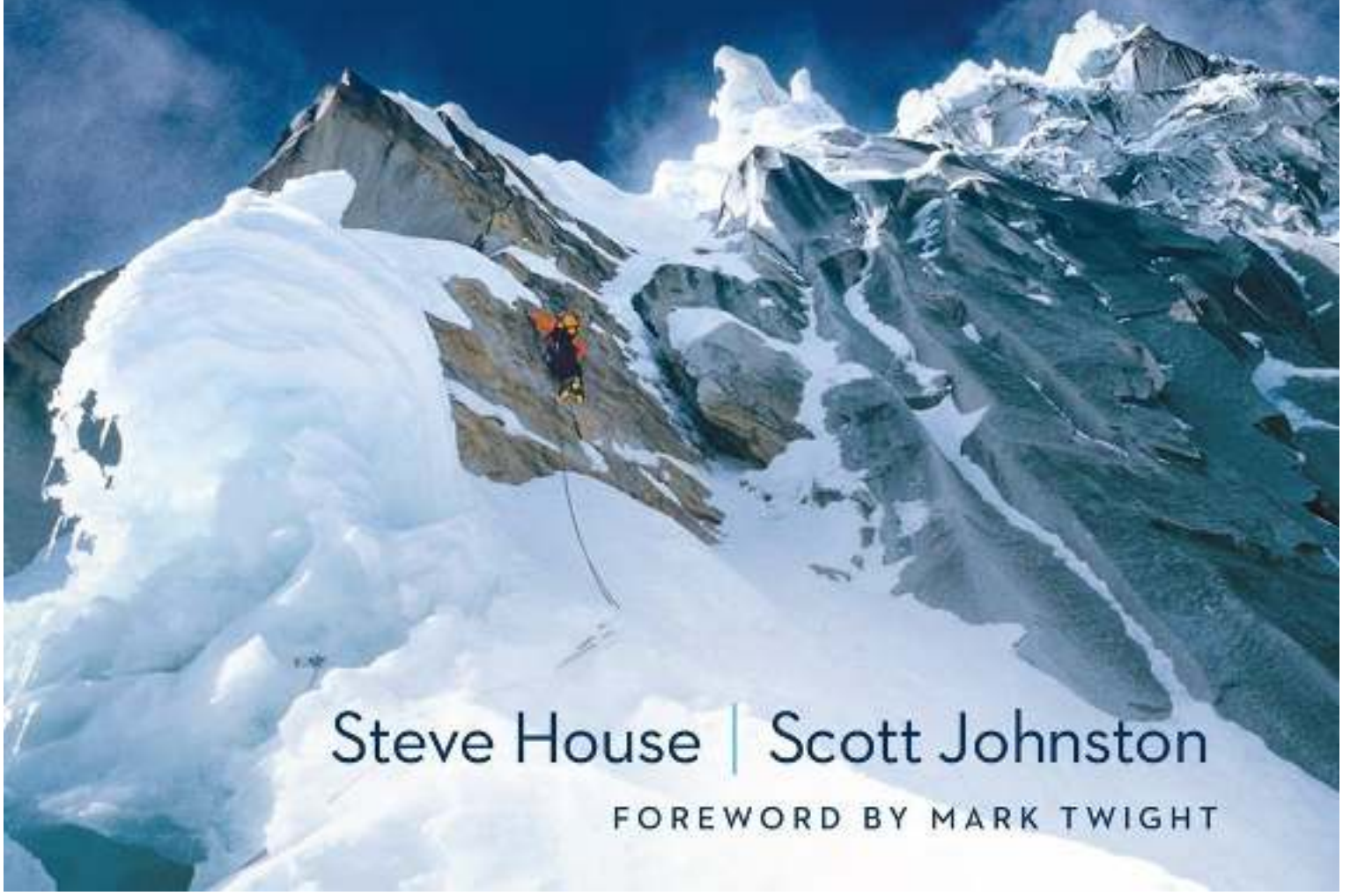
Training for the NEW ALPINISM

A MANUAL FOR THE CLIMBER AS ATHLETE



Steve House | Scott Johnston

FOREWORD BY MARK TWIGHT

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Steve House and Scott Johnsto

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BOOKS
Ventura, California

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Mark Twight exiting the Col Fourche bivouac near Mont Maudit, France. *Photo: Ace Kvale*

Foreword

The Edge of the Map

I consider myself a charter member of the first generation of alpine climbers who trained intentional using artificial means.

