Sophie Cuenot - Hervé Bodeau

From the deep: the Petzl adventure

Éditions Guérin

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Cover photo:
Gouffre Berger cave, in the Treize room. At –500 meters, humor still has its place. © Joseph Berger

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This story is based on research, eyewitness accounts, and personal experiences, but is not a complete history. We could have spoken with many other people, given the depth of the Petzl story. We hope that everyone who is or was at one point part of the Petzl adventure will see their contribution in these pages. This book is dedicated to them.

Sophie Cuenot and Hervé Bodeau

FOREWORD | Paul Petzl

The Petzl adventure started almost four decades ago, and I can tell its history interests people. I've seen that the founders, the environment in which the company works and thrives, its products, the fact that it's family-owned, its growth and success are all things that pique people's curiosity. The amount of interest surrounding all of this sometimes leaves me speechless; I often get questions on the matter. On more than one occasion, I've been asked to put Petzl's story in writing. Why bother? What good is looking backward? For whom would we even be writing? When everything moves so fast and things need to get done, when there are men and women counting on you, what a seemingly colossal waste of time!

Over time, through both successes and challenges, I have come to understand that the company's past, the path it has taken, and the story of those who first imagined what it could accomplish, are not simply antiquated musings but one of Petzl's major strengths. Our history is also what made me the person I am today, and it continues to be a source of inspiration for my vision of the present and the future. As the years go by, the intrinsic value of this story has become self-evident.

I have not been alone, and the talent of all those who work with me, our opportunities, choices, and often luck, are all an integral part of our history. Looking back, I can clearly see that my father Fernand Petzl's single-minded passion for caving played a fundamental and decisive role in the inception of our products – products used for moving across and for lighting up the vertical environment. Beyond caving's unique mindset are the technical methods that lie at the heart of our approach. The passion for exploration, the need to be both efficient and safe, the demands of confronting the darkness as well as all things vertical, the taste for innovation and for coming up with unique solutions, the collective aspect of our work… all have allowed us, in activities that go far beyond caving, to improve on the few existing tools, and more importantly, to invent new ones to make these

activities much more accessible. There, underground, in the yet-to-be discovered darkness, lies Petzl's DNA, the solid foundation of bedrock values that our entire cast of colleagues share.

Our most enthusiastic clients often surprise me by thanking us for having created these tools for their passion – be they cavers, climbers, mountaineers, search and rescue or work-at-height professionals. Trust is the greatest gift they can give us; they have continued to place trust in us even during those periods when we made mistakes, or failed to keep our promise to provide them with the very best. What a tremendous responsibility! Our wholly independent, one-of-a-kind, family-run company, focused on verticality and lighting, has become an international industrial enterprise. For my part, I learn a breathtaking amount from the field every day. I learn how a business is able to grow, how to foster creativity and generate new ideas, how and why people work together striving to achieve such stunning success.

From Crolles to Salt Lake City, by way of Isère, Savoy, and Malaysia, the Petzl adventure is a shared story. It is also the story of our distributors, who have stuck with us for years. To everyone involved, I would like to pay a heartfelt tribute and express my sincere gratitude. I wanted this book to be written for those who believe in humankind and in the idea that an innovative business can be dedicated to its employees as well as its mission. It passes on some of our history and common experience. Forty years have passed in the blink of an eye, and I remain in awe of the Petzl team's energy, their collective expertise and talent, and their future potential. Long live tomorrow!

Paul Petzl

The day was May 9, 1989. As I hiked the fifteen-minute walk up the trail to the cliff, I was thinking about my life and how smoothly it seemed to be running. I was 28 years old, an American traveling in France with my husband of seven months, earning a living as a professional rock climber. I only had to turn my head to see the brand-new-car – a compact metallic blue Ford – that I had just won in a climbing competition in Munich, Germany the week before. It seemed incredible, strange, even a little perverse, that I could win cars, gain sponsorship, and be touted as a star in magazines and on T.V. for rock climbing – a sport that remained a complete mystery to most people. To be making a living at something that I found so personally gratifying felt too good to be true. But sometimes our situation in life can change unexpectedly in a flash, as it did that day.

The climbers in the valley described a "blood-curdling scream" that echoed off the walls. Even Pierre, the Mayor of Buoux, who was sitting in his library a half-mile away, heard my cry. Looking toward the source of the scream, climbers on neighboring routes saw a figure free falling 72 feet, which I covered in less than 2 seconds! I had made the ultimate pilot error: I forgot to finish tying my knot! A series of factors contributed to this near-fatal mistake: I was distracted talking to someone while tying my rope into my harness, my jacket was hiding my harness (and my untied rope), and I was climbing on top-rope, which allowed my rope to stay looped through my harness without falling out as I climbed upward. I was supremely lucky to have survived this fall and to have come away relatively unscathed, save for a dislocated elbow, a punctured pectoral muscle, and a very sore butt! But being injured and having almost lost my life during a moment of absent-mindedness inspired me to reflect about the essential meaning of life and my passion for climbing.

I realized that life is precious and that I should follow my heart when it comes to choices that influence my quality of life. I was at a crossroads, and I had to make some difficult choices about which path to take. Spending increasing amounts of time in France, I indulged in the simple pleasures of life, including the delicious meals, cheeses, wines, and of course, the climbing on the abundance of amazing limestone cliffs that are ubiquitous in France. I was having a great time climbing and hanging out with a cool community of people, as well as learning as much as possible about the French culture and language.

My first introduction to friends and colleagues at Petzl had taken place a few years prior at a competition in Troubat, France in 1986. I felt honored to be given a new bright-colored lightweight harness! I had never seen one that had a padded waistbelt and leg loops, and I was grateful to be one of the few Americans to have this avant-garde harness. The following year, in 1987, I signed my first sponsorship contract with Petzl - but only for the European market. The more time I spent living in France, the more I wanted to stay and continue the learning process. So I took a leap of faith and moved to the Provence region of Southern France. Shortly thereafter, in 1991, I made the decision to sign a worldwide contract with Petzl since I identified with the core values of the company, the high quality of their products, their commitment to safety, as well as with the people who helped define those values.

My relationship with the company has evolved over the years, as the equipment has become more advanced and the technological capability has increased. Ever since Fernand Petzl began making specialized caving equipment and headlamps for himself and his friends, Petzl has continued to create state-of-the-art products that are safe, durable, multi-purpose, lightweight, and simple to use. As the climbing industry has grown and diversified over the years, Petzl has continued to create innovative products using the latest technologies and materials. I've witnessed the development of many new cutting-edge testing, educational and production facilities, such as the V.axess institute, the Eybens and Quatuor facilities, as well as the continued support of many climbing and community events such as the annual Petzl Roctrip event. These efforts have contributed immensely to the culture and the development of the international climbing community, in addition to having enhanced the efficiency of many other activities that take place in the dark hours of the night, such as caving, high-work, trail running.

Ultimately, my underlying motivation for working with Petzl has to do with the culture and humanity of the people. I feel connected to a kind of extended family consisting of many sincere and dedicated people. It's always a pleasure to cross paths with my colleagues from Petzl at their headquarters in France, at trade shows, dinner parties, film festivals, and on climbing adventures at the annual Roctrip event. Over the years that I've been working with Petzl, I've not only witnessed the evolution of a company, but I've watched the children of my colleagues grow up, new families form, and a whole new generation of climbers discover the joy of climbing.

I feel fortunate to have maintained my relationship with Petzl over the past twenty-five years.

Lynn Hill

PROLOGUE

The Dent de Crolles.

The sound of a pounding hammer breaks the silence on this gray and gloomy morning at the foot of the Dent de Crolles. Like a lighthouse on a rocky seaside cliff, the limestone summit that towers over the Grésivaudan Valley, located northeast of the alpine city of Grenoble, is enshrouded by a thick fog. What could these two climbers possibly be doing halfway up the cliff in such awful weather!? What an absurd idea to come climbing here in the middle of December. They blow warm air onto their fingers between each move, yet continue to hammer in piton after piton. The strange thing is, they don't seem to want to reach the top. In the middle of this immense wall, they set up what appears to be a tent. Are they planning to bivouac in the middle of the day? Not at all. Rather, they're setting up a platform. Once it's soundly attached to the rock, the taller of the two men stands up, very carefully at first and then hops from one foot to the other with excitement! After dancing around a bit, he settles down and pats his partner on the shoulder as if to congratulate him. Within a few minutes, the two men break down the platform before heading down to terra firma.

Jean-Paul Paris, aka "Paname" (a French nickname for the city of Paris), can now head back to Lyon with one less thing to worry about. Problem solved. There are many other elements to fine-tune, but this was one of the most difficult: make a portable platform large and sturdy enough to set up a small tent and withstand fierce Himalayan winds. Robert Paragot, who placed him in charge of gathering the necessary equipment to climb Makalu's West Pillar, had clearly explained the issue just a few weeks prior.

Jean-Paul Paris and Robert Paragot.

– "Paname, we have a problem."

– "What's the matter, boss? Did someone on the expedition get hurt?"

– "Don't talk about accidents. No, I just spoke with a priest who was part of Franco's expedition in '55."

– "There was a priest on the expedition?"

– "Yes, well no… This priest was an experienced geographer who wanted to take advantage of the expedition to map Makalu. I usually have trouble believing what priests have to say, but in this case I trust him: we won't be able to establish any camps on the upper third of the Pillar; it's too steep!"

– "Then we'll need to bivy."

– "Out of the question! I don't want any of my guys freezing to death like an idiot at 8,000 meters, proclaimed the man whose companions all had a body part amputated following the first ascent of Aconcagua's South Face in 1954."

– "But how else can we do it?"

– "We'll need to find some way to hang our tents on the ridgeline… You're going to get platforms made for us!"

Jean-Paul expressed his reservations about this rather original idea – the "portaledge" would not be invented for another ten years – but the expedition leader trotted out his favorite expression, a mix of pride and sarcasm, "Nothing is too good for a national expedition!»

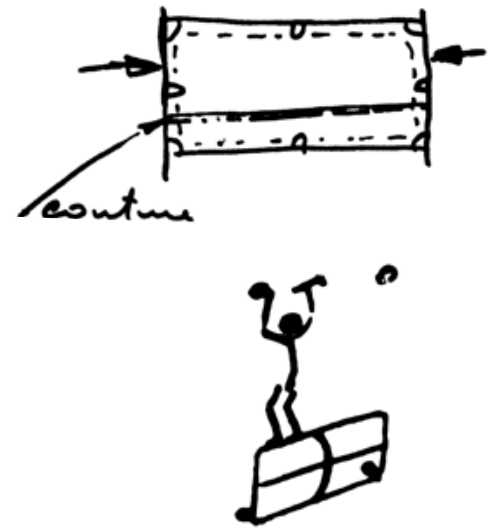
In early November 1970, Jean-Paul Paris hit the road for Saint-Ismier, a small town near Grenoble. With four months remaining until the expedition left for Nepal, he drove back and forth across France to deal with the most well-known equipment manufacturers: Simond and Charlet Moser for their mountaineering gear, Pontvert for their boots, Moncler for their jackets and sleeping bags, Millet for their backpacks, and of course Suchard for their supply of chocolate… His shopping list included a set of ladders he had ordered from a certain Fernand Petzl. "A true handyman; perhaps he could make us the platform we need," Robert Paragot ended up suggesting to his young and somewhat distressed assistant. An artisan who set up shop right near Grenoble, Fernand Petzl made a name for himself fifteen years beforehand when

he led an international expedition to explore the Gouffre Berger cave; at 1,000 meters in depth, it was the deepest cave ever to be explored at the time. Ironically, they would need the talents of a caver in order to reach… the lofty altitude of 8,463 meters. A stretch to say the least!

The first meeting took place in a bar. A very charming, older gentleman introduced himself to Jean-Paul. The young, rather boisterous, engineer had trouble telling what the somewhat reserved artisan thought about his plan. It was clear that the high mountains were not what he knew best. In caving, you can always find a small alcove in which to rest before descending or ascending a new shaft. No caver would ever think of spending the night suspended above the void!

Two weeks later, a large envelope arrived at Jean-Paul's INSA office in Lyon, the engineering school where he had also met Yannick Seigneur, a key member of the upcoming expedition. Inside was a six-page document with detailed sketches. The rather simple platform would consist of red nylon fabric coated with PVC – a material used to make waterproof caving oversuits – as well as multiple tubes that fit together to make the platform frame. Nothing was left to chance: seam direction selected to minimize elasticity, the size of even the most insignificant hole carefully calculated, the shape of each rivet scrutinized. Fernand Petzl proposed interconnecting all parts with cords in order to avoid dropping something while setting up the platform. The document looked to have taken days to put together, but the bill was more than reasonable: 730 French francs per platform, for a total order of four platforms.

After the conclusive test conducted by Jean-Paul Paris and Fernand Petzl that cold day on the Dent de Crolles, the platforms took off for Makalu base camp where they stayed for the entire expedition! A helicopter reconnaissance flight of the West Pillar revealed many potential high-altitude camps. The Sherpas were relieved to learn that the climbers would not need the hefty 15-kilo platforms. On May 19, 1971, Yannick Seigneur and Bernard Mellet reached the summit.



Fernand Petzl's sketches for the Makalu bivouac platforms.

Chapter I

Destination – 1,000

Fernand Petzl climbing down a ladder in the Gouffre Berger cave's Garby shaft.

At the foot of the Chartreuse Mountains, Fernand Petzl and his sons have little time to follow the Himalayan adventures of their mountaineering clients. They receive unique and unusual orders almost on a daily basis. Though not the boastful type, the nearly 60-year-old Fernand allows himself some satisfaction for successfully setting up his own craftsman's workshop. At this point, his profession, and his passion – caving – have come together and appear to promise a bright future for him and his family.

The future is where Fernand focuses all his efforts. The Petzls don't really like looking back. Moving forward is what matters, no matter what the cost. Yet remembering one's past is important since all progress is built upon the foundation of previous accomplishments. Step by step, the sum of each small breakthrough slowly creates a solid base from which to move forward. Aspirations, over time, become values that drive inspiration.

The first bricks in the foundation of the Petzl adventure were laid at the beginning of the 20th century, through the sheer determination of a young 21-year-old man. Émile Rombauer wanted to become an engineer. He mentioned it repeatedly to his father, a metalworker at the well-known foundry in Resita, a once-small industrial town in the Austro-Hungarian Empire and now a large city in Eastern Romania. But his father didn't want to hear about his son's professional ambitions. Émile had already studied for years in Vienna and now it was time to get to work; there was already a job waiting for him at the rubber goods factory in Resita.

The city of Resita, Romania, in 1969.

Émile Petzl, born Rombauer, in 1969.

"If that's how it's going to be, I'm leaving! " One fateful day in 1902, the young Émile hopped on a train headed for France, a land of human rights. And if France wanted nothing to do with him? Then he would continue on all the way to the United States of America, the other land of the free. The language barrier didn't scare him; in his homeland, he spoke German, Romanian at school, and Hungarian with his friends. To learn French, he would force himself to learn ten new words per day.

Perhaps he was busy working on his vocabulary when the train, after crossing Austria-Hungary, Germany, as well as Alsace and Lorraine, stopped near the French border in Lons-le-Saunier. A border patrol officer tapped his shoulder and asked for his papers. Émile, who did not have a passport, quickly understood that he might be forced to return to Resita, defeated before he could even get started. He tried explaining, objecting, and insisting, to such an extent that the border agents brought him back to the police station and offered him a deal of sorts: if Émile wanted French citizenship, he could opt to join the Foreign Legion. After five years of service, he could apply for citizenship. Émile did not hesitate long.

But before providing Émile with the Legion's well-known white kepi, the army did a little background check and found something surprising. His father had never officially recognized Émile as his son, so he was not allowed to enlist under the name Rombauer. For the young immigrant who had left home on a whim, this was another shock. Long-repressed memories came flooding back, including the long trip across the Danube River on the boat that took him far from his mother. Émile was the son of Françoise Petzl, a young landlady from Budapest who apparently provided more than just lodging to Émile's father when he lived in Budapest for a few months. As Émile would later explain in his memoirs, written in perfect French, "It was reckless of me to enter the world as an illegitimate child." In spite of these somewhat awkward circumstances, his father's family wanted to save the child from a life of misery, and took custody of Émile when he was three years old. Raised by his grandmother and aunt, 400 kilometers away from Budapest, Émile suddenly understood why he was always treated differently from

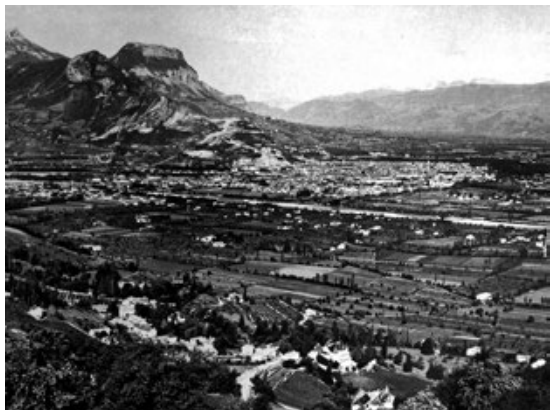
his six half-brothers and sisters. But since it was too late to dwell on the past, he chose, per the army's recommendation, to adopt his mother's Austrian last name: Petzl. Enlisted in the Legion on April 13, 1902, the young traveler had no time to visit France. He was immediately shipped off with the First Foreign Regiment to occupy the agricultural region of Sidi Bel Abbès, in Algeria, and build bridges and roads in the area. This long mission would indeed earn him French citizenship – as well as the rank of colonel – but it also hardened him. His dream of becoming an engineer had all but evaporated. Having fulfilled his military obligations in 1907, Émile stayed for a short time with a friend in Paris, where he worked for a company that made scientific instruments.

A chance meeting, or rather a view, lifted his spirits considerably. Every day from his room he could see, on the other side of the street, the pretty young housekeeper of a local bourgeois family. The "hello" sign that he placed in his window in the morning, and that he flipped over in the evening to wish her goodnight, eventually ended up winning over the young Louise Diot. They celebrated their wedding in the capital on November 21, 1908. Three years later, Edmond was born, and the family decided to move to the town of Fourchambault, in the Nièvre region of Burgundy, close to where Louise had grown up. The area had many factories, and Émile quickly found work as a supervisor with a woodworking machine manufacturer. One year later, after his second son Fernand was born, World War I began.

Called back to duty, the former Legionnaire found himself once again in the familiar terrain of North Africa. He was placed in charge of a disciplinary battalion in the southern Tunisian town of Tataouine, with former prisoners, nicknamed the "Joyous Ones", under his command. They were undisciplined and difficult to lead, to say the least. Émile would later tell the story of how his men would steal his postcards and take cruel pleasure in writing them out for him. A fierce glare from from the men would usually put to rest any inclination to file a complaint… Luckily, Émile's former boss in Fourchambault called him back to work as a supervisor when the factory was requisitioned by the French government to manufacture ammunition.

Louise Petzl, born Diot.

Fernand Petzl.



Grenoble and the Grésivaudan Valley.

Workers leaving the Merlin Gerin factory in Grenoble in 1925.

Once these dark years had passed, Émile had a hard time being satisfied with his job at the factory. Now in his thirties, Émile dreamed of independence and starting his own "venture." Thus began a long journey for the Petzl family, which now had a third boy, Charles, born in 1916. They moved frequently. In Bourg-les-Valence, Émile was manager at a shoe store, while Louise ran a men's clothing store. Two years later, they were working in another shoe store in Lyon, but business wasn't great. The family moved back to the Drôme region, this time in Romans where, after working at a few factories, Émile tried his hand at selling jointless hardwood flooring, a new technology that did not succeed as expected. Émile came up with other inventions over the years that saw little or no commercial success, such as a device to keep boiling milk from overflowing out of the pot.

Émile had yet to find his life's work. In 1926 he made a fateful decision for his family's future by setting up business in Lancey, a town near Grenoble. The Petzls would now establish roots in the Grésivaudan Valley, situated between the Chartreuse and Belledonne Mountains. This time around, the goal was to manage a Casino grocery store, a chain of stores that had been growing steadily since the beginning of the century. Unfortunately, the store went bankrupt after a year and the inability to collect unpaid bills from clients placed the family in financial difficulty. To reimburse their own debts, Émile worked for two years in a button factory while Edmond, his eldest son, made wooden toys for Casino. The family was forced to sell its dining room furniture to make ends meet.

In 1930, Émile joined the Grenoble-based company Merlin Gerin, where he would stay for the rest of his career. The electrical equipment manufacturer, founded ten years earlier by Paul-Louis Merlin and Gaston Gerin, gradually became one of the economic pillars of the area. Émile was initially hired as a simple laborer, but quickly learned the intricacies of switches, circuit breakers, and other electronic devices. Through thoughtful study, he often found ways to simplify both devices and their production. He subsequently became a draftsman in the design department and registered many patents over the years. At the end of his

career, after contracting tuberculosis, Émile was bedridden. But "Boss Merlin" continued to employ him, paying frequent visits to enlist his aid in the development of new products.

During the 1930s, Émile revealed considerable talent beyond industrial design. Assisted by his three sons – who were told to put their toys aside – he started building a house in Saint-Ismier, among the vineyards and fruit trees on the southeast-facing slopes of the Chartreuse Mountains. At "Villa Louise", no modern comfort was spared. They employed motorized tools to work the land, whereas the neighbors were still using oxen. Émile also built a huge refrigerator in the middle of the house's main room, with cooling pipes and a compressor. His grandchildren would see it decades later, still working perfectly. Louise maintained the garden and house in impeccable order, including the bathroom with indoor plumbing, a modern amenity that none of the surrounding farms had. There was also the Petzl family car, a Renault 6 CV, the first car anyone in the village had ever owned! As the family continued to focus almost all of its energy on work, the desire to advance and succeed permeated everything they did.

Due to their tough upbringing, the three boys were hard workers and rarely backed down from a challenge. Fernand, the youngest, became an apprentice right after earning his grade school diploma. He crossed the Isère River every day and walked to the mill in Lancey, a roughly fifteen-kilometer round trip. His next job was with Baumler, a craftsman in Grenoble. There he learned how to model and design wood molds for foundries. This time around, he rode to and from work on a bicycle. The days were long and tiring, without any sort of acknowledgment or appreciation…

His brothers Edmond and Charles continued to gain professional experience. Later, the two of them would move abroad, the elder to Canada, the younger to Sub-Saharan Africa. Fernand had no plans to move far away. Around the time he turned 25, he set up his own business as a modeler, right next to where his parents lived, in the town of Saint-Nazaire-les-Eymes. He built his workshop using old poles from the

Fernand Petzl in 1939.

recently closed Grenoble-Chapareillan tramway as beams. After providing forty years of loyal service to the Grésivaudan Valley, the tramway had reached the end of its useful life and was being dismantled.

The workshop was filled with machines – a milling machine, a lathe, a drill, and a welder – as well as a variety of metal plates and pipes. In the middle of the workshop sat his workbench, always covered with various parts. But the disorder could be misleading. Every time a foundry sent him a new order, Fernand went through the same ritual: he would push the mess to one side with a broom handle, then flip the broom over to sweep the dust away. Next, he would get to work. Sitting in front of him was the large drafting board, tilted to 45 degrees, that he had made himself. He would lay out the plans that the engineers had sent, and that he had probably taken the time to simplify. All that remained was to gather his tools, always carefully organized in cleverly designed drawers mounted on ball bearings.

Fernand Petzl in a group of skiers.

Émile Petzl's family. From left to right: Émile, Elizabeth Diot (Louise's mother), Edmond, Louise, Charles, and Fernand.

Always meticulous and focused, Fernand worked from morning till night. The difference between he and his father was that Fernand had something he enjoyed doing, a passion. As an adolescent, he had gone skiing a few times with his friends. It took a fair amount of motivation to hike from Domène, with skis on his shoulder, to the top of the 2,250-meter-high Croix de Chamrousse to ski just one descent! While he was 17 years old, he discovered caving where he immediately felt right at home, while others found it frightening and arduous. At the beginning of the 1930s, with his brother, Edmond, he went caving for the first time in the hillside just above the Petzl home, exploring one of the Dent de Crolles' many caves. From that point on, the Dent de Crolles became Fernand's secret playground where his life would take on another dimension.

The imposing molar-shaped summit on the edge of the Chartreuse Mountains had long attracted those interested in subterranean exploration. Edouard-Alfred Martel, considered the father of modern caving, explored some of the area's caverns in 1899. In 1933, Robert de Joly, then president of the French Caving Society, succeeded in proving that

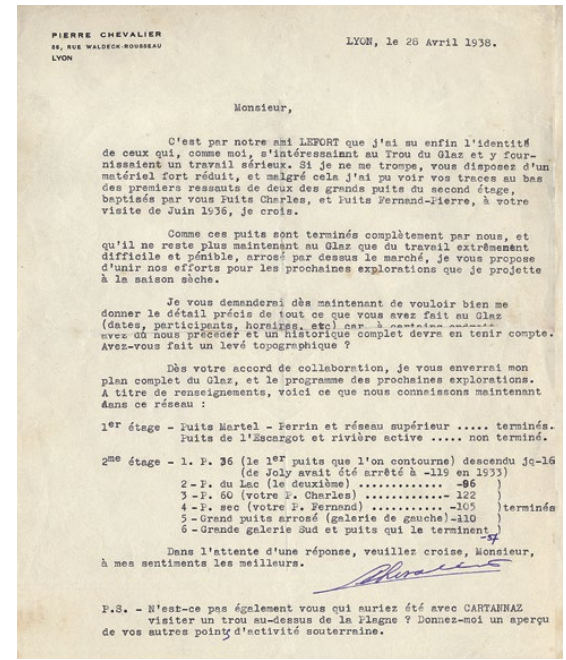
the Trou du Glaz, located at the bottom of the West Face, joined with the Guiers-Mort, a cave that serves as the exit point for a river bearing the same name, some four hundred meters below. Linking these two passages constituted one of the challenges that this fabulous playground offered. Fernand often said that "The Dent de Crolles is so hollow that it could be seaworthy if you plugged all the holes."

Among the pioneers of this period of cave exploration, Pierre Chevalier was one of the most passionate. A chemical engineer in Lyon, he was also a talented mountaineer from the "Groupe de Bleau" (Fontainebleau Gang) that included some of the strongest Parisian climbers. Following in Robert de Joly's footsteps, he hoped to successfully explore the Dent de Crolles with his friends from the Lyon Caving Club. In 1936, he was a bit vexed to discover that others were actively exploring the same area, in particular a certain Fernand, who had written his name in red paint at the top of a vertical shaft: "Puit Fernand". The author apparently had a problem with spelling… But a year later, while passing through the same area, Pierre Chevalier came across the same inscription, this time spelled correctly: "Puits Fernand". Intrigued, he explored the cave in question, discovering many other markings. Who was this mystery man? A the time, the number of people who enjoyed exploring the dark depths could practically be counted on one hand… And why not try to form a partnership, after all? Wouldn't that be much more effective?

After speaking with a few locals, Pierre finally met Fernand, and the two clicked immediately. In his book, *Subterranean Climbers*, Pierre wrote a few lines that capture the long friendship that had just begun between the engineer and the mechanic: "The team gained an additional member who would become my alter ego in conquering the Trou du Glaz […]. Fernand is a very composed young man; underneath a rather serene façade lies a heart of gold and a fierce amount of energy. Like me, he does not feel the need to talk when he has nothing to say, and we would often only exchange a few words during rather long outings. A friendship does not always require words."

Pierre, Fernand, and their friends would spend weekends filled with both routine and the unexpected. During the week, they would

Pierre Chevalier in 1936.



PIERRE CHEVALIER
86, RUE WALDECK-ROUSSEAU
LYON

LYON, le 28 Avril 1938.

Monsieur,

C'est par notre ami LEFORT que j'ai su enfin l'identité de ceux qui, comme moi, s'intéressaient au Trou du Glaz et y fournissaient un travail sérieux. Si je ne me trompe, vous disposez d'un matériel fort réduit, et malgré cela j'ai pu voir vos traces au bas des premiers ressauts de deux des grands puits du second étage, baptisés par vous Puits Charles, et Puits Fernand-Pierre, à votre visite de Juin 1936, je crois.

Comme ces puits sont terminés complètement par nous, et qu'il ne reste plus maintenant au Glaz que du travail extrêmement difficile et pénible, arrosé par dessus le marché, je vous propose d'unir nos efforts pour les prochaines explorations que je projette à la saison sèche.

Je vous demanderai dès maintenant de vouloir bien me donner le détail précis de tout ce que vous avez fait au Glaz (dates, participants, horaires, etc) car à certains endroits avez dû nous précéder et un historique complet devra en tenir compte. Avez-vous fait un levé topographique ?

Dès votre accord de collaboration, je vous enverrai mon plan complet du Glaz, et le programme des prochaines explorations. A titre de renseignements, voici ce que nous connaissons maintenant dans ce réseau :

1er étage - Puits Martel - Perrin et réseau supérieur ..... terminés.
Puits de l'Escargot et rivière active ..... non terminé.

2me étage - 1. P. 36 (le 1er puits que l'on contourne) descendu jq-16 (de Joly avait été arrêté à -119 en 1933)
2 - P. du Lac (le deuxième) ..... -86)
3 - P. 60 (votre P. Charles) ..... - 122)
4 - P. sec (votre P. Fernand) ..... -105) terminés
5 - Grand puits arrosé (galerie de gauche)-110)
6 - Grande galerie Sud et puits qui le terminent)

Dans l'attente d'une réponse, veuillez croire, Monsieur, à mes sentiments les meilleurs.

P.S. - N'est-ce pas également vous qui auriez été avec CARTANNAZ visiter un trou au-dessus de la Plagne ? Donnez-moi un aperçu de vos autres points d'activité souterraine.

The first letter between Pierre Chevalier and Fernand Petzl.

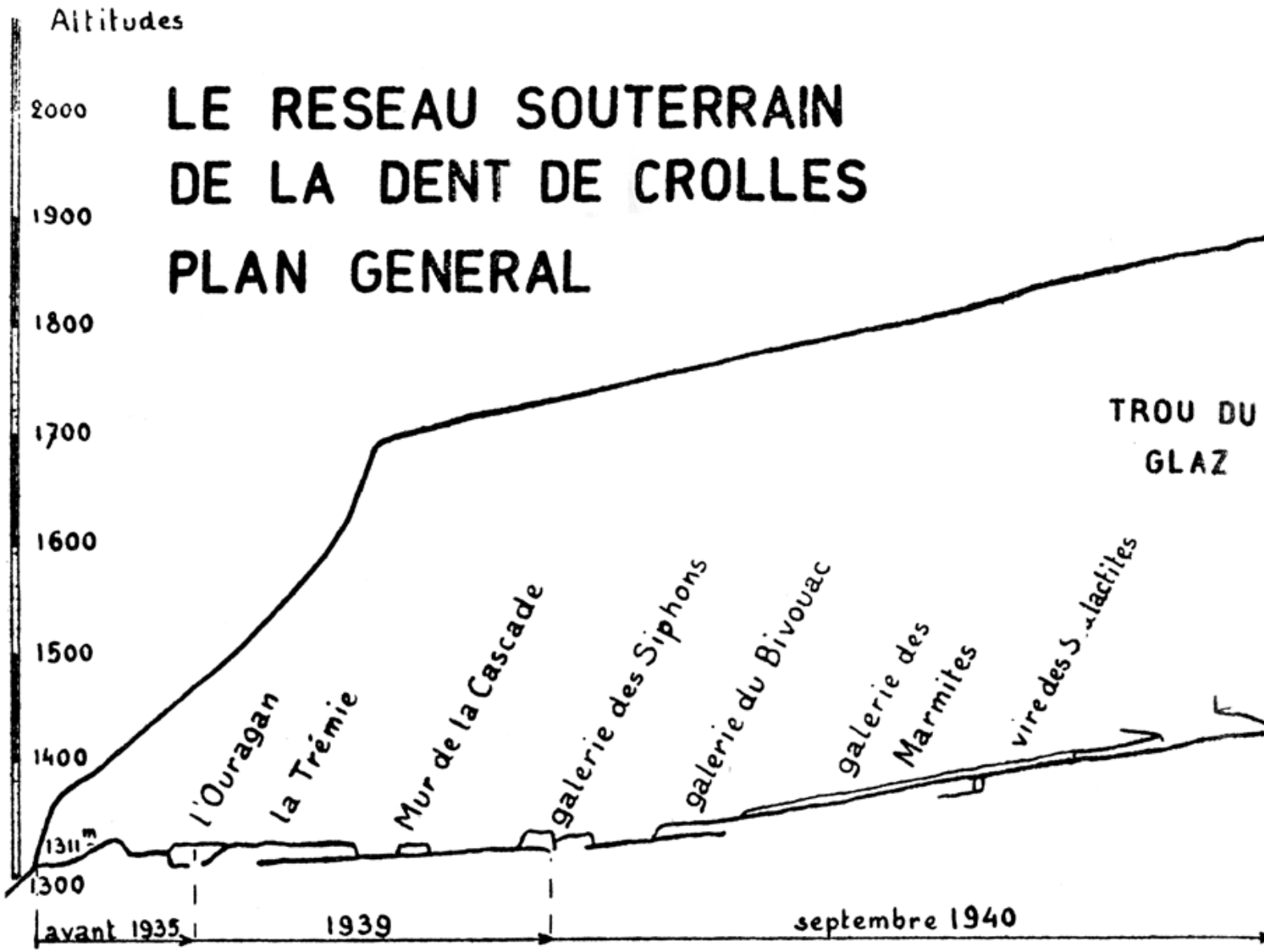
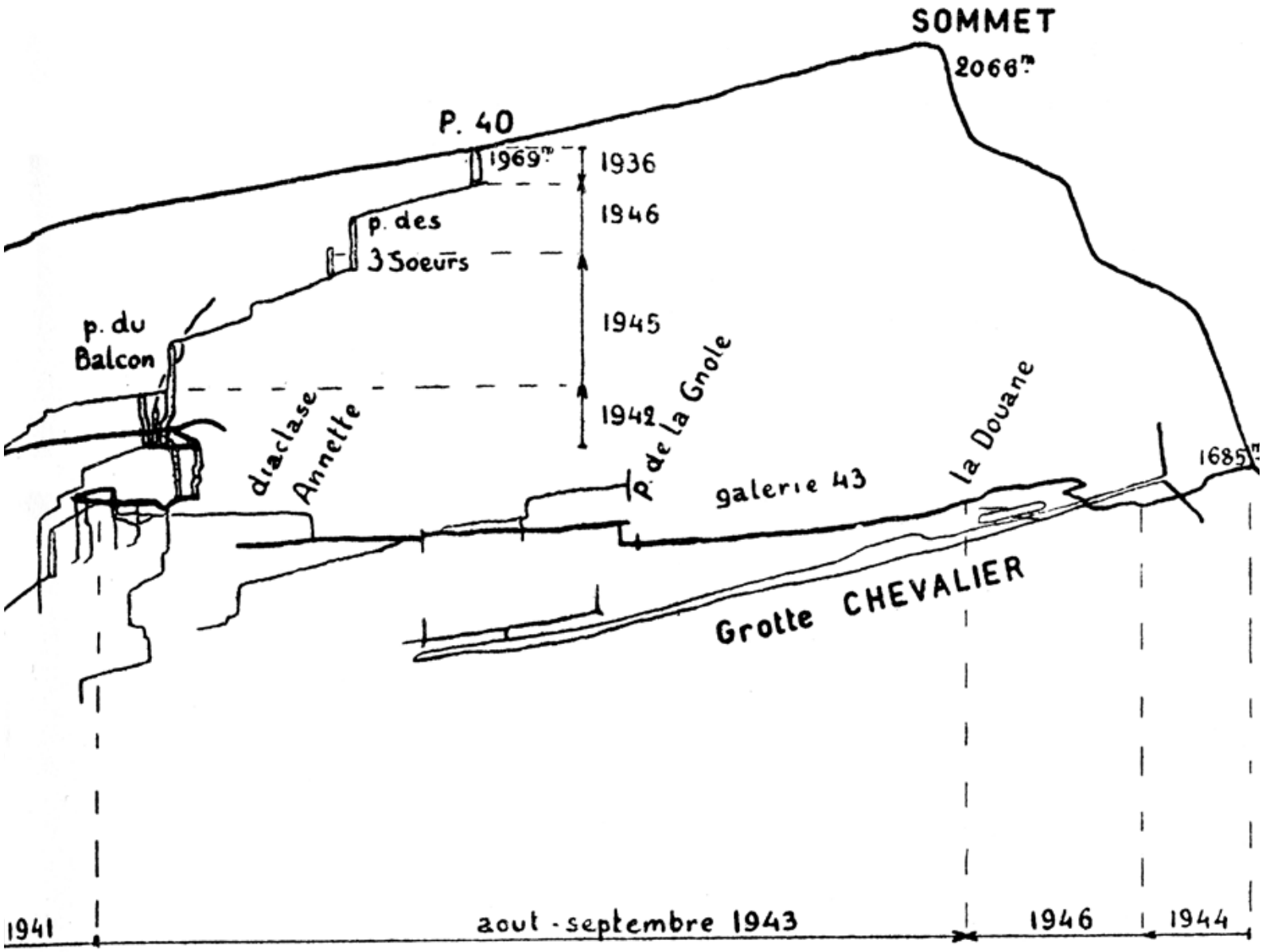


Diagram of their progress in the Dent de Crolles underground network published in Pierre Chevalier's book Escalades souterraines *(Subterranean Climbers).*


SOMMET
2066m
P. 40
1969m
1936
1946
p. des
3 Soeurs
1945
p. du
Balcon
1942
diaclase
Annette
p. de la Gnole
galerie 43
la Douane
1685m
Grotte CHEVALIER
1941
aout - septembre 1943
1946
1944

Pierre Chevalier and Guy Labour in the Mont Blanc Range.

exchange detailed letters, meticulously planning an expedition. They established the goals of the outing, reviewed the latest carefully prepared topographic information, confirmed they had all necessary equipment, went over logistics, timing… On Saturday morning, Pierre would arrive from Lyon by train, and having brought his bike, would pedal a dozen kilometers from the train station in Grenoble to Saint-Ismier. From there, wearing old mountaineering clothes, the whole group would ride their bikes up a long and very steep hill to the sanatorium in Saint-Hilaire du Touvet, located on the Petites Roches Plateau. A three-hour hike was then required to reach the entrance of the Trou du Glaz cave at 1,700 meters elevation. During the first few years, their backpacks were weighed down by rolled ladders with wooden rungs and battery packs for their electric lamps.

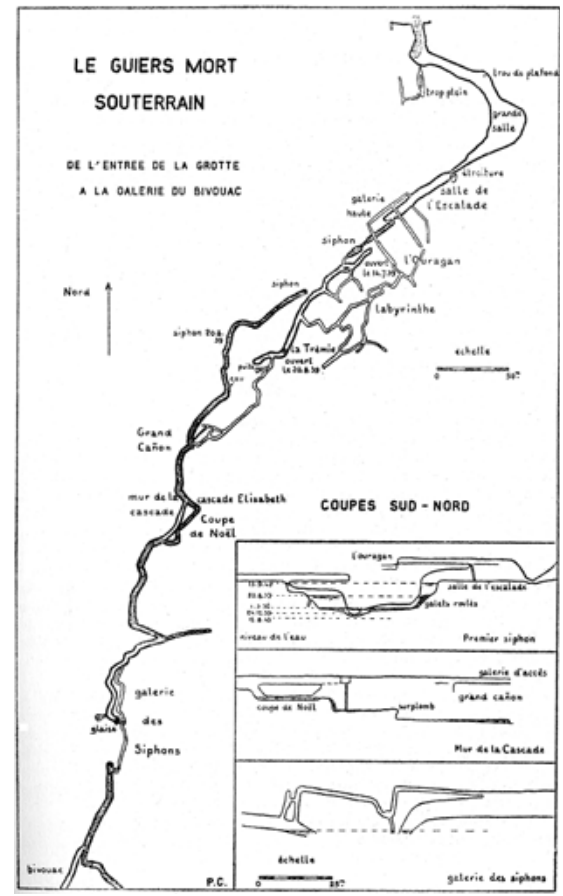
Despite all the preparation, entering the cave meant facing the unknown. They would usually emerge sometime late Sunday evening, if not Monday morning at dawn… Upon their return, staggering with fatigue after having gone without sleep for dozens of hours, they would hop on their bicycles, which were ingeniously outfitted to keep the brakes from wearing out too quickly: a bundle of sticks anchored to the back of the bicycle or a rod dragging on the ground beneath the pedals, served as brakes. A hazardous affair indeed, but nothing compared to two days spent exploring the bowels of the earth.

When the Second World War started, Fernand and Pierre had already explored 3,000 meters of caves and shafts, for a sum total of 5,500 documented meters within the Dent de Crolles' network of caves. Of course, they were not alone in this colossal task. Over the years, they were able to count on their loyal friends, Charles Petit-Didier, Jean Trémeau, and even François Guillemin. Not to be forgotten are the handful of women who joined them and didn't just stay behind to cook at the campsite. Among them was Annette Bouchacourt, whose life was tragically cut short in a ski accident. Guy Labour also participated from time to time; he became well-known following a forced stay in the bowels of the Nantillons Glacier in Chamonix in 1934, and whose story would later inspire Roger Frison-Roche to write the novel *La Grande Crevasse*.

