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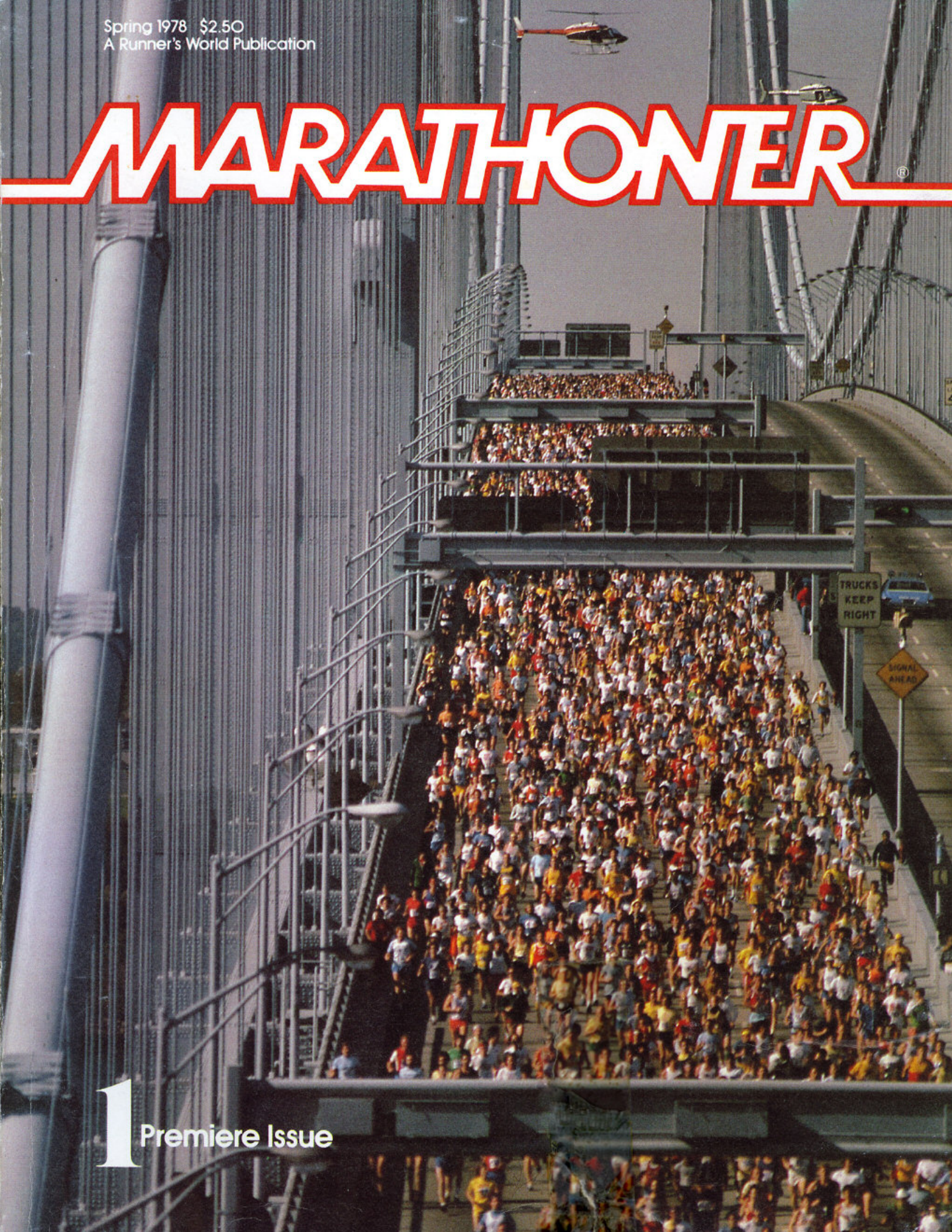