For me, training was born of failure. When I failed—and it happened a lot—it was becau ambition outstripped ability. I narrowed that lack of ability to physical issues often enough that decided to do something about it. Chasing the first half of Brian Eno's motto, I pushed myself to "th most extreme limits" and reaped rewards, but it took years to fulfill the second half of that mott which is "retreat to a more useful position."

My approach to training echoed how I climbed. The romance of climbing didn't interest me. didn't seek harps and wings. I heard no opera up there. Instead, my mountains had teeth. The jagg edge we walked up there dragged itself across my throat, and the throats of my friends and peers. took the mountains' indifference to life as aggression, and fought back. I armored myself against th indifference; with training, with thinking, with attitude. I trained with friends who shared a simil approach. Our mantra was dark, but it motivated us.

When we ran we breathed in rhythm—no matter the speed—and that beat had words: "They a died." We inhaled and exhaled the great alpine epics—like the tragedy that befell Walter Bonatti' party on the Freney Pillar—to push ourselves to a place where we would never come up sho physically.

The consequences of falling short made training important. I realized early that controlling th things that I could control gave me greater freedom to address the things that I could not control. An the mountains offered those in spades.

Unfortunately, I had no idea how to use the gym, and without someone to ask, I made man mistakes. I tried to mimic climbing in the weight room, but didn't comprehend how best to use th valuable tool, and wasted my time. The gym is useful as a means of overloading the organism in a wa that can't (safely) be done in the real environment of alpinism.

Later, my training sessions began by pre-fatiguing my body on a Stairmaster, or treadmill, an then lifting because that's how alpinism looked to me: approach and then climb. It took years to lea that doing the opposite sent hormonal signals more appropriate to physical development for alpi climbing.

Then I read that some rock climbers used hypertrophy-style training to increase muscle mass an push limit-strength higher. So we did that until I realized that mass had to be carried whether it wa being used or not. I had misused a specific training idea based on the mistaken premise that a climbing is the same. It isn't. Limit-strength was never an issue in the mountains but we wanted it be, so that we could do that style of training.

Eventually I trained in a way that emphasized maximum recruitment of existing muscle. I had carry my own engine so it made sense to increase my power-to-weight ratio; to extract the maximu from existing resources. Then, I reasoned, if the engine is still inadequate, I could increase i horsepower—as long as that doesn't affect fuel economy.

The engine analogy produced an accurate description of our training objectives, which allowed to think and plan in coherent terms. We decided that the ideal "engine" for alpinism could go foreve

produce explosive force on demand and keep delivering 50 to 60 percent of peak force witho
"overheating." Tuning such diverse characteristics into an engine requires much of the mechani
foremost of which is an understanding of the overall objectives.

In *Extreme Alpinism: Climbing Light, Fast and High*, I described the goal of physical training f
alpinism with the phrase "to make yourself as indestructible as possible." In short: resilience. For to
long I thought this concept was solely contingent on physical capacities, but eventually realized th
these influence mental capacities. In fact, I think we revere the physical too much when it is the mir
that imagines the goal, solves the problem, and achieves it—using the body as its engine.