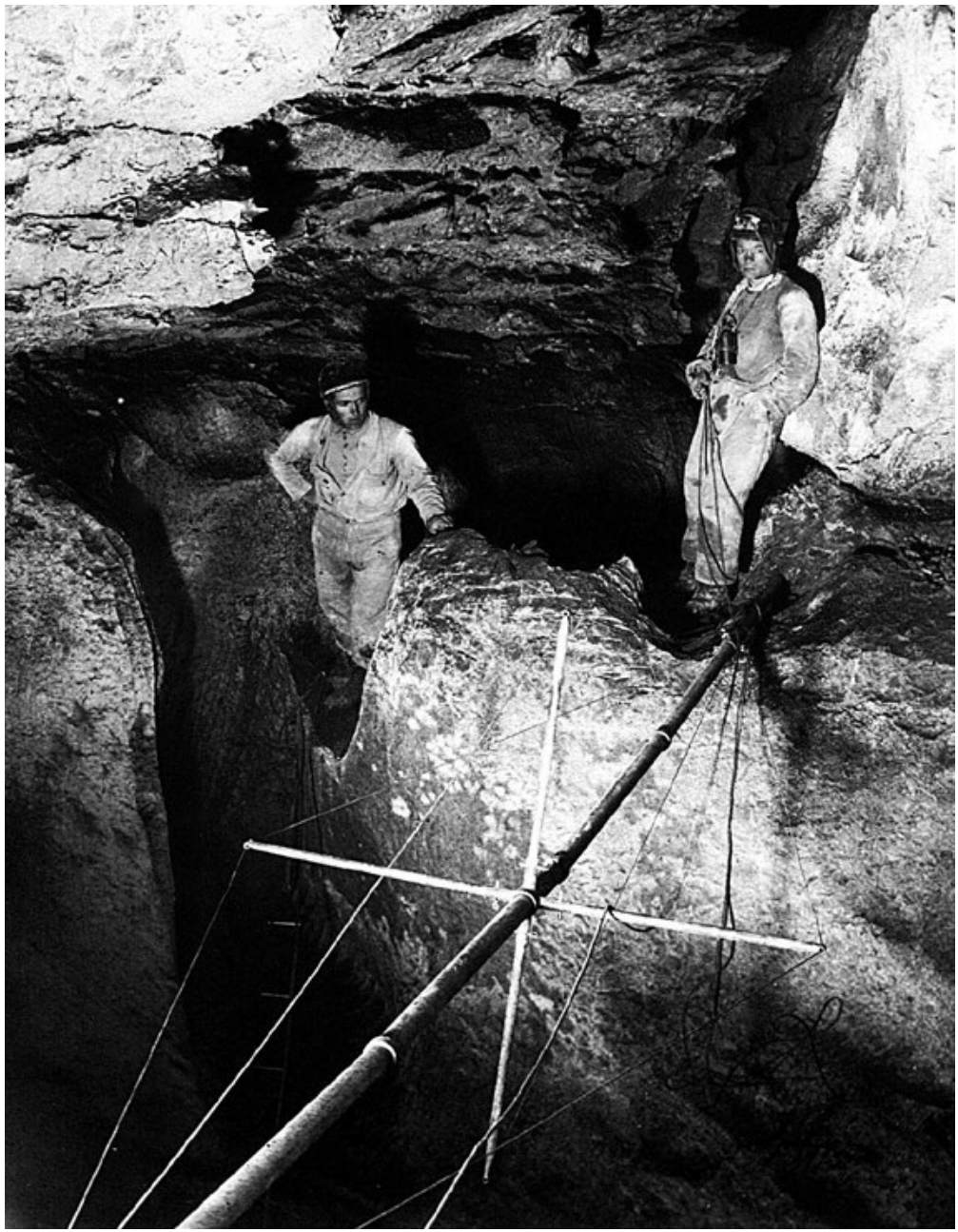
As for Fernand's brothers, Charles was not really interested in caving, and Edmond decided to end his caving career after spending a total of 105 hours underground. Over a span of twelve years, Fernand would spend 834 hours in the darkness, according to the impeccable records kept by Pierre Chevalier, who himself led the rankings with 960 hours…

The emerging world conflict seemed to have little effect on their plans. Traveling and communication became more complicated, but did not dampen the group's enthusiasm for exploration. During the 1939 Christmas holidays, after four months of "mind-numbing inaction," Pierre Chevalier was joined by his courageous wife to navigate, soaked to the bone, a passage in the Guiers Mort cave that he named Coupe de Noël (Christmas Glass). On his end, Fernand Petzl continued to push forward. To reach the top of a seven-meter high, impossible-to-climb wall, he built a portable "climbing mast" that Pierre had designed. During this period of scarce resources, Fernand succeeded in designing the low-cost, 25-meter apparatus by using pieces of furnace piping that could be connected to each other. Guy-wires stabilized the structure and served as ladder attachments. The entire system weighed no less than 30 kilos and had to be moved through tight, dark spaces. It was definitely worth the effort, as the mast proved vital on more than one occasion: for ascending steep sections, descending shafts by sliding down the pole like firefighters, or even for crossing gaps – if you were brave enough to precariously hang above the void from the contraption…

The mutual trust between Fernand and Pierre grew over the course of their successes and failures. The names they gave to different sections of the vast underground network aptly described their adventures: the Labyrinth, Stalactite Ledge, Drainage Tunnel, and Moonshine Shaft. Even if each continued the exploration individually on occasion, they always did so with the utmost caution, since they only trusted each other to get out of a bind. Accidents were not as rare as one would have hoped. In August 1941, the same day the two men and their friends finally succeeded in completing the link between the Trou du Glaz and the Guiers Mort caves, Fernand took a bad fall when a piton pulled. He fell roughly 17 meters, head first, and took over an hour to regain



Map of a section of the Guiers Mort cave. Sketch published in Pierre Chevalier's book Escalades souterraines *(Subterranean Climbers).*



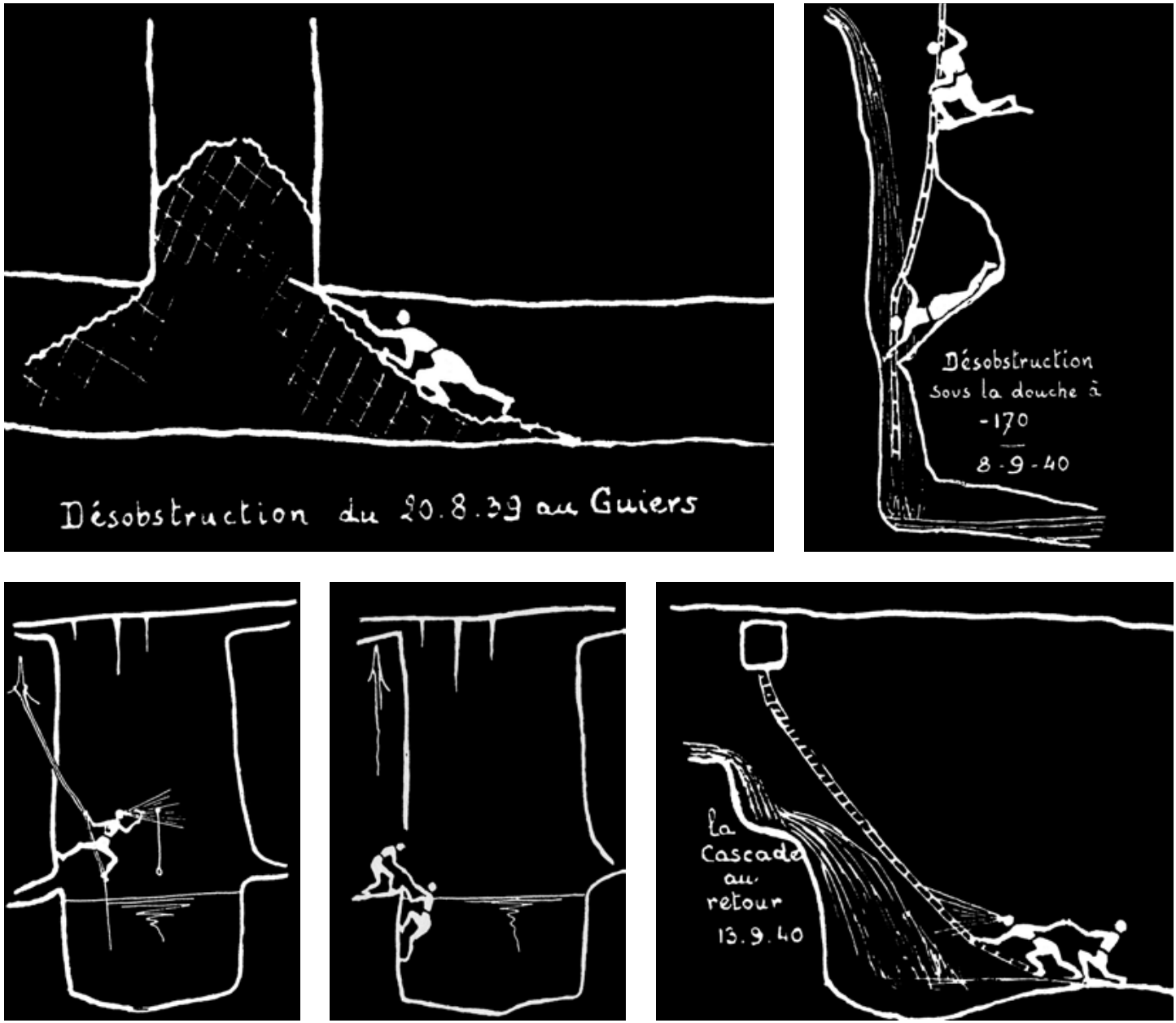
Daniel Gagneur and Fernand Petzl with the climbing mast.

consciousness, in spite of the cries from his friends who were unable to reach him. With his nose smashed, his plexus indented from the impact with a lamp battery pack, and his knees in pain, Fernand was able to climb back up to his friends, thanks to a bit of rope that Pierre managed to toss down to him. Fernand's strong will to survive helped him to deal with the agonizing pain, prolonged by a never-ending descent, strapped to a mule, all the way to the sanatorium in Saint-Hilaire-du-Touvet. The rescue took seventeen hours. Fernand never again regained his sense of smell, and he always enjoyed asking cavers who planned to pass by the accident site, "Bring me back any small white rocks you come across.Those are my teeth."

Whether dealt with success or failure, the cavers could never get enough. After the first successful underground crossing of the Dent de Crolles, they decided to extend their knowledge of the cave network even further by exploring the area between the summit plateau and the Trou du Glaz. Breaking the record for the deepest cave ever explored was also in the back of their minds… In *Subterranean Climbers*, Pierre Chevalier wondered if Fernand's wife approved of his decision to continue pursuing such a dangerous activity. Just prior to the war breaking out, Fernand had married Lucienne Ginet, a school teacher in Saint-Ismier; they moved into Lucienne's parents' house where little Jacques, born in 1940, would grow up. We can easily imagine how Fernand's worried wife would have answered Pierre's question…

Realizing that they were spending a lot (too much?) time underground, Pierre and Fernand decided to try using chemistry to more easily find their way through this new maze they wanted to explore. They tried using pungent trace gases – smoke grenades, titanium chloride – in the Trou du Glaz, hiking as quickly as possible to the top of the Dent de Crolles in the hopes of seeing black smoke exiting one of the many cracks and crevices scattered across the plateau. But the experiments were in vain, and the two were left to take on the shaft simply referred to as "P40," discovered by Pierre Chevalier and his friends in 1936. This, the most extensive shaft in the area according to their estimates, should logically allow them to complete their link-up.

Lucienne and Fernand in the Chartreuse Mountains.



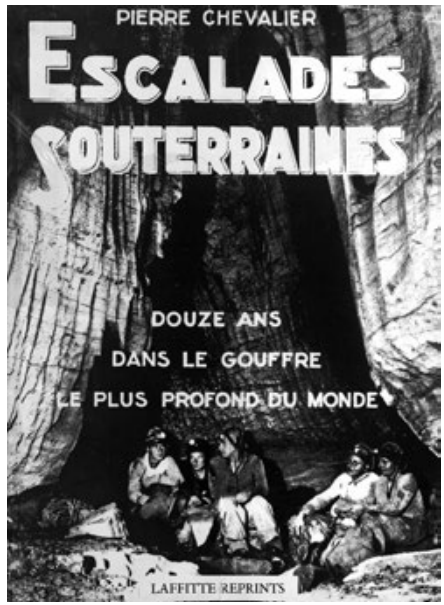
Exploration of the Dent de Crolles as illustrated by Pierre Chevalier in Escalades souterraines *(Subterranean Climbers).*

Far from the caves, the war raged on, reminding them every so often of its presence. In April 1943, Fernand received his STO (forced labor) draft notice. Like so many others, he dreaded having to go to work in Germany, and hid out in Grenoble where he continued as best he could to work as a craftsman. Wearing a trench coat, a hat, and dark glasses, Fernand would occasionally run into his caving friends in town, but he no longer dared set foot near the Dent de Crolles. That part of the Gré-sivaudan Valley was overrun with occupation forces following a bombing. But Fernand would end up joining his group of friends a month later. He no longer had anything to fear since he was now a… firefighter! A young employee at the prefecture had explained the trick: firefighters were too badly needed in France for them to be sent to Germany. Fernand officially registered as a firefighter, not a modeler, despite the fact that he had never handled a fire hose in his life... although he had spent years getting drenched climbing over, under, and through underground waterfalls. The sprayee had become the sprayer, so to speak. He was mobilized at the very end of the war, and sent to the Ardennes with a rifle whose barrel was completely clogged with dirt. To his great relief, he would hand back his weapon – still clogged with dirt – just a few days later, when the armistice was signed.

While waiting for the liberation, the group continued to move forward in its exploration. Fernand had become increasingly talented and inventive at designing and building equipment from scratch. For the tallest shafts, he designed a wooden platform that could serve as an anchor for setting up the climbing mast. When he and his partners wanted to clear out the rock-filled "Cave of Sighs" he perfected a sort of flat-bottomed boat that slid on the sand in order to clear out the debris. Fernand also tested a few other tools of his own design, most notably hooks to ascend a knotted rope, similar to those that roofers were already using at the time.

Although not every invention represented a significant breakthrough, some immediately became essential. Such was the case for nylon rope. The new plastic fiber, invented in the United States, started being used by the Rhône-Poulenc company where Pierre Chevalier worked.

Pierre Chevalier, Charles Petit-Didier and Fernand Petzl.

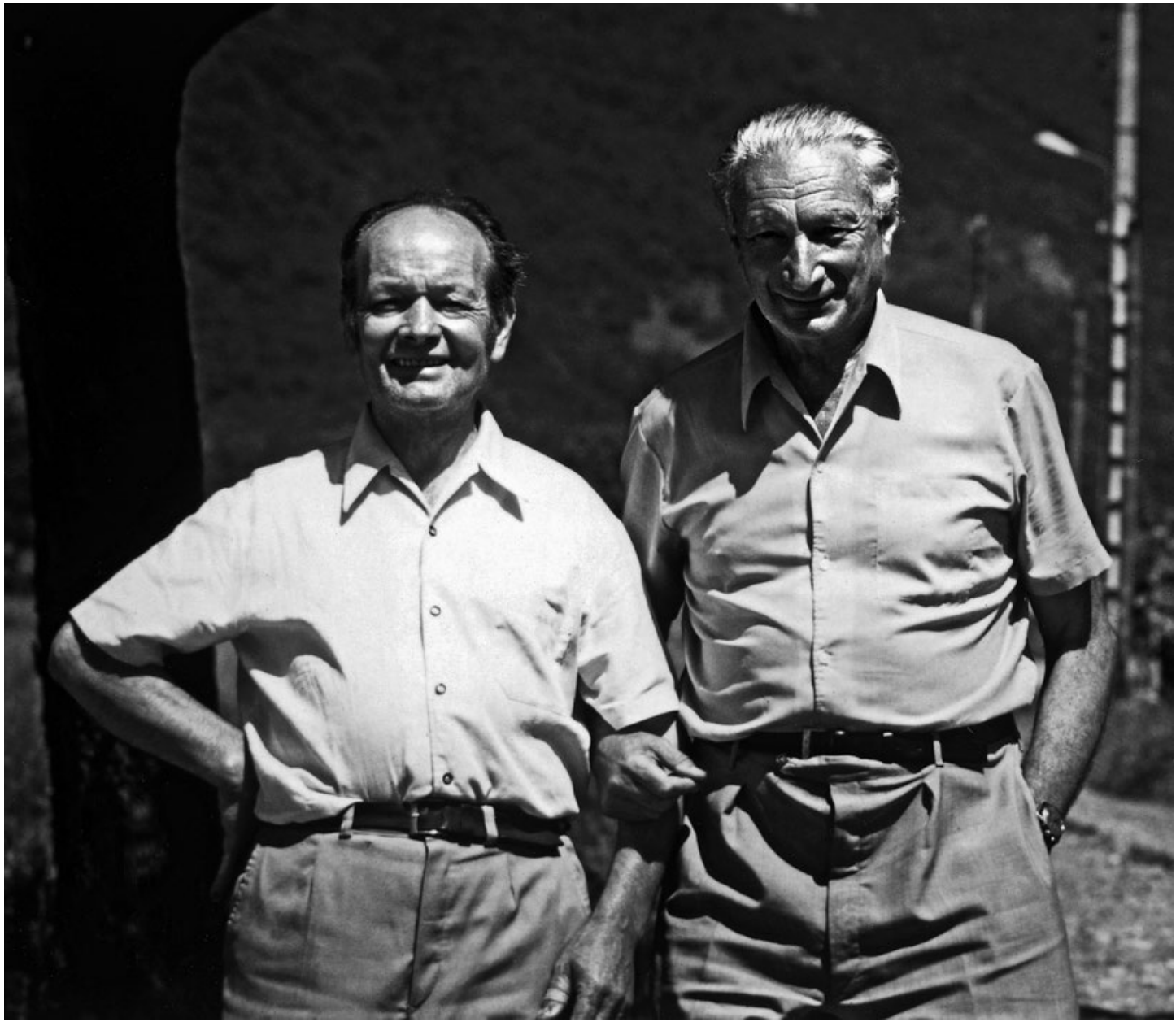


The story of the Dent de Crolles exploration.

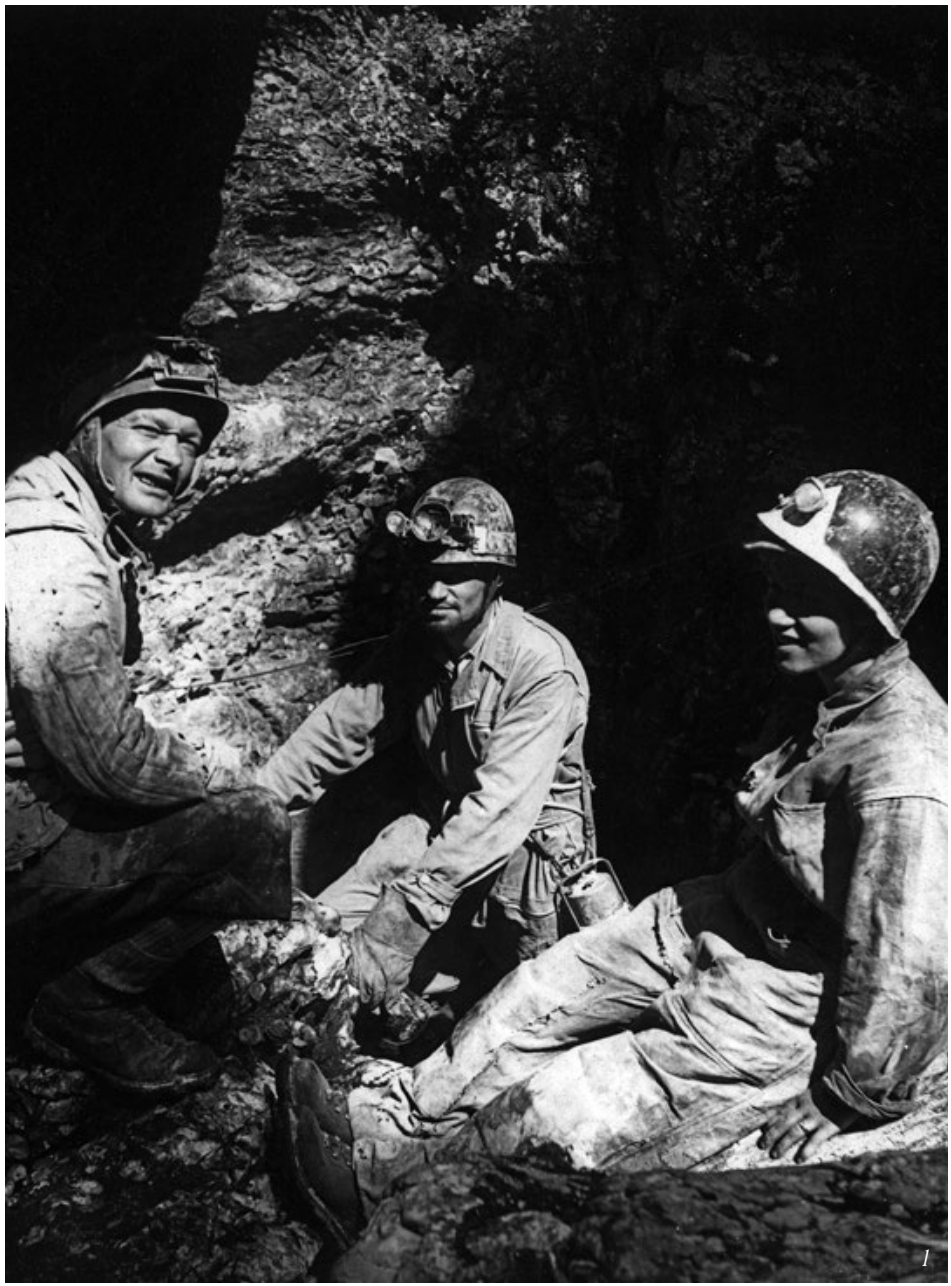
The caver asked the Joanny rope manufacturing company if it could make ropes from nylon, which he started testing in the Dent de Crolles with his friends in 1943. The first nylon ropes were as stiff as cables and pricked his hands, but after some experimenting, the manufacturer finally found the right fiber thickness. This marked the beginning of the end for hemp ropes, which absorbed water and broke easily. No longer did the group need to take their ropes down after each outing for fear they would rot. It was a major innovation that, after the war, mountaineers would take advantage of as well.

In the spring of 1947, after having finally discovered how to link the summit of the Dent de Crolles with the Trou du Glaz cave, Pierre Chevalier, Fernand Petzl and their friends felt they had achieved their goal. Twelve years after their first outings, the network they had explored was 603 meters deep – the French record – and one could cross the Dent de Crolles four different ways through 17 kilometers of caves and shafts. *Subterranean Climbers*, Pierre Chevalier's book, would capture the imagination of cavers across the world, as few sites at the time presented a combination of such difficult conditions: frigid temperatures due to the altitude – the summit of the Dent de Crolles sits at 2,062 meters – wet shafts, and a maze of caverns where one could easily get lost despite the meticulous guidebook written by the pioneers. Pierre Chevalier encouraged other cavers to take on "the challenges that we left unresolved," and his call to action was heard around the world! Today, the Dent de Crolles network extends over 60 kilometers and continues to grow every year.

After this feat, widely heralded by the press, Fernand chose to maintain a low profile and let Pierre Chevalier deal with the cameras and the limelight; little did he know that he was going to once again enter the history books of modern caving. While the Dent de Crolles team was busy breaking the record in France, another group of young cavers opened the door to an even more expansive underground universe just a few kilometers away. This time around, the excitement was focused on the Vercors Mountains, just west of Grenoble. For a long time, people had puzzled over the source of the Germe River, which emerged at the



Fernand Petzl and Pierre Chevalier.



In Gouffre Berger cave. 1: Fernand Petzl, Georges Garby and Claudine Leconte. 2: Fernand Petzl. 3: Fernand carves the name of team members who reached -500 m.

4: Jean Cadoux in the arms of Jean Lavigne. 5: team picture in 1955. 6: Aldo Silanoli belaying Fernand Petzl at -903 m. 7: Aldo Silanoli.

Jacques, Paul, Pierre and their mother, Lucienne Petzl.

well-known Cuves de Sassenage (underground cisterns). Where did this whitewater, that filled up the two extraordinary natural cauldrons, one of the Seven Wonders of the Dauphiné province, come from? Here was yet another mystery for cavers to solve.

On October 27, 1947, in Styx Cavern, Louis Eymas, 24 years old at the time, discovered by accident, by sliding through a "crawlspace", that the Cuves did not form a dead end. He and his friends continued to explore the area, usually at night so as to avoid both tourists and the Cuves's caretaker. They explored the network's first kilometer, which proved to be such a fascinating site that it became the setting for one of the more exceptional color movies of the era. It was filmed in winter, in rather harsh conditions, but director Georges Marry and his team were rewarded for their efforts: In 1953, *La Rivière sans Étoile* (The Starless River) won multiple awards at the International Mountain Film Festival in Trento, Italy.

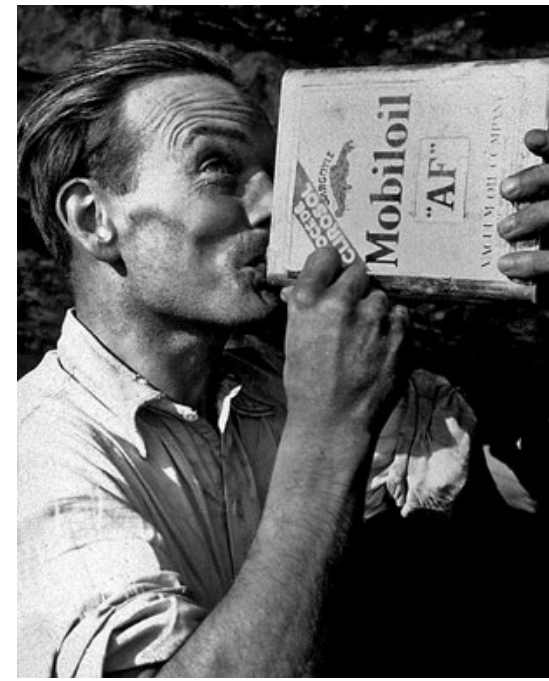
In spite of the film's success, its heroes had yet to find the river's starting point, and decided to look for the source 1,000 meters above the Cuves, on the limestone plateau in Sornin. The prairies in the area were covered in limestone pavement, with hundreds of cracks and crevices that could potentially provide access to the coveted network of caves. History will remember that it was 22-year-old Joseph Berger who first slid through the narrow entrance of the very deep cavern that now bears his name. Now that an opening had been found, all that remained was to explore from one end of the cave to the other.

This time around, a properly organized expedition needed to be put together. Fernand Petzl, the Dent de Crolles "veteran", was clearly the ideal expedition leader in the eyes of the French Alpine Club's Caving Group, which asked him to participate in the project. Among the young, enthusiastic explorers on the team were Jean Lavigne, Jean Cadoux, and Georges Garby; Fernand would assume the role of wise elder. Removed from the unbounded exuberance and petty rivalries of youth, the fortysomething kept his wits about him in any and all circumstances. In addition, Fernand continued to give top priority to his profession as a craftsman, and despite his numerous absences, also understood his

responsibilities as father of three sons, following the birth of Pierre in 1945, and of Paul five years later. He had also started looking after his mother, following Émile's death from tuberculosis in 1950.

It was in the expedition leader's workshop that the Gouffre Berger team members came to assemble their endless cable and aluminum tubing ladders. Caving equipment had not really evolved much since the end of the war, but everyone loved Fernand's old Citroën pickup truck that they used to get to Engins, the closest village to their base camp. In September 1954, the team first reached minus 740 and then minus 903 meters, breaking the world depth record twice in a row, originally set in the Pyrenees by cavers Georges Lépineux, Max Cosyns, and Haroun Tazieff, who had explored the Gouffre de la Pierre Saint-Martin Cave. Tazieff, the legendary volcanologist, asked to be involved in the Gouffre Berger adventure. On that day, Fernand Petzl was deep underground. His friends called him using a telephone line that had been meticulously laid across various caverns and shafts. His answer to the inquiry was, "absolutely not"; Haroun Tazieff was not at all welcome. Fernand felt the project was dangerous enough, and it did not need to be hindered by celebrities in search of their next prize.

Nevertheless, the Gouffre Berger expedition became a media event. In 1956, the symbolic depth of 1,000 meters was imminent. The team decided to invite both French and foreign cavers to participate in setting the future record. This was the opportunity for the Grenoble team to prove their worth to the powerful French Caving Society, a primarily Parisian bourgeois organization that had the tendency to look down on them. Eight countries answered the call: Belgium, Czechoslovakia, Great Britain, Italy, Lebanon, Poland, Spain, and Switzerland. A total of 40 men, including 18 foreigners, would attempt to reach the never-before attained depths. Occurring during a decade when the major Himalayan ascents occupied the limelight, where Annapurna – the first 8,000 meter peak ever climbed – was conquered by the French, "Operation minus 1,000" attracted the press in droves. Victims of their own success, the expedition team and its leader were slightly overwhelmed by the turn of events, despite unexpected help from a helicopter and by the army.



Fernand Petzl.

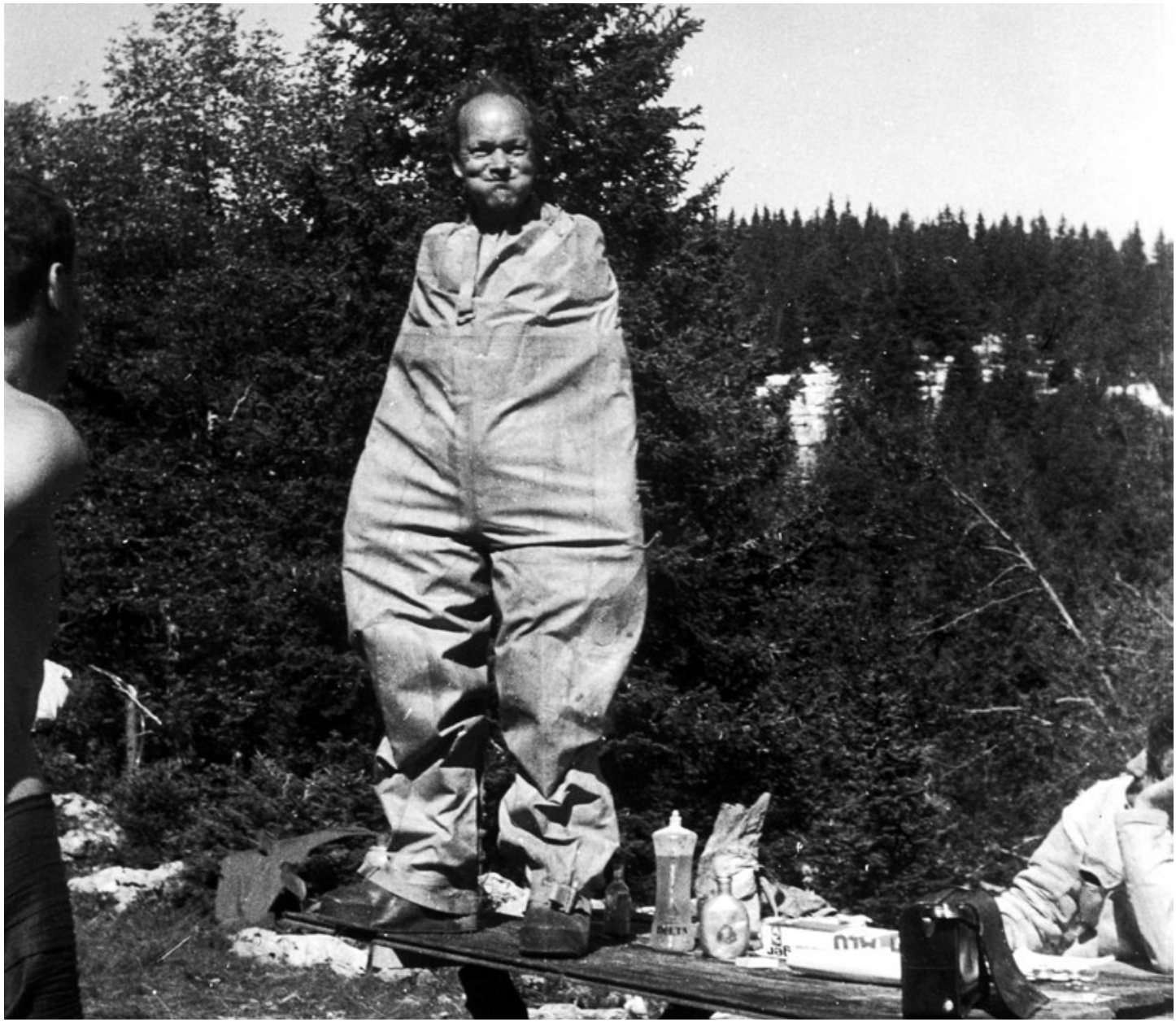
Welding the eyelets onto a caving ladder.

In spite of the logistical and communications challenges, on August 19, 1956, after 380 hours underground for the lead team – fifteen days in a row – they returned to the surface, victory in hand. The world record was decisively shattered when Aldo Sillanoli's group reached the cave's final drainage tube, 1,122 meters below the surface.

Fernand Petzl accompanied most of the foreign cavers, who went next, to the very bottom. The second group was forced to spend 20 hours stuck at the bottom when the water level suddenly rose too high in one particular passage. Fortunately, everyone climbed out safe and sound. The only regret was never being able to link up with the Cuves de Sassenage, which, while close, were separated from the tube by a series of small cracks through which only water could pass. But it hardly mattered. Once outside, the popping flashbulbs blinded the caving heroes. The French and foreign press had its front-page story for the following day, and French President René Coty sent a congratulatory telegram. Fernand kept his distance, busily organizing the gear, a task no one else seemed interested in.

The expedition leader did not pen any of the stories that subsequently appeared. The words of George Marry probably suited him just fine: "After its victory in 1956, the SGCAF team was tired, old, and perhaps just a little bit disillusioned. [...] And many of us had had enough of caving, having done it intensively for such a long time. It was time to start living a normal life again." Fernand filed all these experiences away somewhere deep in his memory. Whenever his family wanted to look at photos of his explorations, he told them he found it depressing. He never made any serious attempt to teach his sons to cave, taking them underground only once or twice.

But Fernand closed this chapter of his life in order to open a new one. He had no intention of walking away from a passion that had consumed all his free time for twenty years; his mind was overflowing with ideas. Although he no longer had any desire to participate in the dangerous activity itself, he wanted to focus all of his energy on serving the caving world in another way, and ensuring its place in the wider universe of mountaineering.



Fernand Petzl.

Chapter II

VERTICAL CRAFTSMEN

Fernand Petzl testing a descender.

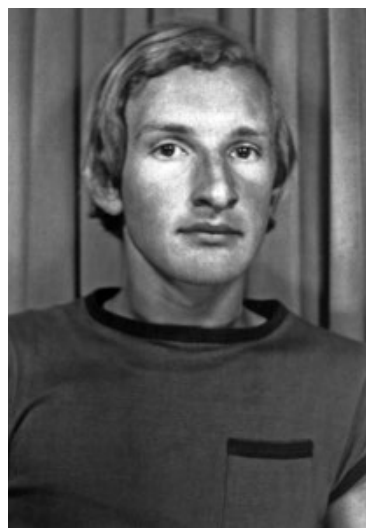
All is quiet at the dinner table. The "The One-thousand Franc Question" radio quiz show is on France Inter, and everyone is listening intently. Oblivious to the buzzer, which tells the radio contestants when to give their answer, Catherine thinks back to the meals from her childhood, in the big house in Saint-Viaud, along the Loire River estuary in the historical Pays de Retz region. Her thoughts are engulfed with memories from her youth: cousins crowded around the table, the joyous hustle and bustle resonating in the huge dining room… Such a stark contrast with her current family environment. In the Petzl household, the workdays flow by, one after the other, without the time or desire to "entertain". The end of the radio show puts an end to the woman's daydreaming. Fernand and Pierre quickly head to the workshop, Lucienne clears the table and returns to her housework. Catherine leaves for class. She is studying "business management and administration" at one of the many universities in Grenoble, while waiting for her fiancé to return home.

Paul was completing his military service with the 6th Chasseurs Alpins mountain infantry batallion. Based in Uriage, in the mountains just above Grenoble, he had permission to return home to his parents' house every weekend to work in the workshop. He and Catherine had met two years earlier, during the summer of 1970. They had both chosen to work for the same youth volunteer charity construction organization, Compagnons Bâtisseurs, in Germany. Their eyes first met during the bus ride from Paris to Cologne. Catherine was not accustomed to traveling and felt a bit lost. After two weeks together pushing wheelbarrows to build a retirement home, Paul summoned the courage to ask the pretty

Fernand's workshop in Saint-Nazaire-les-Eymes in 1962.

girl from Brittany for her home address. The following summer, after many letters, the two friends chose the more romantic setting of an Alsatian castle to continue getting to know each other, while cleaning old castle walls. This time, however, waiting until the next construction project to see each other again was out of the question.

The two still needed to be patient, since Catherine was at a crossroads in her career. Five years earlier, she had left high school to become a pharmacy technician; at the time, the meticulous and detail-oriented profession had appealed to her. Just recently, however, the Ministry of Education had instituted a policy that allowed young people without a diploma to pursue higher education, so she decided to go back to school, heading to Paris for a refresher course. By working day and night, she was able to obtain her high school diploma in just a few months. When applying to universities, she of course chose one in Grenoble, a faraway destination for her, but where her suitor was anxiously awaiting her arrival.



Paul Petzl.

Catherine moved in with Paul at his home in Saint-Ismier, even though their union was not yet official. The young student took a few months to become accustomed to her new environment. It wasn't about money; although Catherine's mother descended from a long line of Breton aristocrats, her family was no wealthier than Paul's. On her father's side, she remembered a country doctor great-grandfather who never seemed to get paid, and an artist grandfather who sold his paintings for a pittance to eke out a living. In spite of it all, her father ended up inheriting property on which he grew vegetables to sell at the local farmers' market. What turned out to be most disorienting for the young lady from the Atlantic coast was the workaholic atmosphere in the Petzl household. There were also the surrounding mountains which held little appeal for her. In addition, her future father-in-law was capable of disappearing into the mountains for days on end! His wife, so affectionate and considerate with her children, had always put up with the solitude. For Catherine, all of this was rather strange.

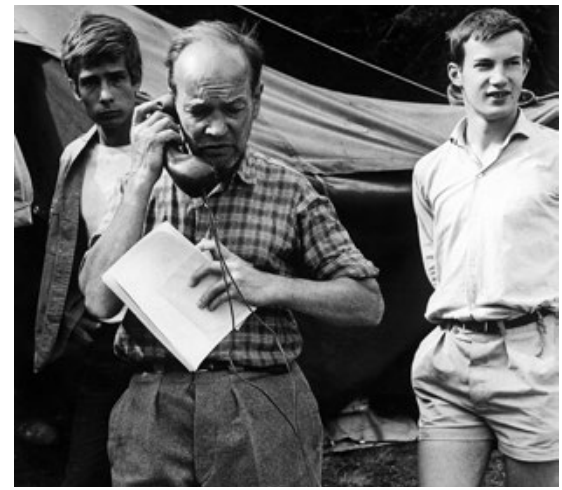
Catherine Petzl.

Although Fernand spent a lot of time caving, it wasn't in order to break records. After the Gouffre Berger triumph, he decided to focus on rescue. By making the front page, caving had attracted a new crowd

of enthusiasts and the number of participants doubled after the end of the war. With the number of explored caves growing at a rapid pace, the number of accidents increased as well. Certain accidents made a significant impression on the public, such as a 1961 incident in which a group of Boy Scouts remained stuck in the Trou du Glaz cave for days. Starting in 1965, Fernand Petzl began overseeing almost all search and rescue operations for the Grenoble region. Like clockwork, two or three major rescues took place each year, usually in a disorganized fashion. All too often, the rescues were complicated due to inadequate equipment and inexperienced volunteers, not to mention the total lack of insurance to cover rescuers.

As head of the Isère Caving Commission, Fernand created an entity well-suited to coordinating rescue operations with the authorities. He decided to follow the example of mountain rescue, which in the Dauphiné province had been organized and run by a specialized private entity since 1910 before being managed by the government at a national level starting in 1958. The Société Spéléo Secours Isère (Isère Caving Search and Rescue) was officially created in July 1970, and two years later, Fernand became the first technical consultant for the prefecture, a position he held for ten years. From then on, cavers were recognized by the authorities as experts in all subterranean rescues.

In addition to the reorganization, significant progress was being made in extraction techniques for injured individuals. And once again, Fernand the craftsman played a major role. He designed an articulated rescue litter, equipped with an integrated helmet, significantly improving safety for accident victims. In 1966, the equipment played a critical role in rescuing young Jacqueline Bocquet, who took a 22-meter fall in the Gouffre Berger cave. With two broken vertebrae, she was evacuated using the rigid stretcher and to the surprise of her doctors, her spinal cord was not damaged in the rescue. Another innovation involved using pulleys and hydraulic jacks horizontally, i.e. an extendable bar that used compression against the cave walls to remain in place, enabling rescuers to more easily haul the injured. Fernand first started making these tools for Isère Search and Rescue, then for caving clubs all over France.