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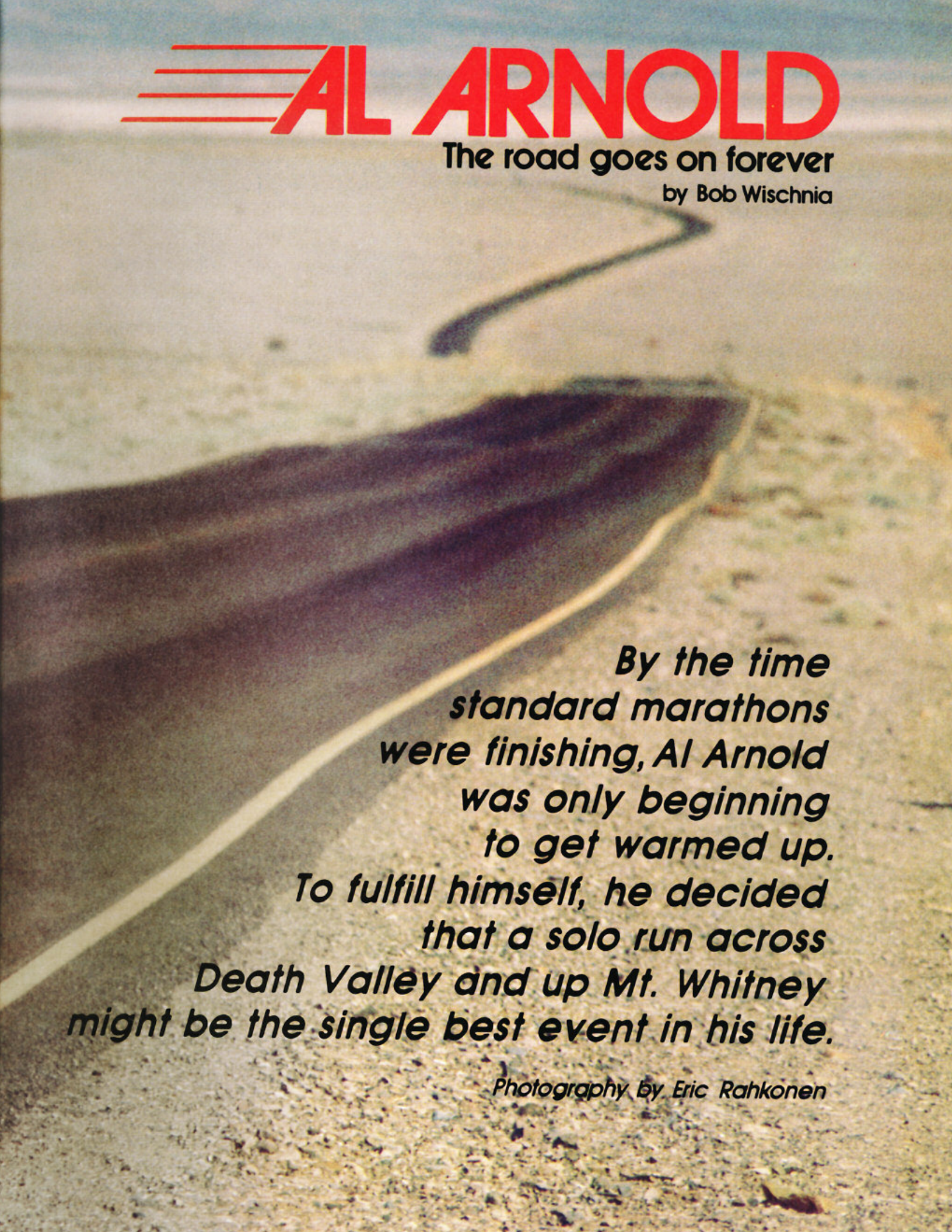


AL ARNOLD

The road goes on forever

by Bob Wischnia

By the time standard marathons were finishing, Al Arnold was only beginning to get warmed up. To fulfill himself, he decided that a solo run across Death Valley and up Mt. Whitney might be the single best event in his life.

Photography by Eric Rahkonen

He wasn't the first or even the fastest to run across the blistering expanse of Death Valley to the summit of Mount Whitney, but what made Al Arnold's August jaunt so special was the fact that he ran it by himself. The 50-year-old running machine from Pleasant Hill in northern California jogged, walked, staggered and ran the 145 miles from the lowest point in the United States to the highest point in the lower 48 states. And he did it, totally, totally alone.

Oh sure, he had a support car and driver (who kept dozing off) but while other Death Valley runs had been tandem or relays, Arnold went solo. Nobody paced him or shared in the agony. Nobody plodded alongside to help keep the sanity. No one to share the loneliness. But, that's the way Al wanted it.

While the actual run took 84 hours of continuous movement, the planning and training was spread over four years and two failed attempts. To say that Al Arnold was obsessed with running across Death Valley would be like saying Jimmy Carter likes peanuts.

That obsession began in the prehistoric years before television. "When I was a kid," Arnold said, "my favorite radio show was *Death Valley Days* and one of the advantages to radio was it forced your mind into fantasizing what it must be like. I used to love listening to the stories about Death Valley—the cowboys, the heat, the beauty, the challenge to man's very existence. This had always been so exciting to me even if it was just in my mind. Then when I heard and read about Ken Crutchlow and Paxton Beale's run in 1973, I figured, 'Hey, that's one that I've got to do too.' Something subliminally made me want to try this but, other than my childhood fantasizing, I can't really put my finger on a reason why I *had* to do it."