Mark Twight climbing the Chere Couloir, Mont Blanc du Tacul (13,937', 4,248m), France in 1990.
Photo: Ace Kvale

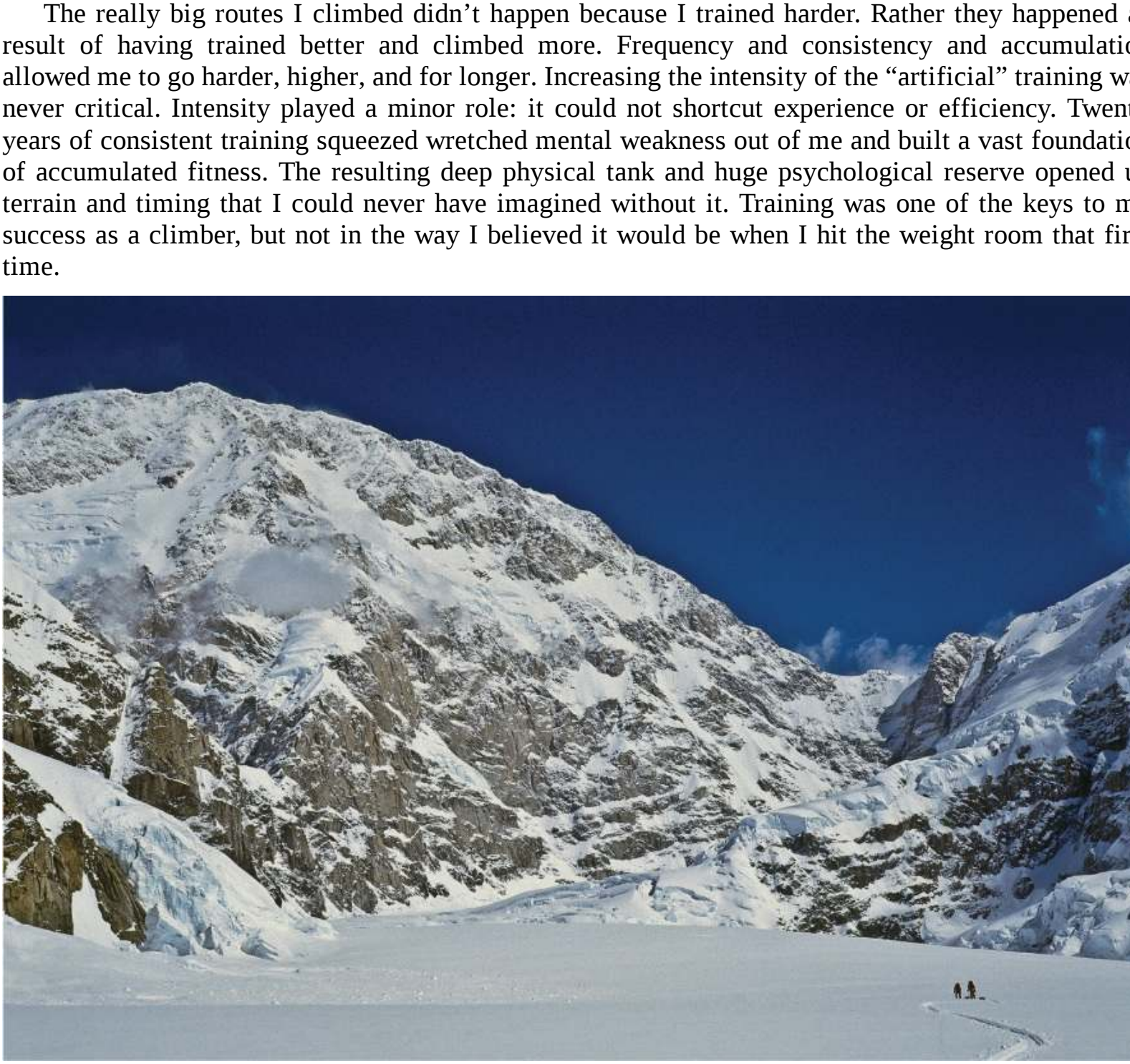
If physical training is a tool, it's a hammer. Often we swing it to the exclusion of all other too
because it feels like an easy fix: it features nearly immediate positive feedback as well as rap
progress, especially if you've never used one before. But increased physical capacity doesn
guarantee improvements to climbing. Often strength blinds us to the benefits of technique
efficiency. We close our eyes and pull, but alpinism rarely rewards raw strength—successful alpinis
appear to be those who multiply physical force with the lever of creativity, confidence, an
psychological resilience.

