

MOVING TIP STEEP SLOPE:

You **MUST REMEMBER** that the straight line is not necessarily the fastest way to go from one point to another.

Determine carefully your path by following the terrain offering the best walking conditions even if you have to walk farther by a couple mile. At the end you'll be the winner.

A steep slope of 25 feet till takes you the same time as to walk around for 300 feet. And it may be less tiring and dangerous to go around.

Saving energy is ESSENTIAL in Survival!

THE MOST ENERGY SAVING WAY TO CLIMB A SLOPE:

50 degree angle and bend down so low that your hands nearly drag in the snow and do it in zigzag.

CLIMBING:

This is not a full course in climbing but we enumerate and will explain some basic technique that may serve your life. **REMEMBER:**

10 BASIC RULES:

- 1) **NEVER RAISE TOGETHER THE HAND AND THE FOOT.**
- 2) Ensure your footing or holding **BEFORE** giving your full weight.
- 3) You **MUST** test the solidity of each hold **before you make a go for it.**
- 4) In climbing keep the body **AWAY FROM THE ROCK & LOOK UP.**
- 5) Move only one hand or one foot at a time. **ALWAYS KEEP 3 POINTS CONTACT.**
- 6) **It is ALWAYS safer to go around rather than over obstacles.**
- 7) Keep your weight evenly balanced on the feet rather than hang from the hands. **Do not over-stretch.**
- 8) Avoid becoming spread eagle, & let the legs do most the work.
- 9) **ALWAYS** place the feet as flat as possible to make maximum contact with the rock.
- 10) And be sure that you have planned your next move **OOPS!**

USE OF THE #HOLDS prizes?#:

Hand and foot type, the foot type being the most important since they are stronger than our arms.

While posing your foot on a big hold there is little problem, you just unfold the leg to stand up but if it is a small one they you have to use its best and to wed yourself perfectly to its shape.

Whatever a hold is narrow, inclined or even at 45 degree, one **MUST** succeed to place the maximum of the shoe's sole. So in order to do this, one **MUST** observe carefully the holds before resting on it.

Once the foot is in place it will and **MUST** not move till the other foot is also strongly and securely placed.

Then the hands will also look for their hold, sometime on only one hold and the body will rise up all on one foot.

But before this movement takes care to find & notice another hold to be able to bring the free foot. One progress from holds to holds, studying the terrain as one progress.

AND IF THERE IS NO #HOLDS prises?#:

In general it is because you have not look well enough even if it is true that the holds are small even minute, these very small holds are called #passing holds (de passage) #, using them in one movement to pass to a more comfortable hold.

If there are totally no Holds whatsoever then you **MUST** invent one or find something else for the feet to wedge or jam or to stick and for the hands using traction or #verrous# and also opposition.

JAMMING:

The cracks that run along the cliff serve to many purposes. A vertical crack wide enough could receive the end of the shoe then a small torsion and it becomes just as strong as a normal #hold.# To free one self one just gives a twist in the opposite direction.

#VERROUS LOCKS#: Check the mountain terms?

In the absence of holds for hands, one can insert fingers in the vertical cracks & lock them, meaning introduce the fingers upside down & twist them, then pull on them, it is not very pleasant one must say, but if there are no holds whatsoever...

TRACTION:

Speaking of hand holds one can use and try all kinds of traction to maintain the balance of the body while moving his feet.

You just have to locate some bumps or studs of rocks and to pull on it in the opposite sense to your situation.

If it is under you in reverse you pull upward, if it is on your left you pull on the right while hanging the weight of your body on it. This type of traction is often just as good as a frank holding. #prise franche#

OPPOSITION:

For the beginner this is the least instinctive of the climbing technique but you **MUST** learn it for it will be of much use particularly in chimney situation & #diedres# where one can do the opposition of his feet widely spaced as well as in the presence of cracks that you try to separate.

This powerful traction in opposite direction done by the arms can supply a remarkable leaning point to work on your climbing.

When you read in all climbing books about the 3 points #holding 3 points d'appui,# let's note that those points are not perfect holding points but simple# holding points#.

This where one learns the great importance to study well the cliff, to learn to use at its best any cracks, breaks or bumps which are presents and **especially to trust your feet**, this is strange to the beginner but of **first rate importance to the old climber**.