Even though Arnold, a native Californian, had dreamed for years about Death Valley, he had never been to the huge (3000 square miles) desert. So when he began gathering information and advice for a crossing in 1974, the one thing that everybody told him that he had to train for was, of course, the blast furnace-like heat.

Arnold is the director of the Quail Court Athletic Club in Walnut Creek and for his 1974 attempt, he'd pedal a stationary bicycle in the 200-degree heat of the sauna for an hour, get out and shower, pedal for another hour, shower and do it again as he tried to train his 6'5", 200-pound body for the acute changes in temperatures he expected to encounter.

But while he worked hard on acclimating himself to the heat, the longest run he went on was only four hours in length. It wasn't enough. In August, 1974 he took off in the warmth of early morning and six hours and 22 miles later he was floundering in the 130-degree air temperature. He was sick and dehydrated and in no shape to continue.

"I really learned a lot from my first try," Arnold said one afternoon in his home. "I had gone just far enough to get an idea of what it was really like. I was so cocky, so confident and had this real ego-oriented, hot shot attitude that when I went belly-up, I was very embarrassed. But like I said, I learned."

He spent the entire year training for another run at Death Valley but this time he spent more time on longer distance running and was in better condition when he and Eric Rahkonen, a photographer from the *Contra Costa Times* who also drove the support car, ventured to Death Valley in August, 1975.

They were blessed with nearly perfect weather conditions for Arnold's second assault: There were showers, it was overcast and the air temperature was a mere 105 degrees, which is almost chilly by summer standards.

"I was just hot dogging it along on this salt crust by the edge of the highway," Arnold remembered, sipping on a glass of white wine, "and I really began to feel like I was a part of the desert and I was enjoying the hell out of it when I broke through the salt crust and hyperextended my right knee. It swelled up like a grapefruit and pretty soon I couldn't even go down a small grade."

Once again the embarrassment overshadowed the personal disappointment. "The support crew had gone with me again," he said, "and I had failed them again. To see the looks on the faces of these guys hurt me more than anything else. I told them that was it for me. I wasn't going to try again. But I found

myself so concerned with the feelings of other people that I could accept my failure easier than they could."

Even though Al told his crew that he wouldn't try it again, nobody believed him. The sauna at his health club was out of order so Arnold spent much of his time running on and around Mount Diablo, a 4500-foot mountain that is part of a state park a few miles south of Walnut Creek.

Sometimes I'd take off on the mountain before the sun rose and not get back to my car until the moon was rising. All day long I'd be by myself just jogging, walking, running and stretching. Pretty soon, I'd experience entire days in which my mind was a total blank. I mean, I'd be gone all day on the mountain and not be able to remember a thing. This was really important because I was training my mind as well as my body for the loneliness. My body was becoming strong enough to keep going when my mind couldn't. I was experiencing total escape from my mind with my body continuing to move. I don't know where it went but it left me. It'd be almost frightening to come back to my car and realize that I've been gone 15 hours and not to be able to think of one thing that's happened. But, I knew I was running 60-70 miles."

He tried a 60-mile test run in early summer of 1976 and when his legs didn't feel right, he aborted any attempt to try a Death Valley run for at least a year. He also found time to take a bride, Betty, who knew what he was doing but wasn't sure why he was doing it.

"I tried explaining it to her," Al said, while Betty fixed some sandwiches for lunch, "but it was a hard thing for even me to understand. She knew what I was trying for but just talking about it upset her so I never said much about it. Actually, after my first two failures, I didn't want to talk about it with anybody. Sure I was an obsessed man but it was more of a romance than anything else. I'd be on top of Mount Diablo running around and I'd actually have to sit down and cry. I was a driven man. I was going to do something that would be an outstanding—some might've said impossible—thing for me to do."

He spent three more months in the sauna, pedaling the bicycle, but was doing it now for four hours and at temperatures that exceeded boiling (212 degrees). His skin would be so hot that you could burn yourself by touching him.

But the most important element of his training was his speed work. Or, lack of it. He had to detrain himself to go slow enough. Never a speed demon anyway, Arnold had to lower his speed to little more than a crawl so he wouldn't burn himself out in the desert.

By the time August rolled around, Arnold was supremely confident. Of course he was confident the first two attempts, but this time he knew he had the right fluids (pure fructose), a total white outfit that cooled the body, 12,000 miles (in four years) of training and most importantly, the knowledge that this was his third and final attempt.