Undertaken correctly, physical training is a useful means of psychological manipulation: goals se
achieved, and surpassed in the gym—whether they are specifically transferable or not—stimula
psychological development we can express in the mountains. Constantly overcoming difficult trainin
challenges and examining ourselves along the way improves self-assurance. That confidence fre
imagination. It opens doors to new, more difficult projects, and expands our problem-solvin
repertoire.

To attempt the impossible demands a high order explosion of confidence, sustained by the diese

fueled physical capacity to back up that hubris. Neither capacity is powerful on its own but a whol well-trained mental-physical system is practically unstoppable. In this sense we can bring o unrealistic ambitions within reach by figuratively changing the length, and functionally increasing t strength of our arms.

The really big routes I climbed didn't happen because I trained harder. Rather they happened result of having trained better and climbed more. Frequency and consistency and accumulatio allowed me to go harder, higher, and for longer. Increasing the intensity of the "artificial" training w never critical. Intensity played a minor role: it could not shortcut experience or efficiency. Twen years of consistent training squeezed wretched mental weakness out of me and built a vast foundati of accumulated fitness. The resulting deep physical tank and huge psychological reserve opened terrain and timing that I could never have imagined without it. Training was one of the keys to m success as a climber, but not in the way I believed it would be when I hit the weight room that fir time.



Mark Twight and Scott Backes approaching the south face of Denali and the Slovak Direct Route.
Photo: Steve House

These days physical and mental training is my bread and butter. Strength training directly benefi the athlete who plays a sport in which the strongest always wins. That's not climbing. So we wo indirectly: When we increase an athlete's work capacity, we improve that person's ability to recove then climbing-specific training frequency can be increased, which means more climbing. A great volume of quality sport-specific effort leads to improvement. This is training but it is also lifestyl and managing it wholesale.

To achieve this we need a certain quantity and quality of knowledge. Unfortunately, much of wh passes for fitness knowledge is actually marketing, or confined to the controlled conditions of a la with no regard for biochemical or temperamental individuality. Steve and Scott have collected th vast data relevant to training and preparation for alpine climbing and are presenting it here in practical, user-friendly manner. They back their thesis with their own remarkable experience. An reinforce it with unique points of view contributed by climbers whose practice has had enormou influence on the evolution of the sport. On its own the book is invaluable. Combined with the route and adventures that it will surely inform, its impact on the evolution of the generations of futu climbers will be great.

I often say that greater fitness leads to more opportunity. This holds true for knowledge as wel When we acquire new skills, when we develop ourselves as human beings, we uncover new potentia The map gets bigger. We increase the scope of our world and the opportunities available in i *Training for the New Alpinism* might well take you right off the edge of the world as you know it.

MARK TWIGHT
Salt Lake City
June 2013

Mark Twight riding the cobbles in Sofia, Bulgaria, after finishing the work day training actors and stunt crew for the Warner Brothe movie: 300: Rise of an Empire. *Photo: Clay Enos*

Swiss alpinist Stephan Siegrist climbs the Difficult Crack pitch of the 1938 Route on the north face of the Eiger (13,024', 3,970m) i
Switzerland. *Photo: Thomas Senf*

Introduction

The Old Becomes New Again

> It was a close, warm, breezeless summer night,
> Wan, dull, and glaring, with a dripping fog
> Low-hung and thick that covered all the sky;
> But, undiscouraged, we began to climb
> The mountainside.
>
> — **WILLIAM WORDSWORTH,** *The Prelude* (1799–1805)

Physical exploration of the world was growing rapidly during the Romantic Period, the time Wordsworth. Early mountaineers were upper class and well educated: poets, photographer geologists, painters, and natural historians.

