Big Wall Systems: Aid, Free, and Rigging Techniques for Multi-Day Climbs

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Introduction

Big wall climbing compresses the complexity of expedition travel into a vertical corridor. The moment you leave the ground with enough food, water, and equipment for multiple days, your world becomes defined by anchors, ropes, and the small island of safety you build and rebuild at every stance. This book is a technical manual for those who aspire to operate confidently in that environment—not by memorizing tricks in isolation, but by understanding systems that remain reliable when conditions, fatigue, and uncertainty press hardest.

Our focus is practical and systems-driven. We examine how hauling, anchor building, and bivouac setups interlock with water, fuel, and waste management to create an efficient, safer whole. Rather than promising a single “right way,” we present tools for making informed choices: when to add redundancy, when to simplify, and how to trade speed for margin—or margin for speed—without losing sight of acceptable risk. You will see how small improvements in rope handling, docking discipline, and camp craft cascade into major gains in energy and time, especially as weather or route difficulty compounds.

Because big walls are lived as much as they are climbed, we pay particular attention to life support. Water strategy, stove use, and sleep systems are not afterthoughts; they are performance variables. Dehydration erodes decision quality long before it slows your movement. Poor camp organization frays team cohesion. Throughout, we frame these fundamentals in the context of long, committing routes where resupply is unrealistic and retreat may be complex.

Aid and free techniques are included side by side, not as competing philosophies but as complementary toolsets. On many modern walls, teams flow between styles: freeing when it is efficient and secure, aiding when it preserves energy, avoids unnecessary falls, or respects fragile rock. We discuss equipment choices and movement strategies at a conceptual level so that you can adapt to the rock in front of you rather than force a preconceived plan onto it.

Real expedition examples appear throughout the book to make logistics and risk trade-offs concrete. These case studies highlight how experienced teams anticipate bottlenecks at traverses, stage water to defuse critical path risks, and restructure plans when storms, injuries, or miscalculations intervene. They are not templates to copy but lenses for analyzing your own objectives, your partnership, and the environment you are stepping into.

Finally, a word on scope and responsibility. Big wall climbing is inherently hazardous.

No book can substitute for hands-on instruction, mentorship, and progressive practice in controlled settings. Treat the chapters that follow as a framework for learning: test methods in low-consequence contexts, verify systems with peers, and adjust for your objectives, equipment, and local regulations. With disciplined preparation, clear communication, and respect for the stone and those who share it, big wall systems become more than a checklist—they become the quiet confidence that lets you focus on the climb itself.

CHAPTER ONE: Big Wall Climbing Overview and Systems Thinking

Big wall climbing stands as a unique and demanding discipline within the broader world of rock climbing. It's more than just a long climb; it's an expedition compressed onto a vertical plane, requiring a blend of technical prowess, logistical foresight, and mental fortitude. Unlike a single-pitch sport climb or even a multi-pitch route that can be completed in a day, big wall ascents demand an overnight stay on the face, often for several days or even weeks. This extended commitment transforms the endeavor from a mere athletic pursuit into a test of self-sufficiency in an exposed, challenging environment.

The sheer scale of a big wall is one of its defining characteristics. While there's no universally agreed-upon minimum height, routes typically involve at least 6-10 pitches, or roughly 300 to 500 meters (about 984 to 1,640 feet) of vertical gain. However, the true essence of a big wall lies not just in its height, but in its sustained verticality and the continuous exposure it presents. Climbers often remain suspended from the rock face, with limited opportunities to sit or escape, making descent a complex and risky undertaking in itself. This necessitates an entirely different approach to climbing, one that prioritizes systems and efficiency over raw speed.

Historically, big wall climbing emerged from the Dolomites in the 1930s, with pioneers like Emilio Comici developing many of the early techniques and tools. The discipline then spread throughout the European Alps, with significant ascents by climbers such as Riccardo Cassin and Walter Bonatti, whose 1955 solo ascent of the Petit Dru marked a milestone in big wall history. American climbers, led by Royal Robbins in the 1960s, further developed Yosemite Valley into a world-renowned big wall climbing venue. The first ascent of The Nose on El Capitan in 1958 by Warren Harding's team, though controversial for its extensive use of aid, brought worldwide recognition to big wall climbing. Robbins, advocating for a style that minimized aid, further cemented Yosemite's granite walls, particularly El Capitan, as the spiritual home of big wall climbing with ascents like the Salathé Wall, North American Wall, and Muir Wall.