Arnold drove south to Death Valley with Rahkonen, the photographer who had been along on both previous tries, and they met Glen Phillips, a commercial pilot for TWA, at Furnace Creek Ranch in Death Valley the night before the run. Al didn't eat any solid foods and got his usual 3½-4 hours of sleep. He was as ready as he'd ever be.

The starting point was near Badwater—at 282 feet below sea level, it is the lowest point in the Western Hemisphere. Arnold began jogging at 5:00 a.m. on August 3, and tried going as slow as he could despite the excitement of what he hoped would be a momentous run.

"It wasn't important to me how fast it was going to be," Al said, "I just wanted to complete the darn thing. That's all. I wanted to enjoy it and I wanted to share it with everybody I came into contact with. I spent many hours talking to people along the road and tried explaining to them what it was I was doing. The sharing of it was the end product of the thousands of hours I had spent training by myself."

Nobody ever ran with Arnold. He didn't want anyone because they might've disrupted his concentration and pace. "The individual—me—has to do his own thing in every marathon. I've run a number of marathons but I had always burned myself out at 20 miles. So I had to convince myself that all I really am is a guy who likes to run for the sake of the freedom that running

allows you to have. I'm not a fair weather runner. As long as there's ground, I'll be out there."

But nobody ever said the ground temperature was going to be 190 degrees as the air thermometer climbed into the high 120s. It took Arnold most of the first day to make the 50 miles across Death Valley's searing desert to the Panamint Mountain range where the running became harder, but where at least it was cooler.

"It was a little spooky running on the Panamints at night," Al said. "I've got glaucoma and can't see as well at night as most people can so I'd just run right down the white line. The night became an ally and even though I knew I was in a hostile environment it was like . . . like all tranquility that can exist . . . existed for me. There was no real problem with the heat and the only conflict I had was with my ancient body taking all the hundreds of thousands of impacts. My mind would just take off on trips, flights for hours and hours. When the sun rose that morning, it was the most beautiful sunrise I've ever seen. I had been looking forward to it all night long and hoping that this would be the hottest day of the year."

As it turned out, it was the hottest day of the summer with an air temperature of 127 degrees. But Al kept on running until finally he caught up with his support car—Rahkonen was still with him, but Phillips had left for a short trip to Yosemite—and stopped to do some stretching. He passed out with his legs over his head and Rahkonen let him sleep for about 20 minutes. It was one of only three rest stops Arnold made and none of them were longer than a half-hour.

All the time I'm looking for Mount Whitney," Arnold said, "and I see this gray, ominous thing way in the distance and hours later I find I'm on the same mountain I'm looking at. There were a lot of forest fires then and all the smoke was bothering my eyesight. That afternoon the wind really picked up and forced sand into my shoes and eyes but eventually I caught a glimpse of Mount Whitney and for the first time I was able to see my object and felt—I know this is ridiculous—but I actually felt a communication between this three-mile high piece of granite and myself. I just felt very, very small and vulnerable. It was almost like it was encircling me rather than me coming around to it.

"When I got closer, I heard the coyotes howling their fool heads off like they were laughing at me. I got to Lone Pine (the nearest town to the mountain) around sundown and changed into some street clothes. I just didn't want anyone to notice me; in the desert it was okay but in town I was a little inhibited. Glen and his wife and daughter Hope had flown in from Yosemite (where they had been hang gliding) and they gave me a hamburger and milkshake which really revitalized me. I knew I couldn't go up the mountain at night and knew if I stopped moving, it'd be all over so I just barely kept going all through the night. I probably only made 15 miles all night."

By sunrise, Glen and Al were starting up the trail to the summit of the 14,496-foot mountain. (Rahkonen had been called back to his newspaper.) About halfway up, Arnold buried a backpack with warm clothes, a sleeping bag, $200 in cash and some food, while Glen climbed up ahead telling other hikers of what this crazy, middle-aged man was trying to accomplish.

"We were up about 12,000 feet," Al recalled, "and there were over a hundred switchbacks. For about an hour, I felt really strange and almost walked off the mountain a number of times. I just felt too comfortable about being on the last leg of this thing. I started to drift off and luckily, Glen came back to me and caught me before I went off . . . it was almost like when you're a little kid and had to stay home because you were sick and your mother gave you neat things and so you'd fake it a couple of times . . . I think that was what I was doing subconsciously because I just must've wanted someone to stay with me."