In 1895 the Englishman and alpinist Albert Mummery and four men undertook the first attempt climb one of the Himalaya's giant peaks, the 26,660-foot (8,126-meter) high Nanga Parbat. Mumme and two of his men lost their lives in an avalanche during the attempt. Thus climbing entered t twentieth century with artistic grace tainted by extreme tragedy; this began the greatest period growth in alpinism, particularly in the Alps.

Technical standards rose rapidly. In 1906, 5.9 was first climbed in the Elbe Sandstone Mountain Around this same time Austrian Paul Preuss trained himself to do one-armed pull-ups and climbe (and down climbed) alpine rock routes in the Dolomites to a modern grade of 5.8, solo and hobnailed boots. By 1922 the top grade was 5.10d. Climbers of the time climbed many beautifu difficult routes in the mountains. To modern climbers, they seem to have been driven by an inna curiosity to ascend, explore, and observe what would unfold in the process.

Tom Hornbein on the summit of Mount Everest (29,029', 8,848m) at 6:15 p.m., May 22, 1963, after making the first ascent of the west ridge. He and Willi Unsoeld also completed the first ever traverse of a mountain over 8,000 meters. *Photo: Willi Unsoeld*

The great wars twisted everything; the conquest of the world's fourteen highest peaks after Worl War II became surrogate battlegrounds to reinforce superiority, or symbolize rebirth, depending o whether your country had won or lost: Annapurna to the French, Everest to the British, Nanga Parb to the Germans, K2 to the Italians. Ascent was transformed into conquest; summits became symbo of nationalistic pride. The climbing of mountains was changed forever. This ended symbolically 1980 when Reinhold Messner was asked why he did not carry his country's flag to the top of Everes and he replied: "I did not go up for Italy, nor for South Tyrol. I went up for myself." Though h comment angered many at the time, the line was drawn.

In the information age all must be measured. For climbing, an emphasis on difficulty and spe emerged. Hardest, highest, fastest. In the age of social media all must be shared. The resulting cockta of cameras, danger, and testosterone are all too often tragic. Rarely graceful.

The new alpinism comes full circle as small teams of fit, trained athletes emulate Mummer aspire to Preuss, climb like the young Messner. Because those pioneers knew that alpinism—indee all mindful pursuits—is at its most simple level the sum of your daily choices and daily practice Progress is entirely personal. The spirit of climbing does not lie in outcomes—lists, times, yo conquests. You do keep those; you will always know which mountains you have climbed, which yo have not. What you can climb is a manifestation of the current, temporary, state of your whole sel You can't fake a sub-four-minute mile just as you can't pretend to do an asana. Ascent too is a expression of many skills developed, refined, mastered.

Training is the most important vehicle for preparation. Constant practice begets examination an

refinement of technique as well as fitness. It is not our natural tendency to value struggle over succes
a worldview that climbing sternly enforces. Embracing struggle for its own sake is an important st
on your path. Incremental vacillations in your self—your physical and mental selves—are exquisite
revealed in practicing ascent. There is no end to your progress or your process. For the two of us t
pursuit of climbing mountains has been among the most powerful personal experiences we hav
known. Nothing else has come close to the blunt power of climbing to inform us about ourselves.

We don't presume to tell anyone what the new alpinism will actually become; no one can kno
this. But we do think that we have earned the perspective to point in the right general directio
Structured, progressive training will be a big component, perhaps define, the future of alpi
climbing. But not because it will help you climb harder, faster—though it will. Training prepares you
body and, most important, your mind for ascent through consistent, hard, disciplined practice.

Go simply, train smart, climb well.