Fernand Petzl during a Gouffre Berger cave rescue in 1965.

Demonstrating how to use an articulated litter during a caving convention in 1965.

Georges Marbach in 1970.

1973: the first edition of the caver's bible.

His second son, Pierre, more interested in hands-on mechanics than in pursuing a university education, joined him full-time in the workshop in 1964 to help manage the significant increase in workload. Paul also helped out on weekends and holidays.

During the same period, Fernand's main source of income started to dwindle. His primary client's business was slowing down, a foundry that ordered models to cast wing nuts for oil well drill bits, and ball mechanisms for the steering unit of Berliet cars. Caving took up an increasing amount of time and space in the workshop, which frequently looked more like a beehive than anything else. People came to tinker with their equipment, buy ladder rungs, or just ask for advice. The small workshop became the bustling epicenter of the caving revolution that took place in the 1970s. The Seine (near Paris) and La Tronche (near Grenoble) Caving Clubs, pressured by their younger members, decided to stop using ladders for caving. A heavy and cumbersome piece of equipment that required constant maintenance, ladders represented a significant burden for the caver.

The solution consisted of replacing ladders with rope, especially for descents. Certain cavers with mountaineering backgrounds already rappelled by running the rope over their shoulder and around their waist, a technique both uncomfortable and particularly dangerous in dark and slippery underground shafts. Small descenders started to appear on the market with names like "pirate" or "cheating death", and were of questionable reliability. Little by little, cavers started to ascend with ropes, using metal clamps called "monkeys." The technique, invented by Henri Brenot back in the 1930s remained rather arduous.

Two events hastened the ladder's retirement. A book written in 1973 quickly became the caving bible. Georges Marbach and Jean-Claude Dobrilla, paying little attention to the purists who called them "assassins", wrote *Alpine Caving Techniques*, which described their new techniques in a meticulous yet intelligible manner. In their book, the two authors also highlighted innovative equipment, the second driver of the caving transformation. Some of the new equipment was developed by Bruno Dressler. As early as the 1960s, the engineering student, a member of

both the Paris and Seine Caving Clubs, started making his own metal tools in his parents' basement. For this ad hoc manufacturing process, he would heat aluminum alloy to 600°C and hammer the material into the desired shape, before soaking it in cold water. He developed a pulley, a clamp for self-belayed ascent, and an S-shaped descender that kept the rope from twisting on rappel and from throwing the caver into a dizzying spin.

Bruno Dressler's friends affectionately referred to him as "Professor Calculus", and his inventions were destined to become an essential part of caving gear. Very quickly, through word of mouth, he began to receive dozens of orders. Although he moved to Lyon to attend the prestigious Ecole Centrale de Lyon engineering school, he continued to make gear with the help of the Tritons Caving Club, which provided him with a small workshop and put him in touch with sub-contractors capable of performing the metalwork and the machine tooling. But in 1966, with his compulsory military service approaching, Bruno had no real desire to spend his entire engineering career working on caving equipment afterwards. Since no one in his caving club seemed motivated enough to file, drill, or bend metal, i.e., to take his place, he decided to contact Fernand Petzl.

For the craftsman, there was no doubt: these tools had a bright future. He agreed to take over production and pay royalties, and as early as 1970, the new clamps and descenders made their first appearance in the Vieux Campeur catalog, under the name of their inventor. And Bruno Dressler continued coming up with different systems to make cavers' lives easier, such as the Motocorde, which used a gas-powered chainsaw motor as a winching mechanism to effortlessly ascend vertical shafts.

In the early 1970s, when Fernand decided to make a few modifications to these rope tools, he started marking them with his own seal: F. Petzl. He designed a new descender for double ropes, and added a safety catch to the eyelet of a carabiner. As expected, these tools were immediately popular, in particular with the French Caving School in Font d'Urle, located in the western part of the Vercors Mountains. The school's director, Michel Letrône, was one of Fernand's closest

Fernand Petzl in his workshop.

Bruno Dressler and the Motocorde.

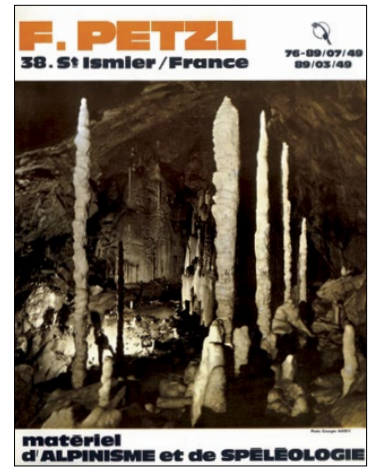
First products. 1: Dressler pulley. 2: pulley. 3: descender. 4: Dressler descender. 5: Dressler clamp. 6: Shunt. 7 and 8: prototype for an ascender.

friends - he had taken Pierre and Paul on their first forays into the underground world. This exceptional caver had continued exploration of the Dent de Crolles after the first pioneers, more than doubling the length of the then-known network of caves.

The success of the first rope progression tools rapidly spread beyond the cave walls of the subterranean world. Mountaineers, whose gear at the time was still somewhat rudimentary, started taking a closer look at these little metallic wonders. In 1968, before taking on the East Pillar of Fitz Roy in Patagonia, Bernard Amy, the well-known climber from Marseille, went to the workshop to purchase a supply of descenders. Although his team did not reach the summit, the equipment allowed them to easily descend the hundreds of meters of fixed rope installed on the very difficult granite peak. Two years later, Fernand would be contacted to design the bivouac platforms for the Makalu expedition.

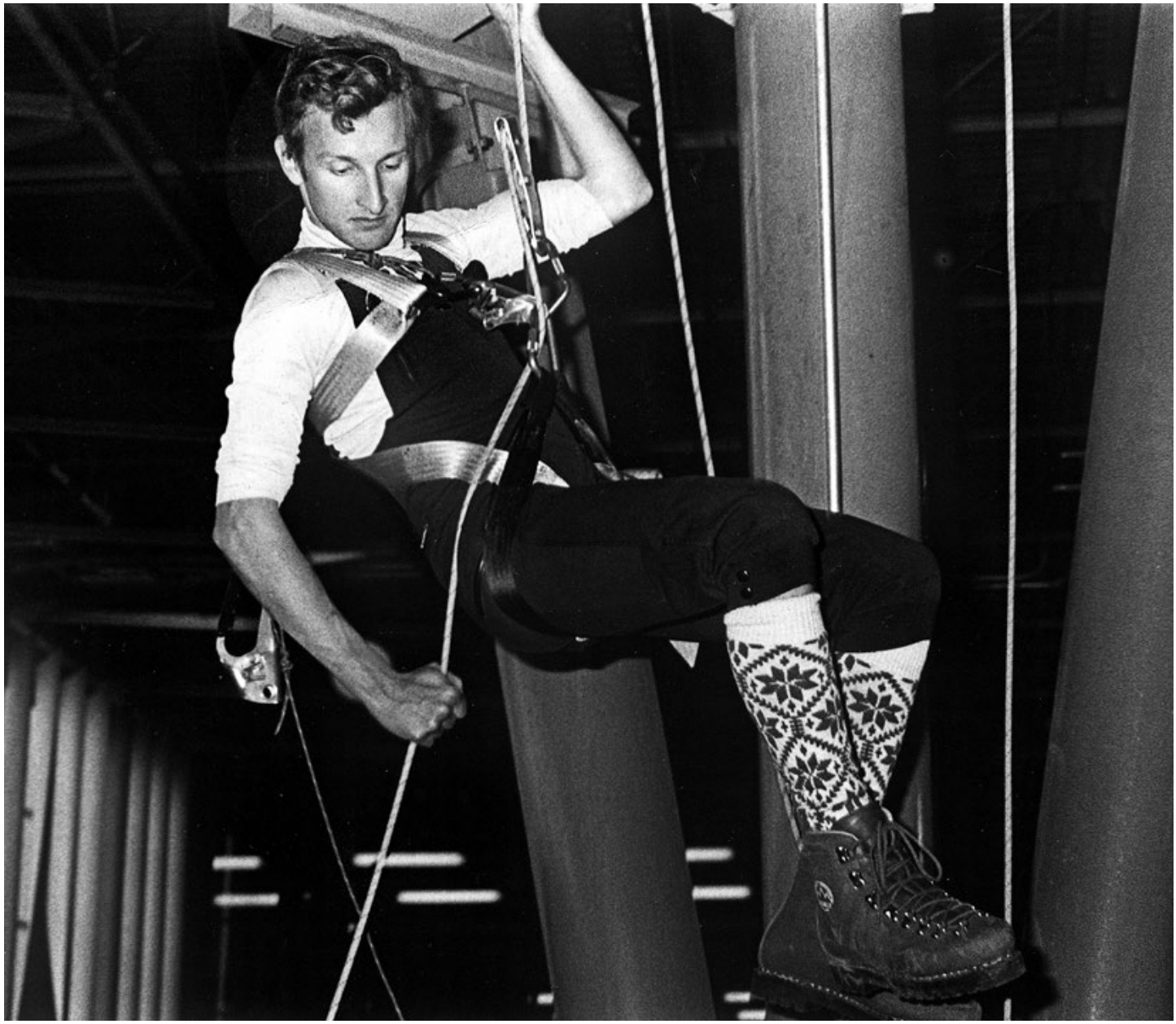
Meeting people from the mountain climbing community allowed Fernand to better understand mountaineers' specific needs. What they needed, for example, was a mechanical system for rappels that could be used in the same way as a Prusik hitch. All too often, the friction knot would get stuck on wet, frozen, or even thick ropes. In 1972, the craftsman developed the first prototype to resolve the issue. Using a lever, his backup device redirected the friction force of the rope. Called the "Shunt", the device's geometric shape has never changed, and is still sold in Petzl catalogs today, over forty years later.

Fernand paid particular attention to the ergonomics of the devices he made: they needed to be safe, easy, and comfortable to use. At the time, one of the most highly sought-out pieces of equipment was the legendary Jumar, designed by Swiss duo Jüsy and Marti. The device is a type of clamp that slides up a rope in one direction and locks, making it easy to ascend a fixed rope. Although the Jumar revolutionized climbing in the Himalayas, climbers complained that it was too cumbersome and often too fragile. So in 1974, the Saint-Nazaire-les-Eymes workshop developed a new, lighter ascender. The Zedel would be an essential piece of equipment for the French K2 expedition in 1979, and would also become wildly popular with cavers.



Petzl's sales brochure in 1969.

The ascender in action.



Paul Petzl at the SIG (Salon International de Grenoble).

This initial success made it necessary to reorganize the workshop, especially since Fernand was reluctant to dive into the now-important business side of the company. Pierre helped him design the machines and handle most of the production side of the business. And every weekend, Lucienne and Pierre shipped packages to customers who lived too far away to pick up the equipment directly at the workshop. However, a more ambitious strategy was in the works. The craftsman was nearing sixty, and although he had no intention of retiring, he figured that his youngest son, Paul, would be able to run the business with Pierre's help. Fernand had been contemplating the idea ever since Paul entered college to study engineering in 1970. At barely twenty years of age, he already demonstrated strong entrepreneurial spirit. While some of his classmates were swept up in the idealism of the post-1968 era, he focused his attention elsewhere. His obsession was to build a prosperous business, however difficult it may prove to be. Such ambition worried his father, who was well aware of the financial risks his son would need to take. But even then, Paul had an innate talent for enlisting those he was fond of.

The young man was also overflowing with enthusiasm due to the new and close working relationship he was starting to develop with his father. Working together provided the opportunity to finally get to know the discreet and secretive man, who was capable of slamming the door behind him after an argument and escaping for an all-night walk in the Chartreuse Mountains before calmly returning home the following morning. More at ease underground than with his loved ones, incapable of responding to a question with anything more than a curt answer, refusing to talk about the explorations that his family would most certainly be proud of, Fernand remained a mystery to his children, and sometimes a painful one. As an adolescent, Paul wanted to run away from his father, to forget his silent nature and leaves of absence, to experience something extraordinary - like piloting a mountain rescue helicopter, or starting a new life in the United States. In his father's workshop, he finally found the affection and the relationship that had been missing up until that point.

Fernand Petzl hard at work in his workshop.

Petzl outfit at the end of the 1970s.

Starting in 1973, Catherine was also able to find her place in the budding organization. Like Paul, she was anxious to finish college and start her career. With a Master's degree in management in hand, she took over the accounting for the workshop, a task Lucienne had previously handled. As orders grew, so did the paperwork. One year earlier, the first salaried employee, Jacqueline Barbero, was hired. The number of staff would grow slowly but surely to 17 by the end of the decade. Employees were extremely loyal; Jacqueline would not leave the company until thirty-two years later, and then only to retire; Bernard Combaz, the first workshop manager hired in 1975, stayed with the company until his death in 2001. Caught up in the whirlwind of working day and night, life as a couple for Paul and Catherine was neither relaxing nor rewarding, with only one salary between the two of them. Nevertheless, they married in 1974.

Paul was involved in every aspect of the business. He met with clients, negotiated with suppliers, and looked for the best way to sell products. At the start, his father had placed his trust in Edouard Frendo, a high-mountain guide in Chamonix and a mountain equipment distributor. After the great mountaineer's tragic death in a car accident in 1968, the relationship with his successor did not go very well. Paul decided to stop working with a distributor and deal directly with sporting goods stores in France: Au Vieux Campeur and La Cordée in Paris, Caribou in Lyon. Little by little, the company stopped selling gear at the workshop.

However, for sales abroad – a small portion of sales for the young company at this point – Paul placed his trust in a small handful of loyal distributors. Most of them were cavers accustomed to purchasing supplies directly from the Petzl workshop for their own personal use. Beginning in 1973, they became impromptu sales agents in their home countries. The first to take up the challenge was Mike Meredith. He rode from Great Britain on a motorcycle with a wad of bills in his pocket. To avoid paying customs duties, and with Paul's help, he took the products out of their packaging and rolled them in the mud to make them look as if they had already been used for caving. Mike quickly handed over the venture to Ben Lyon, another British caver, who started a bona fide dis-

tribution business. Danilo Amorini handled sales for Italy, Toni Nubiola and Miquelangel Costa for Spain, the Obendorf family for Germany. Belgium also had its sales agent.

Cavers from Eastern European countries, Romania, Poland, Hungary, and Russia, all bought their gear in Saint-Nazaire-les-Eymes, where they enjoyed exchanging a few words with Fernand in their mother tongue. After driving endless hours in old trucks to the most spectacular caves of the Alps and Pyrenees, they would take advantage of their stop near Grenoble to barter for gear, due to a lack of cash. The Petzls wanted to show solidarity with these men who had to endure harsh totalitarian regimes in their home countries. Over the years, this distribution network, founded on a community of caving enthusiasts, would extend to dozens of countries. Today, this goodwill is considered to be one of the company's major assets.

In 1973, one of Paul's very first business decisions was to start designing equipment for another activity. During his military service, he found ski touring to be borderline torture due to the old and extremely outdated bindings. So it was with great interest that he found his father busily tinkering one day with a binding that two Grenoble skiers, Olivier Méot and Olivier Gignoux, had brought him.

– "Come take a look, there were these two guys who brought us something…"

– "Wow, this looks amazing," Paul said enthusiastically as he played around with the object, "this is revolutionary, compared with the equipment I'm used to!"

– "Okay, I'll make you a prototype," Fernand replied without further discussion, as usual.

The new binding replaced conventional cable bindings by using a plate to hold the boot in place; it provided a greater range of movement and a more secure hold. But production turned out to be a different story… a catastrophe, in fact. Among the first thousand pairs, many did not meet the strength requirements. After testing the bindings on a few descents in the area, Paul had to face the fact that he would need to start over from scratch!

Petzl ski touring binding.

Dual-lighting caving lamp.

The helmet and lamp kit.

The first Petzl electric "all-on-the-head" lamp.

The solution he quickly came up with was slightly overshadowed by the development, at the same time, of an entirely different innovation. For years, Fernand had been providing cavers with either carbide or electric lamps that they could attach to their helmets. Everything was made locally using nylon rods that they machined themselves. Paul considered the process to be too tedious and time-consuming. He designed a new casing, and placed an order with a plastics supplier for 5,000 units to cover a few months of production. The one thing he failed to take into account was the space all these casings would take up when they were delivered at the workshop's front door. The pallets towered over the roof! For more than a week, Paul, angry at himself over the predicament, wondered "How are we going to fit all of this into the workshop; what are we going to do?" The only solution was to find a use for the casings, and fast:

– "Papa, what if we designed a small electric lamp for mountaineers? The Wonder headlamps we used in the army were constantly breaking down."

– "Okay, if that's what you want."

Within a few hours, Fernand was able to modify the parts of a caving lamp so that both the lamp and batteries could fit on one's head. All that remained was to figure out how to attach the lamp to one's head, since mountaineers, unlike cavers, were still reluctant to wear helmets. Paul started looking for reels of elastic bands, but the smallest spools he found were 5,000 meters long, far too much for the initial 200 lamps the workshop planned to produce.

Catherine ended up finding the solution, which would go down in company history as one of the strangest it ever devised. Where could one find a reasonable quantity of elastic bands? At the local open-air market, of course! Paul and Catherine lived in downtown Grenoble at the time, right around the corner from Saint-Bruno Square. The young woman went to a lingerie vendor and purchased a handful of navy blue garters, perfectly suited to the task at hand. And, depending on the ones Catherine bought on each outing, the garter solution even allowed them to offer lamps with different-colored head bands.

The immediate success of their headlamps caught the small team by surprise. As anticipated, mountaineers immediately took to the handy gadget, but they were not alone. The "all-on-the-head" lamp turned out to be a useful tool for just about any activity, from outdoor sports to handiwork around the house. Paul even received a call from the United States from a man who explained that he had lived near Grenoble for a few years, piloting mountain rescue helicopters.

– "I know your company, and I just saw your headlamp. It's amazing."

– "Thanks!" exclaimed Paul, a bit surprised to be receiving accolades from someone on the other side of the Atlantic.

– "So… I have an idea that might interest you. I think every American should have a headlamp in their car. How quickly could you make me 500,000 units?"

Paul remained speechless for a few seconds, his head spinning. At the time, the workshop produced no more than 200 to 300 lamps per month. How would he be able to fill such a large order? He would need to hire more staff and take his company to the next level quickly, and take a huge risk by entering an unknown and distant market. After some agonizing soul-searching, and in spite of a friendly visit from the American client, Paul decided to turn down the offer. He felt that the company was not yet ready and up to such a daunting challenge. All in good time…

Chapter III

Rocks in stock

Michel Suhubiette in the Verdon Gorge.

This was the second time Michel Suhubiette was paying the Petzl building a visit. It was a long drive from Marseille's Calanques, where in the early 1980s, he was working as a climbing instructor. This was an important interview. He had not made it past the reception desk the last time around. The receptionist had politely suggested that he leave his prototype, or rather the cut-out cardboard model, at the front desk. The young climber had not been very optimistic, and yet just a few days later, Paul Petzl himself had called him back. Today, he had an official appointment in the small factory that the family had built in Crolles.

It had not taken long for the 75-square-meter workshop in Saint-Nazaire-les-Eymes to become too small to handle the increased variety and volume of production. Then, one day, property in a small industrial park located just a few kilometers east in the Grésivaudan Valley, had become available. And in 1975, at the foot of the Dent de Crolles, ground was broken on a new 500-square-meter building. The Petzl family had drawn up the plans themselves for a spacious and comfortable workplace. A bit too spacious for Fernand, who sometimes confided to his friends, "It feels less like a factory and more like a church!" From an administrative and financial perspective, the move provided the opportunity to clearly delineate the business structure. A private LLC was formed, with Fernand ensuring that company shares were split between his two sons, Paul and Pierre, who were already heavily involved in the business venture. They also put the finishing touches on the Petzl identity, first by eliminating the "F." (for Fernand) on all products, and then by designing a logo. The assignment was entrusted to Yves Marchand, a professional graphic artist who Paul had met by chance

The building in Crolles in 1975.

one day at a printing shop. The goal was to break from the somewhat "old-fashioned" look of the Petzl stamp, without completely unsettling loyal customers. Yves offered to modernize the oval and provide a more expansive look to the letters, using a rather original font. The simplified logo, symbolizing both the dynamic nature and solid foundation of the company, has not changed since.

The Petzl brand had already begun gaining popularity with mountain sports enthusiasts. In fact, Michel Suhubiette had no intention of meeting with any other manufacturers…

– "You know, we cater more to cavers," Paul said right off the bat while showing Michel around the building.

– "I know! I sometimes use your caving bolt hangers when bolting new routes."

– "Really? I don't really know much about climbing," admitted Paul in a tone that showed he was eager to learn more.

– "It's a sport that's really starting to take off. I teach climbing clinics in the Verdon Gorge, where the locals are getting bored only climbing routes that follow cracks and dihedrals. A bunch of us would like to put new lines up the smooth faces. There's a lot of potential, but we need the right equipment."

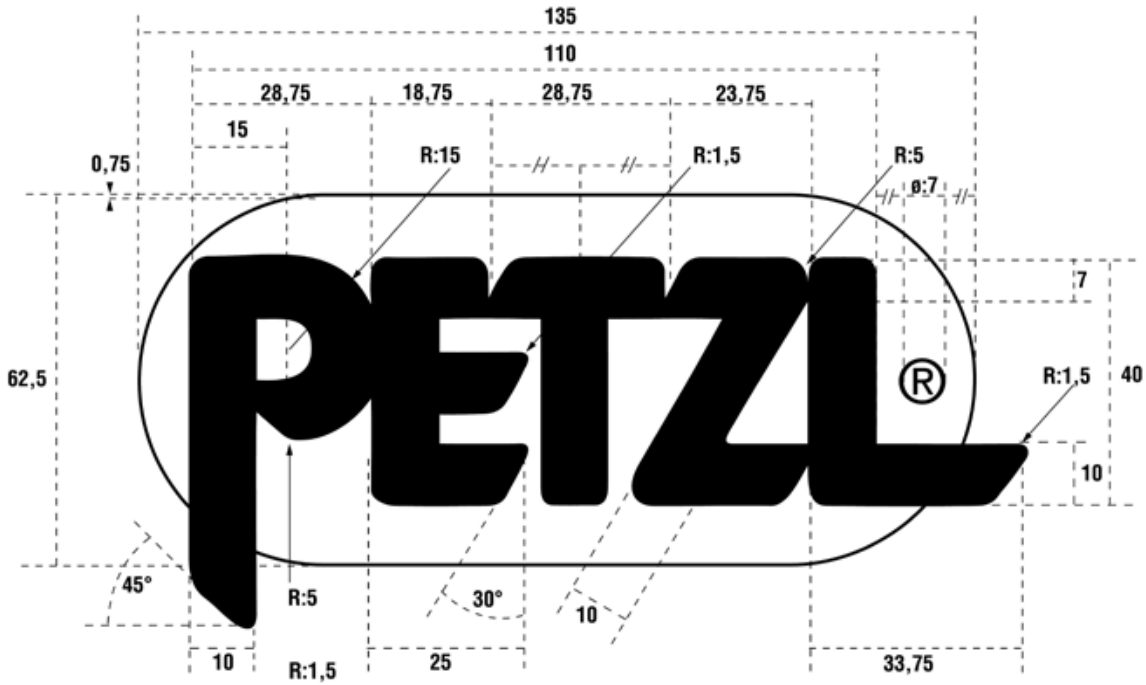
– "What are you using at the moment?"

– "We tinker around, make bolts with scraps of metal, then drill the rock for placements. We can't keep going like this, without having the slightest idea how strong the bolts really are. Sooner or later, someone's going to get hurt! That's why I brought you this model."

– "Come on, let's go talk to my dad."

Fernand, who was then approaching 70, had not yet left his spot in front of the drawing board. He listened carefully to the young climber who had come all the way from the south of France with his cardboard bolt hanger in tow. The idea was to design a multidirectional anchor, permanently fixed to the rock, that would provide the carabiner with the ability to freely rotate as the climber and rope progressed upwards. Made of high-quality stainless steel, the future bolt hangers would no longer scar the rock by rusting. The prototype was finished that very

Evolution of the Petzl logo.



The Petzl logo.

Yannick Seigneur on Makalu.

Yannick Seigneur's helmet.

evening. Michel Suhubiette drove back home hopeful, and almost certain that this new tool would be capable of writing a new chapter in the history of climbing.

Paul was particularly fond of this new project, which reminded him of the great period of innovation in caving that had taken place just ten years before. In climbing, as in caving, methods, techniques, and gear play an essential role. Both climbers and cavers are passionate about their gear. At the time, both groups demanded much more from their gear than the mountaineering community at large, which was far more preoccupied confronting the alpine environment: good or poor-quality snow, solid or crumbly rock, the weather… In no time at all, the young Petzl CEO would feel much more comfortable with rock climbers than with high-mountain enthusiasts, whose quest he still had a hard time understanding.

In spite of this, the Isère-based manufacturer did not turn its back on mountaineers. Quite the contrary: since 1978, the company had been selling a helmet designed in concert with Yannick Seigneur, who already had multiple major winter ascents under his belt, and two new routes on the 8,000-meter Makalu and Gasherbrum II peaks. Petzl had asked French helmet company Petitcollin to provide it with the shell, on which they added an attachment system tailored to mountaineering.

A new headlamp had also come out, following the first "all-on-the-head" lamp, and had quickly found a permanent place in every mountaineer's backpack, as well as with other mountain enthusiasts, and beyond. The history of the "Zoom," which hit the shelves in 1981, represents one of the breakthrough moments for the company. Four years earlier, Petzl had partnered with Charlet Moser, the legendary Chamonix-based ice axe manufacturer, in order to share a team of sales agents. The deal was signed during a meeting in Chamonix. Paul still remembers how proud he was of the idea that he would be entering the big leagues by working with the Charlet team, who he was very much in awe of. However, the partnership came to an abrupt end. Major disagreements surfaced over personnel management, and Paul decided

to end the partnership. This clearly peeved one of the sales agents, who swore he would become a competitor. A few months later, his threat had been carried out: a new headlamp, called Face Nord, appeared on shelves. Paul dejectedly drove all the way to Annecy to buy one. When he returned to Crolles, his father quickly took the object apart.

– "It's too bad, he could have put a zoom function on it…" Fernand declared a few minutes into the dissection.

– "What? What do you mean?"

– "It's simple. - He came up with a good switch system, but he didn't think to include a zoom function…"

– "Papa, I don't understand what you're getting at."

– "Don't worry, you'll understand in an hour."

Fernand quickly put together a small wooden case that mimicked the design concept for the new lamp: a spring created the contact point between the light bulb and the battery. This ingenious system avoided the use of a switch, a part that cost a lot of money at the time – around 5 francs – relative to the total cost of making the product. Fernand had the intuitive sense to add a rotating ring, which had the effect of changing the beam diameter as it applied increasingly pressure to the spring. He had just created the now famous "zoom" effect: the beam of light widened as the ring opened, and tightened as it closed.

Paul rejoiced. Their competitor had just unknowing provided them with an incredibly "bright" idea. With Yves Marchand's help, they designed a casing for the headlamp to make it look like a camera. Petzl then registered the patent, one of the most important in the company's history. A few months later, the first offer to buy the patent came straight from… the United States, where flashlight manufacturer Maglite was in the midst of a fierce market share battle with competitors. In spite of extremely tempting offers made by the American company's lawyers, who offered to fly him to Los Angeles, Paul preferred not to get involved. And ultimately, the decision didn't stop hundreds of thousands of "Zoom" headlamps from being sold all over the world; it remained one of the most popular headlamps through the beginning of the 21st century.

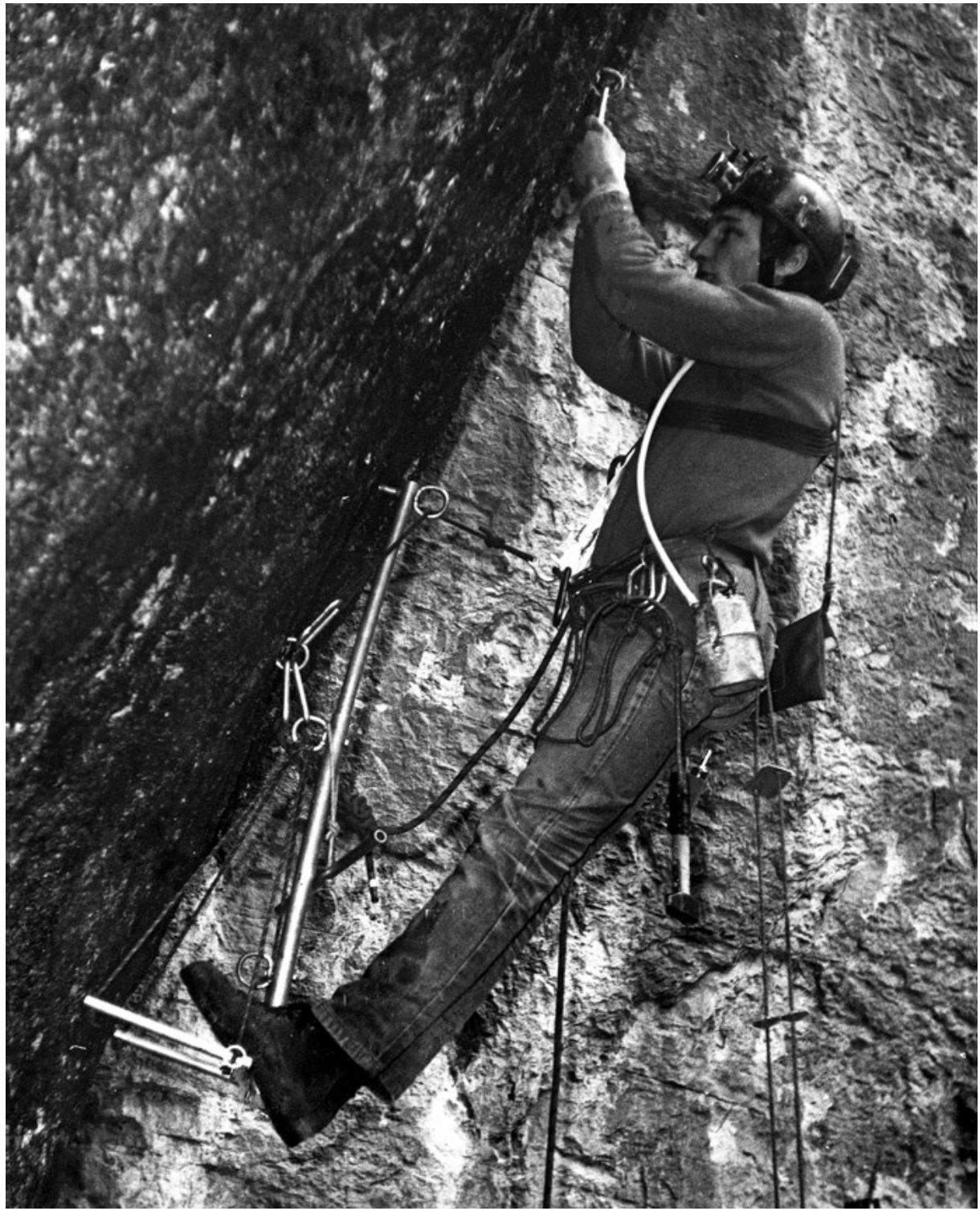
1981: the Zoom headlamp.

The Croll chest rope clamp.

At a time when sport climbing was timidly knocking at the door, caving was still an integral part of the company. Even though the workshop in Saint-Nazaire-les-Eymes was gone, cavers in the area continued passing through to solve the world's problems – the underground world – with the small Petzl team. Among the regulars was Jean-Louis Rocourt, who was fairly young when he first met Fernand during a rescue in Charmant Som, in the Chartreuse Mountains. The native Parisian had learned everything he knew from the Seine Caving Club, but decided to move to Grenoble and work as an electrician in order to devote himself to his passion. Fascinated by Fernand's extensive knowledge, Jean-Louis became a technical consultant, never short on new ideas, and always willing to test gear in the field. He came up with the idea, for instance, of designing a chest clamp to make ascending ropes easier when using a handheld ascender. Thus, in 1975, the "Croll" saw the light of day… during the move to the new Petzl building in Crolles. The young caver also suggested modifying the aid climbing platform invented by Bruno Dressler: while scaling an overhanging section of rock, the user would be able to stand comfortably while drilling the next anchor point. In 1981, Jean-Louis even co-authored a new edition of *Alpine Caving Techniques* with Jo Marbach.

Bombarded with orders after the book's first edition was published, Jo Marbach also decided to start making and selling caving equipment. Leaving his engineering career by the wayside in 1974, he set up his newly established company, TSA, in a garage in Montbonnot, a town just a few kilometers down the road from Fernand Petzl's workshop. The two men knew each other well since they had often tinkered with and discussed equipment together. Both had somewhat cold, distant personalities, and they were able to intelligently coexist. Jo Marbach chose to specialize in caving suits, packs and accessories; he opted to sell his products by mail order, and even offered Petzl the opportunity to use his distribution system. Together, the two companies were able to cover the entire French caving market.

Finally, in order to satisfy the needs of both cavers and mountaineers, Paul decided to make harnesses. It was a product that had absolutely



Jean-Louis Rocourt testing the aid climbing platform.

Jacques and Dany Lancelon.

nothing to do with mechanical devices, the Petzl family's traditional area of expertise. In 1976, he asked his friend Jacques Lancelon for help. Lancelon, the founder of the Seyssins Caving Club, located at the foot of the Vercors Mountains, knew a little bit about sewing since, as a social worker, he had organized crafts workshops for troubled children. Jacques was still working as a social worker when he started making harnesses in the evenings, in one of the rooms of his brand-new house. Thus, Petzl came out with its first full-body and seat harnesses.

Demand increased, and what was originally supposed to be a side job for Jacques Lancelon quickly turned into a full-time occupation for both himself and his wife, Dany. Sewing machines took over their youngest son's bedroom, before being moved to the garage, where three employees worked. In the early 1980s, harness production finally moved to a small, better-adapted building in Seyssins.

But back to rock climbing… After taking on caves and mountains, Petzl was preparing to explore a new type of playground: cliff faces. The company started on the rock walls of the Verdon Gorge. Since the late 1960s, the amazingly steep canyon that cut through the limestone plateaus of the Haute-Provence region, between Moustiers-Sainte-Marie and Castellane had been the delight of climbers from all over southern France. In 1981, Patrick Cordier, one of the area's pioneers, published *The hundred finest routes of the Southern Prealps*. He confidently declared that "the rock walls of the Verdon Gorge have become the place to be for cutting-edge, high-end climbing in France."

Paul could count on Michel Suhubiette, who had moved to the Verdon, to investigate the latest developments and be his key contact in the area. With the final version in hand, the young climber started using Petzl bolt hangers, whose name, Coeur (heart in French), came from their shape. Before bolting a route, he would take care to test the quality of the rock, using a tool Fernand had designed to ensure quality fixed-anchor placements. In 1985, he named his first routes "Afin que nul ne meure" ("So that no one dies") and "Atout cœur" ("Hearts are trumps"), as an homage to the new gear.

But the small equipment revolution in the Verdon would not pass without ruffling a few feathers. On one hand, there was a lot of enthusiasm over this piece of metal that allowed climbers to take on smooth faces and overhangs, which until this point were impossible to protect. No longer slowed by the need to fix each point of protection, and armed only with a rack of quickdraws, climbers could focus their energy on the moves, and establish increasingly aesthetic lines of ascent. The difficulty rating for climbs took a huge leap forward. The success of Petzl's bolt hangers was such that Michel Suhubiette sometimes had the unpleasant surprise of discovering that bolts on his routes had manually disappeared. In 1987, he suggested that Petzl make an updated version that would come to be called Long Life. The screw that held the bolt sleeve to the rock, far too easy to unscrew, was replaced with an expansion cone that, once hammered into the rock, proved impossible to remove.

On the other hand, certain groups of climbers watched the arrival of the new gear with suspicion. They felt that bolts eliminated both the notion of commitment and the need to search for the best line up the rock. In order to take on the historical routes in the Verdon Gorge such as Le Duc, La Demande, La Paroi Rouge, or Ula, established in the 1970s, one needed to possess the ability to climb at least a grade or two above the route's rating in order to commit to climbing above precariously placed pitons or a small tree trunk used as protection, a frequent occurrence in the Verdon Gorge. Even Michel Suhubiette's close friends, such as Patrick Bestagno and Chistian Guyomar, were fervently opposed to the gear.

But nothing could stop the new trend, which helped make climbing accessible to the masses. "Route setters" took to cliffs and even mountains across France and beyond. Among the most emblematic climbers of the time were Jean-Marc and Stéphane Troussier in the Verdon Gorge, Michel Piola in the Mont-Blanc range, as well as the Rémy brothers in the Swiss Alps. Sport climbing quickly began to grow in popularity in the Grenoble region as well. In 1985, the Isère Climbing Club was created, led by Claude Vigier, Pascal Tanguy, Jean-Claude Salomon and Bruno Lambert. The latter, an architect by training, did not take long

The Coeur bolt hanger.

Bruno Lambert bolting a cliff in Saint-Egrève, near Grenoble.

The bolt hanger for every climber.

to understand that aluminum caving bolt hangers and other makeshift pieces of protection did not provide an acceptable level of safety for climbers. He and his friends set out in search of grants and other funding to ensure that routes in the Grenoble "basin" could be bolted in a professional manner. This approach, a first in France, was quickly embraced by the French Mountaineering Federation (FFM), which was well aware that climbing was becoming a sport in its own right. In 1987, the federation added climbing to become the French Mountaineering and Climbing Federation (FFME).

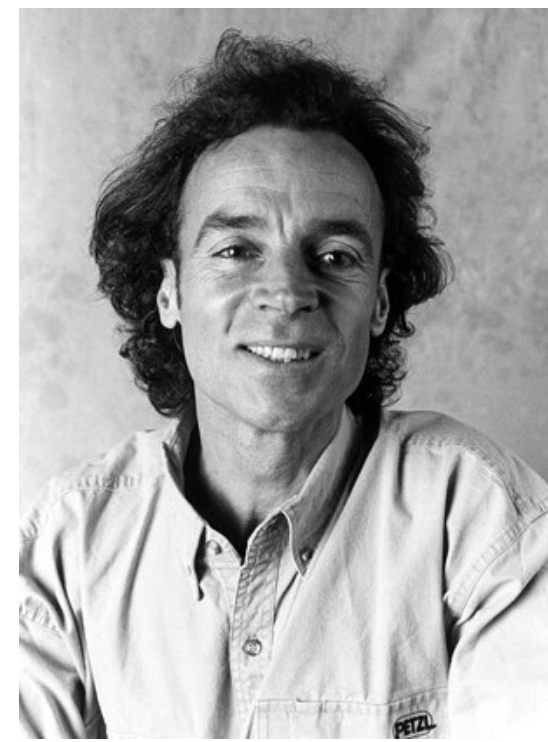
Just about everywhere in France, demand for bolt hangers increased significantly, and Petzl had a hard time keeping up with requests, which often appeared more like calls for charity more than outright purchases. The competition took advantage of the situation to boost sales. The Spanish company, Fixe, started challenging the Isère manufacturer in the climbing bolt market.

Petzl nevertheless continued working closely with climbers. In 1987, the company designed a figure eight descender with an "anti-burn" grip, then started producing narrow, carabiner-saving slings. However, when Michel Suhubiette flipped through the harness pages in the catalog, he was not too pleased to see only blue, red, and white. These were the right colors for caving products, perhaps, but they would in no way win over his tanned, bandana-and-tights-wearing climbing friends in the south of France. In addition, the full-body harnesses designed by Petzl for mountaineers, the "4000", "6000", and "8000", did not provide enough freedom of movement for experienced climbers, many of who moved over rock with the flexibility and grace of elite gymnasts.

The idea of producing a specific sport-climbing harness took hold. Paul was easily convinced, since he had almost accidentally discovered that the market was much larger than he had previously imagined. A few weeks earlier, in the corridors of a trade show, he had learned a secret that triggered an idea; a secret that a distributor for the British company, Troll, shared with him.

– "Hi, how are things going at your booth?" Paul asked cordially.

– "Nothing seems to be going right today."



Michel Suhubiette.

The Lancelon workshop in Eybens.

Harness webbing.

– "What's the matter?"

– "We have 1,500 seat harnesses held up at customs. There's no way we'll get them in time for the trade show… What a disaster!"

After a few words of support, the head of Petzl strode through the corridors of the trade show, his thoughts racing. How was this possible? His own company produced only 300 to 400 harnesses a year, and here was a foreign manufacturer that planned to sell 1,500 in France alone! No doubt about it, the time had come to enter the market.