Al and Glen had hiked to the top of Mount Whitney together once before but after crossing 140 miles of desert, this was a considerably tougher climb. Al gave an autograph to one hiker who gave him a survival kit in return.

And then, Al Arnold was there. Not surprisingly, all he could do was cry. "I just sat down on a rock—it was very low

key—and bawled my fool head off for a couple of minutes. Glen didn't give me much time to drink it in though because we had to get off the mountain."

Phillips bounced on down the mountain back to Lone Pine where he could telephone the *Contra Costa Times* and Eric Rahkonen to tell them that Al had made it. The *Times* was holding space in its Sunday edition.

Arnold, meanwhile, started back down the trail to the spot where he had buried his pack a few hours earlier. Someone had stolen it.

"It was like someone stealing your horse on the open range," Arnold said without trying to hide his bitterness. "They string people up for less things than that. I was lucky, damn lucky that in the survival kit some hiker had given me there was a plastic liner, like a garbage can liner. Thinking back, it was kinda scary because here I was two miles up, the air temperature was below freezing, 50-60 mile per hour winds, on the face of a granite mountain with no clothes or food. I did the only thing I could: I just sat there and tried to relax. With my eyesight, I couldn't take a step in any direction because it might've been the last one I ever took. And I couldn't sleep, because I might not wake up. I wrapped myself in the bag and hoped I'd make it through the night."

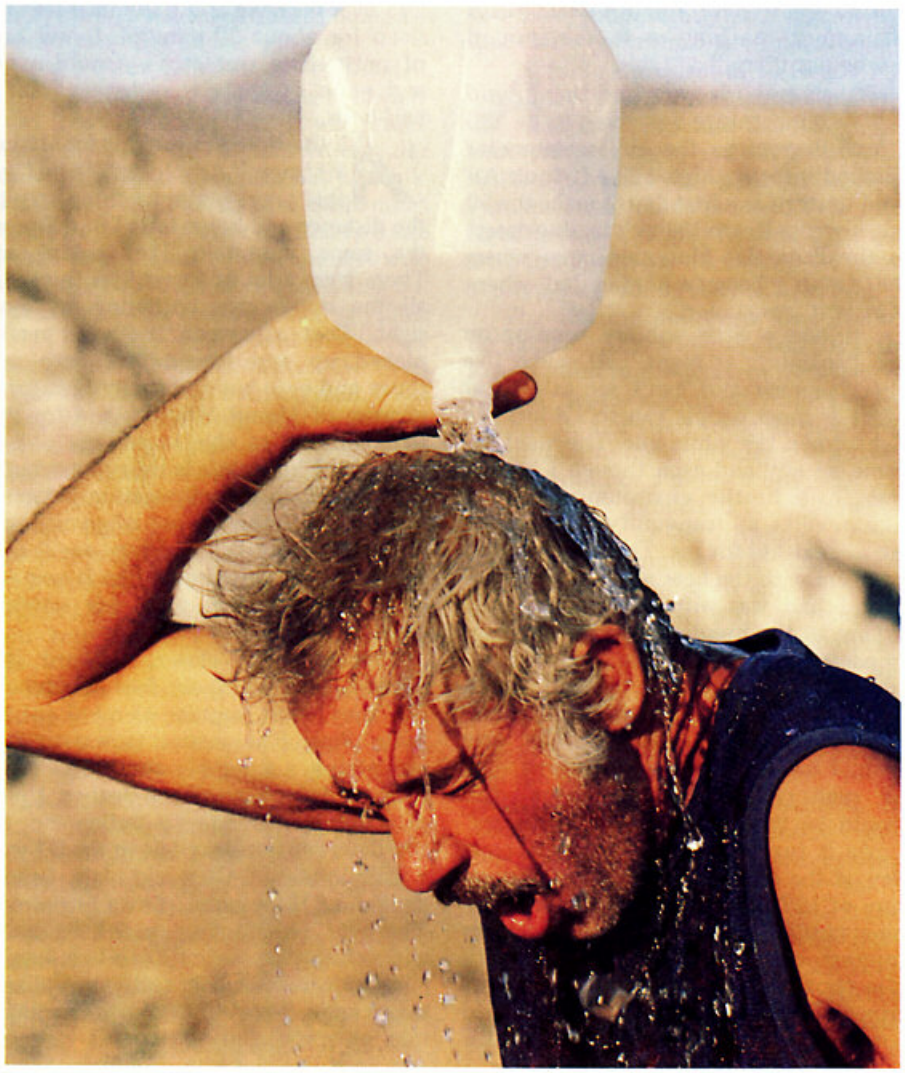
He made it through the night but when he got out of his bag the next morning, his left leg was so sore he couldn't straighten it out enough to support his body weight. Finally, after soaking the leg in an icy stream for three hours he was able to move slowly down the mountain.