The techniques employed on big walls are a blend of aid climbing and free climbing. Aid climbing, the original big wall technique, involves placing gear (such as cams, nuts, hooks, pitons, or bolts) and using it to make upward progress, rather than relying solely on hand and foot holds. This is often necessary on sections of a route where free climbing would be exceedingly difficult or impossible for the team. Free climbing, conversely, involves using only the natural rock features for ascent, with ropes and gear used strictly for protection in case of a fall. Modern big wall climbing often sees

teams fluidly transitioning between these styles, choosing the most efficient and secure method for the terrain at hand.

A core distinction of big wall climbing is the self-contained nature of the expedition. Climbers must carry all their food, water, and equipment, which is typically stored in haul bags and pulled up the face as they ascend. This also means packing out all waste, including human waste, to adhere to Leave No Trace principles and prevent environmental degradation on popular routes. The need to manage these supplies, coupled with the requirement for multi-day stays, introduces specialized equipment like portaledges – deployable hanging tent systems that provide a secure and relatively comfortable place to rest and sleep on the vertical face.

The "systems thinking" aspect of big wall climbing is paramount. It's not enough to be proficient at individual climbing techniques; success hinges on how seamlessly these techniques integrate with hauling systems, anchor building, bivouac setups, and the management of all life support necessities. Every component, from a well-organized belay station to an efficient hauling mécanique, contributes to the overall speed, safety, and psychological well-being of the team. A weak link in any part of the system can have cascading effects, leading to delays, increased fatigue, or even dangerous situations.

Consider, for example, the seemingly simple act of setting up a belay. On a big wall, this involves not just securing oneself to the rock, but also preparing for the arrival of a partner and the haul bag, setting up a hauling system, and potentially preparing the bivouac for the night. This complex interplay of tasks requires foresight and a deep understanding of how each action impacts the next. Efficiency in these transitions can save hours over the course of a multi-day ascent, conserving valuable energy and maintaining morale.

The mental challenges of big wall climbing are as significant as the physical ones. Prolonged exposure, sleep deprivation, the psychological tolerance for commitment, and the inherent dangers contribute to a demanding mental landscape. Climbers need unwavering concentration and awareness to "keep it together" for extended periods, coupled with forethought and a keen awareness of their environment—including gear, rock quality, weather patterns, and their partner's condition. Commitment to the goal and a willingness to persevere through hardships are also crucial. Effective communication with one's partner is not just polite, but a critical safety and efficiency factor.

The concept of retreat on a big wall is rarely straightforward. Unlike shorter climbs where a quick rappel might suffice, retreating from a significant big wall can be a complex and risky undertaking, sometimes as involved as the ascent itself. This inherent commitment underscores the importance of thorough planning and a robust systems approach. Once you're on the wall, you're often there until you've reached

the summit or a safe, planned descent point.

Big wall climbing encompasses various styles, each with its own nuances and demands. "Siege style," for instance, involves fixing ropes on sections of the wall and repeatedly ascending and descending these lines to ferry gear and work pitches. This was the method used on the first ascent of The Nose, where Warren Harding's team spent 47 days over 17 months, fixing ropes two-thirds of the way up the 3,000-foot wall. More recently, Tommy Caldwell and Kevin Jorgeson employed a siege strategy on the Dawn Wall, dedicating years to freeing the route. While allowing for more rest and the ability to work cruxes repeatedly, it requires a lot of rope and can be a significant undertaking in itself.

In contrast, "alpine style" involves leaving the ground and climbing continuously to the summit without fixing ropes in advance. This "one-push" approach is generally considered the "gold standard" and demands a higher level of efficiency and self-reliance. Royal Robbins and his team famously embraced this style on the North American Wall in 1964, completing the ascent in nine continuous days. Each style presents its own set of advantages and disadvantages, influencing gear choices, logistical planning, and the overall experience on the wall.

Ultimately, big wall climbing is about engaging with a unique vertical world. It's about solving intricate puzzles presented by the rock, managing personal and team resources, and embracing a sustained state of exposure. The quiet confidence gained from mastering these interlocking systems allows climbers to fully immerse themselves in the experience, focusing on the dance with the rock rather than being overwhelmed by logistical chaos. This book aims to provide the foundational knowledge and systematic thinking necessary to approach these magnificent walls with that very confidence.

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