The first model, made by Jacques Lancelon, was inspired by Troll products. But Petzl's colorful harnesses quickly started standing out from the competition. Jacques brought Michel Suhubiette with him to the company's fabric suppliers in Saint-Etienne. The two returned with webbing made of totally new colors, mixing fluorescent and Jacquard-style checkered patterns. The series of harnesses launched in 1983, the Choucas and the Vercors, the Adrenaline, and then the Jump, looked more like something from the sailing world, where bright colors were the norm, than something made for the mountain sports community. And the new designs worked! In the village of La Palud, the Verdon's epicenter, the Perroquet Vert sporting goods store sold more Petzl harnesses than all the stores in Grenoble combined. German climbers even crossed the Rhine to purchase Petzl harnesses in Strasbourg and Colmar.

The harness was also wildly popular because it was so comfortable, with a padded waistbelt and padded leg loops. Integrating foam into the webbing made the manufacturing process more complex, pushing Petzl to automated production. At the end of the 1980s, the company invested heavily in programmable machines, and Jacques Lancelon quickly became a true specialist. Just one of these machines replaced four small manual sewing machines, and the time it took to sew a harness dropped from twelve to two minutes. Once again, in spite of the 1,500-square-meter facility available to them in Seyssins, the Lancelons quickly found themselves out of room. As a result, Paul decided to invest in a new facility in Eybens, just south of Grenoble, where 28 seamstresses – mostly women – set up shop in 1992.

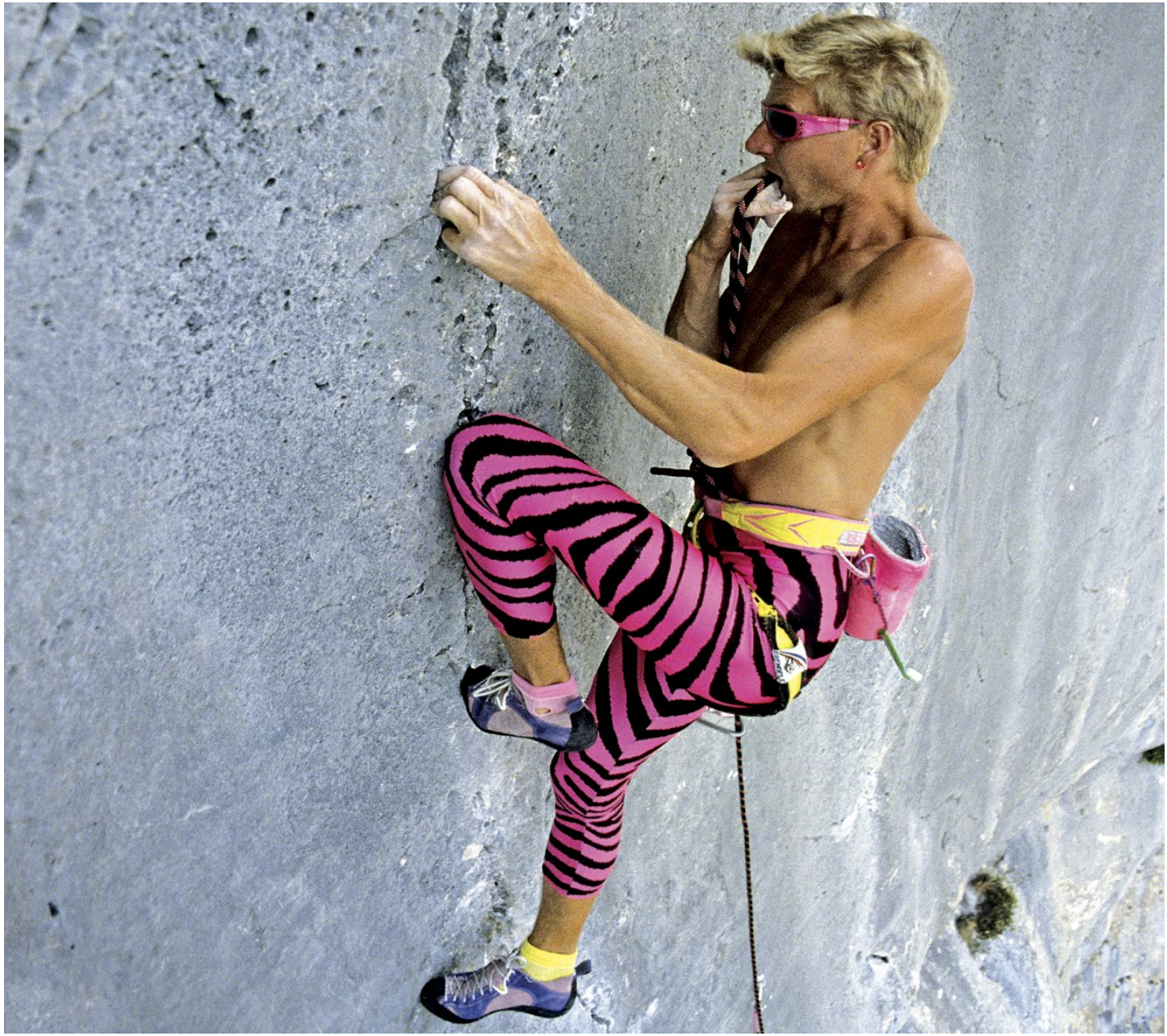
Jump.

Choucas.

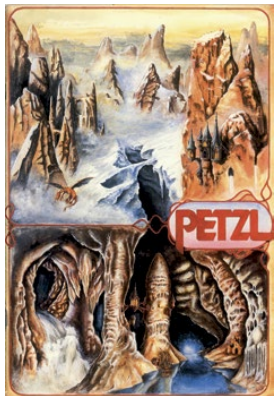
Mutant.

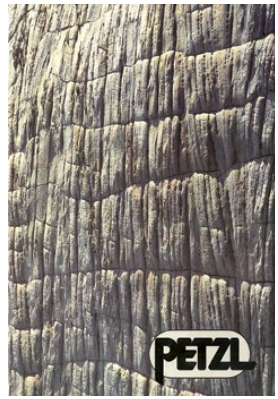
Adrénaline.

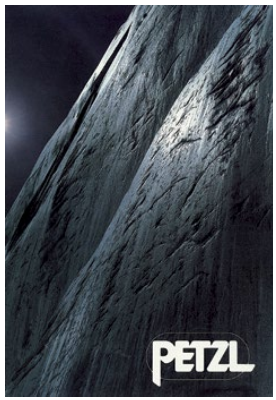
From Grenoble to the Verdon Gorge. The 1980s, another era…

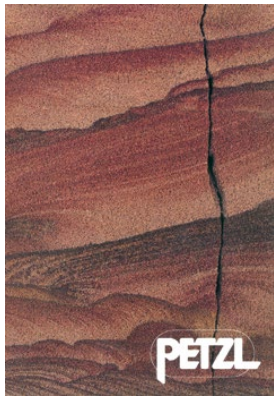


Philippe Plantier.







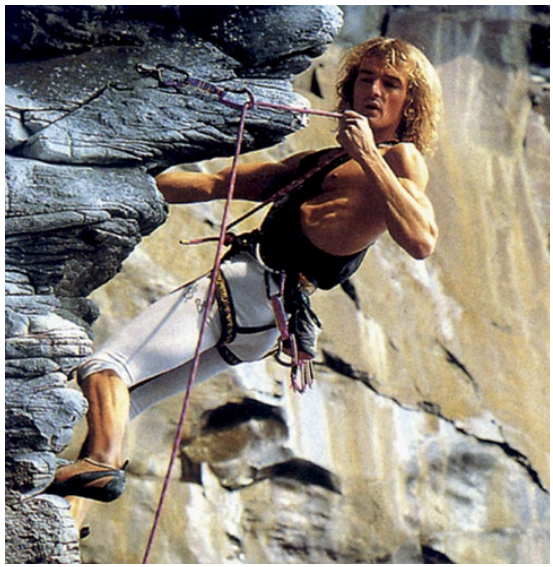


Petzl catalogs from 1987, 1988, 1989, 1990, 1991 and 1992. Right: 1993 catalog with Native American petroglyph.

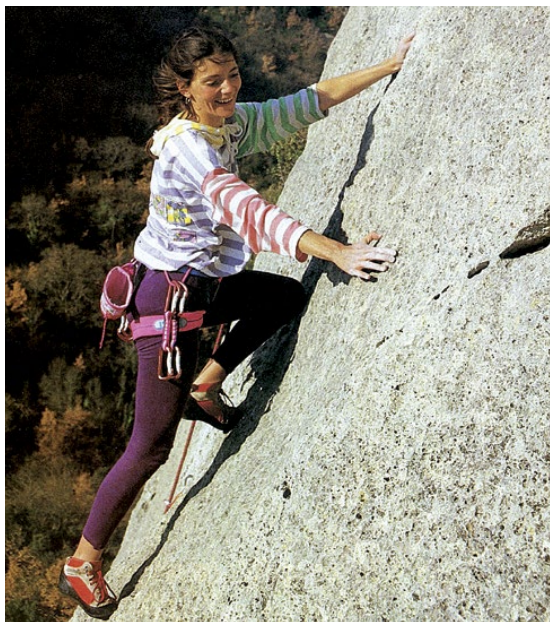
This prosperous period in sport climbing sparked a profound change in the company's image and communications strategy. There seemed to be a newfound touch of exuberance in the serious craftsmen who now found themselves official suppliers to fashionable climbers everywhere. At the SIG, the international trade show in Grenoble where mountain professionals gathered each year, the Petzl booth was completely transformed: traditional logger shirts, velour pants, and knickers were replaced by fluorescent clothing that matched the new harnesses. During a subsequent show, everyone wore a black suit and tie and mysteriously guarded a tall pyramid of drawers that contained the year's yet-to-be-unveiled products. The following year, an unusual airborne machine flew over the booth, created by an artist using salvaged goods. The relaxing atmosphere of the Verdon seemed to have won over the team, who would organize unforgettable parties every evening of the show.

The Petzl catalog cover pages followed suit. Through 1985, it had offered clients rather stark "Technical Guides". And although user tips continued to be a cornerstone of Petzl communications materials, it started distributing its first "magazine format" catalog, full of superb photos, the following year. Caving, mountaineering, and climbing were still presented as the company's three core activities, but climbing clearly held center stage. A full page was dedicated to the Verdon and Calanques routes put up by Michel Suhubiette. Beginning in 1988, other cliffs made appearances on the cover, and rock became the central element among increasingly abstract visuals. As of 1992, along the same somewhat mystical lines, a Native American petroglyph began appearing regularly in the brochures. Paul had discovered the thousand-year-old engraving in pictures that photographer Gérard Kosicki had taken during a rafting trip down the Colorado River. In Paul's eyes, the petroglyph symbolized the idea of rising up, and the vital need for humankind to invent in order to move forward.

Without hesitation, Petzl adopted the unspoken customs of sport climbing culture where image played an increasingly important role. Since the late 1970s, photographers had been traveling from one cliff to another, arranging photo shoots with the most talented climbers to fill



Patrick Edlinger.



Anne Géry.

the pages of magazines that had begun appearing in newsstands; such as *Montagnes Magazine* and *Alpi-Rando* in 1978, and of course *Vertical* in 1985. For the cover of its very first issue, *Vertical* chose a Gérard Kosicki photo of Patrick Edlinger seemingly defying gravity on a Verdon Gorge route.

The general public had been acquainted with this free-climbing pioneer in 1982, through two documentaries directed by Jean-Paul Janssen, *La vie au bout des doigts* (Life by the fingertips) and *Opéra Vertical*. With photos by Philippe Poulet, Philippe Royer, as well as Gérard Kosicki, these two films did more than popularize a sport. The climbers in the film revealed a way of life on the fringes of society, mixing respect for Mother Nature and a penchant for risk taking, while throwing a bit of mysticism into the mix from time to time. Added to this were breathtaking landscapes.

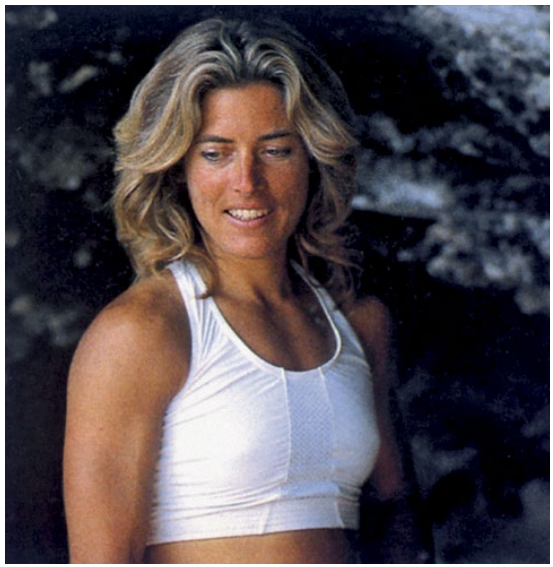
The magnetic personality of someone like Patrick Edlinger could hardly go unnoticed by equipment manufacturers. At the time, he was the most well-liked celebrity in France, according to a *Paris Match* poll. In the collective imagination, "Le Blond" personified climbing "with one's bare hands" and the least possible amount of gear! For climbers, he represented modern rock climbing pushed to its highest levels. In spite of the jealousy that sometimes arose, many wanted to be just like him. Dolomite, Grivel, and Millet were the first companies to offer him a photo contract. It did not take long for Petzl to join in. Persuaded by his girlfriend, Anne Géry – daughter of *Paris Match* photographer Gérard Géry – who helped him field calls from both the media and manufacturers, Patrick Edlinger entered the pages of the Petzl catalog in 1987, brandishing a trophy he had won a year earlier in Bardonecchia, Italy. Sport climbing had henceforth become a competitive sport. The idea had originated with equipment manufacturers. As early as 1981, Trappeur, the climbing shoe manufacturer, had organized a huge gathering of the world's best climbers in Buoux, and asked them to demonstrate their talents to a flock of journalists. The concept of climbers competing head to head continued gaining traction. The Au Vieux Campeur store was the first to organize a competition, in May 1985, while another event was in the works for the following July in Bardonecchia, Italy.

For some, this was too much. Controversy ensued. Was free climbing compatible with stopwatches and referees? To express their opposition, a number of well-known members of the climbing community, including Patrick Bérhault and Catherine Destivelle, signed a declaration called the "Manifesto of 19". While their protest carried enough weight to convince Au Vieux Campeur to cancel its competition, the event planned on the other side of the Alps in Bardonecchia progressed full steam ahead. And it was difficult to stay away from the event, which delighted crowds and thrilled sponsors. Even Catherine Destivelle was coaxed into making the trip; she ended up placing first in the women's category. Patrick Edlinger waited until the following year to enter the arena: he won the men's competition in Bardonecchia, and Catherine finished first for the second year in a row. The two French climbers, quite reserved in nature, were celebrated on television stations across Europe.

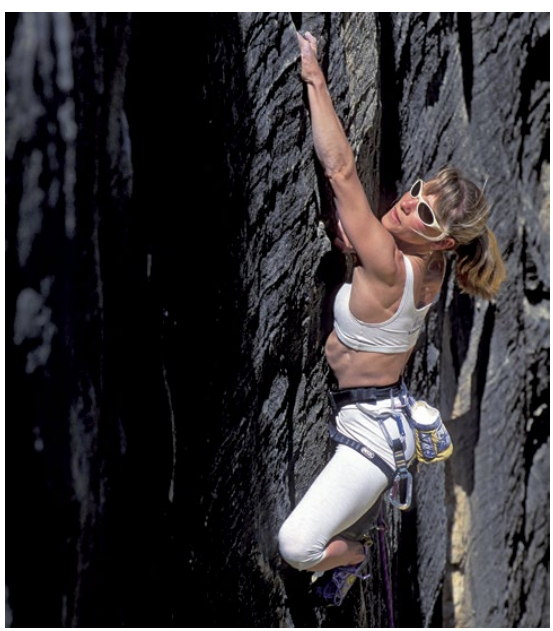
Given their overwhelming success, the number of competitions increased, allowing other climbing personalities to emerge. That same year, Didier Raboutou won the first indoor climbing competition in France, in the town of Vaux-en-Velin near Lyon. Other climbers garnering attention at the time included Jean-Baptiste Tribout, as he raced against Edlinger to be the first person to climb 8c, as well as Bertrand Meunier. These three young climbers established the first climbing "team", put together by Michel Drapier, the founder of *Montagnes Magazine*, with support from Anoralp and Petzl. From the very first events, which he watched with admiration, Paul understood that he needed to support these young athletes and provide them with the opportunity to climb even harder. In 1989, Simon Nadin and Nanette Raybaud, both members of the sponsored team, won the first Climbing World Cup. That very same year, both Didier Raboutou and Lynn Hill won the event held in Bercy, near Paris.

Petzl decided to approach the legendary American female climber, this time through Peter Popall. After joining the company in 1984, Peter had quickly become Paul's right-hand man. He had a solid foundation on which to converse with Lynn Hill, too; in 1974, he completed the first European ascent of the Nose on El Capitan, one of the mythical

Nanette Raybaud and Didier Raboutou.



Lynn Hill.



Robyn Erbesfield.

routes in Yosemite, where the young female climber had started her climbing career. She was at a major crossroads when Petzl contacted her. Her main sponsor, Yvon Chouinard, the famous piton and spring-loaded camming device manufacturer, was in the process of selling his company to his employees, who would turn around almost immediately and create Black Diamond.

Lynn Hill decided to accept Petzl's offer. In her eyes, the small company embodied all the different aspects of France she had discovered during competitions: the way of life, the food, the language, which she was able to pick up quickly. Everything drew her to France, and in particular the cliffs in Buoux, where she would end up buying a house in 1991. Her friend and countrywoman Robyn Erbesfield, also sponsored by Petzl, followed in her footsteps. The 1995 world champion lead climber married Frenchman Didier Raboutou.

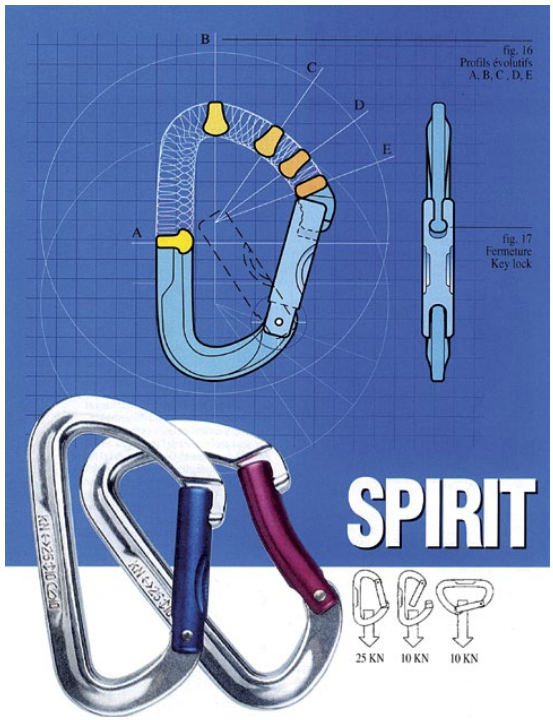
If these American women felt so comfortable in France, it was also because they had discovered another style of climbing. Trad or "clean climbing" was the dominant style back in their home country, and it consisted of leaving no trace of one's ascent. "Stoppers", "Hexentrics" and other "Friends", gear to a large extent created by none other than Yvon Chouinard, are placed by the leader for protection, and systematically removed by the second climber. Protecting routes with fixed placements, which became the norm in France in the 1980s, was forbidden in major American national parks like Yosemite. But climbing ethics came with a price: using removable protection requires experience and weighs a ton! By traveling, climbers from both continents learned to adapt to the rock, going beyond local dogma: bulletproof granite cracks favored removable protection like nuts and cams, whereas bolts were better suited for protecting the smooth faces and bulges on limestone.

Lynn Hill experimented with this phenomenon herself when, in 1993, she decided to stop competing in order to devote herself to more "natural" projects. Her goal was to free climb the last few pitches of the Nose, rated 8c and beyond the realm of anything but aid climbing at the time. To train, she climbed kilometers and kilometers of bolted routes in the south of France, sometimes accompanied by Peter Popall.

Photo : Heinz Zak

PETZL

Visual with Lynn Hill on the Nose, El Capitan (Yosemite).



Visual of the Spirit carabiner.

Thanks to the training, not only did she successfully complete her project – in "US style", of course – but one year later, also succeeded in free climbing the Nose in a single day. One of the company's most important ambassadors, her incredible gaze would grace more than one Petzl advertisement.

By getting closer to American climbers, Petzl opened the door to the entire US market. Paul dreamed of discovering the land of cowboys and Indians he had pictured during his childhood. At the time, he did not speak a word of English, but imagined a country where anything was possible. As usual, this did not keep him from moving forward with caution. The first forays in the American market took place in the early 1980s. Distribution of a few products on the other side of the Atlantic was handled by a caving rope manufacturer, Steve Hudson. His company, PMI, was located in the southeast, in Georgia. At the beginning of the 1990s, Paul decided to create his first manufacturing subsidiary, TMI, in partnership with Rock Thompson, a craftsman who specialized in making clamps and pulleys. This was a golden opportunity to start producing a piece of gear that was missing from the Petzl catalog: the carabiner. The competition was already fierce, and working with a local expert seemed like a wise choice. But this did not mean selling just any product.

A recent innovation heralded a significant leap forward in carabiner technology. The new system, referred to as "Keylock", eliminated the problem of the carabiner gate catching on the rope or harness gear loop when opened or closed. Paul contacted the inventor, Chamonix high-mountain guide Jean-Paul Fréchin, and offered to purchase his patent. Alas, it already belonged to Kong, an Italian manufacturer, who refused to enter into any discussion. But by doing a little research, Peter Popall was able to find a flaw in the patent: an article in the specialized press describing the "Keylock" function appeared before the patent was registered. The patent therefore no longer had any value, and this discovery gave Paul the leverage to negotiate a licensing agreement with Kong. The experience would push the young CEO to pay close atten-

tion to protecting his engineers' inventions, in the same way that the harness import "secret" from the Troll distributor led him to establish a mindset of confidentiality in his company.

In 1991, the Spirit, the first-ever Petzl carabiner, left the TMI factory and conquered the world market. And as always, Paul insisted on maintaining tight control over quality assurance. Just prior to market launch, each and every unit was returned to headquarters, where the tireless Fernand had developed a plier-like device to strength-test each carabiner one by one.

Gear for caving, mountaineering, and climbing, headlamps that sold like hot cakes… At the start of the 1990s, the thirty-seven employees at the Crolles factory were becoming overwhelmed by the brand's success. The time had come for Paul to make several critical decisions. For years, he had felt like he was fighting an uphill battle to keep the 8007, Petzl's ski touring binding, afloat. After the initial design issues, sales had considerably improved, representing up to 40% of company revenues. But every year, the company had to reassess their fluctuating position, which was too dependent on market whims that changed according to snow conditions and improvements in equipment technology. First, leather touring boots had been replaced with plastic boots. Now the entire binding needed to be modified, given the invention of inserts – a binding system developed under the name "Low Tech" – which considerably reduced ski weight per foot, and made the boot-binding interface much simpler. Petzl was contacted by the inventor to develop the product. Should it continue to invest in the ski market? Paul feared that throwing himself into the new adventure would be a big mistake. Without regret, he decided to abandon ski touring bindings altogether. From then on, his company's mission was crystal clear: facilitate progression in the vertical world. Climbing, which in less than ten years had become the company's specialty, was driving growth, just as caving had at the beginning.

In 1991, the binding disappeared from the catalog, replaced with an invention that would become one of Petzl's signature products, and

The 8007 ski touring binding.

The Grigri belay device, from prototype to finished product.

The art of belaying… and "taking a whipper" in climbing.

which once again brings our story back to the rock walls of the Verdon Gorge. In order to reduce the risk of accidents, particularly on cliffs where people were learning to climb, instructors were looking for very specific belay tools that would allow them to simultaneously oversee multiple beginners, who were not always comfortable using the legendary figure eight descender. In Crolles, boxes were filling up with prototypes. The Petzl team was trying to figure out how to provide climbers with a belay device as trustworthy as a seatbelt. Paul, Fernand, Peter and Michel Suhubiette were working on a solution, with the help of the first engineer ever hired by the company. Alain Maurice was barely 25 years old, but his new employer believed in his ability to innovate: the young engineer had been making his own snowboards since he was 19. These "home-made" boards were obviously well-designed since he had just made the first snowboard descent of the Barre des Écrins (the glaciated 4,102-meter high point of the Écrins Range).

Bringing together all of their great ideas would finally bear fruit. Paul, by playing around with the Stop, a self-braking descender made by his father ten years earlier, discovered that the device locked onto the rope during simulated falls. Fernand, on his end, remembered the Solo, a device invented a few years earlier by Jean-Louis Rocourt to self-belay while climbing alone. They needed to use the strengths from each of these designs. Little by little, the device took shape. Plastic was chosen for the handle, presenting a technical challenge but guaranteeing more comfortable handling by users. The team also needed to ensure that the rope would be properly threaded through the device: pictograms were engraved on the device explaining how to do so, and a pivoting plate covered it once in place. They even worked with a designer to make sure the object was finger-friendly.

Now all they needed to do was to find a name for this new "belay device with assisted braking", ready to be shipped by the end of 1991. During a meeting, Michel Suhubiette showed up and asked, "So, have you gotten anywhere with your grigri?" Mentioning the African good-luck charm made choosing a name easy for Paul. The Grigri was born.

Visual for the 1987 catalog. From left to right: Paul Petzl, Jean-Louis Rocourt, Peter Popall and Michel Suhubiette.

Chapter IV

Working high above ground

Line operators in action.

Peter Popall hung up the phone with a satisfied look on his face. Although brief, the call he just received had provided a glimpse, in the late 1980s, into the next exciting venture for Petzl.

– "Hello, Mr. Popall? This is the EDF Director in Toulouse" (EDF is the French national electric utility.)

– "Hello! How did the tests go?"

– "I think we have a winner; the guys have been wearing their harnesses all day long, even during lunch!"

This development wasn't just an amusing anecdote. Not too long before, the EDF field workers who maintained high-voltage power lines, known as "linemen", had climbed towers without adequate fall protection. Their gear was not well suited to the task: stiff and heavy harnesses, uncomfortable helmets… It was almost impossible to convince them to wear their safety gear and use a safety belay, in spite of the risks involved working so high above the ground. The result: at least one fatality every year, on average, and many serious accidents.

A manager for EDF in Paris had discovered, during a mountaineering outing in 1988, that it was possible to move around at heights wearing comfortable safety equipment. As a result, the electric company assigned a rather ambitious project to one of its Toulouse-based teams: to find, within a year, the right equipment to improve safety for roughly 500 EDF linemen, and persuade them to fundamentally change the way they approached safety.

Project stakeholders started making the rounds of local mountaineering shops to see what was already available off the shelf.

Peter Popall.

Marc Galy on Directe de l'Amitié, on the North Face of the Grandes Jorasses.

Each aisle held all sorts of climbing and mountaineering harnesses, but nothing that really fit the demands of technicians working at height. At the Le Refuge store in Toulouse, a salesperson recommended that they continue their search by speaking with local cavers. A meeting was set up with the president of the Haute-Garonne Caving Search and Rescue Group, an engineer by the name of Marc Galy. Bingo! they had found their man! The caver had a longtime passion for mountaineering equipment and in more ways than one. A superb mountaineer, he had completed the first winter ascent of the entire Peuterey Ridge in 1972 with Yannick Seigneur and Louis Audoubert, and had also taken part in the 1979 French K2 expedition. In addition, his father was a "lineman"! He certainly didn't need anyone to draw him a picture of the dangers technicians faced in the field.

Marc Galy suddenly found himself in charge of the project. In June 1988, he presented EDF with a selection of gear he considered both safe and well suited for work on high-voltage power line towers: static ropes from Béal, carabiners from Simond, and ascenders and descenders from Petzl. This represented a small victory for the company in Crolles, which was already looking a step or two beyond EDF. The entire "work-at-height" profession needed to modernize its safety gear as quickly as possible.

At the time, high-mountain guides or cavers were often found on mountain road construction sites, roofing projects, and multistory building maintenance and construction sites, supplementing their monthly paychecks by working as masons, painters, carpenters, or roofers. These were projects on which these experienced mountain professionals often worked without any sort of safety equipment, setting aside their habitual reflex to protect themselves. Occupational safety inspectors started taking a closer look at what was going on, alarmed to see workers at height, not on scaffolding, but moving above the void using climbing gear that was nearly impossible to inspect. In order to avoid losing business to large public works agencies, "workers at height" and their employers needed to demonstrate that they took the profession's inherent risks a bit more seriously.

The situation prompted Petzl to develop its first harness for professionals, and in particular for "linemen". Peter Popall designed it based on a seat harness for rock climbing. He added metal buckles to attach the positioning belt, which connects the user to a tower or any other vertical support structure. With a padded waistbelt and leg loops, the harness was designed to allow the user to hang for hours on end. The harness hit the market in 1990 under the name "Navaho", to pay homage to Native Americans and to the Mohawk tribe who helped build the first skyscrapers in New York City. Legend has it that they were impervious to vertigo…

Paul had also decided to create a specialized department within the company to deal with the industrial market, convinced that it would no longer be possible to simply modify mountaineering equipment for workers, who needed dedicated equipment for their specific needs. The new company branch, Petzl Safety, was set up in Challes-les-Eaux, a town near the city of Chambéry, before later being reintegrated into the headquarters in Crolles. In addition to the Navaho, Petzl Safety marketed another harness with an integrated vest, which helped to avoid twists and non-alignment when putting it on – a plus for those not accustomed to wearing this type of gear. The company looked into the specific needs of search and rescue professionals, introducing lanyards and pulleys as well as a harness for avalanche dogs. An evacuation triangle was also included in the catalog, designed by Paul following the failed 1976 inauguration of Grenoble's new Bastille aerial cable car "bubble cabins". After a cable derailed, the inauguration guests all had to be evacuated from the cabins by helicopter. In order to handle this type of rescue, rescue workers asked Petzl to design a harness that was as easy to place on victims as a diaper.

In addition, in the late 1980s, the first European-wide PPE (Personal Protective Equipment) standards were passed. Harnesses, helmets, and descenders were included in the same category as welding goggles or protective firefighter clothing. A 1989 directive required that they be tested in a laboratory and comply with very stringent specifications.

The Navaho harness.

The Light harness with integrated vest.

Work at height at La Défense.


PETZL
Photo : E.T.G.H.

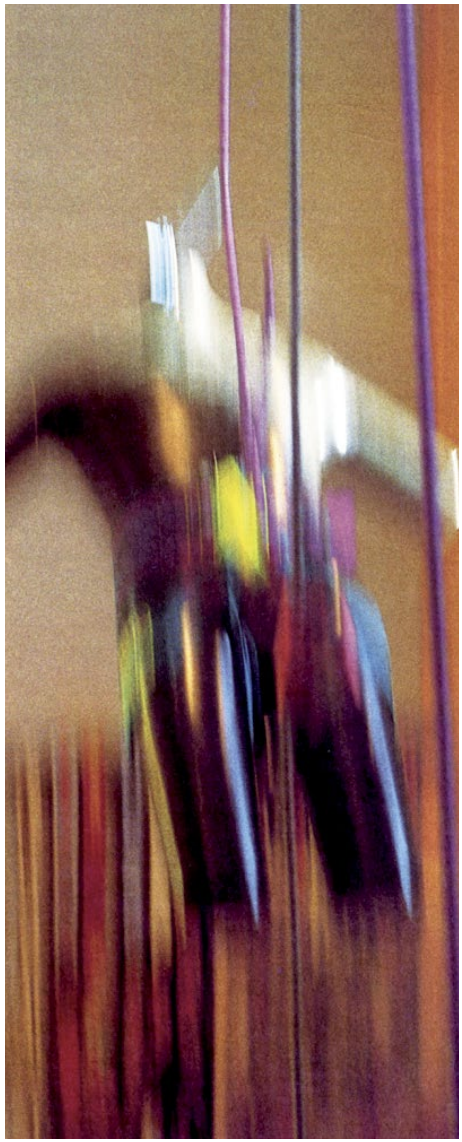
Product demonstration by Pierre Petzl, right.

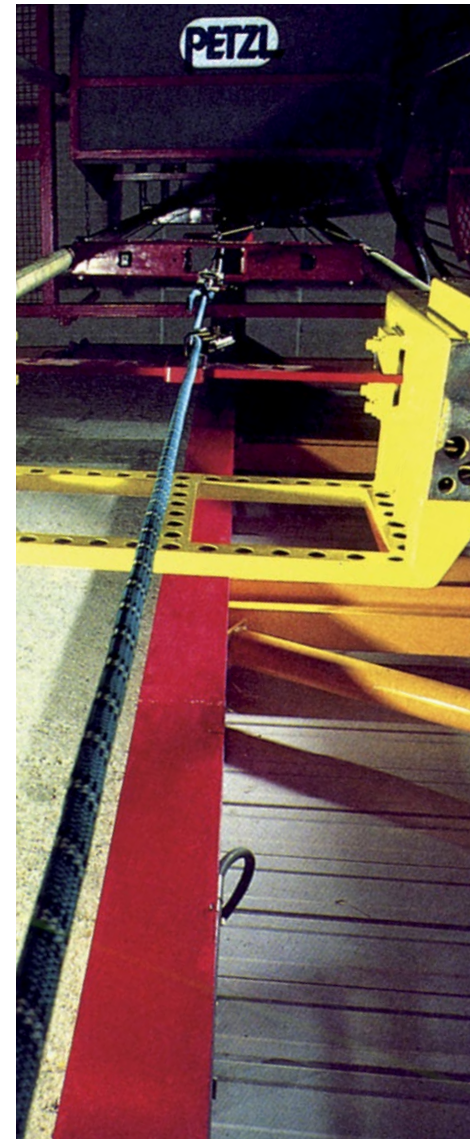
Enforcement of the regulations was pushed back to 1995, and for good reason since there were no existing standards! In order to develop the new standards, equipment manufacturers would end up having to work together for over six years under the guidance of an independent agency.

Paul Petzl did not consider the standards development process to be an obstacle. On the contrary, product reliability and customer safety had always been one of his main concerns, almost to the point of obsession. He was deeply affected by an accident that occurred in 1984, in which his company saw the inside of a courtroom for the first time. The accident victim had been using a Shunt, the clamp designed during the 1970s for rappelling. The experienced climber had decided to use the device to self-belay in order to solo top rope an overhanging route. Unfortunately, he fell, and the Shunt did not function as he had hoped. During the trial, Petzl did its best to explain that the device was not made or intended to be used in this manner, but the company was found liable and forced to pay considerable damages to the injured victim. Paul was upset with himself for not having anticipated the "incorrect use" of this device, and for having failed to imagine the different potential alternative uses beyond those for which it was originally designed. He shuddered thinking about all the product demonstrations he and his brother Pierre had performed during trade shows to attract potential customers. Roped up, they would jump from the top of a ladder, their fall halted by a Shunt.

Improving product information for customers and better risk management became a top priority. In 1985, Paul and Peter decided to build a test tower to determine product performance in various situations. Peter Popall had just joined the team of twenty Petzl employees. Born in Germany, the skilled mountaineer and high-mountain guide married a French woman and moved to Saint-Pancrasse, a small village in the mountains just above Crolles. In the beginning, he had pitched the idea of distributing Petzl headlamps in his home country. Instead, the strong working relationship that quickly developed between the two men set him up for an entirely different role. Peter had been one of the head

Paul Petzl: testing equipment. Pierre Petzl: building the future test tower.





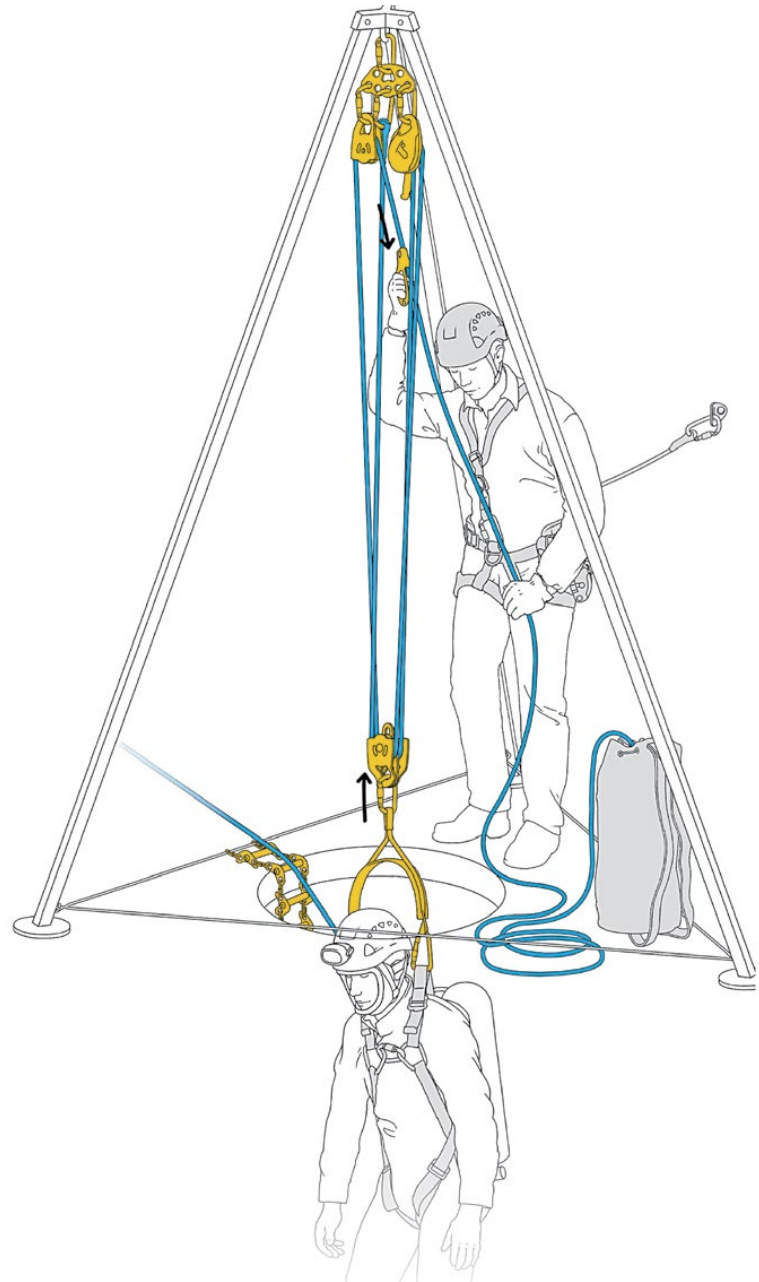
Simulate, test, improve…

instructors at the German school of mountaineering, the equivalent to ENSA (National School of Skiing and Mountaineering) in Chamonix; he was also in close contact with the top people at the D.A.V., the German Alpine Club, well-known for its stringent safety standards. His expertise in this field was an important asset for the company in Paul's eyes, as was his outspoken nature. Peter considered himself to be something of a "royal jester" who would always tell the truth when others could not.

Construction of the 9-meter tower was completed in 1986. First to be moved in was a machine that would raise, then release, a mannequin on command to simulate a fall. This was the first laboratory of its kind ever built by a mountain sports equipment manufacturer. Through it, Petzl gained even more credibility, as well as considerable efficiency. Up until that point, most product testing was performed outdoors. Some of the tests were rather extravagant endeavors, such as the lanyard tests conducted by Jean-Louis Rocourt and Fernand Petzl in the Bourne Gorge, deep in the Vercors Mountains. A heavy weight would be attached to the end of a rope, tied to a car, pulled to the top of a cliff, then "released"… with a box cutter.

Peter also proposed including a technical instruction manual with each product, starting in 1986. Without knowing it, he was a step ahead of what European standards would end up requiring ten years later. Describing how a device worked was nothing new to Petzl, which already had ads for bindings that also served as highly detailed user guides… Standardizing the process, however, allowed Paul to resolve a personal frustration he had felt around his father, who had never really answered Paul's questions, nor made much effort to explain his inventions. Partly because of this, Paul had developed a strong desire to understand and to communicate clearly.

Drawings became the obvious choice to illustrate these new manuals. In the late 1980s, photography, already an integral part of Petzl catalogs, could have become the medium used by the manufacturer to relay technical information. However, since his first meeting with Yves Marchand, the man who designed the Petzl logo, Paul had had a great deal of faith in sketches. They allowed readers to focus on the key

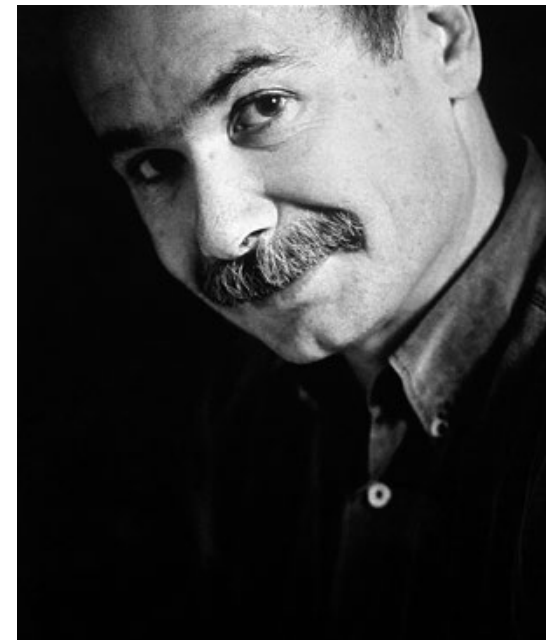


Technical illustrations.

characteristics of the object, and allowed the manufacturer to clearly describe the movements that users needed to perform. A photo, on the other hand, might confuse the reader by showing too many extraneous details. When selecting drawing styles, Yves Marchand worked hard to strike a balance between an industrial drawing and a comic strip. His "clear line" sketches made instructions easy to understand.