The irony of the entire ordeal was the worst part came after he reached the summit: The night he spent on Mount Whitney, the flight home where the plane barely had enough altitude to clear the mountain and nearly crashed and the long-delayed honeymoon to Hawaii that Betty and Al took a week later that nearly cost him his life.

When Arnold did get home, he did a number of telephone interviews with various newsmen and then slept for about six hours. He was up at his customary 4:00 a.m. and ran six miles to his health club.

"I felt great after the run," he said, "but I almost felt embarrassed to talk about it because it was beyond the comprehension of most of the people I ran into at the club. I had a hard time putting into words what I learned about myself but I do feel I've become more of a tranquil person and I feel I'm a much stronger individual now.

"I developed a sense of confidence that I'm removed from doing any monu-



A FIGHT WITH PHYSIOLOGY

By David Costill, Ph.D.

Al Arnold's mid-summer run across Death Valley and up Mt. Whitney in 84 hours stands as a unique example of the upper limits of human endurance. From a physiological point of view, his feat posed threats to his health and his chances of completing the run. The stresses of heat, dehydration, altitude and depletion of body energy stores might easily have doomed the run to failure. Combined, they make Al's accomplishment a superhuman feat.

Despite the dryness of the desert air, air temperatures of 128-134 degrees and the radiant heat from the sun and road combined to limit Al's ability to get rid of the heat being produced by his working muscles. Generally speaking, the heat generated in the muscles is transported to the skin where it can be dissipated to the environment, provided the skin is hotter than the air or that the humidity is low enough to permit heat to leave the body in sweat evaporation. This entire process puts considerable stress on the cardiovascular system, which must now divide its delivery of blood flow between the exercising muscles and the need for blood flow to the skin. Thus, when Al tried to continue running in the desert's 124-degree heat, it was no surprise that he experienced severe nausea, a symptom not uncommon in the early stages of heat exhaustion.

Fortunately, Al had been wisely advised to become heat acclimatized before the run. His pedaling a stationary bicycle for hours every day in a sauna offered the body a chance to adjust to the combined effects of heat and exercise. This heat-exercise exposure permits the cardiovascular system to adapt an efficient control on blood flow and body temperature regulation.

Obviously, the elimination of body heat during the run meant that Arnold must lose a sizeable quantity of body fluids as a result of sweat evaporation and water lost in his exhaled air. If we assume that the weight of the fuel burned by his body during the 84-hour run was small, then his body water deficit (about 17 pounds) at the end of the run would mean an eight percent decrease in body weight, with a 20 percent decline in plasma volume. This meant an additional strain on an already tortured cardiovascular system.

Early research of men working in the deserts, revealed that levels of dehydration above 8-10 percent of body weight can be fatal. It is apparent that without the frequent fluid feedings, Al might well have exceeded even his high tolerance to heat and dehydration. We know that when young conditioned athletes are dehydrated by only 3-4 percent, they are unable to exercise for only an hour or two before collapsing. Drinking fluids prevents excessive body heat storage and eases the strain on the circulatory system.

After surviving the heat and dehydration of Death Valley, Al's run took him to another environmental test, that of altitude. It is well known that at elevations above 5000 feet, one's capacity to transport oxygen to the working muscles becomes progressively impaired. Attempts to walk and jog are extremely difficult and progress can only be made at a painful price. When Al reached Whitney Portal at 8400 feet, his maximal oxygen uptake was probably only 90 percent of that on the floor of Death Valley. As he progressed up to Consultation Lake (12,000 feet), this capacity to transport oxygen was down to only 80 percent of his sea level value. As he approached the summit of Mt. Whitney at 14,496 feet, his tolerance to aerobic exercise was down to less than 70 percent of his original capacity. Of course, the low oxygen content of the air at altitude amplified Al's already dehydrated and exhausted cardiovascular system.

The only limiting factor we have not discussed deals with the energy needed to complete this 84-hour run. Since Al slept for only 60 minutes during this ordeal, we can make a few assumptions and estimate his total energy requirements.