ADHERENCE:*

Practice #en paroi incline & particularly sur les dalles#. The climber put a good part of his sole, foot forward on the smooth rock surface and sticks to it by simple pressure.

One MUST not fear to put his full weight on the contrary the adherence is in direct proportion to the weight of your body and the **climber MUST STAY AS STRAIGHT AS POSSIBLE**.

This adherence movement will often be used in passing #holds# even in sheer straight up cliff. Search then any small projection less steep than the vertical and trust your fate to the #adherence#. Of course some solid hand hold will then have to compensate for the other ones lacking.

BRIDGING:

We are using a military term to tell of a very special technique that is of many uses in climbing. It is the widening of the legs even to their full extent at times. #grand ecart#

When one climbs in a #diedre# meaning between 2 walls in form of an open book, the alpinist has the tendency to concentrate on **only** one of those 2 walls.

But he **MUST** concentrate on both and he will realise that often he will find other holds that can be used alternatively from one wall to the other, throwing a live bridge between the 2 walls.

Also when one find a cavity, a nook the climber has the tendency to hide in it which is a normal safety reflex.

But it is **ALWAYS** difficult to get out of those nooks, you **MUST** stay outside of them and bridge yourself to the nearest wall.

This procedure once mastered reveal itself to be sure and efficient and in some ways it is a kind of opposition.

#PITONNAGE (SPIKING?)#:

In front of a serious difficulty the alpinist stops & considers the situation then decides to protect himself before tempting a passage.

Seeing a crack as high as possible and choosing from a series of #pitons# that hang to his belt.

He takes one of the required thickness and in a few precise & strong hammering stick the #piton# in place through which he passes a #mousqueton# in which he lets pass the rope.

All is now ready for his insurance # and the second de corde# can now act his role which is to watch and to block the rope in case of #devisage# that would prevent the fall of the first man (#premier de corde#.)

As for the #pitonnage# nothing beats experience but most alpinist try to use as less as possible. Before 1920 there was no such thing and yet alpinist still went along climbing walls.

#GRATONNAGE (SCRAPING?)#:

It is the fact of holding on some #grattons#. At the bottom of cliff you will **ALWAYS** see good climbers taking a ride on nothing to rise up a few feet, to cross over somewhere and to climb down without jumping and then to start anew.

It is a good exercise that permits you to feel confident when crossing a delicate passage in high altitude.

The man used to #grattonnage# will then find some mini-holds from which he can easily get to a better place.

Curiously it is at the end of the day that the climbers will gather at the foot of small cliff that seem to amount to nothing if you see them doing it, then go and check it out.

Most of the time it is a way to explain or solve a big problem where the balance and the #grattonnage# come to play as well as the muscular shape.

The day being at an end one can use his last energy to check those problems that will or have occurred.

And the man who has succeeded one of those difficult passages get compliments from his partners, in mountain climbing there is no place for jealousy.

#RETABLISSEMENT#:

In a gym it is the fact of lifting your own weight. This movement is very useful in climbing.

In the absence of foot hold one can often #see retablir#, meaning to raise yourself upward using **only** the strength of your wrists # then to transpose the weight of your body on the palm and then to land your feet where your hands were. It is easier to do than to explain.*

USEFUL ADVISES:

Upon leaving a foot hold, the climber will **avoid** #les enjambees demesures# that throws off your balance. Here are 2 ways to eliminate this kind of stunts.

1) Use a #prise de passage# & make 2 steps instead of one.

2) Rise up a few inches first which will reduce the #enjambe#. Sometimes the simple act of tightening the ankle and to hold on your toes will make you gain the precious centimetre.

HIDE THIS KNEE:

In climbing the use of knees to climb is not advised. It lacks elegance, gait and **especially compromise your balance**. Also it is often impossible to get up from such a position.

Lets not forget that the ordinary movements are hindered by the cliff which is pushing the body outwardly.*

DON'T DO EVERYTHING WITH YOUR ARMS:

Once again albinism is not a match of strong arms rather it is an exercise of precision and suppleness.

By so doing one waste precious energy for when the times come to really use your arms then you will be too tired to do so, use your feet as much as possible.

One often sees very strong men getting drained off completely because they have not used their feet enough.

This may not be serious in a 60 foot's cliff but it **BECOMES DANGEROUS EVEN DEADLY** when facing a cliff that takes many hours to do.