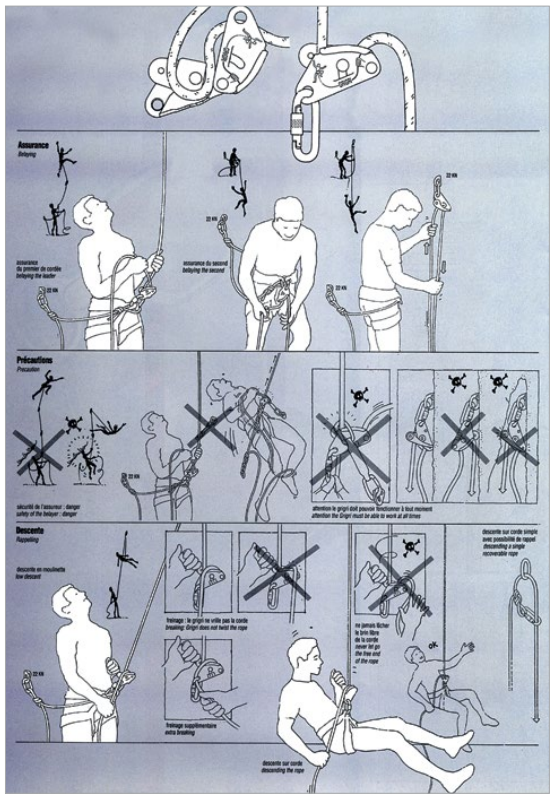
At the time, creating and duplicating all of these drawings required a lot of patience. Yves Marchand worked with a fountain pen. He received very detailed instructions and was constantly making adjustments to his drawings, as he was not an avid climber or mountaineer. Over time, he sought to make the lines in his drawings more active, in order to convey a carabiner gate vibrating, for example. In the beginning, many long nights were spent preparing the catalogs and technical manuals for photoengraving; computer-aided design would not be available until much later.

In spite of these constraints, the drawings would soon become one of Petzl's trademarks. By clearly explaining how to use the gear, the manufacturer was also able to explain key techniques for a given activity. The catalog provided much more than a simple inventory of products for sale; it became both a user's manual and a skill improvement guide. Other manufacturers would soon copy the idea, but for Petzl, the concept went far beyond simple marketing. Numerous books and manuals dedicated to mountain sport techniques would end up using a vast array of Yves Marchand's sketches.



Yves Marchand.

The technical manual played a critical role during the Grigri's first years on the market. The company was convinced of the new tool's usefulness, and that it would significantly change the way climbers approached belaying. But Petzl needed to be there along the way to help guide climbers as they adapted to new techniques. When using the Grigri, the belayer feeds rope out as the leader climbs upwards, always making sure to keep the brake hand on the rope. By locking up, the device is supposed to assist the belayer in stopping a fall. Compared to the traditional figure eight descender used as a belay device, the Grigri



The first technical notice for the Grigri.

made belaying more comfortable and much more reassuring to climbers. They could work the route without worry, as long as the belayer properly followed instructions. As soon as the Grigri appeared in stores in 1991, the catalog and technical manual explicitly spelled out the proper way to "pay out slack" and lower the climber on belay.

In spite of the precautions, some – guides and mountaineers in particular – feared that users would no longer pay close attention while belaying, or that the belayers themselves would shirk their responsibilities. And a few accidents did occur. Each time, Petzl had to take the time to explain things in greater detail and refine its message. This was also a priority for the American subsidiary, which wanted to be well-prepared because of the greater risk of being taken to court in the U.S. The Grigri was not a device designed for beginners, but rather for climbers with a certain amount of experience; it was a tool designed to be used on indoor climbing walls or sport climbing crags, etc., not for mountaineering. Five years after the product was launched, Petzl offered buyers who were not comfortable with the device the opportunity to return it for a full refund.

Despite all of this, the Grigri was an immediate and undeniable success, especially in the sport climbing community. In a three-page article devoted to the device in the December 1991 issue of *Montagnes Magazine*, Jean-Marc Porte wrote, "Sometimes there is a logical evolution that seems more like… a revolution. This is the case with Petzl's Grigri." Hundreds of thousands of units would be sold around the world.

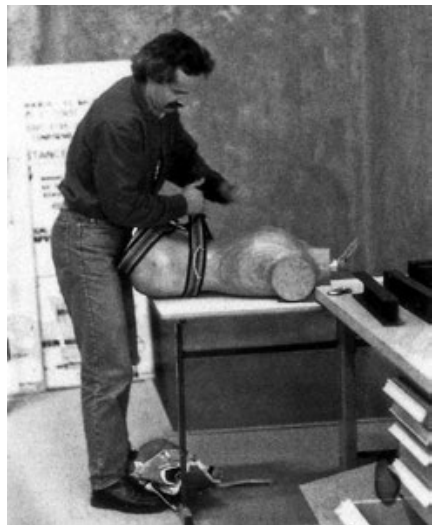
Ever concerned with product safety, Petzl made attempts to offer other guarantees. In 1988, fifteen different metal products started undergoing individual testing. Every unit manufactured was subjected to a mechanical stress test, to verify strength without damaging the device. It then received a tag marked "individually tested." In 1992, a tracking system was established. All products received a serial number which provided reference identification information and a manufacturing date. This approach allowed the company to obtain ISO 9001 certification the very next year and become one the first mountain

sports equipment manufacturers to comply with these standards to confirm the reliability of the process from production to sales. It also represented a huge accomplishment for Marc Galy, the quality assurance director Paul had just hired. During the EDF project, the mountaineer and caver wrote a number of test reports for different pieces of gear. When he wrote to Paul to explain that he had identified sixteen different ways to improperly thread the rope through the Stop descender, the Petzl CEO, instead of getting angry, asked Marc to join the company. "I need someone who nitpicks," Paul explained. Marc agreed to leave his native Pyrenees, where his family awaited his return each weekend. Won over by Paul's enthusiasm and commitment, he actually moved into the Crolles factory! He could have almost been considered the concierge, and subsequently developed a strong relationship with Fernand, who was the first to arrive at the building every morning, and was always available to talk about his latest finds.

While Marc Galy oversaw quality within the company, Peter Popall focused his efforts on ensuring that Petzl became a key player on safety in the mountaineering community. He handled negotiations with other manufacturers to develop European-wide standards. At the time, Jean-Franck Charlet, professor and engineer at ENSA, presided over the Committee for standardization. The Chamonix guide saw that Peter was very quickly becoming the driving force behind the discussions. In its efforts to streamline production, Petzl was clearly ahead of the competition. The company representative did not hesitate to play on his German roots to reinforce the serious image of the brand! Some people even started to think that the Isère-based manufacturer, whose name did not sound very French, was a German company.

The confusion would not last long. On more than one occasion, the French committee members led by Peter, disagreed with the Germans and particularly on harnesses. In the early 1990s, Germanic countries almost exclusively used full-body harnesses – with "suspenders" – since they prevented users from falling head-first. Developing standards for seat harnesses was out of the question for them, despite their popu-

Individual product testing.



Jean-Franck Charlet in the ENSA laboratory.

larity in France. To convince them, Petzl conducted a study using its test tower, with help from Lyon's legendary INSA engineering school. Stiff mannequins, each outfitted with either type of harness, were dropped from the tower and filmed using a high-end camera capable of taking 400 frames per second. The study's conclusions were startling: the fall taken by the "climber" using a simple seat harness proved less traumatic than the fall by the one with a full-body harness. To verify the results, Jean-Franck Charlet proposed an experiment with an articulated crash test dummy, which more closely resembled a real human body. The testing took place at the Toulouse Airport, where the Army's sky-diving test laboratory was located. Overall, the second round of testing confirmed the Petzl study results.

German manufacturers also argued that if anyone with a big backpack were to fall into a crevasse, those wearing only a seat harness would be in for an unpleasant ride. But a new study proved that if the fall victim lost consciousness, their chances of survival were five times higher when upside down, since the position prevented blood from leaving the brain. Over the course of heated discussions, the committee recognized the importance of developing standards for seat harnesses. The French members breathed a sigh of relief. Without this stamp of approval, manufacturers would have had to completely revise their catalogs and climbers would have had to readapt to stiffer harnesses.

By 1995, standardization had became an ongoing process that required manufacturers to constantly pay attention to the latest innovations and marshal considerable resources and energy. For Paul, after obtaining the various certifications, the labels he could now place on his products represented much more than a selling point. The CEO had in no way forgotten that each and every product bore his name.

Crevasse fall.

Chapter V

Behind the scenes

Paul Petzl.

July 31, 1996. It was time to distribute the goods. As part of his yearly ritual, Fernand Petzl was going around the factory with ice cream bars in hand. He offered a "Miko" bar to every employee and spoke a bit with each before continuing on his way. A small gesture to mark the start of the August break, just before production stopped for the month. New hires were always somewhat surprised to see the 80-year-old man roaming the halls in a blue work smock, still able to work on the tiniest of parts without any need for glasses, or even breaking into a sprint to go repair a machine that had stopped working. After a few days on the job, it became crystal clear to them that Fernand was a permanent fixture and an integral part of the company. Nevertheless, as time went by, he was not always aware of everything that was going on…

The building had changed a great deal since the initial move to Crolles twenty years before. Paul had wanted to expand, and as usual, did so full speed ahead. Instead of an add-on here or there, in 1993 he decided to triple the building size, expanding the Petzl facility to 4,500 square meters. In order to maintain tight control over both construction and cost of the extensive project, he contacted construction economist Jean-Pierre Félix. The close Petzl family friend and skilled mountaineer understood his client's needs well; he had already assisted with construction of the Eybens factory in 1992. The major undertaking had involved retrofitting the ceilings to reduce the din from the sewing machines. Immediately after consulting with Paul, Jean-Pierre went to work expanding the Crolles facility. Once again, Paul wanted to improve acoustics, ventilation, lighting, and employee amenities such

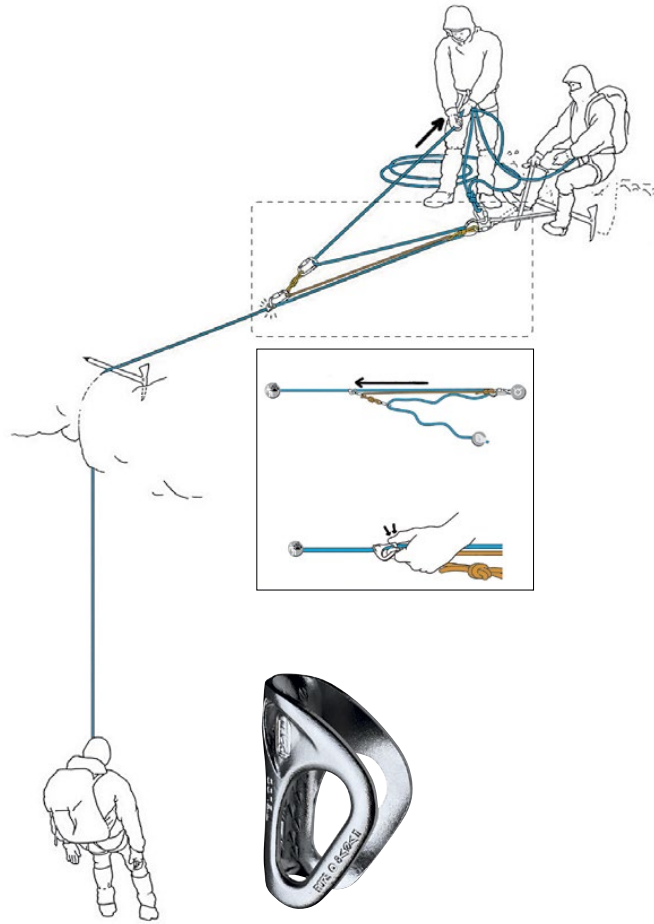
Fernand Petzl.

Petzl headquarters in Crolles, June 1996.

as restrooms. Paul cited the spacious restrooms in American airports as an example. Why deprive hard-working staff of these very modest creature comforts? The headquarters' expansion was completed in 1995, and allowed Petzl to win the Arch'ange Challenge, organized by the government's regional health insurance office to encourage company heads to improve employee work conditions.

Since the expansion, Fernand had a lot more ground to cover on his mission to hand out ice cream. This time around, he started with research and development, a department that was becoming an increasingly formal operation. Alain Maurice, the company's first engineer, had been joined by Jean-Marc Hédé, who specialized in harnesses, then by other technicians from an increasingly wide array of fields. Although everyone had a specific role assigned to them, "R&D" was still at its core a laboratory of ideas. On this particular day, Paul Petzl walked down the long hallway scratching his head, obviously worried. "I can't believe Wild Country came up with the idea before we did… We need to respond, and fast!" The British manufacturer had just launched the Ropeman, a small, very clever ascender. It was the first time Petzl had ever really had a competitor for this type of rope clamp, and it needed to react immediately. Two years later, the Petzl Tibloc would hit the market, a small gem weighing in at barely 39 grams; a minimalist design without any moving parts. It was designed to grip the rope using tiny angled teeth, and proved an ideal tool for emergency situations like crevasse rescue.

In the mid-1990s, decisions on new product development were made quickly. Petzl had yet to experience the unavoidable complexity and inertia of large companies with rigid hierarchical structures. At the coffee machine, discussions ranged from strategic company objectives to weekend climbing plans. Everyone was on a first-name basis. Yet in spite of the rather informal work atmosphere, getting hired at Petzl had become a challenge. The company had a great reputation, and as many as a hundred candidates responded whenever a warehouse clerk position opened. Until that point, being an experienced caver or inventive climber had been a major strength on an applicant's resume, but now, candidates needed a university degree to even be considered! Interviews



Crevasse rescue hoist using a Tibloc.

Petzl's climbing wall.

From left to right: Pierre Petzl, Jean-Claude Heinrich, Jean-François Hecké, Bernard Combaz, Armèle Bohec.

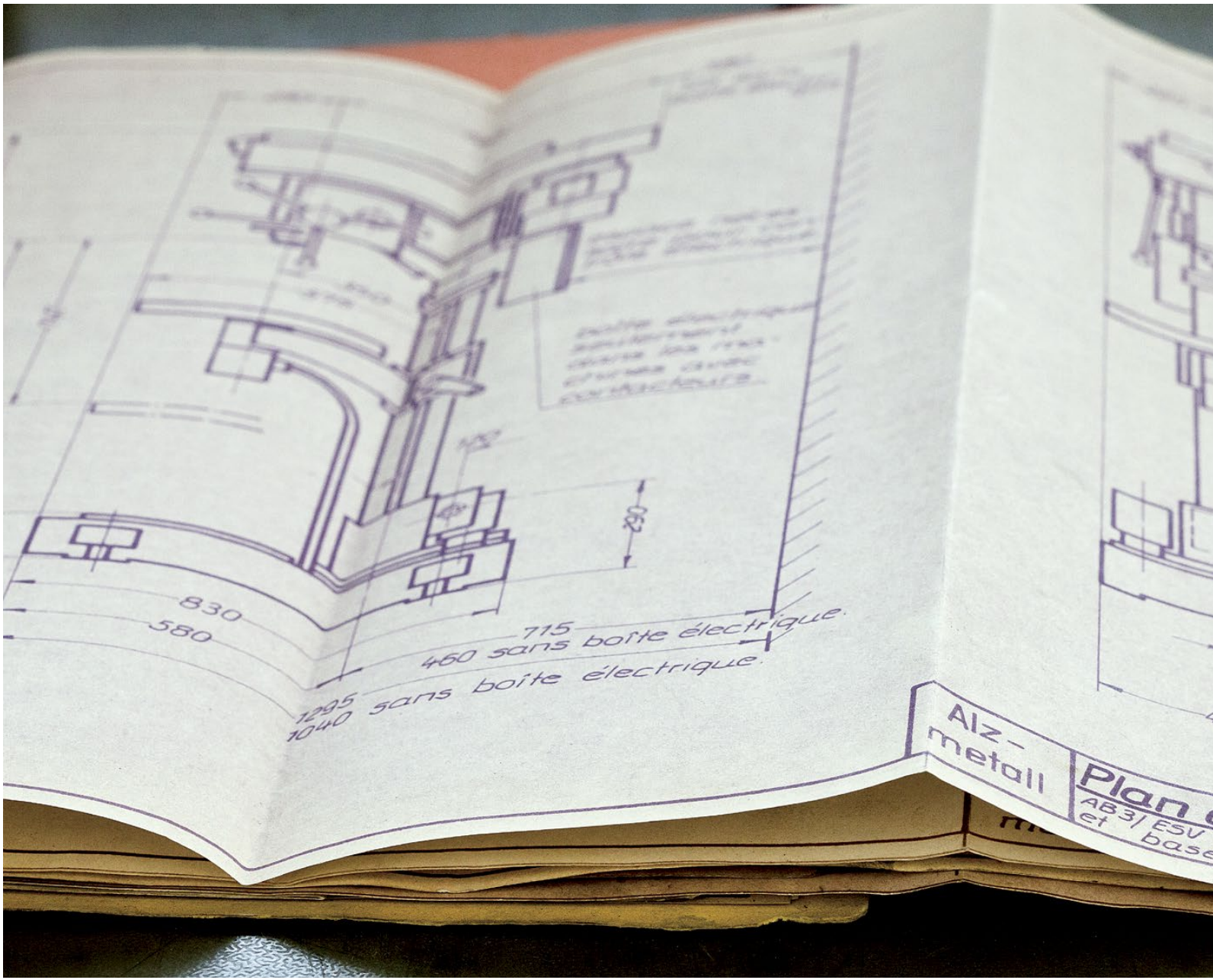
were increasingly formal affairs, giving some candidates the impression that they were applying for a job at the Banque de France. However, this didn't stop Paul from picking up the phone to congratulate new hires. For successful applicants, orientation started with a multi-day training course on the assembly line. The goal was to ensure that "white collars" understood this was first and foremost a factory.

To reach the factory, Fernand had to cross the "Greenhouse", which connected the old building with the new wing. In this wide, open area with bay windows, a climbing wall had recently been built! Paul had seen the exact same structure in a large sporting goods store in the United States. Now, his employees would be able to climb during breaks. Next, Fernand reached the production equipment, which he still monitored with his son, Pierre. Some of the machines there had been in service since the days of the Saint-Nazaire-les-Eymes workshop. The two men knew the machines like the back of their hand, and tended each one as long as possible before replacing it. Around them, a team of factory workers under Bernard Combaz's supervision were always busy inspecting and packaging clamps, descenders, helmets, headlamps, and such.

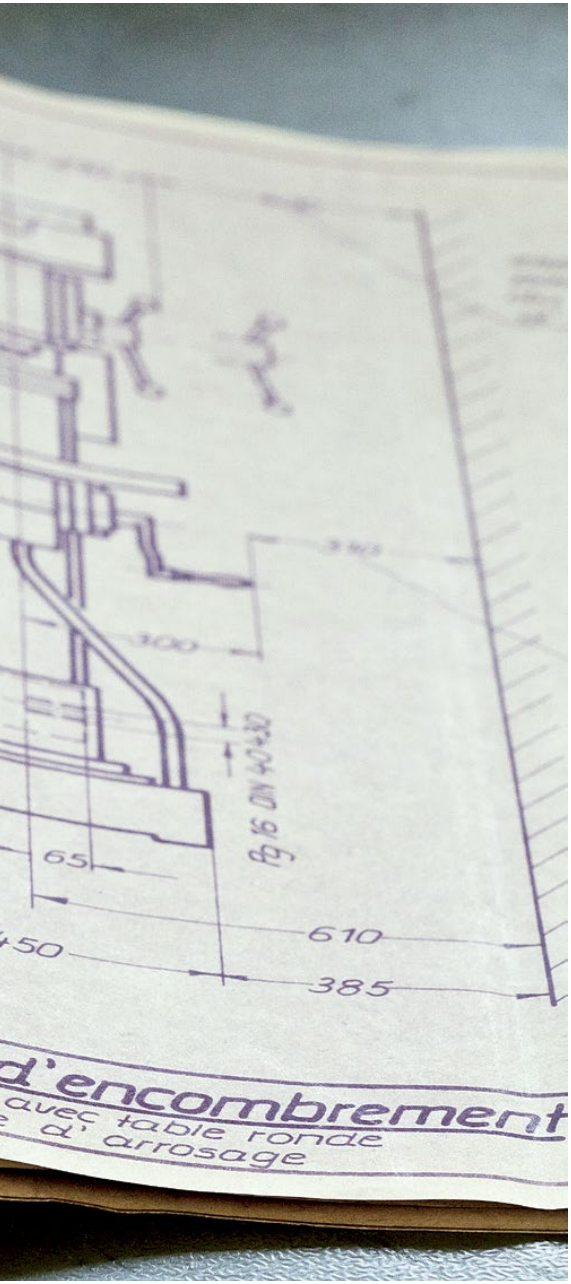
The ice cream man's tour continued on to Logistics. In 1992, the company had computerized its entire order system. The change, led by Jean-François Hecké, had primarily been driven by the need to eliminate inventory shortages and ensure that customer deliveries arrived on time. Those had not necessarily been Petzl's strong suits until then… With order slips in hand, warehouse workers placed products on a moving rail equipped with a switch to send them in one direction or the other, depending on whether the final shipping address was in France or abroad. This miniature "train" had provided countless happy memories for Paul and Catherine's youngest son, Olivier, born in 1982. Like his brother Sébastien, four years his senior, he spent long hours in the warehouse as a child after school. His parents decided to hire a nanny after discovering Olivier in the factory one day, playing with the electric wires of an enormous hydraulic press…

Logistics was also in charge of managing orders for the harnesses and other textile products made in the Eybens factory. For the longest time,

Pierre Petzl and Jean-Louis Simond.



The first machine tools.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GOUFOUR

Fernand made the round-trip twice a week in his van. Once, in 1992, he even took Dominique Carrasco – a warehouse worker who prepared purchase orders and who would later manage the Crolles facility – to Eybens on the winding back roads of the Chartreuse Mountains to avoid roadblocks set up by striking truck drivers. Another key component in the factory's day-to-day operations was the delivery truck, which arrived every day at 10:30 am. Whenever it snowed, everyone in the company, regardless of job title, would pick up a shovel and clear the road for the truck. Paul and Catherine participated in most group tasks, and were often mistaken for ordinary employees. The two were frequently the last to leave in the evenings, along with the cleaning crew, taking care to turn off all the lights as they left the building. Both were products of the family's traditional artisan work ethics, where waste was always abhorred.

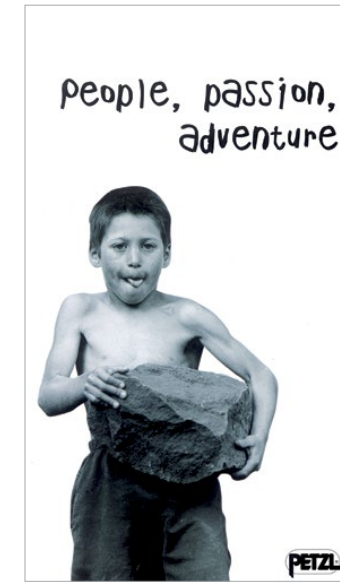
Preparing orders.

With his ice cream bars still cold, Fernand reached the offices. Many were curiously empty, but Paul had vowed that they would soon be occupied. And the future would prove him right: the company would grow from 77 employees in 1995 to 180 in 2000. In these offices worked those who prepared the catalogs, already translated into more than five languages. But no language barrier could stop Fernand from reviewing them minutely; you could always count on him to find even the smallest typo. For a while, Peter and Paul handled all promotional and communication matters, but as the company grew, they understood that the brand, in order to assert its identity in an increasingly competitive market environment, needed to be managed by a communications professional. In 1990, the company hired its first communications manager, a young 24-year-old director by the name of Christophe Raylat, whom Catherine Petzl would nickname "Wild Dog" for his overabundant enthusiasm.

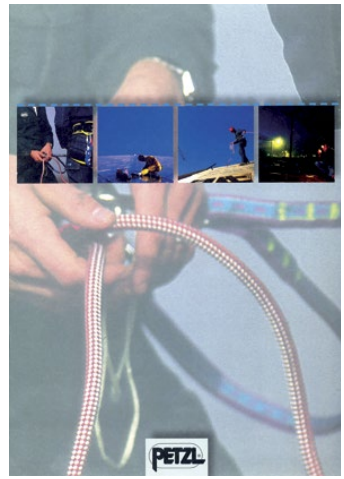
The decade was replete with imagination and creativity. The Petzl brand started distributing posters; to avoid wasted paper scraps, the company asked its printer to cut standard sheets of paper into three lengthwise sections. The thrifty paper-saving trick was how the distinctive Petzl poster format originated! It was also a time when video started to take off, an area in which the brand invested immediately:

One of the first Petzl posters.



Sport catalogs from 1996 to 1999.



Professional catalogs from 1992, 1993, 1997, and 1998.

Chantal Manificat.

Alain Maurice.

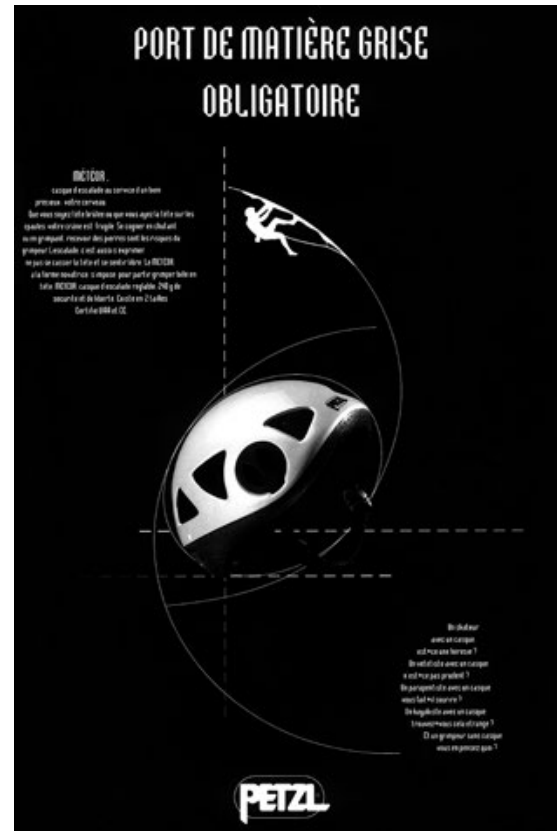
photo-filled color catalogs for stores, instructional climbing films for schools, humorous video clips of the hundred different ways to pronounce "Petzl", etc. After a period of minimalist, even mystical ads, brand communications became much more daring. In 1991, the String came out; it was a triangular piece of plastic that kept the carabiner in place on a sling and also protected the sling from wear and tear. The original slogan for the new product was to be, "If I don't wear my string [French for thong], will you still go climbing with me?" Ultimately, a slightly less racy slogan ended up being chosen… In 1993, Nathalie Martinez took over Christophe Raylat's role and brought more professionalism to press relations. Anne Géry, Patrick Edlinger's ex-girlfriend, who had a great deal of experience working with both athletes and journalists, helped Nathalie in the new role.

The administrative and financial departments were just as busy as everyone else. During the 1990s, the company needed to more clearly organize and define the role of each employee. Until then, many were involved in multiple aspects of the business, and convincing those who did a little bit of everything to take off one of their many hats was not always easy. The task fell to Chantal Manificat, hired in 1992 as Petzl's first-ever Human Resources Director. Paul himself had a hard time delegating, and as of the year 2000, still did not have a personal assistant. He managed all his own appointments with a pencil and paper until Catherine Devidal, from the administrative department, was assigned to work for him full-time. On her end, Catherine Petzl, assisted for years by Bernard Millaud, held the company's purse strings – accounting and paychecks – with an iron fist. Catherine's colleagues knew that if they wanted to earn her trust, there was no room for error.

Interestingly, the more formalized structure forged stronger coworker relations and an almost family-like atmosphere. Employees who had already been through difficult times or been laid off elsewhere felt secure working for the self-financed independent company. "No bankers, no notaries, no associates," was the Petzl family's motto, and they were always tight-lipped about company profits, which, on average, grew steadily from year to year.

As Fernand took a quick detour by the test tower, loud cracking noises filled the air. They sounded alarmingly like a car accident but fortunately, there was nothing to fear. Alain Maurice was busy dropping heavy weights onto bike helmets as part of the design phase for the Meteor. Before each drop, he added or removed a bit of polystyrene foam from the helmet. At Alain's side, a second person was scribbling notes on a pad of paper. Christophe Chedal-Anglay had worked for Petzl as a freelance designer since the early 1990s. For this new helmet, destined to be the lightest on the market, he wanted to include a series of triangular openings, reminiscent of those on the Ecrin Roc, the most recent helmet model. Christophe always enjoyed creating common elements among different Petzl products, in addition to adding a bit of artistic flavor to each shape. But for him, comfort, effectiveness, and quality always trumped aesthetic considerations.

Fernand finally reached the reception area. Although people could no longer waltz into Petzl as they pleased, the company remained open to the outside world. The International Department had just been created to manage all foreign distribution, which now included twenty-four countries, including South Korea, Venezuela, Australia and New Zealand. French sales agents would regularly stop by Crolles to replenish their inventory and provide feedback on market trends. For these sales assignments, Paul recruited a number of high- mountain guides, who understandably had a lot of credibility with retailers. "No need to wear a suit and tie!" he would tell them before each sales trip. Nor did he ask them to unload merchandise, like other sales agents. The guides, including Patrick Magnier in the early 1980s, and Daniel Méot or Didier Lavigne later on, would simply talk about their experience in the field, in the mountains. They even shared their experience by inviting shop salespeople to participate in their clinics. Petzl started to organize "Tech Training" programs with other brands, like Salomon, Rivory & Joanny, Charlet, and Millet. Shop owners and employees from Quimper to Poitiers tackled the vertical walls of the Verdon, spent a night high above Chamonix in the



Visual for the Meteor helmet.

Paul Petzl and Jean-Christophe Lafaille.

Couvercle mountain hut, climbed in the Calanques using a sailboat as base camp, and generally took part in outings that strengthened their relationship with the brand.

Athletes were also constantly showing up at the Crolles factory. Paul enjoyed welcoming them, sharing his latest ideas, and asking them about their recent adventures. He was particularly close to mountaineers Pierre Béghin and Jean-Christophe Lafaille, whose deaths, in 1992 and 2006 respectively, greatly affected him. Each time his friend Jean Troillet stopped by, Paul would ask, "When are you going to stop taking so many stupid risks?", which didn't stop the Swiss athlete from climbing ten of the Himalaya's fourteen 8,000-meter peaks. On the rock climbing side, the team continued adding new members, with climbers like François Legrand, who was busy winning one world title after another, and Isabelle Patissier, two-time climbing world champion.

In 1991, Isabelle was slated to take part in an extraordinary adventure, the brainchild of rope manufacturer Michel Béal. The idea was to break the world rappelling record by descending from a hot-air balloon hovering 2,000 meters above the Algerian Sahara desert. While Béal was busy making the never-ending rope needed to break the record, Fernand Petzl worked on a special descender. The device needed to be able to withstand ever-increasing speed during the descent without burning Isabelle's hands. The test tower in Crolles was way too small for such a task, so, in a wide, open field right next to the factory, a small team took part in a bizarre experiment: Fernand got behind the wheel of his van; inside, Pierre uncoiled a 500-meter-long rope; and behind the vehicle, Peter walked slowly and braked using the specially designed descender to which Paul held a thermometer. Everything performed as planned and the amazing feat seemed within reach … But civil war broke out in Algeria and put the crazy idea to rest.

Pierre, Catherine, Fernand and Paul Petzl.

Chapter VI

North faces

Stéphane Husson in the Dolomites.

The preceding competitor had done pretty well, almost reaching the top of the artificial ice structure, which was as intimidating as a giant spider out of a science fiction movie. When the climber hung suspended in mid-air from only one ice axe, one leg draped over his arm, the crowd shuddered. It was the same reaction every time someone decided to perform a "figure 4", the contortionist move invented by the legendary American climber from Joshua Tree, Tony Yaniro. Next up, Aljaz Anderle. The young Slovenian had trained hard for this second edition of the Ice World Cup circuit for ice climbing, which in January 2001 made a stop in the Italian alpine valley of Val Daone.

Just as Aljaz was about to start, crampons fixed on his feet, helmet cinched tightly to his head, his coach, Denis Pivot, placed a hand on his arm. "Here, use these instead," Denis said, handing the athlete a new pair of ice axes he had grabbed from his bag just seconds before. Aljaz did not panic. He was accustomed to these clever games manufacturers played in order to hide the latest prototypes from journalists who were just a little too curious. The young climber took another second to refocus, and then concentrated all of his energy on the first swing into the column of overhanging ice. He would not have time to make another move… The ice axe shattered in half. When he turned around, Denis Pivot could only stare back with an apologetic look on his face. The Petzl team manager spent a lot of his time tuning gear, to provide each climber their very own customized ice tools. This time around, his tinkering clearly had not worked, but his approach did produce excellent results for the team; at the end of a season spent traveling from

Aljaz Anderle.

Liv Sansoz.

the Alps to Russia by way of Quebec, Daniel Dulac, Stéphane Husson and Tony Lamiche were the top three in the overall men's standings, and Liv Sansoz had placed second overall in the women's standings.

Later date, same story: it appeared as if ice climbing was going to play the same game as rock climbing had just a few years earlier. Obviously, mountaineers had been climbing ice from the beginning, but the discipline had never stopped evolving and advanced hand in hand with the various improvements in equipment. In the 1970s, technical ice axes, whose use had gradually spread from Scotland to the United States, were finally introduced in France by Walter Cecchinel. On steep terrain, climbers no longer needed to chop steps or use aiders; they could now face the ice directly when climbing, ice axes in hand and front-pointing with rigid crampons. The door to new routes, some physically impossible before, was opened wide. Nowhere was this more aptly demonstrated than on the high glaciated faces of the French Alps, as with Cecchinel and Claude Jager's legendary first ascent of the North Couloir of the Drus in December 1973, or Gabarrou-Albinoni's route on Mont Blanc one year later. But these amazing ascents were not the only leap forward.

Climbing "routes up frozen water" had started becoming a sport in its own right, most notably in the United States. In 1974, Jeff Lowe and Mike Weiss made history in Colorado with their visionary ascent of the frozen, 300-meter-high Bridal Veil Falls. This type of climbing started to appeal to elite climbers in France as well. In 1975, Pyrenees guides Dominique Julien and Rainer Munsch started exploring the untapped potential of the Cirque de Gavarnie in the Pyrenees, including the "Mur de la Cascade" (Wall of Ice). In the meantime, Chamonix-based equipment manufacturer Simond was coming out with the Chacal, the first technical ice axe with a reverse-curve pick, which significantly improved holding power and the ability to penetrate the ice. To further improve performance, some climbers even started to bend the shafts of their axes to keep from smashing their fingers on the ice with each swing. Not too long after these initial amateur modifications, the first curved shafts started appearing on shelves, foreshadowing the Pulsar's

grand entrance, a now historically significant technical ice axe designed by Charlet Moser in 1986. In the 1980s, the number of first ascents increased exponentially in every mountain range in France. In spite of the still somewhat rudimentary equipment, climbers enthusiastically took on the most spectacular icicles and free-standing pillars that formed during long periods of sub-zero temperatures. During the winter of 1986-87, dynamic duo François Damilano and Godefroy Perroux completed an impressive series of ascents in the Oisans Range, climbing "L'Intégrale des Moulins", putting up the ephemeral "Visa pour l'Amérique" with Philippe Pibarot – which has yet to see a second ascent – and completing the route "Etoffe".

As more routes were being attempted, the level of difficulty started rising rapidly, and ice climbers had no qualms about using then-widely used sport climbing techniques. In this relatively new sport on vertical ice, the difficulty rating system had yet to be invented, or standardized among countries. In 1989, Perroux and Damilano, who wrote a regular column together for *Vertical* magazine, proposed a two-part rating system. A Roman numeral (from I to VII) would define how "serious" a route was (commitment, length, remoteness, etc.), followed by an Arabic numeral rating its most difficult move (from 1 to 7). This quickly became the standard rating system.

The media slowly but surely began covering the sport. One year before the making of *La vie au bout des doigts*, in 1981, director Jean-Paul Janssen dedicated one film of his documentary trilogy – *Overdon*, *Overice*, and *Oversand* - to ice climbing. The film *Overice* follows Patrick Bérhault, Patrick Edlinger, the Troussier brothers, and Jacques Perrier during their winter exploration of the Fournel Valley in the Écrins Range. The traditional headbands they donned while scaling the warm and sunny rock walls of the Verdon Gorge were replaced with Peruvian beanies… In 1989, François Damilano, Bernard Amy and Gérard Kosicki shared their passion through words and photos by publishing an awe-inspiring book called *Chemin de gel* (Frozen Path). The first international ice climbing rallies and festivals began, organized by passionate ice climbers such as Gérard Pailheret, who created the now well-known

The Pulsar, one great ice axe!

François Damilano on Dessous Choc, in Châtelard, Switzerland.

"Ice Climbing Écrins" in Argentière La Bessée, a mountain village located in the Southern French Alps. In spite of its initial growth spurt, ice climbing remained a marginal activity. Sports federations and other mountain sports authorities in France took a bit of time to officially recognize it. During the mid-1990s, when François Damilano recommended that ENSA incorporate an "ice climbing module" into guide training, the proposal was considered premature. By the end of the decade, the discipline was finally integrated into the official high-mountain guide training curriculum, under the impetus of instructors like Christophe Moulin and Jean-Marc Troussier, who had been "ice climbing converts" for some time.

Denis Lozac'Hmeur and Paul Petzl.

At Charlet Moser.

It was during this period that Petzl decided to invest in the "ice tool" market. If the Isère-based manufacturer wanted to remain an expert in the vertical arts, it needed to offer a wider range of high-mountain oriented products, more specifically tools such as crampons, ice axes, and ice screws, which allowed enthusiasts to move over ice. Just as the R&D team starting working on these very products, the company learned that Charlet Moser was being put up for sale.

The sales partnership between Petzl and Charlet that had gone awry in the 1970s was now water under the bridge. The Chamonix-based manufacturer had moved to the town of La Rochette, in the Savoy region, after having been purchased in 1983 by descendants of the Leborgne family. The long line of blacksmiths who had started off in the metalworking industry had gradually become garden tool specialists. In 1999, the heirs to the company, François and Denis Lozac'Hmeur, made a strategic decision to refocus efforts on their core business. They needed to find someone to buy Charlet Moser.

Petzl did not take long to express interest in making the acquisition, as did another major sports equipment brand. For Paul, this was a great opportunity to round out his product line, but also a key strategic move with regard to the outdoor sports industry, which was increasingly interested in the mountaineering market, as evidenced by Decathlon's purchase of Simond in 2008.

Integrating another company into theirs proved quite a challenge, although this was not exactly a first for Petzl. Just a few months earlier, in 1998, manufacturer TSA had started looking for a buyer when its founder, Jo Marbach, announced his retirement. Since the 1970s, the two caving specialists had maintained a friendly rapport. After Au Vieux Campeur, TSA was Petzl's second largest client in France, selling products by mail order via its Expé subsidiary. It was only natural that Paul hire the seventeen TSA employees. He decided to keep the Auberives-en-Royans factory, located in the Vercors Mountains, moving harness production for the professional market there. Management of the new production unit, renamed Quatuor, was assigned to Marlène Garnier, an enthusiastic young woman from TSA.

With Charlet, the situation was a bit more complicated. In La Rochette, the production site needed a major overhaul. While the steel used in production was of excellent quality and represented a major asset, the manufacturing process was still too traditional and small-scale; everything was still made by hand. Paul decided to rebuild the factory one kilometer down the road, in the neighboring town of Rotherens. Bit by bit, metalwork operations were mechanized, allowing for refined and lighter crampons and ice axes. Engineers Denis Pivot, Laurent Perrod, and Olivier Mathé soon moved to Crolles in order to join the R&D team. The change represented quite a culture shock for them, coming from a small, tight-knit team of barely thirty. Accustomed to working in a noisy and dust-filled foundry, Petzl's offices seemed massive, almost luxurious, at first.

The Charlet factory in Rotherens.

The Charlet Moser brand still had its place in the wider corporate family after the acquisition. Petzl continued engraving the name on products through 2010, first in its entirety, then under the name "Petzl Charlet". Even though the ice axe manufacturer had never created communications tools as powerful as those of its buyer, it continued to retain a strong brand image in the mountain community. The image was maintained by world-renowned technical consultants like François Damilano, Himalayan specialist Jean-Christophe Lafaille, and American

Petzl's ice climbing team, with Denis Pivot and Laurent de la Fouchardière (top), Daniel Dulac, Stéphane Husson, Liv Sansoz and Tony Lamiche (bottom).