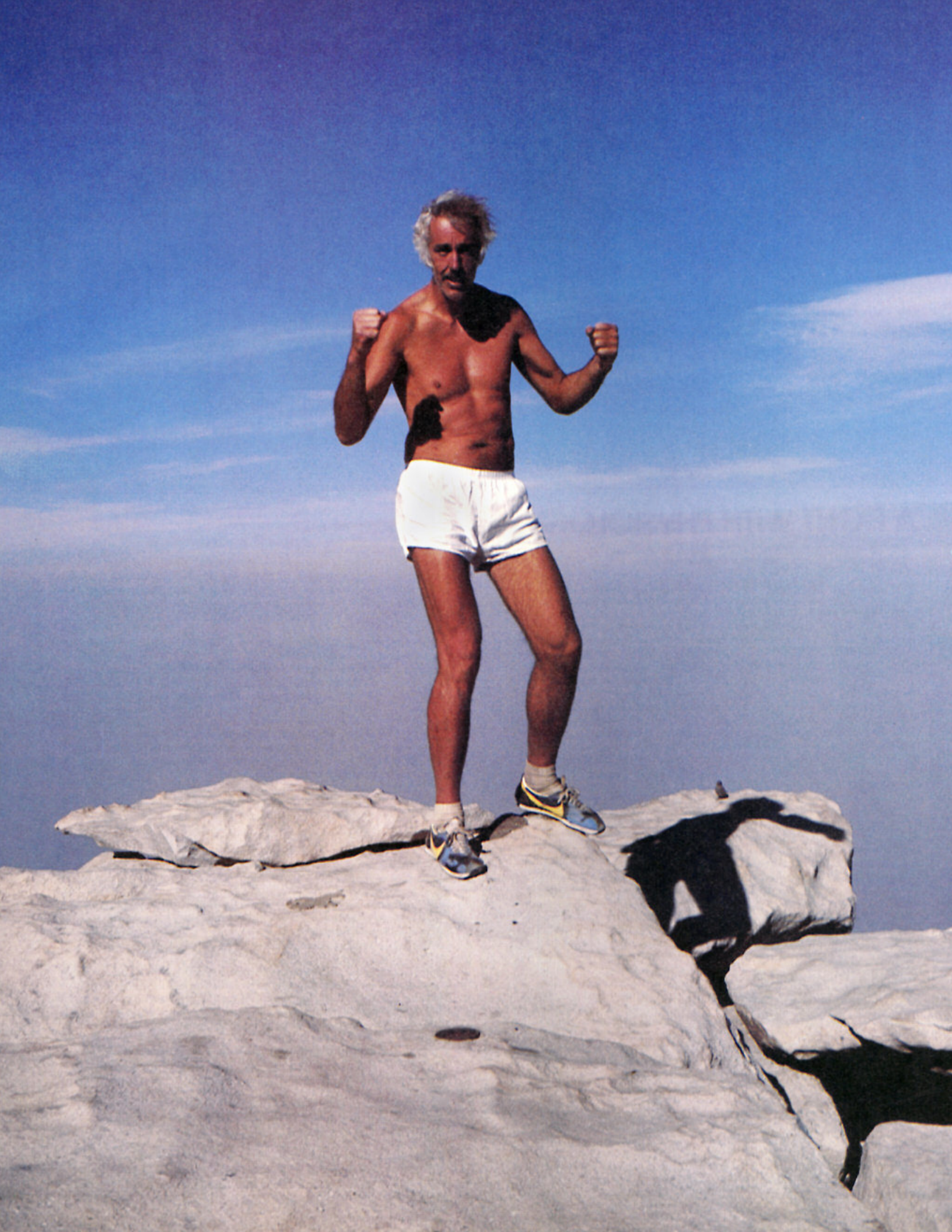
Being a big man and a good runner, Al probably has a maximal oxygen uptake in excess of 5.5 liters per minute. If we assume that he used, on the average 40-50 percent of this capacity (2.75 liters/min.), then the Death Valley/Mt. Whitney run probably cost him more than 60,000 to 66,000 kcal. or nearly 17,000 to 19,000 kcal. per day. This would constitute roughly six times the caloric expenditure for a normally active adult.

One might wonder where Al got all the fuel needed to fulfill these energy requirements. Naturally, he was able to ingest some fuel as food and drinks, but much of his energy had to be derived from carbohydrates and fats that were "on board" at the start of the run. Several factors govern the rate at which these fuels are burned-up by the muscles. Generally speaking, the faster one runs, the more muscle glycogen is used. Conversely, low intensity exercise tends to use fats as the predominant energy source.

In the early minutes of exercise, the runner will use muscle glycogen at a greater rate, with fat playing a major role after 30 minutes or more of activity. Since the depletion of glycogen from muscle is a factor responsible for exhaustion, it was imperative that Al keep his pace relatively slow in the early stages of the run and that fat be used as the principle energy source.