As in every place it is **CAPITAL to know how to keep and save his strength**.

So reserve your arm's strength for the proper passage and use your feet to their maximum. It is in one way the best way to use your head.

DON'T STICK TO THE CLIFF:

Beginners do this mistake all the time, safety reflex. They cling to the cliff wanting to scrape it with their nose yet by so doing they fail to see the hold offered, so stay straight and your body disengaged from the cliff.

CLIMBING DOWN:

Well, as one goes up, one **MUST** eventually come down and it is not so simple even harder than normal since you have a hard time to see where to put your feet.

So in order to see you will be forced to stick away from the cliff that is an excellent practice to prove your newly acquired technique.

As a general rule one is tired from his ascension and thus **MUST** be careful so if you use a rope with partners, **unrope them only at the last moment where it is safest to do so**.

This is for the short climbs but in high mountain you **MUST** use the #rappel.# This technique of climbing down using 2 ropes that permits you to call or bring back the rope.

After having passed it around a tree or a #becquet de rocher# *149b, etc. you throw the 2 ends down and you start going down using the sliding method that is braked (slowed down) by the body friction.

You see this technique in all movies but don't unnecessarily use it since the rope can be easily damaged by frequent #rappels# against the rough rocky surfaces.

If you **MUST** use it then do it without jerking it and also after making really sure of your mooring point, after all you want to climb not fall down. Some trees hold out from a very thin layer of ground so make doubly sure of your mooring.

The best method as shown on the photo* is to pass the double rope under the thigh & across the opposite shoulder then to use one hand as a break and the other as a guide.

#FEAR OF DEVISSAGE#:

Technical alpinist term for falling. Let not this fear stop you. Since each climber should climb according to his strength & should not attempt bigger cliff until he has enough experience thus reducing the risks. Of course the mountain is a living thing and to help you along.

YOU MUST TEST THE SOLIDITY OF EACH HOLD BEFORE YOU MAKE A GO FOR IT:

As for the fall itself it is of little consequence to the #second de corde# because he will **only** fall a few feet before he is stopped by the security rope.

But all the vigilance of the second man and a good use of the material are **necessary** to minimise the importance of a fall in the case of the #premier de corde#. You are his life line.

JUDGING TERRAIN:

As you descend a mountainside it will often be difficult to see what is below you. Can you move around a valley or along a spur to look back at what was below? The opposite side of a valley will give you some idea of what is on your side too.

Be cautious if you find you are looking at a distant slope beyond a foreground bluff, the ground is likely to fall steeply between.

*Scree slopes can be particularly deceptive and appear continuous until you are **very close** to a cliff.

DESCENT:**

Negotiating cliffs without a rope is **extremely dangerous**. On the steepest cliffs it is **necessary** to come down facing the cliff and **very difficult** to see footholds below.

If there is an adjoining slope, a colleague can observe and give directions. Once down you can then point out holds to others from below.

A high cliff should **NEVER** be attempted. In the case of a plane crash there is probably more risk in climbing than waiting for rescue.

To climb down rock faces that are less steep and with deeper ledges, adopt a sideways position using the inside hand for support.

For easier crag, descend facing outwards with the body bent and where possible carry weight on the palms of the hands.

ASCENT:**

Climbing upwards, holds are easier to see, but it is **ALWAYS** safer to go around rather than over obstacles if you are travelling without knowing the route. You could become stuck with an impossible descent.

ALWAYS work out your route from the bottom and in climbing keep the body **AWAY** from the rock and look up.

MOVE ONLY ONE HAND OR ONE FOOT AT A TIME. ALWAYS KEEP 3 POINTS CONTACT.

Keep your weight evenly balanced on the feet rather than hang from the hands. **Do not over-stretch.**

With the feet firmly planted on the rock and one hand grasping a good hold, reach with the other for a hold just above just above the head.

TEST IT, then look for another hold for the other hand or the feet. Use small intermediate holds.

AVOID BECOMING SPREAD EAGLE, AND LET THE LEGS DO MOST THE WORK.

ALWAYS PLACE THE FEET AS FLAT AS POSSIBLE TO MAKE MAXIMUM CONTACT WITH THE ROCK.

To climb vertically up fissures, use the chimney technique. Place your back against one surface and wedge your legs across the gap to the other. Slowly move up.