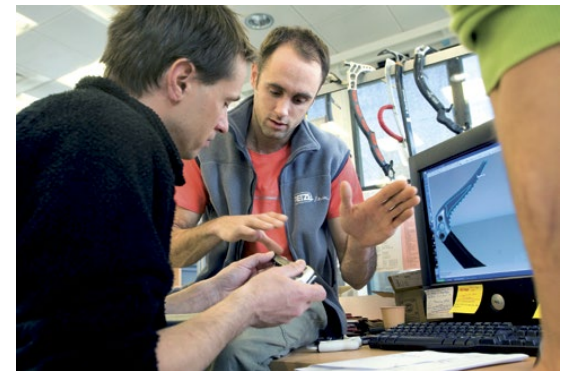
climber Jeff Lowe. In France in the 1990s, Charlet also supported the development of the first ice climbing competitions, many in Courchevel. Petzl was very interested in this facet of Charlet's strategy, and subsequently asked Denis Pivot to put together a brand team for the second edition of the Ice World Cup, during the winter of 2000-2001. To assist him in the effort, the company hired a person by the name of Laurent de la Fouchardière, nicknamed "Lafouche". During the 1980s, he had been a well-known figure on the competitive climbing circuit. Before joining Petzl, he had worked a number of years in the skateboarding and BMX spheres, where marketing was light years ahead of the mountain sports industry.

Petzl thus put together an "ice team". This first team had six members, who for the most part came from sport climbing: Daniel Dulac, Stéphane Husson, Aljaz Anderle, Tony Lamiche, François Lombard, as well as the young Liv Sansoz, who received a crash course in ice climbing right before her first competition! The entire team used Quarks, the last technical ice tool launched by Charlet prior to the acquisition, a wedding gift of sorts. It took Olivier Mathé more than two years to design and develop the pick for this high-performance tool, which was heralded as the best on the market at the time.

In reality, the team had a somewhat "modified" axe in hand. Unlike the version sold in stores, this competitive version was not equipped with the customary leashes that prevented climbers from dropping their axes. The World Cup had just recently established a rule forbidding their use because some competitors were hanging from them in order to rest during their ascent. Ironically, ice climbing specialists, including Christophe Moulin, had recently touted that leashless climbing was a much purer form of the sport. The prevailing argument was that without leashes, the climber could be more creative, and that the moves were much more natural and fluid.

Team Petzl had other ideas on how to improve performance. With Denis Pivot's help, the climbers began modifying the grips on their ice tools. They wanted to increase power, to be able to change hands quickly, and to have multiple grip points on the shaft. After testing a number of

Quark and Quark Ergo ice axes.



Laurent Perrod and Daniel Dulac in the research and development department.

François Damilano and Daniel Dulac on the route Lipton, Rjukan Valley, Norway.

wood and composite prototypes – and experiencing a few disappointments during competition – Daniel Dulac, Stéphane Husson, and friends perfected a very sophisticated, angled grip. The design delighted Petzl's R&D team, which proposed taking the product to market. In 2002, the Quark Ergo appeared in stores, targeting high-level ice climbers as well as pioneers of a new discipline called "dry tooling," which entailed climbing dry rock using ice climbing gear.

Not only did the team take part in improving gear design and performance, but they also provided a new image for the brand. In spite of the unfavorable weather, competitions were fun and lively events. And Team Petzl climbers did not go unnoticed, whether on the podium or offstage, with their multi-colored seventies-style wigs. Equipped with a video camera, Lafouche followed them everywhere, to constantly provide the media with short clips of the team. The following year, during the winter of 2002, he made a 26-minute film that covered not only their competition performance, but also a team trip to the "Weeping Wall" and "Polar Circus", two of Canada's legendary ice climbs. This first self-made and self-produced documentary by Petzl, *Pitch Sorbet*, was shown at the Grenoble film festival, one of the most popular mountain film festivals in Europe. This marked the beginning of a long-term commitment by the company to produce films "in-house". More than ever, Petzl wanted to exert as much control over brand image as possible. A new department was formed during the same period, later named The Studio, to take over catalog, website content, poster, and film production.

The hard work devoted to ice climbing fulfilled the hoped-for goal of "warming" the company's overall image. As Paul had intended, Petzl succeeded in establishing itself as the benchmark brand for technical performance and safety. It had almost become a standards organization in and of itself! However, the company ran the risk of looking like a "know-it-all" while certain competitors unhesitatingly played the more alluring "cool and trendy" card. By the end of the 1990s, this was a major concern for the communications department, led by Antoine Haincourt at the time.

Visual for ice climbing equipment.

Jean-Christophe Lafaille on Beyond Good and Evil, the North Face of Aiguille des Pèlerins, Mont Blanc Range.

The team offered to increase the number of opportunities to meet end-users, in order to reinforce their connection with the brand. In the town of Issy-les-Moulineaux, near Paris, they were bold enough to set up an artificial ice climbing tower in the middle of the street. Passers-by returning home from work were invited to strap crampons to their feet and try their hand at ice climbing, all the while cheered on by Lafouche's talented beat-mixing; yes, he enjoyed being a DJ in his spare time. Petzl also partnered with adventure travel agency Allibert to organize a series of events in the climbing gyms of the French capital. In 2003, in the mountains closer to home, Petzl participated in the construction of an artificial ice tower in Champagny-la-Vanoise, a small mountain village in the Savoy region. The enormous tower, the only one of its kind in Europe, towered 24 meters over the pine trees of the narrow alpine valley. Sprayed with water each winter, in 2004 the tower began hosting La Gorzderette, an annual ice climbing competition and festival created by Stéphane Husson.

The artificial ice tower in Champagny-en-Vanoise.

The goal was not only to invest in pre-arranged competitions and festivals, however. After the boom in ice climbing competitions, the company realized that the natural environment continued to retain its mystical aura. In 2003, breathtaking photos of Jean-Christophe Lafaille climbing "Beyond good and evil" were shot for Petzl. The thin line of ice up the north face of Aiguille des Pèlerins spire, high above Chamonix, does not form every winter. First climbed in 1992 by the Brit Andy Parkin and American Mark Twight, the route marked an important leap forward in difficult high-mountain climbs. It took three years before the line saw a second ascent by François Marsigny and François Damilano. By the beginning of the 2000s, Damilano had other ideas on how to introduce his favorite activity to the camera. He presented a new type of film project to Petzl. With Bertrand Delapierre behind the camera, the well-known ice climber set off to complete a series of unbelievable ice climbs across Norway, Switzerland, Italy, and France (the Arveyron Gorge, Sixt, and Argentière). The project was as much an athletic feat as an aesthetic adventure, during which he brought

The L'Appartement ice climb in Quebec.

Sam Beaugey in Quebec.

The Nomic ice axe.

along six other climbers, including Daniel Dulac and Stéphane Husson. *Ice Up* came out in 2003. Two years later, Petzl took part in another film project starring Erwan Le Lann. The young high-mountain guide had an impressive climbing competition résumé, and had even become an event organizer in the process, before deciding to refocus on difficult routes in the high mountains. *Québec Givré* (the latter being the French term for both "crazy" and "frosty"), co-produced and directed with Chamonix-based guide Sam Beaugey focused on humor and the sheer pleasure of ice climbing, steering clear of notions of performance and suffering, too often the main focus in traditional mountain stories. And yet this was no ordinary scenario: the goal was to make a first ascent of an ice climb in Canada and to Base jump from the top. Mission accomplished. Following the movie, Erwan Le Lann would become Team Petzl manager.

In the meanwhile, design and production of new ice climbing tools continued. The company monitored the rising number of dry tooling enthusiasts, who were putting up increasingly difficult climbs at an astounding rate. The Dart mono-point crampon, introduced in 2003, was developed just for them. Petzl still needed to remain focused on the more "traditional" ice climbing enthusiasts, who had little interest in the radical acrobatic maneuvers that dry tooling often required. The long-established line of Charlet products was progressively updated. In 2006, the Nomic hit stores: a versatile ice axe that bridged the gap between ice gully climbing, waterfall ice climbing, and dry tooling. It fit perfectly with the modern style of "mixed" climbing in the mountains, which had found a new following. Conditions permitting, climbers were now making single-day ascents of formerly multi-day endeavors. This trend has been pushed to the extreme by Swiss climber Ueli Steck, who recently made a flurry of solo speed ascents up the north faces of the Eiger, the Grandes Jorasses and the Matterhorn. In January 2012, he was also lauded for making a one-day winter ascent of the Petit Dru's north face, accompanied by his friend Jon Griffith. This rarely-climbed route saw its first heroic ascent by the Lesueur brothers… sixty years ago!

Winter 2012. Erwan Le Lann had been pacing back and forth in front of his office window for days. There was an exceptional cold front over France, and a never-before-seen phenomenon was occurring right above Crolles: Oule Falls, one of the spectacular waterfalls that spills off the Saint-Hilaire-du-Touvet plateau, looked just frozen enough to climb. On February 14, Erwan decided to partner up with his friend and high-mountain guide Arnaud Guillaume. They took on the 280 meters of waterfall ice, with powerful whitewater still rumbling underneath. The last 80 meters consisted of a spectacular but somewhat fragile free-standing pillar. Once on top, excited and soaking wet, they could see the Petzl factory on the valley floor; it seemed so tiny from their perch. It was almost as if the two climbers were saluting the brand with this first ascent. A fitting way to acknowledge Paul's long-held conviction that there will always be new adventures to embark upon.

Erwan Le Lann high on Oule Falls, February 2012.

Chapter VII

Emergencies and rescues

PGHM mountain rescue conducting training exercises in the Mont Blanc Range.

New York City, January 23, 2005. The city was in mourning. The same story played over and over on local television stations. That Sunday, two firefighters had been killed, and four others critically injured. New Yorkers have always admired and supported the men and women who fight fires, but since September 11, 2001, each new death has been even harder to bear. And in this particular case, "Black Sunday" could have been avoided.

Responding to a fire in an old four-story building in the Bronx, multiple firefighters had found themselves trapped on the top floor in the back of the building. Under normal circumstances, they would have been able to retreat using the fire escape, typical in buildings this size. Unfortunately, there were walls in their way, the result of recent apartment remodeling. Outside the building, the back alley was too narrow for the ladder truck. Cornered by rising flames and unbearable heat, and after multiple calls for help, their only choice was to jump from a window. The fifteen-meter fall left two dead, and the four survivors suffered injuries so severe that they never again returned to active duty.

The top brass at the FDNY (New York City Fire Department) were appalled. Liability primarily fell on the building owner, who had allowed additional walls to be built in violation of the city's fire codes. Nevertheless, the accident raised serious questions over how the city equipped its 11,000 firefighters. They did not have adequate gear to confront this type of extreme situation… where the only chance of survival meant jumping through an opening fifteen meters off the ground. Fire companies in some neighborhoods had tried to develop their own

New York City: the "Black Sunday" building.

evacuation systems, but many of these solutions proved more dangerous than useful. The accident struck a nerve because it affected firefighters' safety as well as their reputation, and unions threatened to go on strike if nothing was done to solve the problem.

In the days that followed, the FDNY created a special commission to develop a PSS (Personal Safety System) for every New York City firefighter as quickly as possible. Among the most active leaders of this working group was firefighter George Grammas. For fifteen years, George had been part of Ladder Company 102 in Brooklyn, and had specialized in training other firefighters. He was convinced a descender would play a key role in this future safety kit. But being equipped with a high-performance tool to descend a rope would not be sufficient; firefighters would also need to deal with the fear of hanging in mid-air, since training had always focused first and foremost on using stairs or a ladder. Firefighters in a major city like New York were not required to be experienced climbers…

Prior to joining the FDNY, George Grammas had worked as a machinist and a toolmaker. He had no problems diving into the technical manuals for descenders that mountain or work-at-height equipment manufacturers had to offer. On the Internet, he came across multiple articles discussing Petzl's Grigri. After picking one up at Eastern Mountain Sports, one of the largest outdoor sports stores in the city, George conducted a series of tests at home to confirm what he had initially suspected: this device could very well allow a firefighter to safely hang outside a building in flames, regain composure, then safely descend to the ground or at the least to a lower floor. The only problem was that his colleagues used 7.5 mm-diameter ropes, and the Grigri was not designed for diameters smaller than 9.8 mm. So George contacted Petzl's US subsidiary. He spoke with Michel Goulet, who was in charge of the professional market:

– "Do you think we could use your Grigri on a thinner rope?"

– "No way. The rope would run the risk of not blocking in the event of an impact; it would just be too dangerous."

– "I understand," George replied calmly, "but this device fits our needs perfectly. Do you think that you could somehow adapt it to our ropes?"

– "It's just that" Michel Goulet let out a nervous chuckle, "At Petzl, we're extremely careful when it comes to safety. We don't like taking risks. In your case, we would need months to develop a specific device…"

– "Look, I have less than one year to find the right equipment. We're ready to purchase at least 10,000 units… Could you take a little time to think about it?"

– "I'll see if there's any way to get this on the fast track."

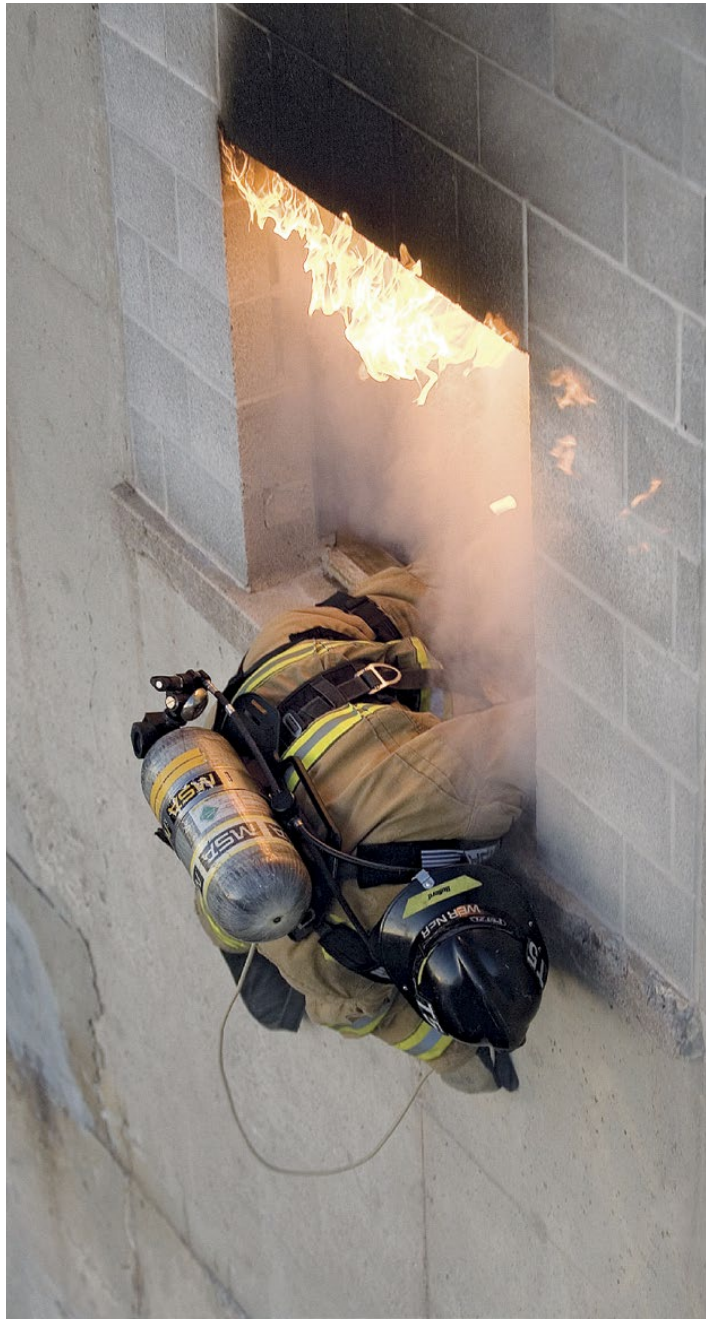
Michel Goulet told Roody Rasmussen, Director of Petzl America, about the call. In 1999, after working for years with PMI as its distributor, Petzl had decided to create a wholly-owned independent subsidiary in Salt Lake City. At the time, the Utah capital, located at 1,300 meters elevation, at the foot of the Wasatch Range, and future host city of the 2002 Winter Olympics, was already a major hub for the mountain sports industry. Black Diamond, the company created by Yvon Chouinard's former employees, had its headquarters there, and the most important outdoor industry trade show in North America, Outdoor Retailer, had been held there biannually for years. After settling into its new home in the American West, Petzl America initially decided to focus on the outdoor sports market. Later, as in France, demand for their search and rescue and work-at-height products steadily increased. Roody Rasmussen knew that working with the most famous fire department in the world represented a great opportunity; it could only help to improve brand awareness for Petzl in the professional market, in the US and beyond.

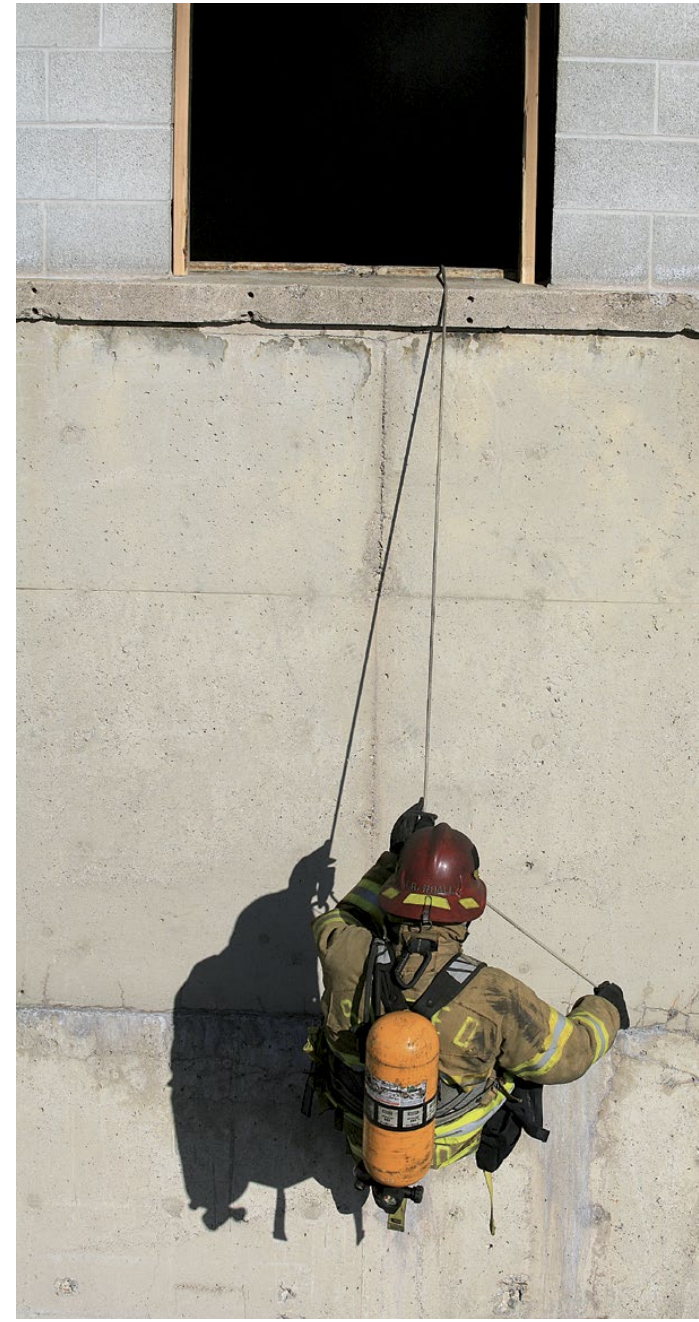
Roody contacted Paul, who immediately expressed a keen interest in the project. He was probably thinking about the call he had received thirty years before from the American who wanted to place an order for 500,000 headlamps. This time around, Paul felt ready to take on the challenge, even though the lead time was extremely short. The task was not a simple one, and initial results from the test tower were cause for concern. Peter Popall was sent a batch of ropes that FDNY firefighters were using.

The American subsidiary in Clearfield, near Salt Lake City.

Michel Goulet and Roody Rasmussen.

Training American firefighters to use the Exo personal escape system.





George Grammas showing the Exo system.

There were quite a few limitations that needed to be addressed. First, the future device would need to be integrated into a full rescue kit that would include a rope as well as a hook that a firefighter would be able to use in order to hang from an improvised anchor (be it a water pipe, heating vent or even a window sill). Next, the small diameter rope was not compatible with the Grigri in its current form. Just a few months earlier, however, a customized version of the belay device had been made for mountaineer Jean-Christophe Lafaille for one of his solo projects in the Himalayas requiring a small diameter rope. It was therefore possible to make further modifications so the Grigri could handle rescue kit ropes that were both smaller and made from fire-resistant but high-friction aramid fiber. Finally, the Grigri's plastic handle risked melting in a fire and therefore needed to be changed. In the end, design and development went quickly. Each new prototype was sent to New York and inspected by an American engineering firm. In just a few weeks, Petzl was able to deliver the emergency evacuation tool that George Grammas had been looking for: it was called the Exo.

The story did not end there, though, and development had the project team biting their fingernails on more than one occasion. Once the system was approved, the FDNY started training its 11,000 firefighters. A herculean task for instructors, who saw 120 trainees pass through the training tower every day; some felt comfortable with the idea of exiting buildings through a window, others were terrified. During exercises, which took place eight meters off the ground, some trainees would execute the maneuver a bit too forcefully, and their rope would get stuck in the Exo's mechanism. A quick tug was usually all that was needed to free the rope. One morning, George Grammas saw one of his men, a 150-kilo giant, launch out the window with his equipment. The rope got stuck, and unlike his colleagues, this rather massive firefighter was unable to free it. In the end, the trainer rescued him, then immediately took the device apart to try to understand what had happened. Unbelievable! The rope had started to tear apart inside the Exo. This time, the problem was much too serious, and training was immediately put on hold.

Two days later, an emergency meeting was held in New York City, with the entire department's upper ranks in uniform. Peter Popall met Roody Rasmussen there in order to deal with the highly sensitive situation. There were a lot of serious faces around the table. Petzl had already made 4,000 Exo units, and tens of firefighters had completed training. Starting all over again would have been considered a colossal failure by everyone involved. Not to mention what the press would have to say since it had started to take an interest in the story.

– "Well," began Peter. "Here is what we propose."

He presented the group with a version of the Exo that included an additional u-bolt. This small piece of metal served to guide the rope and keep it from locking up in the device. Pierre Petzl had quickly developed the system in Crolles. The firefighters whispered among themselves.

– "Okay then, we need five units for immediate testing," said one of the officers.

– "All right," Peter answered as he plunged a hand into his pack, pulling out five modified units.

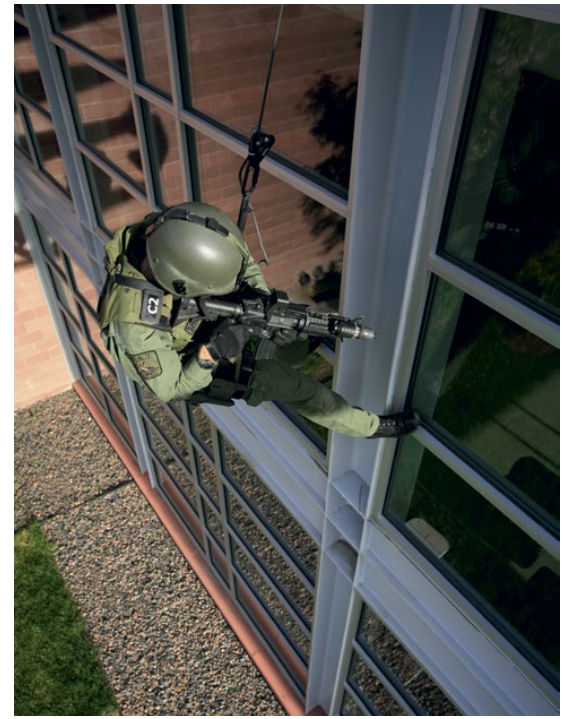
This ability to respond quickly reassured the firefighters, who were satisfied with the next round of testing. Petzl added the u-bolts to the Exos that had already been delivered, and then quietly continued production. In 2006, *Time* magazine ranked the new firefighter Personal Safety System one of the most important innovations of the year. During the months that followed, the American press would also report on how well the device performed in numerous fires. The first involved the Deutsche Bank building, located close to Ground Zero and seriously damaged during the September 11 attacks. In August 2007, it was still being dismantled when a violent fire broke out and forced firefighters to evacuate the building via scaffolding on the 14th floor. Unfortunately, two suffocated before they could exit the building to deploy the Exo, but the majority managed to escape with the help of the device. At the very end of 2007, on New Year's Eve, one of Georges Grammas's colleagues found himself trapped in a building in the Bronx and was the first to use the evacuation system by hooking it onto the thin edge of an aluminum window frame!

The Exo personal evacuation system.

Training for the hazardous environment search and rescue group (GRIMP) in Belgium.

Afterwards, Petzl decided to design and manufacture all the components of the PSS kit, including a hook or a carabiner, depending on user needs. The French army was also interested and placed orders to equip certain units. And it had a few very specific requirements: the device had to be all black and usable with one hand – the second hand needed to be free to hold a weapon if necessary. The Exo joined the ranks of the equipment that Petzl provided to military and special operations forces, such as the GIGN (France's counter-terrorist and hostage rescue group). Among the products supplied to the military were catalog products that came in colors easy to camouflage, or devices specifically adapted to their needs, such as infrared headlamps. A series of customized crampons was even made for the Russian army.

In a wider sense, the Exo reinforced Petzl's credibility and longstanding reputation in rescue equipment. Evacuating an individual in distress, whether in an industrial setting, from a ski lift, or in a difficult-to-access place, requires specific tools that continued to be improved upon through the beginning of the 21st century: lanyards, helmets, lighter pulleys. The product range grew again in 2009 with the addition of the Falcon series, a range of lightweight seat harnesses, including a specific model for mountain rescue. Equipping high-altitude rescue workers remains a privilege for which manufacturers aggressively compete; the relatively small market has a major impact on both brand image and technical design improvements. And Petzl's employees have always been proud and heartened when they learn that one of their products has helped to save lives. In July 2010, Chief Warrant Officer Francis Claudon, a member of Chamonix's elite PGHM mountain search and rescue group, helped save a pair of climbers stuck on the north face of the Grandes Jorasses during a snowstorm, without helicopter assistance. The search and rescue professional asserted that his extremely powerful headlamp made the nighttime rescue much easier.



Special Forces training in the United States.

Petzl has also continued to explore professional vertical fields beyond search and rescue, firefighting, and the military. In spite of numerous Petzl products, available for years to serve workers at height, it took

The Asap fall-arrest device.

Dual handle Ascentree for tree care.

some time for the company to make it known that it didn't just cater to outdoor sports enthusiasts, for whom safety is an entirely personal responsibility. At the beginning of the 2000s, Petzl took an important step forward by designing a descender specifically for rope work; it was called the I'D, for "industrial descender"… or even "idea". The device looks like a large Grigri, but offers an "anti-panic" feature that brakes and stops descent automatically if the user pulls too forcefully on the handle. When it came out, the new descender aroused considerable curiosity, since it was the first Petzl product ever sold with a completely enclosed mechanism. But it did not take long for the device to become accepted. Four years later, the company introduced a clamp to protect against falls, named ASAP. The device is placed on a second rope used for self-belay, and moves up or down the rope on its own, depending on where the user moves. In the event of a fall or uncontrolled slide, the device blocks… "as soon as possible".

In 2003, the company began working with another atypical group: arborists. Tools used by other work-at-height professionals did not always fit the needs of arborists, who have to weave their way through a thicket of crisscrossing branches. This was an entirely different vertical vocation. In order to better understand their needs, Petzl sent one of its product managers, Alexandre Bronnaz, to observe arborists in action. He traveled to the United States, where tree climbing had been a competitive activity for quite some time, to attend the International Tree Climbing Championships. In the years that followed, Alexandre's total immersion allowed for the development of equipment specifically tailored to tree care. Petzl designed the Sequoia seat harness, to which a chainsaw can be clipped, or even an ascender equipped with two handles, more practical to use when climbing up the double ropes typically used. To make tree-climbing even less cumbersome, arborists could also use the Pantin, a foot ascender originally developed for cavers. In the late 1990s, many underground explorers had started replacing the homemade systems they were using with Petzl's foot ascender. Another piece of equipment to remind everyone, once again, of the technical contributions caving has made to rope ascent techniques and equipment…

An arborist in action.

The Pantin foot ascender.

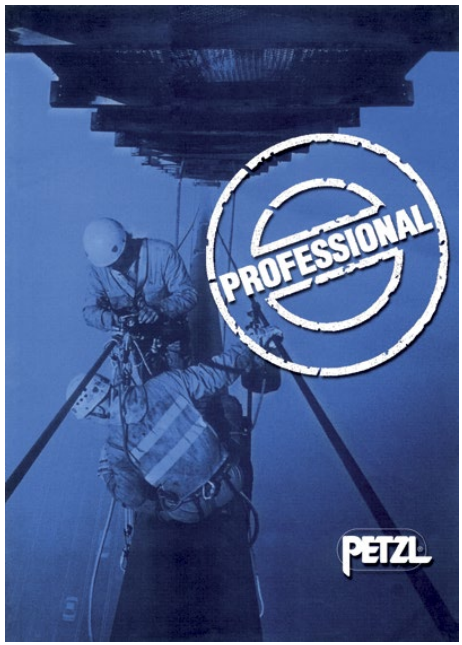
In spite of these occasional "best practice" exchanges between different activities and professions, by the early 2000s it became quite clear that the needs of professionals and those of the sporting world had less and less in common. Companies were now calling upon professional carpenters, painters, and boilermakers; work-at-height techniques were the focus of additional, secondary training. Their jobs range from work on wind turbines and nuclear power plants to offshore oil platforms, requiring manufacturers to adapt their equipment to increasingly demanding environments.

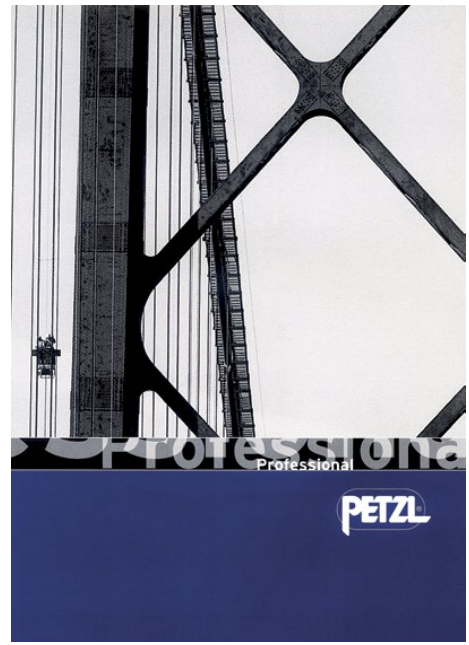
Petzl started to separate and define its product ranges much more clearly. A specific marketing and sales strategy for work-at-height professionals was implemented, using different distribution networks for the tooling, industrial hardware, and construction fields, among others. The "pro" products adopted the black and yellow color codes of the professional market. Far from the atmosphere at outdoor sports trade shows, Petzl had successfully carved out its niche among exhibitors at such trade shows as "Batimat", "Expo Protection", or festivals where hazardous environment and search and rescue professionals demonstrate their rope skills in friendly competition.

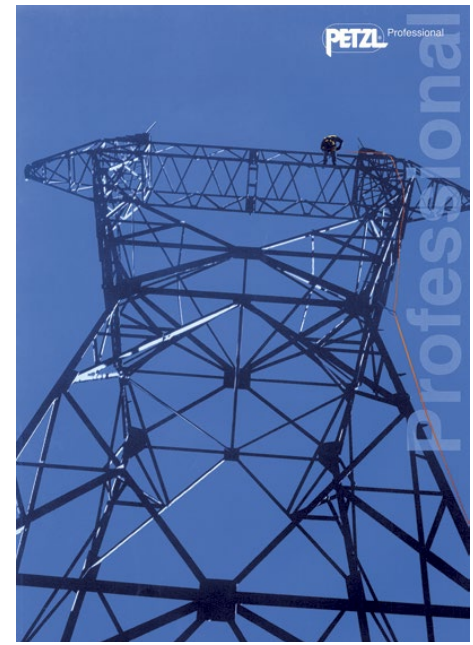
Sales in the professional market now represent almost one-third of total revenues, a success that has also brought new responsibilities. Twenty years after building the test tower and creating its first technical manuals, Petzl decided to take another important step in its educational role by building a training center in Crolles. Certain foreign distributors already had dedicated training structures for sales representatives and retailers, in particular in the United Kingdom, Germany, Switzerland, and Australia. Paul decided to draw on these examples.

Bruno Lambert, architect by training and the recently appointed head of the French professional market, was tasked with designing the first mock-ups for the future training center. The specifications were as follows: a building at least 10 to 15 meters tall, the height at which one starts feeling truly uneasy; with room to house all variety of training equipment under one roof, including concrete, wood, or metal; and an exterior that allowed staff to recreate the real-life outdoor condi-

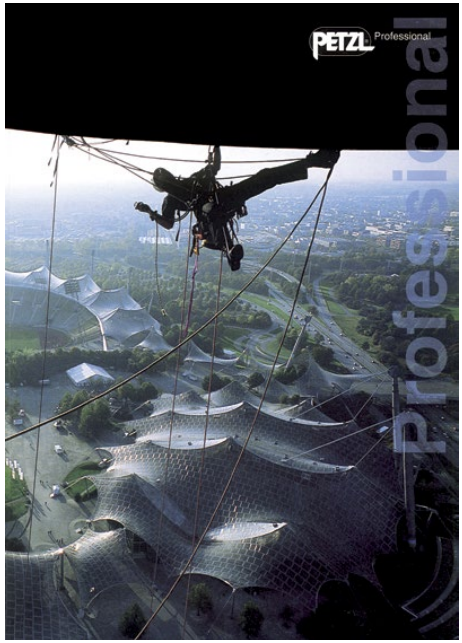
Wind turbine maintenance in Spain.

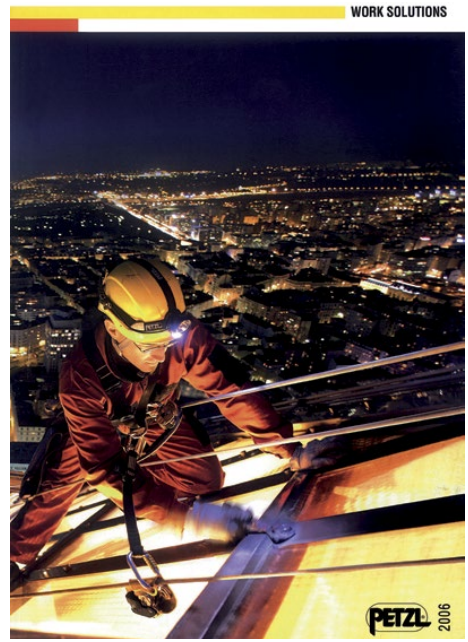






Professional catalogs from 2000, 2001, 2002, 2003, 2006, and 2010.


PETZL Professional
Professional


WORK SOLUTIONS
PETZL 2006


PETZL 2010
VERTICALITY - LIGHTING

Bruno Lambert with the V.axess model.

The V.axess training center.

tions the equipment was destined for. On July 15, 2008, the futuristic, angular building opened in the heart of the industrial park in Crolles. With "V.axess", Petzl did not go unnoticed! On the outside sat a 30-meter-high tower, a chimney, and a variety of tilted walls. Inside were staircases, suspended platforms, and angled I-beams, in addition to a climbing wall.

Peter Popall headed "V.axess" for a few months before handing the training center over to Chris Blakeley, a British caver, in 2010. With help from Marc Galy, appointed head of training, his team started developing training programs for the worldwide Petzl network. The center has become a place where both employees and customers gather. On any given day, distributors from all over the world can be found walking blindfolded on a 120-kilo girder they have just lifted into the air using a complex combination of clamps, carabiners, and ascenders. In another area, CRS mountain rescue teams can be seen practicing rope ascent techniques, hoisting a mannequin dressed like a mountaineer. On the opposite side, trainers are busy putting together an obstacle course with a series of highly technical tasks to challenge competitors in the first-ever "Petzl Ropetrip", an international competition providing a variety of rope teams with the chance to demonstrate their skill at moving up and down ropes.

Sometimes, in this vast gymnasium, muffled laughter can be heard. A few young recruits from the accounting department or the assembly line are in the midst of the verticality initiation course offered to all new hires. High heels, skirts, and slacks have been left behind in the locker room to make way for more well-adapted garments. Their helmets a bit crooked, with skeptical looks on their faces, the small group listens attentively to the instructor's directions. In a few minutes, and for many, for the first time in their lives, they will put on a harness and hang in mid-air.

During the 2012 Petzl Ropetrip in the V.axess building.

Chapter VIII

Sleepless nights

Nighttime trail running workout with the Belledonne Mountains, French Alps, in the background.

It was almost midnight. 4,500 people were warming up in and around the halls of Saint-Etienne's exhibition center. Some jogged in place, others stretched or rubbed their thighs, and a few took advantage of the last few minutes of respite to reassure their somewhat-worried families. The weather forecasts were not calling for snow this year. Although it rarely snows here in early December, everyone remembered that ten years ago participants had been stopped in their tracks by 80 centimeters of fresh powder.

In just a few minutes, the 2003 edition of the "SaintéLyon" was set to begin. The race had first been held in 1951 by cyclists who wanted to stay in shape during the winter by running on the GR7 hiking trail between Saint-Etienne and Lyon, via the Monts du Lyonnais ridge line, a 70 kilometer hike. Since 1977, competitors have been allowed to run, and instead of taking two days, the competition has been squeezed into one very long night. Participants can register individually, or as relay teams of two, three, or four. The fastest runners finish before dawn, after four hours of intense effort.

Paul could barely sit still. Not only was Petzl an event partner, but he, like many other employees, was going to be at the starting line. Participating in the race was, of course, a personal challenge; and he was far from indifferent to the general mood; the pressure was building as runners prepared to dash off into the black of night. For the business leader, this particular event also provided a unique opportunity to observe what they were wearing on their heads to light their way. During a night race of this magnitude, lighting plays an essential role:

At the start of the 2010 SainténLyon.

During the night of the 2010 SainténLyon.

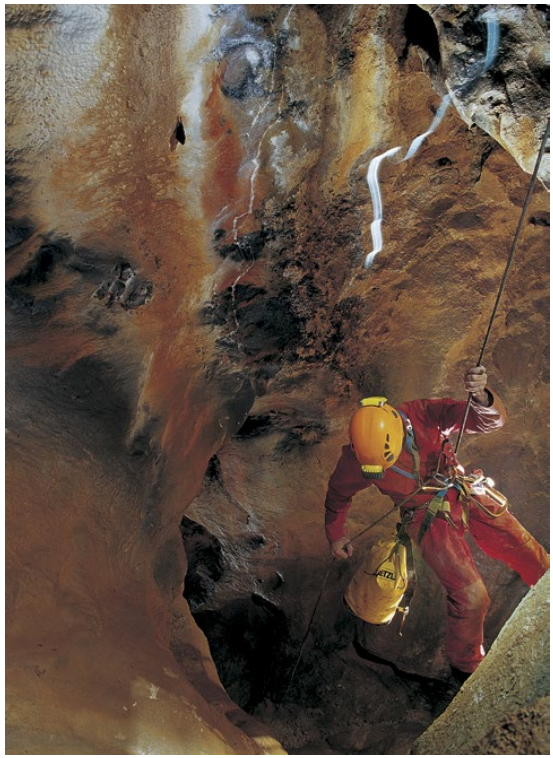
knowing where to step to avoid falling, being able to see other runners, and keeping up one's spirits when totally alone and kilometers from the nearest aid station. Paul was taking mental notes. As he looked for a way to improve Petzl's own lighting products, and he watched carefully to see exactly how people used their headlamps. However, once the clock struck midnight and the starting gun went off, he managed to forget about work and focus his energy on the race.

In the early 2000s, the number of long-distance races increased exponentially, providing Petzl with new opportunities to showcase its headlamps, which have woven their own narrative within the history of the company. The devices distinguished Petzl from its main competitors at a time when they were all absent from the market, with the exception of American manufacturer Black Diamond, which had recently become involved. During the 1990s, lamp design and development at Petzl still primarily focused on caving and mountaineering. In 1994, the equipment manufacturer delved for the first time into the concept of a waterproof headlamp with two light sources – one incandescent bulb, and one halogen bulb – the "Duo." Its shape and color made it look similar to a scuba-diving mask. Three years later, the Saxo came out; it was a hybrid lamp that could be held in one's hand like a flashlight, or worn on a helmet.

But the legendary Zoom, created in 1981, remained the flagship product of the Petzl catalog. As Fernand joked time and again, it was the company's "retirement account". In 1987, the Zoom's younger sibling appeared. Called the Micro, it was Petzl's first relatively compact headlamp with a single compartment containing the light source, batteries and a spare light bulb. Nevertheless, as the Zoom came of age, the time had come to give it an overhaul. R&D started working on prototypes to shrink and modernize the classic lamp.