A third major source of energy is provided to the muscles via the blood stream. Blood glucose is maintained relatively stable by the release of glucose from the liver and by the addition of glucose from the intestinal digestion of carbohydrates. Since the human liver has a limited amount of glycogen stored, it was essential that Al eat and drink carbohydrates to prevent a sudden fall in blood glucose (hypoglycemia). In exercise bouts lasting more than a few hours, blood glucose provides most of the carbohydrates being burned by the muscles. It should be noted that this blood-borne source of carbohydrate is essential to the cells of the nervous system. For these reasons, it becomes readily apparent that exercise-induced hypoglycemia (low blood sugar) might easily have terminated Al's run had he not received adequate nourishment.

In this discussion I have attempted to illustrate how many factors might easily have terminated Al Arnold's assault on Death Valley and Mt. Whitney, as it did in his two earlier attempts. As a physiologist, I am impressed with his ability to confront and conquer the human frailities that control our upper limits of endurance.



mental task I set out to do. What I mean is I feel I can do whatever I want to accomplish. Certainly, I'm restricted as to how fast I can run a mile but that isn't essentially what I'm looking for. I think I am, in my own way, a marathon man and a strong marathon man."

He needed every ounce of strength, every minute of his training to survive his honeymoon in Hawaii. Al had never bodysurfed before but it looked like fun at a nice little shorebreak in Kauai called Brennecke's Beach. He caught the last wave of the day for him—always the most dangerous one—and was cutting across the face of the breaker with the tube closing in behind him. Just as he was about to dive under the wave, a small boy on a boogie board appeared in his path. Al knew he'd hit the child and quite probably, injure him.

Al waited until his wife left the room before he discussed the incident because even nine months later, she gets upset at the mention of the accident. Arnold dropped his voice an octave and almost whispered, "I pulled my shoulders to the left to avoid the boy and felt my hips come clear out of the water. The next thing I knew I was caught inside. The wave sucked up the water which should've been beneath me and threw me headfirst into the sand. My head just snapped backwards like a whiplash victim."

He was totally paralyzed but conscious. Lying face down in the sand, he nearly drowned as wave after wave washed over him. He inhaled each time the waves lifted his head above the water and then held on as he was pulled under again and again.

"Finally after about 10 minutes I was nearly gone from the effort but I was able to hang on a little more because I thought, 'Gosh, I can't do this to Betty.' If I hadn't have acquired the mental discipline I had, I would've drowned. I used my last air when I felt someone near and called for help and held on. This guy came over and asked, 'Are you okay?' Hell no, I told him."

They got him out of the water and Al made sure nobody would move him until a doctor came. When the doctor did come, he assured Arnold that he hadn't severed his spinal cord but his neck might be broken. They put a surfboard under him and 15 minutes later he was in Wilcox Hospital where x-rays showed that he hadn't fractured his neck but there was a separation of two cervical vertabrae and a pinched and severely bruised spinal cord. In a few days he was able to walk again and even today, the lingering symptoms of his injuries are not unlike those of a whiplash victim.

"There's no doubt about it, I would've been dead if I wasn't in the kind of shape I'm in. For certain, my neck would've been broken and if I hadn't died, I'd be a quadriplegic the rest of my life.

"You asked me earlier what I think I gained from the run and I didn't really answer because the accident, looking back on it, seemed related in a way to the run. But what I gained is the strength that I can draw from within myself. I'm a very religious man but I've only been religious in terms of what running can do for me. Running saved my life. I trained four years to run across Death Valley and if I hadn't, I'd be dead or paralyzed.

"But aside from that, I'm less anxious and more patient than I was before the run. The ability I developed to last longer with a set of conditions as brutal as I went through enhances my living. I wasn't necessarily an impatient or frustrated person before the run but now, it's not even part of my vocabulary. I have the ability now to analyze a situation and convert it into a learning experience rather than have it frustrate me."

When Al was 23, he and a fellow student at the University of California at Berkeley, set a world record for teetertottering. In 1951, when people were still doing those kinds of stunts, the pair went up and down 45,159 times for three days and nights to break the record. Guinness' Book of World Records, however, didn't recognize it. When Betty submitted documentation of Al's monumental run, Guinness sent a form rejection letter back saying thanks but no thanks.

For a man with Arnold's kind of ambition, strength and determination, what could possibly be next?

Would you believe he wants to return to Death Valley. But this time he wants to race someone across the length of the Death Valley. He doesn't want to race for money; he just wants the competition of racing 165 miles across flat desert in the intense heat of summer. So far, Al Arnold hasn't had any takers.