Hayden Kennedy leading a difficult mixed pitch high on Baintha Brakk (The Ogre, 23,901', 7,285m) during the first ascent of the south face. *Photo: Kyle Dempster*

Chapter 1

Training for the New Alpinism

> "What advantages do we hope to gain (from climbing mountains)? Naturally, there is the pleasure we get from the climbing process itself and from our victories, but as well as the delights of exercise in a mountain environment, there is also the process, coming every time as a surprise, of self-discovery, deepening a little further with every climb: who we are, how far we can go, what is our potential, where are the limits of our technique, our strength, our skill, our mountaineering sense: discoveries whose acceptance means that, if necessary, we may turn back and return another time, several times if need be–'Tomorrow is a new day.'"
>
> **— GASTON RÉBUFFAT,** from *The Mont Blanc Massif: The Hundred Finest Routes*

Most of what climbers describe as training today happens as a substitute for climbing. You can climb because you're far from the mountains, so you train; common examples include the lunchtim run or an after-work visit to the climbing gym. As soon as alpinists have time and access t mountains, they stop training because they can go climbing instead. This is the wrong approach if yo want to progress your climbing, and has contributed to the dead-end standards of alpine climbing.

Standards in rock climbing have skyrocketed since 1978, from 5.13 to 5.15. It's no coincidenc that during this same period we've seen the emergence of climbing gyms and youth competition Today standards in alpinism languish. Steve attempted an unclimbed line on the west face of Maka three times between 2008 and 2011, and was unable to match the high point established by Voyte Kurtyka and Alex MacIntyre in 1982. New routes established in alpine style on 8,000-meter peal with sustained technical difficulties are so rare that, by our accounting, this has been accomplishe only five times in history (1984 by Nil Bohigas and Enric Lucas on Annapurna, 1991 by Marko Preze and Andrej Štremfelj on Kanchenjunga South, 2005 by Vince Anderson and Steve House on Nang Parbat, 2009 by Boris Dedeshko and Denis Urubko on Cho Oyu, and 2013 by Ueli Steck o Annapurna).

Structured coaching in competitive sports, and recently in sport climbing and bouldering, help athletes learn how to train. This is not a part of alpine climbing's culture. Alpinists climb. We hav been brought up to believe that to get stronger we must simply climb a lot. And with climbing, fitne will follow.

If you aspire to climb difficult routes on Patagonian spires and you have only been rock climbi for a short time, then you are best advised to spend a majority of your time climbing granite cracks- and do so as much as possible. No book can teach you how to lead a runout pitch. No story can sho you how to bivouac. You can read a thousand accounts of leading a steep, difficult hand crack fa above the Patagonian ice cap, but that will bring you no closer to actually doing it.

The fact is that you will gain the strength and endurance to climb a hard pitch much, much mo quickly with a training regime plus climbing than by climbing alone. After learning the physiolog explained in the early chapters of this book, you will also understand that the majority of yo climbing is best done below your top limit. This is for endurance, as well as technique, an psychological progress. This knowledge will help you gain the strength and endurance, and from th strength and endurance the disciplined mind and the correct technique will flow more easily.

One of the fundamental concepts of training for any sport is that event (climbing) specific trainin

must come on top of a very well-established base of conditioning. We acknowledge that climbing, ar particularly alpine climbing, is a very highly skill-dependent sport requiring a broad range knowledge, experience, and ability. It is exactly this need for climbing skill that tends to pus alpinists (and all climbers) to "just climb" for training.

Consider that in the sport of running, the explosive power of a 100-meter sprinter and the dogge endurance of the ultra-marathoner are both running; yet the two are vastly different events. Th surprise to many is that training for both of these events starts with the same general strength an conditioning to enhance basic physical qualities. As the 100-meter runner and the ultra-marathon progress through their training plan, and through their careers, each will benefit from more and mo specific training. This means that each will spend more and more time running distances and pac closer and closer to what they hope to achieve during their race. They know that the higher their lev of basic fitness at the time they commence their event-specific training, the higher their performanc will peak in their ultimate event.

For conventional endurance sports, such as running, the event-specific training makes up a small percentage of the total volume of training than you might imagine, both on an annual basis as well during a lifetime. Depending on the development stage and the nature of the goals, specific trainin (meaning running a distance and pace approaching race distance and pace) can range from less than 1 percent of total training volume for young people and beginners up to a maximum of about 30 perce for world-class athletes.