In the early 2000s, during a trade show in Salt Lake City, Paul discovered another brand had switched to using tiny light bulbs that allowed small headlamps with the same light output as considerably larger ones. He was beside himself for the entire return trip.

Headlamps from top to bottom: Duo, Zoom, and Micro.



Lighting the underground world.

"Our competitors are miles ahead of us! What can we do to compete this time?" Barely back in Crolles, he made a beeline for R&D. The engineer in charge of headlamp design, Boris Bouffay, was a bit worried to see his boss so agitated. "We made a mistake, Boris, the Zoom is finished," Paul proclaimed. The two men discussed the situation for a long time. One option was for Petzl to launch its own tiny light-bulb headlamps, but playing catch-up seemed too difficult.

Boris then handed Paul an object he had never heard of, a tiny diode called a LED – Light Emitting Diode. Prior to working for Petzl, the engineer had worked for, among others, an automobile manufacturer, designing both interior ceiling lights and dashboard lighting. It was in this field that he first heard about white LEDs. No headlamp manufacturer had dared use LEDs due to their low output and high cost, but Boris knew that their performance had improved significantly of late. And even if LEDs did not yet have the same light output as traditional bulbs, they had the considerable advantage of requiring far less battery power. This had not gone unnoticed in the caving community. Some cavers had already started tinkering with the tiny diodes to make lighter headlamps with longer-lasting burn times. And the technology was bound to continue evolving.

Paul was soon convinced. This was the best course of action for their new headlamp, even if the approach was riskier. In line with the oft-used saying among Petzl employees, "Better a good prototype than a long speech," Boris Bouffay quickly pulled together the necessary parts and handed them over to designer Christophe Chedal-Anglay. There were few main components - three LEDs and three batteries. The headlamp would not rely on light output to attract customers; it would use its minimal size and shape to stand out from the crowd.

There was nothing like this headlamp anywhere on the market, so it was impossible to look elsewhere for guidance or comparison. And Christophe Chedal-Anglay's first versions were not exactly what Petzl was looking for. The housing was just too big. So just before Christmas 1998, Boris decided to eliminate one of the specification requirements and try using plastic instead of the aluminum initially selected. The

Ski-mountaineering in the Mont Blanc Range.

Boris Bouffay.

designer spent Christmas Eve reworking the mock-ups, and when he returned from winter break, he presented a prototype the size of a golf ball, which easily fit into one's pocket. Petzl had a winner on its hands! All the lamp needed now was an elastic headband, and a name. Tikka seemed like the natural choice: it's the red dot that some Hindus place on their forehead, Shiva's third eye.

Due to the time it took to design the molds needed for the lamp's small parts, the Tikka was not officially launched until 2001. The line of headlamps also included an even more minimalist version called the Zipka, equipped with a retractable elastic cord instead of a headband. Everyone at Petzl hoped the two models would be popular with a wider audience beyond mountaineering enthusiasts, in particular with women, who would find the small, colorful item less cumbersome and, well, goofy than the traditional bulky headlamps. Who knew? It might even find a place in their purses. The sales goal was rather ambitious, in the tens of thousands…

It proved to be a serious underestimate. Demand turned out to be ten times higher than initially expected. In the first year, Petzl had to double the number of manufacturing machines. At night, Boris would have nightmares about standing on the platform at the Grenoble train station, watching freight cars bringing back thousands of defective headlamps. In the shipping department, everyone worked overtime to make sure all the orders were filled. Only the sales force had time to savor the company's success; there was no need for a long sales pitch to convince retailers to buy the product, so impressed were they with the tiny headlamp. And by announcing that the lamp had the capacity for five straight days of burn time, Petzl reps were able to get them to stock shelves even more quickly. The Tikka became the brand's most widely sold product.

The success was so sudden and overwhelming that the company mulled the idea of broadening its headlamp distribution network. Why not try selling it to big box retailers? The rather tempting idea came up several times in the following years. And it was rejected each time. Having Petzl products displayed among a sea of completely unrelated

goods had always seemed absurd to Paul. Absurd... and dangerous, since it could very easily put the company in harm's way by exposing it to new competitors in a market Petzl knew nothing about.

Success also had its downside. Tikka counterfeits quickly started appearing on the market, up to thirty different copies at one point. Petzl's president fought hard against counterfeiting, in particular by being active on the trademark protection committee of the French Federation of Sporting Goods Industries (FIFAS). Nor did he hesitate to bring lawyers with him to walk through trade shows and threaten copycats with patent infringement lawsuits. In court, he was able to bring about verdicts ordering the destruction of production machinery in certain factories in China. From then on, protecting patents and product design became a strategic component of company operations, and a significant source of expenditures.

In 2003, the company made the decision to stop selling the Zoom, after over twenty years of faithful service. The end of production was followed by a small ceremony. In front of all his employees, Paul symbolically turned off a Zoom headlamp to pay homage to the pioneering device. From that moment on, Petzl threw itself wholeheartedly into the brave new world of electronics. The first Tikka was still a "mechanically designed headlamp", a relatively simple system. Using microprocessors and other microchips, however, provided the opportunity to greatly increase the lighting options LEDs could offer. Headlamps would now be able to provide different lighting levels at the push of a button, or allow users to alternate between white and red LEDs, depending on their needs. Battery charge levels would be clearly visible. R&D began filling up with engineers specializing in electronics. LEDs evolved quickly, forcing the entire company to adapt to a new rhythm of product updates. To remain at the cutting edge of performance, the Tikka product line would be updated every two to three years. This marked the beginning of a major change for the company.

In addition to mass production of the Tikka headlamp, Petzl had specific individual requests for customized devices. Towards the end of 2005, South African-born adventurer Mike Horn came knocking on

The multi-purpose Tikka headlamp.

Visual for the Tikka Plus.

The Tikka and Zipka headlamps: from LEDs to prototypes.

A few Tikka and Zipka models from 2000 to 2012.

Bouldering at night. Photo by Thomas Vialletet, winner of the Tikka 2 photo contest in 2008.

the factory door. After descending the Amazon River from its source all the way to the ocean using a hydrospeed, or riverboard, and circumnavigating the globe along the equator and the Arctic Circle without using a single form of motorized transport, the fortysomething was busy preparing a new challenge. He and Norwegian explorer Borge Ousland planned to walk from Russia's Cape Artichesky to the North Pole without assistance or resupply. Mike had planned the expedition for the Arctic winter, and this is what had brought him to Petzl. Even at "high noon", the Arctic would be pitch black, and temperatures could drop to minus 60 degrees Celsius. The extremely hostile environment would be full of polar bears, razor-sharp chunks of ice, and frigid rivers to swim across… The two men each needed a powerful lamp 24/7, and would not be able to switch batteries often, for fear of frostbitten fingers.

This truly unusual project was entrusted to Loïc Souillet, who had become R&D's go-to guy for all supposedly impossible projects, such as designing firefighter headlamps that could hold up to extreme heat… But when Mike Horn gave him the deadline, the engineer broke out in a cold sweat: the expedition was starting in less than two months! In order to save time, Loïc decided to use a waterproof headlamp, the Duo. The battery pack first needed to be moved to protect it from the cold. Instead of being located on the back of the head, it was moved to the top, where it would stay warm underneath multiple layers of hoods and beanies. Grinding down the primary light socket provided just enough space to replace the incandescent bulb with a Power LED, an extremely powerful diode recently developed for automobile headlights. The second light socket was made up of 14 LEDs, and everything was soaked in a silicone bath to provide increased durability. The last modification to be made was replacing the various regular, smaller buttons with push buttons to make the headlamp easier to use when wearing thick gloves. Mike Horn and his associate would take six of these custom-made headlamps with them. In March 2006, after a sixty-day trek, they reached their objective without encountering the slightest lighting problem.

Loïc Souillet.

Even though the polar headlamps continued accompanying Mike Horn on other adventures, they were never sold in stores. However, after their first collaboration with Mike, Petzl decided to continue sponsoring the adventurer, who in 2008 started an ambitious education program. Over the course of four years, he would bring groups of young adults to the most spectacular places on earth on his sailboat, the Pangaea. The goal of these trips was building awareness about how fragile the environment is, and how vital it is to protect it. Petzl provided the team with equipment, and high-mountain guide Erwan Le Lann, Petzl team manager, was assigned to handle the safety elements for each expedition.

By 2005, the "race for the most lumens" became a major contest among manufacturers, all vying for competitive advantage. Whoever offered the most powerful lamp had the edge. In 2008, Petzl came out with the Ultra, which at 360 lumens has a 120-meter range. Originally developed for runners and other athletes who need a powerful light source at night, the Ultra has also become wildly popular with professionals, particularly in mountain rescue. These were the professionals for whom Petzl designed, for the first time in 2010, a headlamp called the Pixa, which quickly became the headlamp of choice at construction sites everywhere.

Other opportunities quickly emerged, such as designing an "intelligent" lighting system. This was an idea once again inspired by the automobile industry, which developed the first generation of headlamps that automatically turn on when entering a tunnel or as night falls. Cavers were also enthusiastic about the concept. A headlamp capable of instantly adapting to available light would reduce the need to constantly fiddle with brightness settings, and would considerably prolong battery life… Paul was immediately taken with the idea, which he considered a true technological breakthrough. The task of developing the new technology was not an easy one for Boris Bouffay and his team. They needed to integrate a light sensor in the bulb sockets to measure and analyze incoming light reflected in the environment. In addition, they developed a software application that tailored headlamp performance for each specific activity – trail running, mountaineering, etc.

Mike Horn in the polar night.

Professional lighting.

In January 2012, the NAO was revealed to the public at ISPO, the international winter sports trade show that takes place every year in Munich, Germany. Paul spent the entire show at the Petzl booth, where trade visitors were invited to walk through a tunnel wearing the new headlamp. Each time someone exited the tunnel, Paul watched their reaction closely. He looked perfectly relaxed the whole time, masking his hope that the new device would take them by surprise and leave them with a lasting impression. At the end of the event, the NAO won one of the prizes for best innovations of the year. Onstage, the "beaming" company president was giddy as a schoolboy, lighting the audience with his headlamp.

Seven months later, on August 31, 2012, terrible weather hit the Mont-Blanc Range. After a week-long heat wave, snow and rain were forecast for the 10th edition of the Ultra-Trail du Mont-Blanc (UTMB). At the last minute, organizers were forced to use an alternate course for the main event. There was no way they could send thousands of runners over multiple mountain passes in such poor conditions… So runners would compete for a spot on the podium over a single night.

In the last decade, the 160-kilometer ultra-marathon that circumnavigates the highest summit in Europe has become the flagship event for a sport that has rapidly grown in recent years. Each year, ten thousand people attempt to register for slightly more than 2,000 available slots. The top runners take just under 24 hours to finish the course and its brutal 10,000-meter vertical gain/drop, but most spend two nights in the great outdoors before reaching the finish line in Chamonix. As part of this new craze, other ultra-marathons have popped up in the mountain ranges all over France, following in the footsteps of historic ultras that have been taking place for years in places like the Island of Reunion or in the Pyrenees. This new widespread passion has created exciting new market opportunities in footwear, apparel, backpacks, hydration packs and, of course, headlamps. Sponsored trail runners have begun appearing on the covers of sports magazines, and the first of these was Catalan-born Kilian Jornet, who excels as much in organized races as in his own personal high-mountain challenges.

Ultra (top) and Nao (bottom) headlamps.

Petzl booth for headlamp assistance.

Dawa Sherpa finishes first in the 2012 TDS.

Just down the street from the church in Chamonix, standing on a balcony, Paul scanned the crowd of runners standing at the UTMB starting line. He had not planned to compete in the race, but rather to spend time with retailers, who were fascinated as he was by the unique buzz of the event. A few hours earlier, he had congratulated Dawa Sherpa, a member of Team Petzl, who had won the Trace des Ducs de Savoie, another of the races planned during the trail running festival that the UTMB has gradually evolved into. Dawa ran the 112-kilometer race in 14:37… From the balcony, Paul recognized one of the competitors in the crowd below, Loïc Blondeau, a young engineer at Petzl who was busy adjusting the NAO on his head and focusing on the impending task, like the rest of the runners around him, most of whom had already donned their headlamps.

A few dozen kilometers away, in Contamines Montjoie, Marie Guiguet and Tiphanie Cordier had just finished setting up the Petzl aid station. Due to the bad weather, the course would not be illuminated by the full moon as initially expected. The headlamp was therefore a true piece of safety - even survival - equipment. Between changing batteries, lending headlamps, and helping with minor fixes, the night would prove long for them as well...

Kilian Jornet.

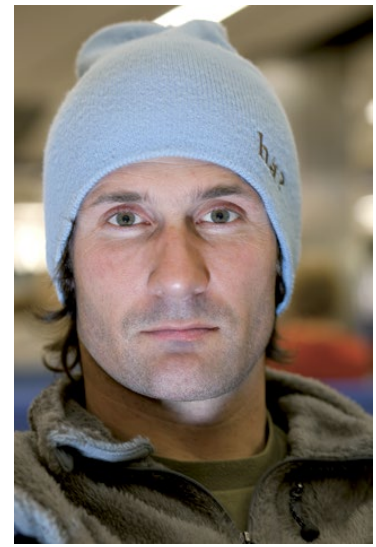
Chapter IX

Rocks in stock, part 2

Chris Sharma in Kalymnos.

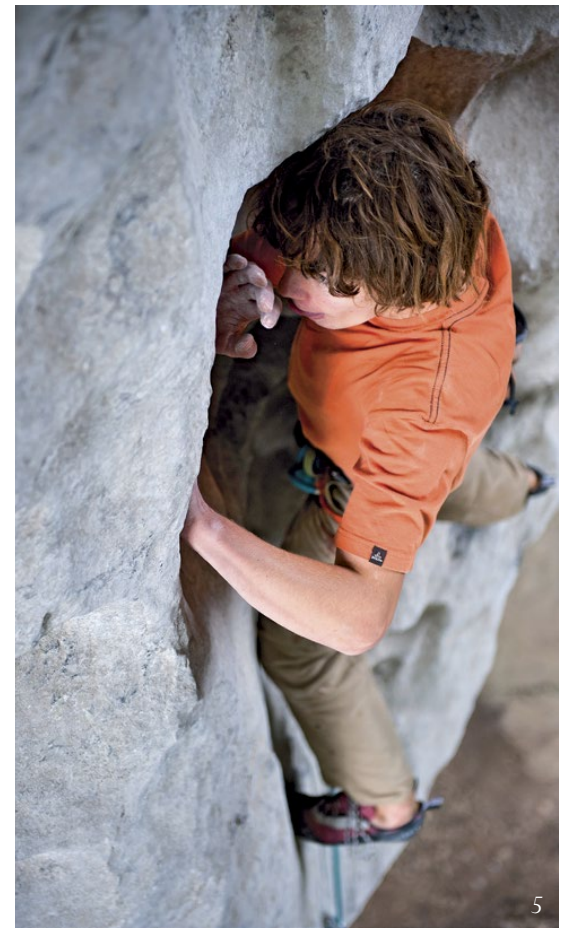
The view from the Guizhou province governor's office was breathtaking. The entire city of Guiyang, with its two million inhabitants, presented itself in a sweeping panorama from the building where the local dignitary occupied the entire top floor. Erwan Le Lann had no clue as to the identity of the numerous people who were in the conference room, some probably very important. The Team Petzl manager was there to obtain formal authorization to organize the upcoming Roctrip that was supposed to start in just ten days, on October 26, 2011! This was not for lack of planning; Erwan was now on his eighth trip to the south of China to prepare for the world-renowned climbers' gathering. The authorities had already given him the green light; his local government liaison had not shown any sign of worry; the Chinese outdoor equipment manufacturers were all involved… But when Erwan had arrived in China a just a few days earlier to welcome the 500 people from 35 countries who would be participating in the event, he learned that nothing was going as planned. Not only were preparations far from finished, but certain local stakeholders were not cooperating.

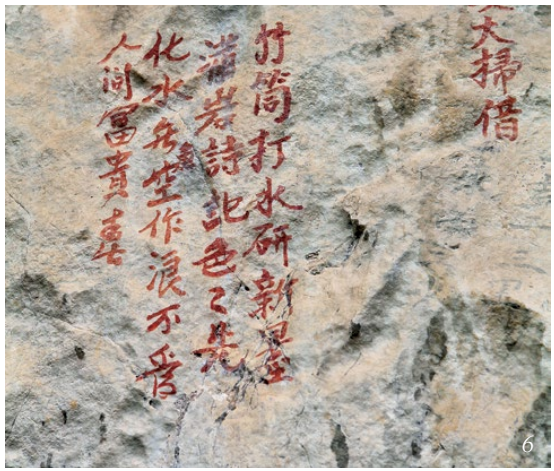
Erwan pressed for a meeting with the governor to discuss the event. Despite the presence of an interpreter, he ended up understanding little of what was being discussed across the large round table. The meeting went on for what seemed like an eternity. He finally decided to speak his mind, "I am certain that you all want the Roctrip to take place… To make this happen and to ensure success, we need to start working together right now, since some climbers planning to attend the event have already arrived. If problems arise, we can work them



Erwan Le Lann.

Roctrip China. 1: Dani Andrada and Chris Sharma on Corazon de Ensueño. 2: Dave Graham. 3: Mélissa Le Neve.





4: Sean Villanueva. 5: Enzo Oddo. 6: Chinese poem at the base of Fish Crag. 7: Mike Fuselier and Nina Caprez.

Leaving for the cliffs of Getu.

out as we go, right?" It took the interpreter an eternity to translate, and Erwan sat, wondering how his words would be construed… Quite well, apparently! The governor stood up and spoke to each participant one by one, in a way that made it clear that he was in charge and that they each had their assignments. He then stamped the pile of papers. Erwan left the building with all of the proper authorizations in hand.

Next stop, the rice-growing valley of Getu and its Karst peaks, a five-hour drive from Guiyang. Among the many cliffs that tower above the forest, rises a colossal natural arch referred to locally as Chuanschang; an arch pierced in the fall by the dawn's early sunlight. Only a handful of Chinese climbers had paid a visit to these strange rock walls over the years. The climbing possibilities in this enchanted vertical world were endless. A few months earlier, certain members of Team Petzl had spent time in the Getu Valley putting up new routes and preparing for the event, bolting a total of 250 pitches over nine new areas. Now, for five days, amateur and professional climbers would be able to enjoy this brand new climbing area. The event was also opened to spectators, who sat beneath the arch, taking cover from the frequent storms, in order to admire the physical prowess of the current climbing elite.

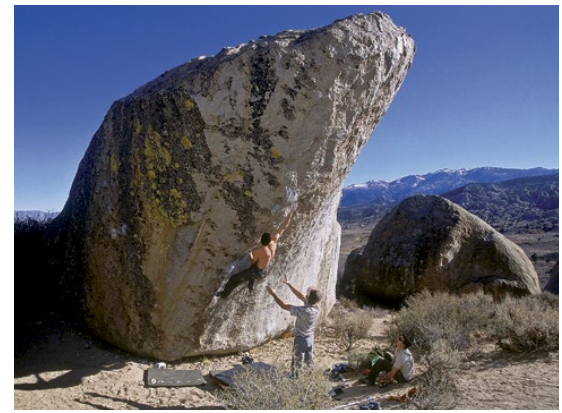
Spaniard Dani Andrada, also known as "La Machina", sent the eight overhanging pitches of "Corazon de Ensueno", a route that he spent eleven days bolting, with pitches rated 7a to 8c… Lynn Hill, who celebrated her fiftieth birthday, was also there, always excited to join Team Petzl. She met up with fellow American Chris Sharma, lauded by the media as the best climber in the world. Nice-based climber Enzo Oddo, already flirting with grade 9 climbs at the age of 15, was present, as was Swiss champion Nina Caprez, a specialist in difficult multi-pitch routes. Other elite French climbers such as Daniel Dulac, Tony Lamiche, and well-known climbing couple Stéphanie Bodet and Arnaud Petit, also showed up.

This was the ninth year that Petzl had organized the climbing festival. In 2002, at the same time that "Team Ice" was busy garnering a healthy dose of media attention, the equipment manufacturer decided to provide the rock climbing community with a fun event to bring

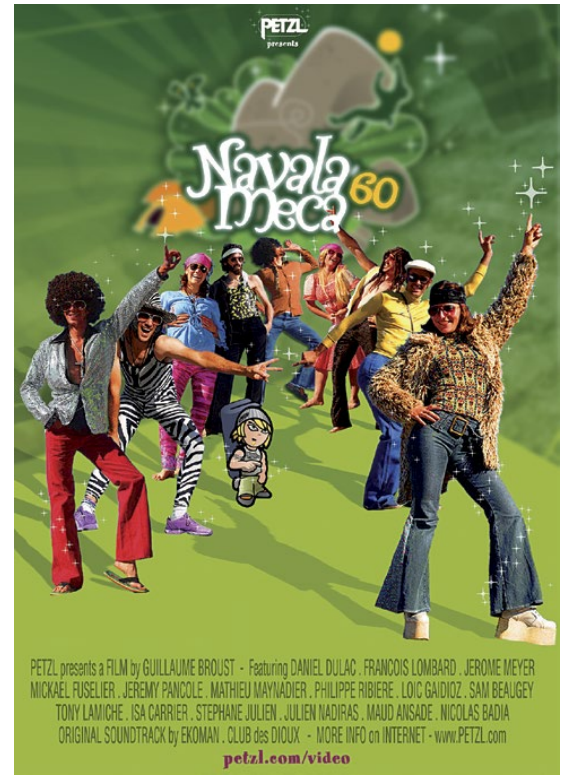
climbers together. The festival would be open to everyone, and take place at an exceptional natural site. Laurent de la Fouchardière chose the Boffi cliffs, near Millau in southern France, to host the very first Roctrip in August 2002, organized in partnership with the French Alpine Club and one of its directors, Michaël Pradeyrol. To add a little spice to the event, participants were asked to test their skills on an extremely difficult route called "La Voie Ultime" (The Ultimate Route). Chris Sharma caught everyone's eye. One year earlier, at just 20 years of age, the California native had been the first person to send the route "Biographie" in Ceüse, near Gap, France. Rated 9a+, it remains one of the most difficult climbs in the world. The main goal of the event at its inception, and even today, was not to compete, but to highlight an exceptional climbing spot, and put up new routes in order to showcase the area's potential to climbers across the world. The notion of sharing an incredible experience has been the common theme for every Roctrip since.

In November 2002, Petzl organized a second climbing festival in the United States, working hand-in-hand with its subsidiary in Salt Lake City. This event focused on bouldering, and took place just outside the small town of Bishop, in the California desert. Guillaume Broust, a young "in-house" director, filmed the climbers, and for the first time ever, posted video clips online during the event; traffic to Petzl's website skyrocketed. Over the years, these videos have become more polished. In 2006, among the boulders in Navalosa, Spain, the team dressed in funky, seventies-style clothing, sunglasses, and platform shoes to play in "Navalameca", a bouldering documentary filmed as a goofy musical.

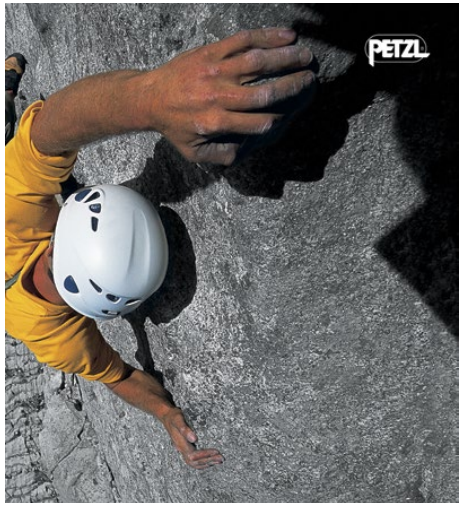
Petzl continued to plan the Roctrip year after year. Even though the company was able to increase brand awareness through the event, the primary goal from the start was to inspire and invigorate the rock climbing community. In 2004, Petzl, along with other manufacturers, participated in a gathering of more than one thousand climbers among the boulders of Targassonic, Spain, to pay homage to the free-climbing ethic – no rules, no rankings, and no cash prizes; the atmosphere was reminiscent of Woodstock… Two years later, the Roctrip took place



Tony Lamiche on The Mandala, in Bishop, California.



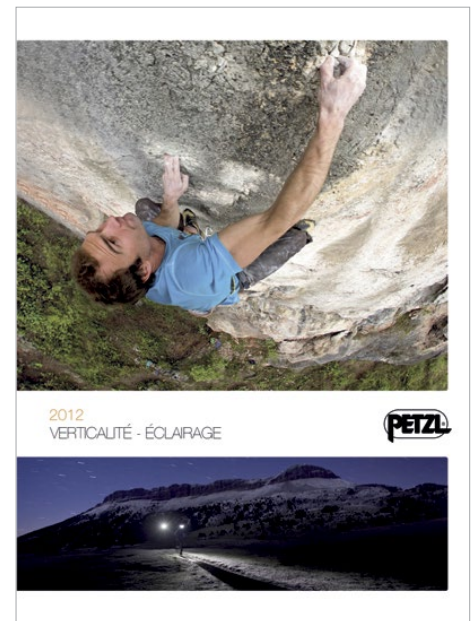
Poster for Navalameca *in 2006.*



Sport catalogs from 2004, 2005, 2008, 2009, 2010 and 2012.


PETZL


PETZL


2012
VERTICALITÉ - ÉCLAIRAGE
PETZL

Working on harnesses in the Eybens factory.

First harness shipment from PMM in Malaysia.

in Kalymnos, and placed the spotlight on the small Greek island in the Aegean Sea, near Turkey, which has now become an extremely popular climbing destination.

On the equipment side, Petzl continued to invest heavily in the harness market. In 1999 and again in 2001, more than ten new models were added to the catalog. The production site in Eybens was once again on the verge of being overrun with too many orders. In order to relieve Jacques Lancelon's team, Paul had originally planned to expand the Quatuor building, the small factory located in the Vercors Mountains that produced harnesses for the professional market. However, the profitability of their harness products was dropping due to an increasing number of international competitors. In addition, the French government had just passed a law mandating a maximum 35-hour work week, which required a major internal reorganization and created a rather difficult situation for the company.

Paul ultimately decided to expand production abroad. Choosing to work with a subcontractor hundreds of kilometers from Crolles was not an easy decision. After a thorough search, he and Jacques Lancelon met Frédéric Bertholon, a Frenchman living in Romania whose company specialized in making shoulder bags and belts. They established a solid and trusting working relationship. Petzl sent machines to produce certain parts of the harness that would then be sent back to France to undergo a finishing stage, inspection and then packaging.

Production started in 2002. Over the next two years, forty people were hired in Romania. Back in France, Paul had no choice but to close the Quatuor factory – fortunately, most of the seventeen employees were able to find work at Petzl headquarters or in other companies. After months of uncertainty regarding the future of harness production, this part of the company's business was no longer threatened. A second expansion of production took place in 2010, with a new factory in Malaysia that would employ over one hundred people.

At the same time, Petzl continued its efforts to make life simpler and safer for climbers; as a group, they are constantly in search of versatile

Sama.

Adjama.

Selena.

Luna.

The Reverso belay device.

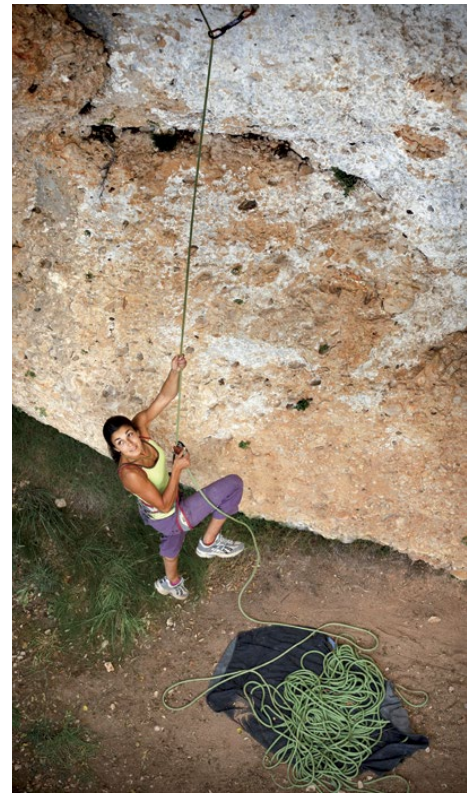
The Grigri 2 belay device.

tools allowing them to practice their passion on all types of rock. In 2001, the dual-purpose Reverso hit the shelves, a "two-in-one" belay device. It replaced the two devices climbers had been using for multi-pitch climbs: a figure-eight or tube-style device to belay the leader, and an auto-locking plate device to belay one or two seconds. This innovation would also quickly be adopted by the competition, which came out with devices providing the same features… Over the next decade, Petzl would design three versions of the Reverso, each one lighter than its predecessor and able to handle thinner and thinner ropes.

After celebrating its twentieth birthday, it was finally time for the Grigri to receive a makeover. Petzl's beloved device needed to catch up with the times, especially with the widespread use of smaller diameter ropes. In the process, the Grigri 2 ended up twenty percent lighter and with a much more compact design than its older sibling.

For all of these updates, Petzl strove to remain in close contact with climbers to better understand and anticipate their needs. This task was not as easy as in the 1980s. By 2004, the company counted more than two hundred employees in France. The number of contact points within the company increased, and unplanned meetings with the outside world grew less frequent. Yet a simple visit to R&D would soon generate new momentum for the company.

In 2005, mountaineer and high-mountain guide Arnaud Petit was preparing an expedition to the Trango Towers in Pakistan. The 1996 Climbing World Cup winner, along with his significant other, Stéphanie Bodet, were traveling to the most spectacular big walls across the globe in search of new routes to establish. This time around, the couple wanted to free climb Eternal Flame, a spectacular spire topping out at 6,240 meters, along with Christophe Dumarest and François Petit, Arnaud's brother. In order to send the 800-meter climb, with most pitches at 7a or harder, they would need extremely lightweight gear. Arnaud had been sponsored by Petzl for more than ten years. However, for this particular task, he had simply been unable to find exactly what he was looking for in the Crolles-based manufacturer's range of



Dayla Ojeda and Chris Sharma demonstrating a dynamic belay.

Arnaud Petit and Stéphanie Bodet on the Grand Capucin's Petit route.

carabiners. Passionate about equipment design, he paid a visit to the factory with competitors products in hand. Their carabiners allowed him to reduce the weight in his backpack by one kilo, a considerable amount… It was precisely the jolt Petzl needed to design a new piece of equipment. Although the company had made significant improvements to the locking mechanism of their carabiners over the years, developing different sleeves that slide or screw tight, it had yet to tackle the challenge of reducing weight.

Back from his expedition, Arnaud Petit played an active role in the project. Even though he dreamed of an ultra-lightweight carabiner, he warned Petzl's engineers about premature wear that occurred with the existing lightweight carabiners from other manufacturers. The elite climber insisted on maintaining a minimum width, essential in the event of a fall. In order to reduce grams, engineer Pierre Plaze designed a very thin gate, which he named "monofil" (single wire), while keeping the tried and true "Keylock" system to guarantee both strength and safety when opening and closing the carabiner.

The Ange hit the market in 2011. Giving an early glimpse into the potential of the new carabiner, Arnaud Petit and Stéphanie Bodet set out to repeat a route that Arnaud had established thirteen years before, up Grand Capucin's east face, but which he had not succeeded in climbing completely free. This time around, the couple sent the thirteen pitches of the "Petit" route, including a pitch of 8b, in a day.

Removed from such elite-level climbing, Petzl continued to invest in more "general public" pursuits. Along with climbing, both via ferrata and canyoning also experienced a great deal of growth in the 1990s. Thanks to the longtime expertise of its caving clients, who regularly have to deal with wet conditions and water, Petzl launched a specific canyoning harness as early as 1991. The first Petzl via ferrata lanyard was included in the catalog five years later. In 2001, both sports filled the opening pages of the catalog, with a descender specifically designed for waterfalls and rushing water, called the Pirana. In order to provide an opportunity for these activities to grow, Petzl, along with other stakeholders, had to

The Ange quickdraw.

The Pirana descender.

The Roc du Vent via ferrata in the Beaufortain Mountains and canyoning in Val Bodengo, Italy.

fight a long legal battle beginning in the 2000s. The issue at hand was the legality of renting or lending safety equipment, such as harnesses, designed to protect users in the event of a fall. Transposing European standards to French law in 1992 had caused a serious legal quandary: if interpreted literally, European regulations made it impossible to rent or lend a descender, carabiner or harness if the equipment had been used even once. This represented a potentially massive headache for climbing instructors and guides who wanted to take their clients canyoning or up a via ferrata, as well as a loss of revenue for manufacturers.

In 1996, Paul decided to support, along with other business leaders, the efforts made by the French Federation of Sports and Leisure Industries (FIFAS) to effect a change in the rule. These companies felt that prohibiting the rental of personal protective equipment, or PPE, actually generated a greater risk for the occasional participant (via ferrata or canyoning) by creating a situation where they would likely be motivated by cost to use inadequate equipment. This strong push from the industry helped to finalize French regulations regarding compulsory inspections for rented or lent PPE. A ruling in 2004 officially authorized their use.

However, like all vertical pursuits, both canyoning and via ferratas carry inherent risks, in spite of being pleasurable and relatively easy activities to participate in. At Petzl, the notion of risk has never been an abstract concept and has touched the men and women working at the company on more than one occasion. Colleagues have been killed in the mountains, either during leisure time or while working as high-mountain guides... a difficult pill to swallow for people who have always worked hard, day in and day out, to improve safety for mountain sports enthusiasts. The Team Petzl members and mountaineers who have collaborated closely with the company have not been spared from tragedy either. Pierre Béghin, Jean-Marc Boivin, Jean-Christophe Lafaille, ice climber Hari Berger, snowboarder Karine Ruby were all familiar faces who one day were simply no longer with us.

Even more difficult to accept are accidents that involve customers. These are rare, and often caused by misuse of a given piece of gear.

For the millions of units that Petzl manufactures every year, the goal has always been zero defects. Although every precaution is taken to reach this objective, being able to declare victory with absolute certitude is nearly impossible. This concern became a reality in a dramatic way on May 5, 2011, just a few kilometers down the road from the Crolles factory. On that day, a young man was climbing the Bastille via ferrata, just above the city of Grenoble. During the ascent he slipped, but instead of being caught by his equipment, he fell twenty meters to the ground. The 24-year-old engineer woke up from a coma six weeks later with multiple broken bones and an optical nerve so severely damaged that he ended up almost completely blind.

An investigation very quickly revealed the cause of the accident. The climber's lanyard had broken due to a missing safety seam. It was a Petzl-made lanyard. The Scorpio had been around for eight years already, without any incident or accident to speak of. The lanyard had even been considered a significant innovation in via ferrata safety equipment after its launch in 2003, since it was equipped with "tear stitching", energy-absorbing webbing with stitches that break in the event of a fall to better absorb forces created by the fall. In this particular case, it was clear that something had malfunctioned.

The news created a black cloud over the company. Employees were in a state of shock, especially those working in the Eybens factory where the defective lanyard had been made. Paul immediately spoke with the injured man's family and promised to accept responsibility for the accident. He committed to paying for all medical bills not covered by the victim's insurance, as well as damages. The company then needed to consider all the other Scorpio users. Production and sales of the lanyard were halted immediately, and Petzl recalled all Scorpio versions, over 100,000 products. Bernard Bressoux, Petzl's technical director, managed what was a very complex task, since certain models had been in circulation since 2002 and their owners were spread out across the planet. The company also insisted that work-at-height professionals carefully inspect all gear equipped with energy absorbers, providing them with a very specific inspection procedure to follow. One-and-

The Scorpio via ferrata lanyard.

a-half years later, in October 2012, Petzl had recovered 40 % of the recalled products. These initial measures were not enough to reassure Paul. He considered this accident to be a personal failure. It was, and is, of course, impossible for him to inspect every step of production or to stand behind each employee while they worked. He himself was not infallible. Nevertheless, the company president was convinced that he had missed the warning signs, and that he had failed to detect a weakness somewhere in the process. After an internal investigation, it turned out that the defective lanyard, made in 2002, had undergone not one but two inspections that proved incapable of detecting the missing seam. This dual visual inspection had been considered at the time to be one of the most reliable methods of guaranteeing product quality.

For Paul, the accident needed to drive change within the company, to set in motion an extremely thorough reassessment of how things were done. This introspection would serve to guarantee both client safety and the long-term viability of the company. It required that every industrial process be examined in order to analyze, for each operation and each machine, what could cause a defect, how to detect it and how to fix it.

The entire affair also strengthened the resolve of upper management to see new work methods applied to each one of the company's production units. Inspiration came in part from the Lean manufacturing model, a method that many Japanese manufacturers had developed and implemented to manage production, and to more directly involve employees in the quality process, encouraging them to speak out when there is a problem. Little by little, these principles were applied to every one of Petzl's production lines.

On March 1, 2012, Paul went before the Grenoble District Court. After the Bastille accident, his company was on trial for negligence. Once again he expressed his utmost remorse and the sentiment that he was personally responsible for the accident. He also explained that he was doing everything within his power to ensure it would never happen again. The prosecutor considered the company to be liable for the accident, pushing for a 50,000-euro fine and for the final verdict

to be published in numerous magazines. The company was found not guilty, but the prosecution appealed the decision, which at the end of 2012 was still pending. Whatever the final ruling, at Petzl there is now, and will forever be, a time before and a time after May 5, 2011.

Chapter X

Base camp

Crolles base camp.

Paul had just returned to his office, and he clearly wasn't going to have time to clean up his workspace. Again. But was that really such a bad thing? The room, full of life, was scattered with prototypes from every era, dating back to old devices that Fernand had built. Memories of past trips decorated the walls and desk. Stacks of books and piles of brochures lay everywhere. There was a photo of his granddaughter…

That evening, once he arrived home, he had left the workday behind him. In his head, he had closed the "company door" until the following morning. His wife Catherine had always been jealous of Paul's ability to compartmentalize, and had a hard time setting aside everyday concerns. There was her own role in the company's sales department, of course, organizing and prioritizing order deliveries for both small and large distributors and retailers around the world. But she also felt responsible for the general health and well-being of the company, even though she and Paul rarely ever discussed it at home. She always had the impression she was carrying this weight on her shoulders alone, like a heavy backpack. Thankfully, the pressure had begun to ease a little. It was already the end of 2011. After forty years at the helm of Petzl, the couple was thinking more and more about the next chapter in their lives.

Paul took advantage of a few minutes of downtime to scribble some notes. The next day, he planned to meet with an architect to create a new reception area for the company's headquarters in Crolles, one that would be more than just a simple front desk to welcome visitors. Paul's vision was to create a space blending history and modernity.

Catherine Petzl.

The underground area would highlight the legacy Fernand left behind; he had passed away in 2003, at the age of 90. The upper level would hold a gallery to showcase products, and a reception area for clients and other contacts. Paul had a round building in mind, reminiscent of an underground cave, or a heart, or the atom… Something extremely symbolic, to break from the past generation of buildings constructed in Crolles. Another 2,700 square meters of office space had just been added to the factory to bring together over a hundred people from the design and R&D teams under one roof. Construction had also started on a vast new logistics platform that, by 2013, would make supply and order management far more efficient.

As night fell, Paul took a quick look out his office window. Over the last few years, he hadn't simply added more office space to grow his company. He had made a concerted attempt to improve organization, not always an easy task. During the mid-2000s, Paul felt the need to free himself from his operational responsibilities in order to spend more time focusing on the future. The company's first general manager, Pascal Bonino, was hired in 2005, so that Paul could fully assume the role of president. Unfortunately, the two men had a hard time defining their respective roles and finding their place. The experiment proved short-lived and ended after three years.

At the beginning of 2009, Paul chose to place his trust in a new "GM", Romain Lécot. The engineer, who started his career at French aluminum conglomerate Péchiney, had already run a 400-person packaging company, one of Petzl's regular suppliers. He had also managed an organic bakery in Annecy for a year, a humbling experience that made him realize the essential role distribution plays in a project's success or failure.

Romain Lécot.

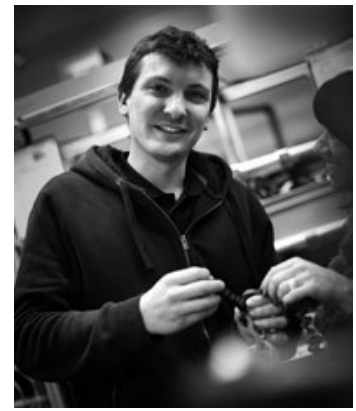
When he joined Petzl, Romain Lécot found the company in the midst of a corporate confidence crisis over its heightening growing pains. Petzl had almost 500 employees in France and abroad. Past management methods relied far too much on each individual's instinct and passion, and were no longer effective. An executive committee

was formed to address the situation, but some employees still felt that the company had no sense of direction, that their efforts were in vain, and that innovation had, to a certain extent, fallen by the wayside. The situation seemed all the more worrisome given that competition had intensified and a severe economic downturn was being felt the world over. "Petzl is like a Formula 1 race car," Paul had explained when he hired Romain Lécot: it was a high-performance machine, as long as you avoided skidding off the track. In 2009, the company went through a series of internal reorganizations in an effort to put said race car back on track. Fine-tuning the engine and improving efficiency became the top priority for the new executive team.