If a chimney opens out you may have great difficulty in transferring to one face and have to descend again.

DESCENDING BY ROPE:

With a rope firmly anchored at the upper level, it is possible to descend the sheerest cliff.

The technique, known as **Abseiling** or rappelling, can involve a special seat sling and a karabiner for the rope to pass through, but the basic method uses just a doubled rope. The rope does not move- you move down it.

It is not comfortable even with the body correctly angled, but it is the **safest way** to negotiate steep or very slippery slopes. Friction can damage clothing and skin.

The length of the rope controls the amount of descent & there **MUST** be a firm anchor point, a rock or tree that can carry the weight and not cut the rope.

If a series of platforms with firm anchors can be found, a slope can be negotiated in stages, but if several people are involved there **MUST** be room for all of them to wait at each stage.

After an Abseiling the rope can be pulled down after you. If someone is left above to untie the rope or you are prepared to leave it behind. An undoubled rope can be used making twice the descent possible with the same rope.

Getting over the edge is **often the most difficult part**. You may have to climb down a few steps to gain a good position & sufficient confidence.

MAKE SURE that you are in a firm position before hauling the rope down, its sudden weight could affect your balance.

AND BE SURE THAT YOU HAVE PLANNED YOUR NEXT MOVE.

Once the rope is down you may have no way of retracing your steps. (OOPS!)

ABSEILING:

Loop ropes around a firm anchor and test it with full body weight **BEFORE** doing anything.

Avoid sharp edges that could cut the rope. Pass both ends of rope between legs from front, bring around to left of body and across chest, over right shoulder and down across the back.

Hold rope in front with left hand and at back with right. Plant feet about 45cm (18in) apart firmly against the slope and lean back. Let rope around body carry your weight.

Do not try to support yourself with your upper hand. Step slowly downwards. Pay the rope out one hand at a time.

CAUTION:

Abseiling can be dangerous. If not trained in the technique **NEVER** attempt it, unless accompanied by an expert or in a survival situation.

USING A CRADLE:

On an unobstructed vertical descent, a cradle made from a bowline-on the bight* can be used to lower people down or haul them up. Use this technique to rescue anyone who has fallen down a crevasse.

ASCENDING WITH ROPES:

Belaying is a method of helping others to climb up. First one person **MUST** make the ascent with a rope (this could be a light line to haul up the actual rope afterwards) attached around the waist with a Bowline*.

At each stage of the ascent there **MUST** be a platform or ledge to accommodate all the party and a secure anchor for the rope.

If there are a number of lengths of rope a series of stages could be operated at the same time to handle a larger party.

TEST THAT THE ANCHOR IS FIRM:

A tree, spike of rock or thread (a hole through a rock or small boulder firmly wedged in a crevice). Anchor the rope with a loop tied in a figure of eight or an overhand knot.

Belayer* ties on with a bight or 2 bights to steady himself, and pass climbing rope over head & down to hips, making a twist around the arm closest to the anchor & takes up any slack.

Climber ties on with a bowline around waist and begins to mount. Belayer takes in the rope to keep it taught.

TAKING UP ROPE:

Pull with both hands so that rope passes behind back (pull in with right hand, push away with left). Slide right hand out for more rope.

Bring hands together and hold both parts of rope in right hand, while the left slides in towards body to take up slack.

Begin again pulling in with right hand, pulling rope around body with left. Be ready to arrest rope, in case climber falls. Bring rope tight around body by bringing hands together.

Anchor, #belayer# & climber should be in a straight line. (Explain belayer term)**

If spike is used it should be higher than the belayer's head. If this is not possible standing, the belayer should work from a secure position.

Older people and children should be roped around the chest. Small children are best carried papoose style on another climber's back.

Belaying without an anchor is risky and requires more strength. The rope should then only pass through the belayers' fingers, **not around the back**, least the belayer be pulled down by the climber.

WARNING FALLING ROCK CAN KILL:

On loose rock ALWAYS TEST holds gently and NEVER pulls outwards on loose hold.

Be careful that your rope does not dislodge rocks. Even small falling rocks can inflict serious injury.

If you knock a piece down, **shout a warning below.** (Rock & Roll ouch!)

SNOW AND ICE-FIELDS:

Sophisticated equipment is available for climbing in snow & ice but on snow some of the mountaineer's ice-axe technique can be improvised with a stout stick.

