N.C.
26 Bluegrass marathon, Lexington, Ky.
31-9 Olympic Games, Munich, W. Ger.

SEPTEMBER

? All-American mar., Pittsburgh, Pa.
? Boardwalk marathon, Toronto, Ont.
2 50-mile, Des Moines, Iowa
3 AAU Junior 15-km., Greenbelt, Md.
4 Heart of America mar., Columbia, Mo.
10 Tour of Albuquerque marathon, N.M.
11 AAU 20-kilometer, Dedham, Mass.
11 Nova Scotia marathon, Shelburne, NS
15-7 World Veterans, Cologne, W. Ger.
17 Roseburg marathon, Roseburg, Ore.
23 Equinox marathon, College, Alaska
30 Kalispell marathon, Kalispell, Mont.
30 Kiwanis marathon, Lake Placid, N.Y.
30 Jackson marathon, Jackson, Tenn.

RACE WALKING

JULY

15 AAU Sr. 15-km., Northglenn, Colo.
23 AAU Sr. 40-km., Long Branch, N.J.
30 AAU Jr. hour, Long Branch, N.J.

The NCAA steeplechase was a fast one. Joe Lucas (left), co-leader here with Jim Johnson, won in 8:30.2—fastest in the US this year at that point. (Steve Sutton photo)

Announcing the Third Annual

NEW YORK CITY

MARATHON

CERTIFIED OLYMPIC DISTANCE

SUNDAY, OCTOBER 1, 1972

AT 11:00 A. M.

CENTRAL PARK — NEW YORK CITY

PRIZES: First Place — New York City Marathon trophy and wristwatch

Wristwatches from 2 - 10 places

Plaques — 11 - 35 places

Commemorative prizes to all finishers

Veteran's Prizes **Team Prizes** **Women's Race Prizes**

COURSE: In traffic-free Central Park. . . One short 2.2-mile loop, and four six-mile rolling loops.

FOR INFORMATION CONTACT:

Fred Lebow, Marathon Director
226 East 53rd Street
New York, New York 10022
(212) 688-6824

SANCTIONED BY: The Metropolitan Association of the Amateur Athletic Union of the U.S.
With the cooperation of the Road Runners Club of N.Y.
And the Department of Recreation, City of New York

ENTRY BLANK

In consideration of your accepting this entry, I, the undersigned, intending to be legally bound, hereby, for myself, my heirs, executors and administrators, waive and release any and all rights and claims for damages I may have against the above organizations or the Metropolitan Association of the A.A.U., or the City of New York, their representatives, successors, and assigns for any and all injuries suffered by me in said event. I attest and verify that I am physically fit and have sufficiently trained for the completion of this marathon of over twenty-six miles and my physical condition has been verified by a licensed Medical Doctor.

Signature in Full _____ **Parents Signature (if under 17)** _____

Print Name _____

Address _____ **City and State** _____ **Zip** _____

Telephone Number _____ **Occupation** _____

Age _____ **AAU Number** _____ **Club, Organization or School** _____

Best Marathon Time _____ **Where Held** _____ **Date** _____ **Place** _____

READERS' COMMENTS

Readers' Comments, Box 366, Mountain View, Calif. 94040

BOSTON'S LIMITS

I had the list of finishers of the Boston marathon soon after the run, but decided to revise it with the aid of Rick Levy's 1435 pictures taken in sequence at the finish. We had many repeat numbers, some who were fellows using numbers from previous BAA marathons, other runs and homemade numbers. Some were fellows who went across the finish line twice, maybe to be sure they got a good picture of them finishing. One fellow made it three times, each time spaced at 10-minute intervals.

Calling for qualifying times means nothing since they run without numbers. (The qualifying standard) could be dropped entirely next year.

Fred Brown
Boston Marathon Official
Medford, Mass.

The BAA marathon was a sea of people. Runners were hurdling over backyard hedges and sprinting on lawns trying to get upfront. The dressing quarters at the Prudential are a sea of dying athletes. What a fantasy of agony and joy! As it is now, the facilities are overtaxed. A lot of marathoners don't get the attention that they deserve. The perfect field for Boston is between 600 and 750. Even with this, there will still be 500 or so others. The speculated three-hour time limit would just remove the good runners from the lesser ones quicker.

Peter Burkhart
Manomet, Mass.

ENTRY FEES

A last hurrah must be given to race directors who manage to keep the entry fees at $1 ("Clearing the Racing Logjam," March 1972). To expect a runner to pay $2-5 is ludicrous. If a director wishes to take the awesome responsibility of running a (big) race, he must carry his task one step further and get sponsors to help defray costs.