One year later, Paul celebrated his sixtieth birthday. Consulting with his immediate family, he started thinking about the best way to hand over the Petzl reins, not only in inheritance terms, but also with the idea of preserving the founding values of the independent family-run company. In the future, his descendants would obviously have a role to play. Paul's youngest son, Olivier, who joined the company right after graduating college, had recently become head of textile production in Eybens. Jacques and Dany Lancelon had retired four years earlier, after a three-decade-long professional adventure that they stayed passionate about until the very end. Sébastien, Paul's eldest son, also had plans to come aboard, and in 2012 joined the IT department as a project manager, after having worked several years as an accountant.

Pierre, Paul's brother, who spent his entire life making sure that the tools of production worked properly, was also able to pass on his passion to one of his three children. Christophe, an illustrator and computer graphics designer, joined the Studio in 2003. Working in the "technical information" department, he currently helps the team put together the legendary technical manuals, now translated into more than fifteen languages and available on the Internet as user guides.

From his office, Paul could hear people leaving the building at the end of their training sessions. After delegating the position of general manager, he had moved his office into the "V.axess" building, which also



Olivier, Sébastien and Christophe Petzl.

Petzl headquarters in Crolles, 2012.

houses the Petzl Foundation. Created at the end of 2005, the Foundation has taken up a great deal of his time. The idea had been simmering for years… since 1999, in fact, when the Petzl America subsidiary had taken the initiative to protect and defend access to one of southern Utah's legendary climbing areas. At the time, a real estate project to build luxury homes threatened access to Castleton Tower, a unique and impressive 120-meter-high monolith that attracts climbers from around the world. A local organization, Castle Rock Collaboration, was formed to fight the project and preserve the natural wonder of the site, to ensure it would never be surrounded by this or by future development. John Evans and Roody Rasmussen, both working for Petzl in the United States, recommended that the company devote financial resources to the cause, alongside other equipment manufacturers. Hundreds of thousands of dollars were collected, allowing the organization to purchase part of the site and maintain free access to the Tower.

Little by little, Paul grew interested in supporting projects that served the very communities that had allowed his company to grow. One of his friends helped him to turn the idea into reality. François Lemarchand, the founder of the "Nature et Découvertes" chain of stores, had knocked on Paul's door fifteen years earlier. He was selling Petzl headlamps in his stores and wanted to get to know his supplier a little better... A strong bond quickly formed between the two men. François Lemarchand told Paul about the foundation he had created in 1990 to support environmental protection projects in France and across Africa, and he was able to guide Paul in the process.

The Petzl Foundation was officially launched during a backpacking trip in the Vercors Mountains. Paul was accompanied by the Foundation's twelve board members, including eight who were not part of the company. Among them were Bernard Amy, one of the founders of Mountain Wilderness, a conservation organization; Simone Allibert, president of the adventure travel agency that bears her family's name; glaciologist Luc Moreau; former prefect Marcel Peres, an expert in mountain safety; and Claude Rey, the president of the International Fede-

François Damilano drilling for an ice core sample in Argentière for the Cristal de Glace project.

ration of Mountain Guide Associations (IFMGA). Jean-Jacques Eleouet, a specialist in heritage sites, environmental conservation, and non-profits, became the Foundation's first secretary-general, and determined the top three priorities of the vertical world that the organization would strive to address: safety awareness, environmental protection, and research.

Within its first few months, the Foundation was working closely with numerous important stakeholders involved in mountain activities. One of the first scientific projects the Foundation funded involved primary research on waterfall ice, conducted by the Glaciology & Environmental Geophysics Laboratory in Grenoble. Never before had the formation and destruction of runoff ice been studied so closely. With an ever-increasing number of mountain sports enthusiasts scaling these ephemeral and fragile ice structures, the research results provided climbers with critical safety information. As of 2012, the program was still validating, at different elevations and in different climates, the first conclusions from research conducted on the well-known Argentière ice falls of the Mont Blanc range.

In the safety sphere, the Foundation became a natural extension of the work that Petzl had been doing for years. The company had started off funding the non-profit La Chamoniarde organization, which continues to provide free mountaineering training in the Mont Blanc range to this day. One year after its creation, the Foundation published a manual explaining how to safely travel through glaciated terrain. In 2007, the Foundation began working with the Nepal Mountaineering Association to provide professional training to trekking guides. The project was led by guide Patrick Magnier, who oversaw field testing for Petzl after having spent years as a brand ambassador. He was also directly involved in creating programs for the Kakani International Training Center, located just north of Kathmandu. Eric Lescarcelle, head of the customer support department, would later take his place. The Foundation also contributed to training programs in several countries benefiting work-at-height and hazardous environment professionals, including firefighters in Peru. In 2012, the Foundation coordinated a large-scale project to edit and publish a complete mountaineering

Patrick Magnier training Nepalese trekking guides.

The Aigle Hut renovation project.

handbook for all the alpine clubs affiliated with the International Mountaineering and Climbing Federation (UIAA). As for its environmental role, in 2007, the Foundation took part in yet another fundraising campaign launched by climbers in the United States. To provide a powerful voice to their cause, Petzl organized its annual Roctrip in the Red River Gorge in Kentucky, helping to collect 30,000 dollars over a single weekend towards the purchase of property in the Gorge, where an oil company had originally planned to drill. Two years later, the Foundation became the primary donor to Access PanAm, a non-profit organization whose mission is to maintain access to, and ensure the environmental protection of, cliffs throughout of Latin America. Financial support continues to be provided to other environmental conservation projects to this day, many working to protect various bird species: Bonelli's Eagle, Bearded Vultures, tropical birds of the Indian Ocean, not to mention bats…

During its first five years, the Foundation was deeply involved in over forty projects. And from the outset, Paul also wanted to take on controversial projects within the mountain community. For him, the non-profit organization's role was not just to hand out checks; it was also to contribute to the debate. Why not make waves from time to time in order to raise awareness?

In 2006, Paul heard about a project to rebuild the Aigle hut. The French Alpine Club planned to demolish and replace the nearly hundred-year-old shelter, located on a rocky outcrop at an elevation of 3,441 meters, just beneath La Meije in the Écrins range, with a larger modern building. The project had stirred up a huge hornet's nest. Built in 1910 and one of the range's last surviving wooden huts, the one-room Aigle hut, with its bunks located right next to the kitchen, provided spartan conditions that both its manager and high-mountain guides complained about. The building no longer complied with fire codes, leading the mayor of the small mountain town of La Grave, legally responsible for the hut, to seriously consider passing a town ordinance closing it. But in the eyes of many, the Aigle hut occupied an important place in mountaineering history, and was one of the last bastions of a

certain rustic atmosphere that no longer exists in the more modern, recently built mountain huts. "Aigle" means "eagle" in French, and the shelter, nestled on its rocky perch next to a stunning natural spire, had been placed on a preservation registry by the Haute-Alpes department.

Paul was sympathetic to the arguments made by those defending the old hut, who had come together in an umbrella organization called the Amis de l'Aigle (Friends of the Aigle hut). Convinced that there was a need to both preserve the historic building and address the needs of mountaineers, Paul asked the Foundation to provide the Amis de l'Aigle with a voice and support its appeals against the project. In June 2009, the demolition permit filed by the French Alpine Club was canceled, the first step in a long series of legal battles. Through the steering committee created by public officials, the Foundation offered to finance a new architectural assessment to help clear the impasse. The assessment took renovations of the hut into consideration and endeavored to preserve its historic character. The proposed design kept the hut's original structure, as well as part of the sleeping area, expanding it by a few bunks to accommodate the growing number of summertime clients, and to make life just a bit more comfortable for the hut manager. In the end, all of the key stakeholders decided to take part in the new restoration project, with the exception of an Amis de l'Aigle faction, which as of late 2012 had not yet returned to the negotiating table.

Offering solutions to seemingly unsolvable problems… it was with this aim in mind that in 2010 the Foundation began mulling the thorny topic of the Goûter hut approach route. The hut is the primary waypoint of the regular Mont Blanc route, climbed by approximately 20,000 people each summer. In 2013, a new eco-friendly hut will replace the current, outdated 1960-era shelter, also managed by the French Alpine Club. But this significant improvement brought to the forefront the well-known problem with the hut's approach route, which requires climbers to pass through the Goûter Couloir, nicknamed the "Couloir of Death" due to frequent and random rock fall. A sort of macabre lottery, so to speak, that Paul himself had to play when he scaled Mont Blanc in 2010. Faced with this risk, he reacted the same way he had at any other point in his

Paul Petzl.

Tracks traversing the Goûter Couloir.

career, whenever new tools were needed to improve his customers' safety. He simply refused to accept the inevitability of multiple people dying every year as they crossed the couloir, to say nothing of the tarnished image such tragedies gave Europe's highest peak.

The Foundation asked Didier Lemaréchal, a geotechnical engineer, to lead an investigation to better understand the couloir's dangers and come up with different options to reduce the risk. In early 2011, his results showed that certain options were simply unviable, such as the Foundation's initial idea of building a walkway. But another option was put forward by several guides from Saint-Gervais-les-Bains: digging a short pedestrian tunnel under the couloir. Predictably, opinions varied wildly. For some, this was an effective way to bypass the danger; for others, building such a structure for climbers in the mountains was unacceptable. Those who were opposed feared that securing this particular section, with its dangerous reputation, would lead to greater numbers of inexperienced people attempting the route. Safety, ethics, equipping the mountains, the influx of climbers, tourism, the role of public institutions… there were more than enough ingredients to make this a highly volatile issue for the mountaineering community.

Nevertheless, Paul and his collaborators felt that the community did not yet have all the facts it needed to make an informed decision. Two new studies were commissioned during the summer of 2011. One took place in the field to quantify the risk of rock fall in the couloir. Its findings revealed that late morning is the most dangerous time of the day, with rock fall every 17 minutes on average. Approximately one thousand people face this risk over the course of an entire summer, be they experienced mountaineers or climbers accompanied by a guide. The second study reviewed accident reports from the Chamonix and Annecy PGHM (Mountain Rescue) archives. Conducted with the help of mountain rescue officials, the study was led by Philippe Descamps, the Foundation's new secretary-general, a journalist and former editor-in-chief of *Montagnes Magazine*. It yielded the following information: since 1990, 74 people have died and 180 have been injured along the Goûter route, almost half of them in the infamous 100-meter couloir.

Descending Mont Blanc via the Goûter Couloir.

The summit of Mont Blanc.

These issues led most mountaineering federations and associations to rapidly take steps to better inform those wishing to attempt the ascent. With help from the Foundation, they published a leaflet providing recommendations and the most prudent advice for climbing Mont Blanc. Entitled "Reaching the top of Mont Blanc - a concern for climbers," it was distributed in seven languages starting in the summer of 2012. It was one more tool provided by the Foundation to public officials and the community at large to continue helping them in their deliberations and decisions.

Paul closed the door to his office thinking about all the projects he would like to support. For forty years, his company has demonstrated its ability to provide technical innovation to those who are passionate about the mountains. His hope is that his Foundation will be able make the same claim for general issues that affect society at large.

Epilogue

Team Petzl at the Gouffre Berger cave in 2011.

Paul sits down in the Summum, one of Grenoble's main concert halls. Every year, it hosts France's largest mountain film festival, a marquee event organized by the city. More than three thousand people are taking their seats to watch the evening's screenings. Petzl is one of the event's main partners and has supported numerous film productions over the last decade. For the company's president, this evening in November 2011 is particularly special.

The lights dim and the crowd quiets. The first film is entitled "Immersion." Both color and black-and-white images light up the screen, and quickly transport the audience into the bowels of the earth. The summer before, a group of Team Petzl athletes had taken part in a trip to explore the Gouffre Berger cave, guided by the voice of Jean Lavigne, one of the cavers who had broken the world depth record with Fernand Petzl in 1956. The film artfully switches back and forth between sequences from George Marry's 1962 film and modern footage. The past and present seem to perfectly mimic each other. It looks as though we are seeing the same faces, smiling yet focused; the same gestures when donning a helmet, turning on one's lamp, and handling the rope; the same fascinating places, bottomless shafts, narrow passageways, and huge caves covered with strangely sculptured features.

Fernand and Paul Petzl.

Nevertheless, the audience can tell that the modern cavers' exploration is different from that of their elders. The beauty of the cave surprises them, as does its difficulty. François Lombard, who helped organize the expedition, is astounded by the overwhelming silence that reigns in these caverns, barely disturbed here and there by the sound of dripping water. In order to fully experience the calm in the cave, he turns off his headlamp. The audience is thrust into the pitch black along with François, and the immense hall becomes so silent one could hear a pin drop. At this point, small points of light appear in a corner. They approach the stage and cross it in a single file without making a sound. One can barely make out the shapes of men and women wearing headlamps and red jumpsuits. It is as though they had left the screen to invite audience members to follow them on the exploration.

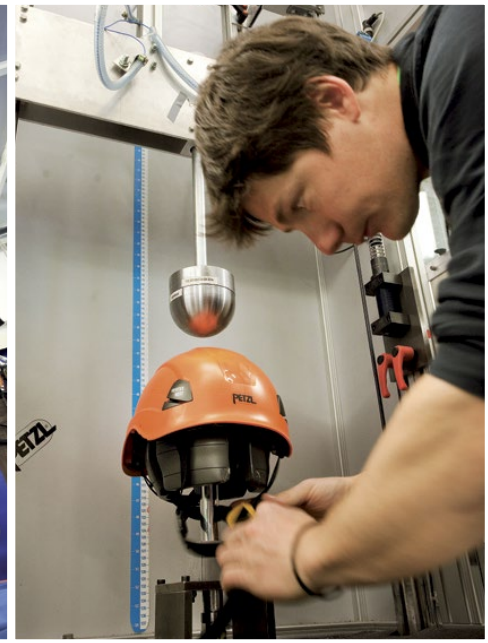
The film continues. More than once, Paul gets shivers up his spine when he sees his father in archive footage. What would he have thought of the tribute being paid to him tonight? Perhaps he would have appreciated it, despite his modesty and reserved nature. Towards the end of his life, Fernand began showing a bit more emotion. After having collected a large number of carbide lamps and sewing machines, at the age of 85, he became passionate about robots. One day, after having gone to an exhibition, he decided to make a replica of a doll he saw, one that was capable of dipping a pen in an ink bottle and writing a few words. He even asked to see how the mechanism worked. Fernand then went to work for three or four months to make his own robot, using the motor from a record player.

The entire family of course admired his creation. The doll drew each letter with remarkable precision, writing "I love you all." Fernand had once again demonstrated his talent as an inventor and an artisan. It was only a few days before his death that Paul understood why his father had been so adamant about making the toy. Feeling his strength waning, Fernand was finally able to say out loud the phrase that the robot had written out. It was as if he needed to use the machine in order to be able to express his feelings to his loved ones.

On the screen, the film's protagonists, at a depth of 1,122 meters, drink a toast to their success. They then begin the long climb back to the light of day. Paul recognizes the voiceover of Serge Caillault, a caving friend, who closes the final film sequence with words that resonate like an echo of Paul's own thoughts. "According to geologists, we have discovered less than 10 % of the subterranean world. The exploration is not even close to being finished and I don't think it ever will be."

Crolles, France, October 30, 2012

Portfolio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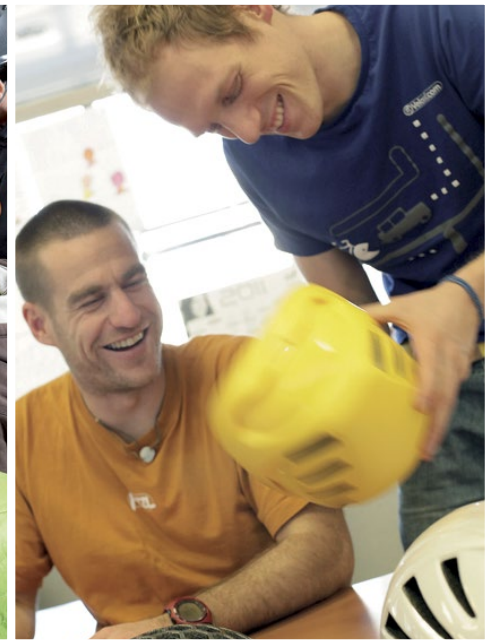

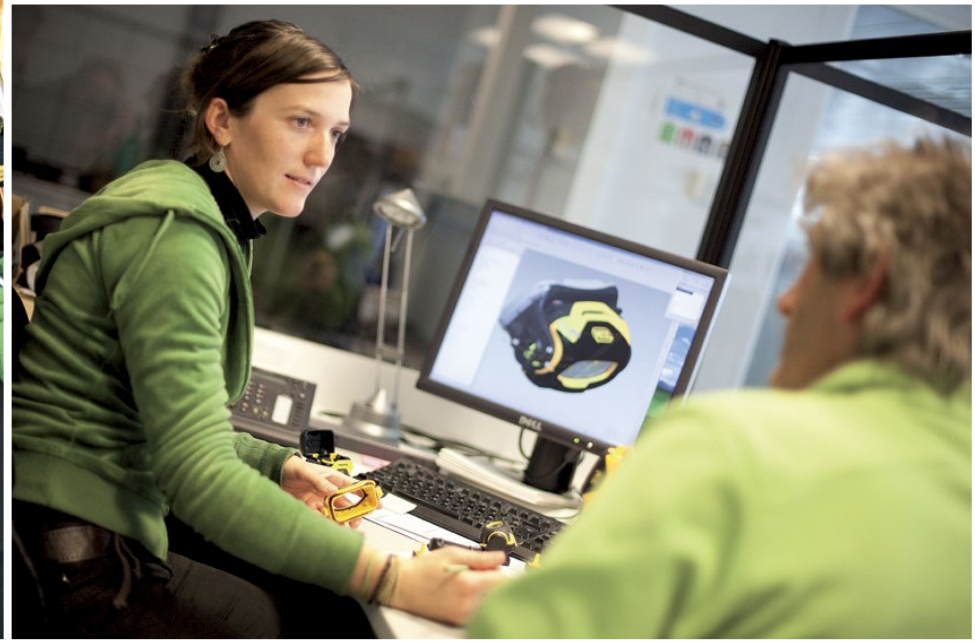

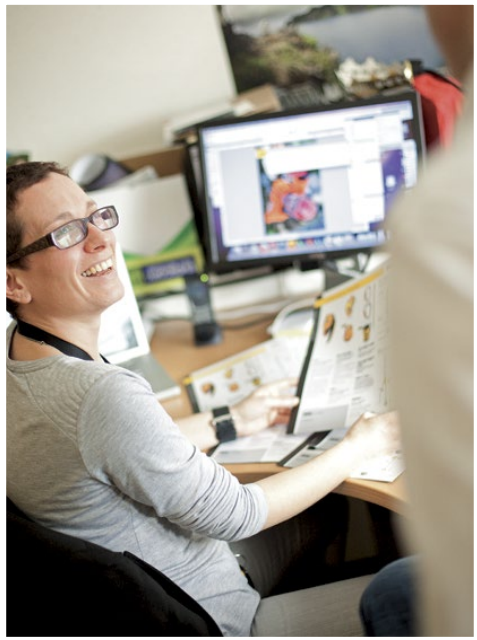

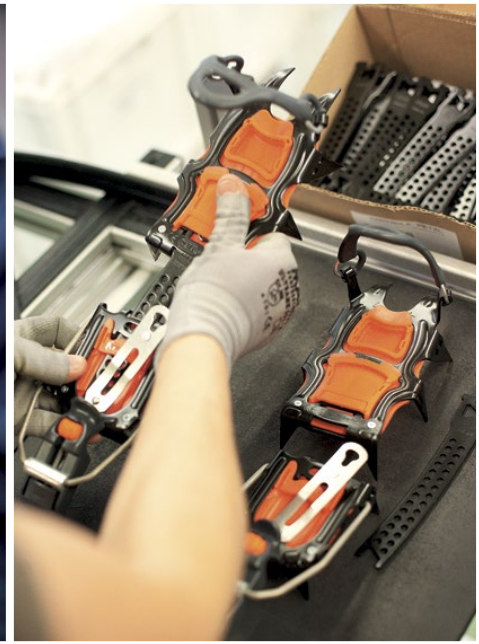

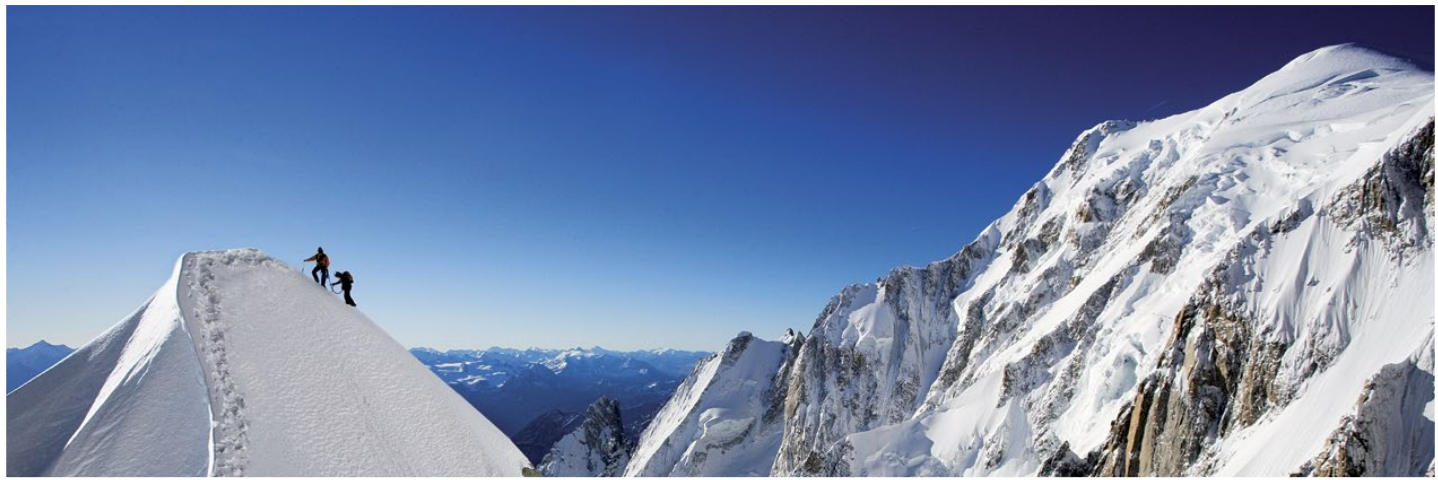


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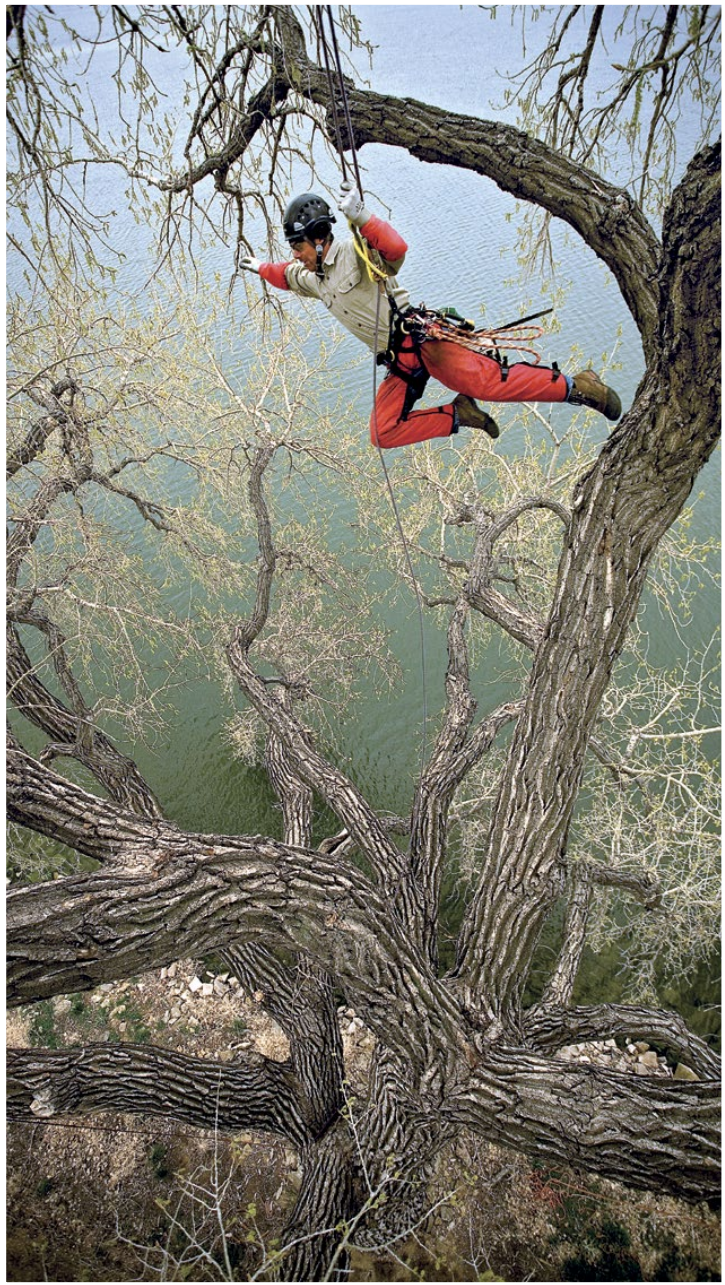

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Stage lighting at the Bassin de Neptune, château de Versailles, France. The Magnum company.
© STEPHAN DENYS

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Hazardous environment search and rescue group, GRIMP Belgium. © STEPHAN DENYS

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P. 253 Maintenance work. © KNUT FOPPE
Wind turbine maintenance, Spain. © STEPHAN DENYS

Appendix

TIMELINE |

1880 Birth of Émile Rombauer in Budapest.

1883 Émile is sent to join his father's family in Resita, Romania.

1902 Émile arrives in France without a passport. He joins the French Foreign Legion and adopts his mother's maiden name, Petzl.

1907 After obtaining French citizenship, Émile Petzl moves to Paris.

1908 Émile and Louise Diot marry.

1911 Birth of their first child, Edmond Petzl.

1913 Birth of Fernand Petzl.

1914 At the beginning of World War I, Émile leads a light-infantry battalion of former prisoners, in Tataouine, Tunisia.

1916 Birth of his third son, Charles Petzl.

1926 The Petzl family moves to Lancey, near Grenoble (France), in the Grésivaudan Valley.

1930 Émile Petzl is hired by Merlin Gerin, an electric equipment manufacturer in Grenoble. The family builds a house in Saint-Ismier. Fernand, now a craftsman-modeler, discovers caving.

1936 Fernand Petzl meets caver Pierre Chevalier; the two start exploring the Dent de Crolles together in the Chartreuse Mountains. They make their own gear in Fernand's workshop in Saint-Nazaire-les-Eymes.

1940 Birth of Jacques, the first child of Fernand Petzl and Lucienne Ginet, a teacher in Saint-Ismier. Fernand designs a 25-meter-long portable climbing mast to climb back up steep caves.

1941 In the Dent de Crolles, the Fernand Petzl and Pierre Chevalier team succeed in passing through the junction between the Trou du Glaz and the Guiers Mort caves. The very same day, Fernand is injured in a severe fall that permanently robs him of his sense of smell.

1943 Pierre Chevalier has a nylon rope made and tests it in the Dent de Crolles. Rot-proof, it will become the rope of choice in the post-war period for cavers and mountaineers.

1945 Birth of Pierre Petzl, Fernand's second son.

1947 Fernand Petzl and Pierre Chevalier finish their exploration of the Dent de Crolles (four identified traverses, 17 km of caves).

1950 Death of Émile Petzl. Paul Petzl, Fernand's third son, is born.

1953 Discovery of Gouffre Berger cave on the Sornin plateau in the Vercors Mountains. Exploration of this vast cave network begins and leads to the Cuves de Sassenage. Fernand Petzl leads the expedition.

1956 After spending two weeks underground, Fernand Petzl's team breaks the world depth record by reaching a depth of 1,122 meters below the surface.

1964 Pierre Petzl starts working with his father at the Saint-Nazaire-les-Eymes workshop.

1965 Fernand runs most caving rescues in the Grenoble region. He designs and produces an articulated rescue litter to evacuate the injured.

1967 He starts to make tools invented by Bruno Dressler (clamps, descenders, pulleys) that slowly replace the ladders used in caving.

1970 Paul Petzl meets Catherine Raymond, his future wife, during a trip to Germany with the youth volunteer charity construction organization Compagnons Bâtisseurs. He starts college in Grenoble to study engineering. Fernand creates Société Spéléo Secours Isère (Isère Caving Search and Rescue).

1971 Fernand makes bivouac platforms for the French expedition to climb Makalu's West Pillar, in the Himalayas.

1972 Paul completes his military service with the Chasseurs Alpins (mountain infantry). Petzl hires its first employee, Jacqueline Barbero. The SHUNT, a rappel-backup clamp, is invented. Fernand becomes the first technical advisor for the Grenoble area caving search and rescue commission.

1973 Catherine, Paul's fiancée, joins the workshop to handle accounting. The distributor network abroad starts to grow. The first Petzl headlamp for mountaineering and an alpine touring binding are launched. Georges Marbach and Jean-Claude Dobrilla publish Alpine Caving Techniques.

1974 Paul and Catherine marry (and eventually have two sons, Sébastien in 1978 and Olivier in 1982). Development of the ZEDEL ascender and then the ASCENSION. Caver Jo Marbach sets up his caving equipment company, TSA, in Montbonnot.

1975 Petzl moves to a new office in Crolles. A limited liability company is created; it has 5 employees. Bernard Combaz becomes the first workshop manager. Product launch of the CROLL rope clamp.

1976 Work starts with Jacques and Dany Lancelon to make the first harnesses for mountaineering and caving. Pierre Petzl (father of Murielle, Christophe and Arnaud) marries.

1977 Petzl partners with ice axe manufacturer, Charlet Moser, to sell their products together.

1978 Mountaineer Yannick Seigneur participates in the design and production of a mountaineering helmet.

1979 Product launch for the STOP descender. Mike Meredith publishes Vertical Caving, and also helps to sell Petzl products abroad.

1980 Petzl official logo created. The company has 17 employees.

1981 Introduction of the ZOOM headlamp. Georges Marbach and Jean-Claude Dobrilla publish a new edition of Alpine Caving Techniques.

1982 Jean-Paul Janssen's films *La vie au bout des doigts* (Life by the fingertips) and *Opéra Vertical* are released, which introduce climber Patrick Edlinger to the general public. The AVANTI caving harness hits the shelves.

1983 Launch of the VERCORS and CHOUCAS climbing harnesses as well the DEVOLUY helmet.

1984 Launch of the ADRENALINE climbing harness. Peter Popall joins Petzl.

1985 More than 1,000 retailers sell Petzl products in France. The first climbing competition takes place in Bardonecchia, Italy. The first issue of the climbing and mountaineering magazine, *Vertical*, is published.

1986 The test tower in Crolles is built; the first technical manuals are published. Petzl starts selling COEUR bolt hangers. Climber Didier Raboutou wins the first indoor climbing competition in France in Vaulx-en-Velin. He is part of the first climbing team created by *Montagnes Magazine*, Petzl, and Anoralp.

1987 First Petzl advertisement with climber Patrick Edlinger. The JUMP harness, the HUIT ANTIBRULURE figure-eight descender with anti-burn grip and the MICRO compact headlamp hit the shelves. The French Mountaineering Federation (FFM) becomes the French Mountaineering and Climbing Federation (FFME).

1988 The company has 30 employees. Individual testing starts for certain metal products. Production of the first specific work-at-height and mountain rescue specific equipment.

1989 Petzl starts sponsoring American climber Lynn Hill. Nanette Raybaud and Simon Nadin from Team Petzl win the first Climbing World Cup in Snowbird (USA).

1990 The Petzl Safety department is created (selling products for work at height and rescue), and the NAVAHO harness for professionals is released. The communications department is formed. Lynn Hill becomes climbing world champion.

1991 The TMI subsidiary in the United States is formed (with Rock Thompson) to produce the SPIRIT carabiner. Petzl starts selling the GRIGRI belay device and the first canyoning-specific harness. Production of the 8007 ski touring binding ends.

1992 The company has 45 employees in France. Inauguration of the textile production unit in Eybens, managed by Jacques Lancelon. Implementation of a product tracking system. The company starts to use computerized systems more widely.

1993 First catalog specifically for professionals. Petzl becomes ISO 9001 certified for quality

management of production processes. Launch of the ECRIN ROC mountaineering helmet. Lynn Hill becomes the first person to free climb the Nose (El Capitan, Yosemite).

1994 Launch of the dual-light-source, waterproof DUO headlamp.

1995 Expansion of the office space in Crolles. The company has 77 employees in France. European standards for Personal Protective Equipment (PPE) take effect.

1996 Petzl has three departments: Sports, Safety, International. The ZYPER via ferrata lanyard hits shelves. New test tower.

1997 The ultra-light METEOR helmet and the BONNIE and CLYDE harnesses are released.

1998 Petzl acquires TSA from Georges Marbach and creates the Quatuor production unit in Auberives-en-Royans, located in the Vercors Mountains, to manufacture harnesses for professionals.

1999 The Petzl America subsidiary is formed in Salt Lake City (Utah), and managed by Roody Rasmussen. Henry de Rocca-Serra heads the sales division. Petzl's website, www.petzl.com, goes online. The TIBLOC compact ascender and PANTIN foot ascender are released.

2000 The company has 180 employees in France. Petzl acquires crampon and ice axe manufacturer Charlet Moser. Petzl's ice climbing team is formed. The QUARK ice axe, MINI TRAXION pulley, and the work-at-height I'D descender hit the shelves.

2001 Petzl's ice climbing team participates in its first Ice World Cup. Launch of the TIKKA and ZIPKA LED headlamps, the REVERSO belay-rappel device, and the PIRANA canyoning descender.

2002 The Charlet Moser production unit moves to Rotherens in the Savoy region. Partnership formed with a factory in Romania to make certain Petzl harness components. The first Petzl Roctrip takes place at the Boffi cliffs near Millau (France). Release of the QUARK ERGO ice axe and the DART crampons. Petzl makes its first documentary film, *Pitch Sorbet*. The first edition of the Ultra-Trail du Mont-Blanc®.

2003 Fernand Petzl passes away. New ISO 9001 certification. The SCORPIO via ferrata lanyard and NEWTON fall arrest harness hit the shelves. The ZOOM headlamp is discontinued.

2004 The Quatuor factory is closed. Launch of the ASAP mobile fall-arrest device for workers at height and the SARKEN crampons.

2005 Pascal Bonino becomes Petzl's General Manager; Paul Petzl becomes president. Creation of the EXO personal escape system, at the request of the Fire Department of New York. Release of the VERTEX helmet for professionals.

2006 The Petzl Foundation is created. Jacques and Dany Lancelon retire. Design of the NOMIC ice axe. Mike Horn has a special headlamp made in order to cross the North Pole on foot and at night.

2007 In Crolles, Aristide-Bergès Street is renamed Fernand Petzl Street. The company has 280 employees in France.

2008 Implementation of the LEAN manufacturing process starts. Inauguration of the V.axess training and testing center in Crolles. The ULTRA headlamp hits the shelves.

2009 Arrival of new General Manager Romain Lécot. Petzl opens a factory in Malaysia (Petzl Manufacturing Malaysia), managed by Gilles Waeldin, to make harnesses. The SEQUOIA harness and dual handled ASCENTREE rope clamp are developed for arborists.

2010 The company has 354 employees in France. Revenues reach 90 million euros, 80 % which is earned outside of France (distribution in 51 countries). Launch of the first headlamp specifically designed for professionals, the PIXA, and the RIG descender.

2011 A Petzl lanyard user has an accident on the Bastille via ferrata in Grenoble; recall of the 100,000 SCORPIO lanyards sold worldwide. Inauguration of a new office building in Crolles for research and development. The new ANGE ultra-light carabiner hits shelves.

2012 A new logistics platform is built in Crolles. The first Petzl RopeTrip in Crolles specifically for professionals takes place in Crolles. Release of the NAO headlamp.

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SPECIAL THANKS |

I would like to pay homage:
To my father, who instilled in me the values and desire to be an entrepreneur,
To my mother, who showered us with love and gave us the desire to serve,
To Catherine, without whom Petzl would not be the company it is today, and who ensured our children's education,
To our children, Sebastien and Olivier, who inspire me most.
To Pierre, who had faith in me,
To my entire family, who always supported and protected me,
To all of our collaborators and suppliers who are behind the scenes, designing, working, and participating,
To all of our customers who provide us with the opportunity to continue this adventure.
I would like to especially thank Sophie Cuenot and Hervé Bodeau who were able to put together this story from the key dates and events of our history, as well as Editions Guérin with whom we shared this project.

Paul Petzl

The authors would like to thank:

For their testimonials, the documents that they made available, and for taking the time to fact check:
Blaise Agresti, Anne-Marie Allée, Bernard Amy, Aljaz Anderle, Chantal Astolfi, Florence Aurori, Franck Benet, Odette Berger, Chris Blakeley, Philippe Bonheme, Boris Bouffay, Bernard Bressoux, Alexandre Bronnaz, Serge Caillault, Nina Caprez, Dominique Carrasco, François Carrel, Stéphanie Chancelade, Jean-Franck Charlet, Christophe Chedal-Anglay, François Damilano, Philippe Descamps, Catherine Devidal, Bruno Dressler, Yves Exbrayat, Anne-Marie Faidy, Jean-Pierre Felix, Marc Galy, Georges Garby, Marlène Garnier, Benoît Gazagnes, Anne Géry, Michel Goulet, George Grammas, Antoine Haincourt, Jean-François Hecké, Jean-Marc Hédé, Pascale Henninot, Lynn Hill, Gérard Kosicki, Laurent de la Fouchardière, Valérie

Lalliot, Bruno Lambert, Jacques and Dany Lancelon, Didier Lavigne, Jean Lavigne, Romain Lécot, Erwan Le Lann, François Lemarchand, Stéphane Lozac'Hmeur, Jeannine Lunnetta, Patrick Magnier, Chantal Manificat, Georges Marbach, Dominique Marchal, Yves Marchand, Olivier Mathé, Alain Maurice, Bernard Millot, Toni Nubiola, Jorg et Fritzi Obendorf, Robert Paragot, Jean-Paul Paris, Arnaud Petit, Catherine Petzl, Olivier Petzl, Christophe Petzl, Pierre Petzl, Damien Piat, Philippe Plantier, Peter Popall, Didier Raboutou, Roody Rasmussen, Christophe Raylat, Jacques-Yves de Rorthays, Matthieu Richard, Jean-Louis Rocourt, Loïc Souillet, Ueli Steck, Michel Suhubiette, Catherine Tratchenberg, Jean Troillet, Patrick Werlé… and of course Paul Petzl for the countless days he was willing to spend with them.

For their memory and their invaluable help in making this project a reality:
The Petzl Studio team: Guillaume Broust, Pascale Henninot, Valérie Lalliot, Thomas Marchand, Christelle Salabert, Boris Stephan. A special thanks to Alain Pernelet for his work and assistance in classifying and finding all of the photos. Not to mention the company newsletter, Le Maillon, a vast source of information.
Madeleine Baumgardt and Benjamin de Vulpillières for transcribing the interviews; Darin Reisman, Benjamin de Vulpillières, Sylvia Ozbalt, Eric Wynn, Pascale Henninot for the translation; Geneviève Cadot for proofreading, Catherine Devidal for her availability and her efficiency.

For their advice and meticulous proofreading while the book was being written:
Boris Bouffay, Serge Caillault, Catherine Cuenot, François Damilano, Laurent de la Fouchardière, Philippe Descamps, Simon Hotte Esq., Romain Lécot, Erwan Le Lann, Sylvie Marcacci, Alain Maurice, Peter Popall, Jean-Louis Rocourt, Michel Suhubiette.

All of the photographers that allowed us to use their photos, an integral part of Petzl's history.

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Picture research: Hervé Bodeau and Thomas Marchand.
Page layout: Stéphanie Thizy and Thomas Marchand.

Printed in January 2013
by Ermes Graphics printing in Turin, Italy.

Legal deposit: January 2013
ISBN : 978-2-35221-070-2

The history of mountains is filled with the names and feats of champions who have excelled in the vertical world. However, the tools that help pave the way for their triumphs are rarely, if ever, mentioned. Yet their design and improvement over the course of this history has contributed to the success of increasingly bold adventures, and to the development of a wide variety of mountain activities.
For over forty years, Petzl and its founders have served this movement. Through its caving heritage, in which Fernand Petzl played a major role, the manufacturer has and continues to explore all facets of the mountains – rock, snow, ice, nighttime – in addition to the complex world of mountain rescue and work at height. From headlamps to the Grigri belay device, by way of alpine touring bindings, harnesses, and ice axes, Petzl's history is filled with inventions that improve access, day and night, to countless types of terrain. Written like a novel, this history also chronicles the saga of a family that started from nothing to build a world-renowned brand.

Sophie Cuenot is a journalist who writes about the mountains; she and Robert Paragot co-authored "Paris Camp de Base"*, published by Guérin Éditions. Hervé Bodeau has worked in communications for Petzl since 2002.*

35 €

ISBN : 978-2-35221-070-2
9 782352 210702