A handled walking stick may give more grip than a simple shaft. If not equipped with proper ice axe & crampons and skilled in their use, try to keep clear of mountain ice. (Go Home!)

A snow axe or stick, driven into the snow when climbing gives much stability.

ZIGZAGGING:

On steep slopes climb in ZIGZAG, kicking steps and digging stick in sideways. And as you change direction ALWAYS set off with the uphill foot.

Dig in heels and use stick on slighter slopes. On **gentle slopes** use heels and stick as a walking stick. On **steep slopes descend backwards** driving stick into snow for support and as a brake if you slip.

Sliding down a snow slope is exhilarating but dangerous. Digging in the heels will help control speed and a stick driven into the snow is an additional brake.

But there is **ALWAYS** a risk that you have not seen a precipice ahead! **NEVER** use this method where there is any risk of an avalanche.

SECURITY ROPES ON ICE:

Any party moving across a glacier should be tied together, at **NO LESS than 9 m.** (30ft) intervals. The leader should probe the snow with a stick, for any slight depression could indicate a crevasse.

Roped fixed to a firm anchor at both ends can steady movement across ice patches that have to be #traversed.#

Use as hands hold or tie a short rope in a bowline around the waist and secure to the rope with a Prusik* knot.

This will slide along the rope to allow #descent# but if you slip will arrest your fall. This is a technique also useful on scree* and loose descents for children and the less able.

ICE AND SNOW BOLLARDS:

If now firm rock is available for belaying and upper anchor can be cut from the ice. Cut in a mushroom shape where natural ice formation makes it easiest.

Make diameter at least 40cm (18in) and depth at least 15cm (6in). **DISCARD** and start again at the **SLIGHTEST** sign of a crack in the ice.

A snow bollard **MUST** be much bigger; at least 30cm (1 feet) deep and from 1m (40in) wide in hard snow to 3m (10ft) in soft. Pack equipment and baggage around it to prevent rope cutting through.

CREVASSES: WARNING:

They are found where a glacier starts at a valley wall, changes direction or spreads out in widening valley.

TRAVEL SLOWLY, probing the ground. If one of the group falls through the snow he is belayed by a rope and can be hauled out.

ROPING WARNING:

Pressure of rope on chest can cause asphyxiation. Pass a rope down with a loop to put a foot in to take the weight. If the fallen man is unconscious it will take 3 people to heave him out.

Manharness hitches will enable them to pull together.

Temperature in a crevasse is very low and the victim will rapidly weaken. **SPEED IS IMPORTANT.**

AVALANCHES:

They are a **serious hazard** in all high mountain regions. They **most frequently occur** on slopes of between 20 and 60 degrees and especially between 30 and 45 degrees, usually within 24 hours of a snow fall.

After a major fall of several hours' duration, WAIT A DAY for snow to settle before setting out.

Rain or rise in temperature, after a snow fall greatly increases the risk. The melting process helps to lubricate the slide.

Heavy snow falling during low temperature can also avalanche because it does not have enough time to stabilise.

Slopes with irregular surfaces are safest and timbered slopes are also stable.

Steep rock at the top of a slope make it more prone to slipping, because falling snow rocks or icicles can set in motion.

On a convex slope the gravitational movement downward compacts the snow at the bottom and creates tension at the top making it more likely to slip.

MAIN AREAS OF DANGER:

1) Snow-covered convex slopes. Here the snow is under tension. / 2) Lee* slopes where snow has accumulated, they are unstable. / 3) Deep snow-filled gullies.

PRECAUTIONS VIA AVALANCHES AND TRAVELLING TIPS:

1) The sun' heath on the snow can cause avalanches so **BEFORE NOON** travel in shaded areas-keep of those exposed to the sun.

2) **AFTER NOON**, keep to slopes that have been exposed avoiding those that are now in sun for the first time.

3) **Avoid** small gullies and valleys with steep side walls.

4) Stick to ridges and high ground above avalanche paths. You are more likely to trigger a slide but, if you do, you have a better chance of being on top of the debris or nor being carried down at all.

5) **ALWAYS look out for avalanche activity**, even if you do not see it happening. Assess where avalanches started, their direction.

How long they took place. They will be a guide to where other avalanches are likely.