If a race is for the runners, then the runners must see that these high fees are stopped. How? By entering the $1 meets and boycotting the expensive ones, or by running unofficially. Most of us in the back of the pack receive little more than a time and place for our efforts and fees. By running unofficially, one can usually get the same results and prove the high fees are an unnecessary burden.

Rick Burdick
Racine, Wisc.

PREFONTAINE INTERVIEW

Your interview with Steve Prefontaine (May 1972) was very enlightening. I hope that Steve will be happy to read that I, among many others, now regard him as a human being who lives in Eugene—rather than a cocky, superhuman madman who lives on the track.

Glenn Norris
Oceanside, Calif.

O'REILLY'S "LUCK"

I wonder how many of Eamon O'Reilly's problems are actually due to ill fate ("One Irishman Without Luck," May 1972). Sure, he has had some unfortunate experiences, but perhaps Eamon's training methods are a cause of many of his ailments. Note the following extremely significant sentence: "Injuries have forced Eamon to train infrequently, but when he does train, he trains hard."

O'Reilly's first serious injury, if not some of his others, stemmed from ignoring stress symptoms. "He had been having tendon problems with his left foot, but kept training until it became too sore and he finally was forced to consult a doctor." Perhaps if Eamon had been more attentive to his body's signs of overwork, he might have avoided at least some of his problems. Sickness and injuries don't come out of the blue. They attack us when our defenses are low. These ailments are due to physiological cause and effect, and not merely "bad luck."

Richard Seidman
Binghampton, N.Y.

"NOT ENOUGH TIME"

If one really wants to get out there and run, he can. ("Working it all Out," May 1972). Here's an example. My friend Joe Witkowski never was a star in four years of college, and he hadn't run much since graduating in 1968. He started training for the Boston marathon last November. Most weeks were 100-110 miles. He is a full-time elementary school teacher, and he attends law school at night. Result: 41st place in 2:30:13. Who can claim better on less time and less talent?

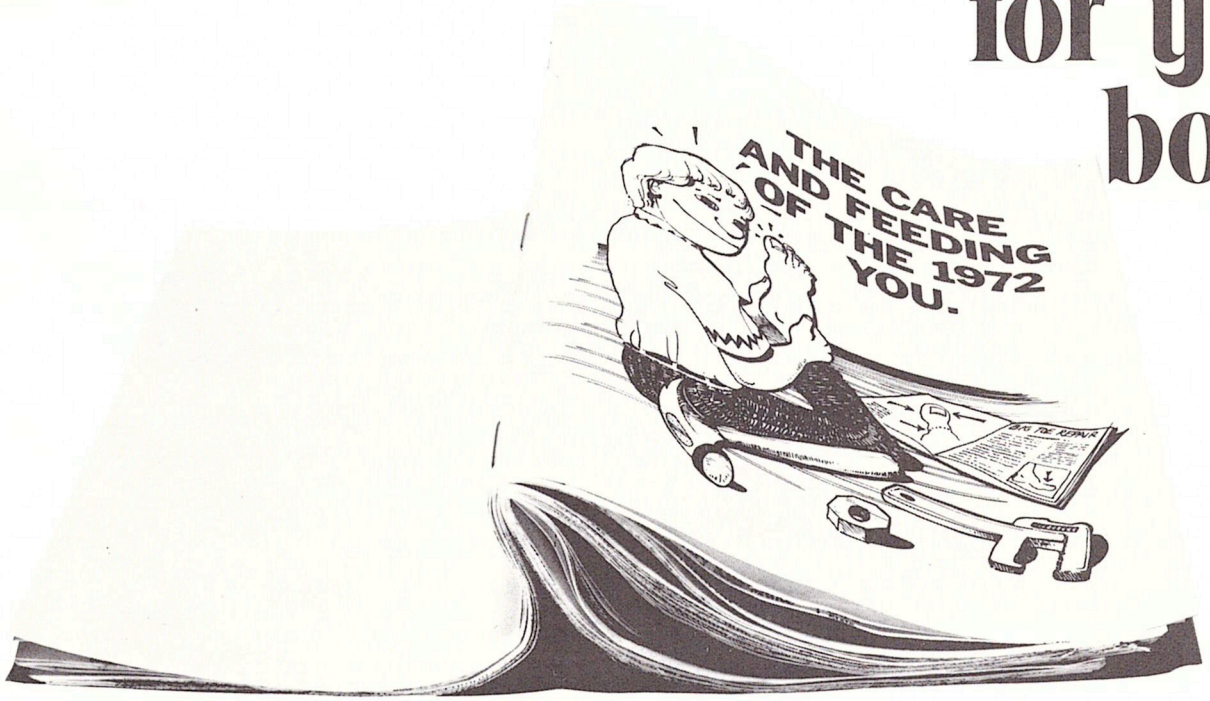
Hugh Sweeny
Fanwood, N.J.