Athletes commonly lose sight of the distinction between supportive basic training and the even specific training and begin to overemphasize more event-specific training. The event-specific trainin and actual performances are the sexy stuff that makes impressive YouTube videos and excitin headlines that create the urban myths surrounding champions. Is there an alpinist who has not bee inspired by the video of Ueli Steck soloing the 1938 Route on the north face of the Eiger in two hou and forty-eight minutes? One would have to be soulless not to feel motivated while watching the vide of David Rudisha crushing his competition in the 800-meter Olympic final in the 2012 Londo Olympics as he set (yet) another world record. What you do not see as you watch these maste perform at the peak fitness of their lives are the countless hours of basic, non-event-specifi supportive training that went into their record breaking.

To shed more light on how conventional sport can inform training for climbing, we'll use som analogies. Take the sport of cross-country ski racing, which Scott has an extensive background in both an athlete and a coach at the World Cup level. These events demand that the athletes be able sustain power levels between 95 percent up to 120 percent of their VO_2 max for durations of up several minutes at a time on gently rolling terrain to long, steep uphills. Then they need to recov quickly during the fast and often technically demanding downhill sections so that they can repeat th maximal efforts again many times over during a race lasting up to, or a little over, two hour Technique is critical to success due to the large contribution economy of movement plays determining speed. For the best skiers in this sport, approximately 80 percent of training volume made up of non-event-specific training in such a way that the event (a ski race in this case) is broke down into its component parts and the training is focused on improving the athlete's abilities specif to those components. We can and will teach you how to apply this with climbing. In cross-country sk racing these components can be represented by strength and power training, various intensities an modes of aerobic base conditioning, technique drills, etc. Only 20 percent of their overall year volume is spent doing training that specifically models the demands of an actual race.

The long duration of Nordic ski races and the full-body nature of this sport are physiologically similar to climbing long technical routes. *Photo: Ian Harvey*

For the climber training for the Disappointment Cleaver Route on Mount Rainier the training wi be fairly simple since the principal quality required for that event is aerobic endurance and techniqu is not a major factor. The non-climbing-specific work will include strength training but will main consist of hiking and running in the mountains. As the training progresses, it will include climbs nontechnical peaks with snow or glaciers. It is easy to see how the nonspecific training of hiking u and down hills lends support to the more demanding Mount Rainier climb.

This translation to climbing becomes more complicated when the event becomes a technical alpi route, possibly at altitude. Start to think like a coach and it should quickly become apparent that t basic supportive training will encompass all of the Rainier climber's training with the addition technically demanding routes of various lengths and difficulties that challenge several of the physic and mental qualities needed to succeed at the main goal. To extend the analogy, you wouldn't train c climbs that encompass all aspects of your goal, but rather component parts. It can happen that some these nonspecific training climbs may be admirable accomplishments in their own right. Just as conventional athlete racks up an impressive résumé of jaw-droppingly difficult workouts and ra wins on his way to setting a world record or winning an Olympic gold medal.

One challenge for the alpinist with lofty goals is coming up with event-specific training. In oth words, finding routes that combine components of the traits needed on the goal route. Alpinism h traditionally given lip service to this notion without fully understanding the context within which

fits. Climbers in North America have progressed from their home range to the Canadian Rockies t
the Alps with perhaps a stint in the Alaska Range thrown in before heading to the Himalaya. Gasto
Rébuffat in fact gave a step-by-step guide to this progressive approach in 1973 when he published *Th*
Mont Blanc Massif: The Hundred Finest Routes, which leads aspiring alpinists one step at a tim
through a progression of the skill-acquisition aspect of becoming an alpinist. But the message was n
fully conveyed in terms of how this progression fits into the big picture of physically and mental
training for alpinism.

Steve has used the approach we advocate in this book by spending a prodigious amount of time d
basic, supportive, non-event-specific training. He has then successfully built upon that wi
progressively more event-specific training on more and more demanding alpine routes. At the eli
level it will be necessary to travel far and wide and plan long and hard to find appropriate even
specific training climbs.