FLATTERY

Congratulations to the members of the *Runner's World* staff on this excellent publication. *RW* is really one of the most interesting sports magazines available today.

Casey Conrad
Executive Director, President's Council on Physical Fitness
Washington, D.C.

Think of us as the Owner's Manual for your body.



That complex, fine-tuned machine you call your body isn't guaranteed forever.

And if it breaks down, a trade-in allowance isn't going to do you much good.

So, the better you maintain your body now, the better — and longer it will serve you later.

Right now, if you're involved in a regular program of exercise, you're on the right track. But you can't stop there. Your body needs a good deal more to keep you in the running all year 'round.

Like a custom-made, high-performance diet of healthy foods that replenishes the vitamins and energy you burn when you work out.

Like correct and speedy treatment of injuries, so minor repairs don't turn into major overhauls.

And the supplemental nuts and bolts of healthful living that contribute to your stamina, endurance and long-range fitness goals.

FITNESS FOR LIVING offers you all of this . . . and more. Because we're the one magazine that takes your health and fitness problems seriously.

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We cover everything from athlete's foot to the common cold to the vitamin content of organic food.

And while we're not a technical medical journal, we're the closest thing to it, this side of a doctor's office.

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HIT THE ROAD WITH OUR SUMMER RUNNING BONANZA

The warm weather is here and thus it's time to trade in your spikes for a good pair of training flats and begin your conditioning for the upcoming fall campaign.

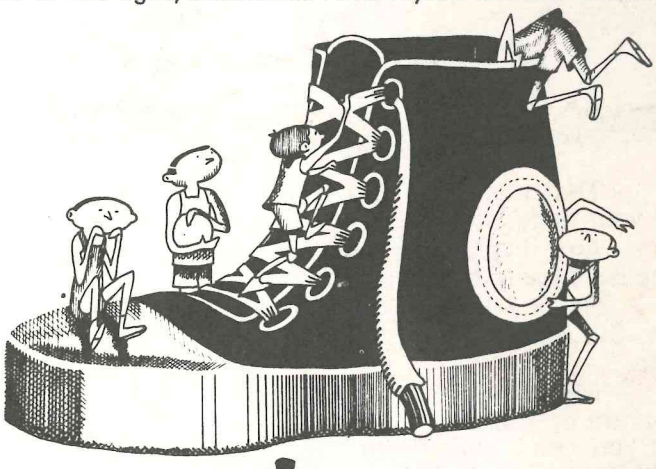
WHAT IS THE PERFECT SUMMER SHOE?

For the perfect summer shoe, we suggest the Nike Nylon Cortez. The most advanced training shoe, the Nylon Cortez has three distinct advantages over other popular models: (1) The featherlight weight combined with a well cushioned and durable sole enable you to use this shoe for both racing and training. (2) The nylon upper and absorbent innersole are both washable. A germ-free environment prolongs the life of the shoe and protects the feet. (3) The soft nylon eliminates friction, thus preventing blisters, yet is as sturdy and lasting as rubber. In addition the Nylon Cortez has two layers of shock absorbing foam rubber running the full length of the sole. This extra protection makes this shoe a must for runners who do their training on roads and other hard surfaces, or who have injuries caused by stress (tendonitis, shin splints, etc.).

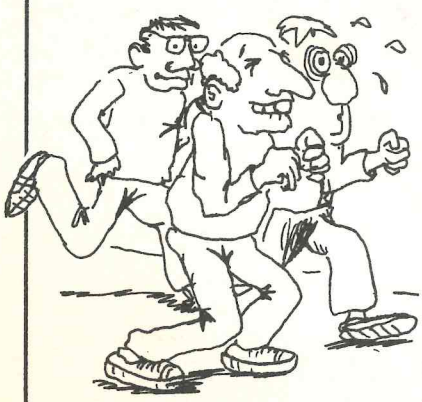
The Nike Nylon Cortez regularly sells for $14.95, but as part of our summer bonanza, we offer it to you at the low discount price of $11.95. As a bonus, to give you an extra incentive to get out and put in the miles with your new shoes, we'll include absolutely free a training diary where you can note all the particulars of your runs.

So act now and enjoy yourself in a pair of the light, cushioned Nike Nylon Cortez. Send for your shoes and diary today.

COACHES: There's no doubt that the toughest teams in the fall were the toughest teams in the summer. Natural talent can carry an athlete a long way, but there is just no substitute for a solid training background before the season begins. Get your squad members into a good pair of shoes, get the free training diary, and get the jump on the competition—all for only $11.95.



the running shop



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