ESTIMATION (Evaluation?)

In a survival situation BEFORE LEAVING A SPOT, Remember that is also important to note the time, distance of your path, trip, just as much as to maintain a straight course on your goal.

MEASURING STEP + OR - :

For anyone in survival it is **important** to predetermined ahead the average length of his step in inches or foot the distance travelled in 10 steps then to divide it by 10 = your step size.

On the terrain the account of the average step **MUST** be verified checked according to the following conditions:

SLOPE OR INCLINATIONS:

The steps are longer going down, shorter = up.

WIND: Against the wind steps are shorter,

With wind = longer.

SURFACE: Sand, gravel, mud all alike surfaces = shorter steps.

WEATHER: Snow, rain or ice = shorter steps.

CLOTHING: Too heavy = shorter steps,

DIFFERENT SHOES: Can also affect the traction and consequently the length of steps.

ENDURANCE & RESISTANCE AND FATIGUE: Make us crawl at time.

DISTANCE APPEAR LONGER:

Than they are in reality when the terrain is accidented, rough. If there are shadows or fog, also at sunset the object observed is hard to see lacking contrast, or because we are too low or hot.

DISTANCE APPEAR SHORTER:

Than they are if: the terrain is flat, or weather is real clear (after rain or storm), or just before and just after the sunset or if you observe over a water area.

Or if there is a colour contrast between the object under observation and the background or when we observe from a high point, or above a valley or if snow.

Now the quick evaluation of distance is not the only habit to acquire but also to learn to estimate in one quick look the surface & quantities, to evaluate weight and time.

ARMY EVALUATION:

In the German army the rules given to judge the distances are:

At 50m: One sees clearly they mouth and eyes of a man. / At 100m: The eyes look like dots. At 200m: We still see the buttons and the details of the clothing. / At 300m: We still distinguish the face of a man. At 400m: We see the legs moving. / At 500m. we still can distinguish the colour of the uniform.

ON THE MOVE:

Having chosen a course and planned a route, you **MUST** be able to maintain direction, to match your progress to the type of terrain and the nature of the survival group, and to exploit any techniques that make progress easier.

This selection deals with skills needed on the move. It should read in conjunction with the techniques described earlier in Climate.

Careful reconnaissance may be necessary to choose the easiest routes-which may not be the obvious or the quickest ones.

Groups MUST be organised to suit the least able or provision made for carrying them.

Waterways can offer the easiest routes to move along, if they are easily navigable and you are able to construct a raft. They can also present formidable barriers if they lie across the route you have to follow.

Rivers can be dangerous. You **MUST learn to assess the** hazards they present and select the best places and methods of crossing, if crossing is unavoidable.

Whether setting off on a hunting expedition or beginning the trek back to civilization, you will need skills in negotiating terrain and in navigation-either to ensure your return to camp or to keep to your chosen route.

Even if you do not have a map, your own reconnaissance will have established your immediate terrain. Guessing what is beyond is much more problematic if you have to assess it yourself.

On short expeditions take note of the terrain as you move outwards to ensure that you can find your way back to camp.

Over short distances physical features will be your guide and you can also mark your trail, but when going further or striking back to civilization you will need all the navigational aids available

THE DECISION TO MOVE:

Except when local dangers or the need to find water and food makes it imperative that you move away from the site of your accident to make camp, you will stay close in the hope of rescue.

If you have injured persons and only limited food and water, it would make sense to send a party to contact help while others stay to care for the sick.

The fittest and most able should be chosen to make the trek. Unless they include a trained medic, who would stay with the sick.

IF NO RESCUE THEN WHAT?:

But what if no rescue comes? Local resources may become exhausted: you go farther each day to collect firewood, the game in the area has gone, plants, fungi, fruits and nuts are more difficult to find or require long forays out of camp.

Under survival conditions there is also an increased risk of disease from staying too long in one place. Even with the strictest sanitary management the chance of disease gradually builds up.

All these will be pressing you to move. Whether that be a move to new territory or the beginning of a trek back to civilization.

Many of the same problems will occur and since there are a few situations so idyllic that survivors will prefer their new life to their old-it would be sensible to plan any move as the first stage of the journey out.

The exceptions will be where there are still sick people on their way to recovery, or better resources are needed to provision a push through alien territory.

A move to a more comfortable camp in a more hospitable area will provide better chances' recovery for the injured or sick and the chance to build up and the necessary surplus and equipment ready for the final trek.

Deciding which way to go will be influenced by all the information you have been able to gather, by the fitness and endurance of the party and by the nature of the terrain.

ALWAYS REMEMBER THAT THE MOST DIRECT LOOKING ROUTE MAY NOT BE THE EASIEST TO TRAVEL.

If you have a map or a clear idea of your location make for the nearest known settlement. If you have no idea where you are then the **best course is** usually to follow waterways **DOWNSTREAM,** for they will be clearly define a route and generally lead to populated areas.

Even if you are simply changing the location of your camp there is no point in just moving a mile away-as you will soon have the same problems that made you decide to leave your first camp.

The territory will not be entirely fresh. Move two or three days' journey **at least** so that fuel, flora and fauna will all be undisturbed.

Although you may expect similar resources to be available, as long as you are travelling through similar terrain.

REMEMBER that you have been hunting and foraging with experience of where things are best found or trapped and with known supplies of fuel & water. You will have to find your basic needs in new territory and when you move into different terrain availability may change dramatically for better or worse.

PREPARATIONS: (BEFORE YOU GO!)

1) Before you finally abandon camp leave signs that will make it clear you have been there & have moved on and where did you go. Leave a message giving a list of who is in the party and details of your intentions.

2) Mark the trail as you proceed so that if searchers do find the original camp they will be able to follow you.

3) Build up a stock of preserved food, make water bottles and larger containers too if you envisage crossing waterless territory, litters or other means of transporting any remaining sick, the old or very young.

4) Make suitable foot-coverings & clothing for everyone & packs to carry equipment & supplies.

5) Some form of transport may be possible- a sledge or raft. Take shelter material with you cloth, canvas, ponchos, even sticks if they are likely to be scarce in the terrain you are crossing.

6) A shelter which can be quickly re-erected will conserve energy for more urgent gathering than roofing materials and supports.

7) Naturally you will take signalling gear, for you may find and opportunity to make that vital contact that will bring rescue.

8) Study weather patterns carefully to choose a time for travel when the weather is likely to be settled.

HUDSON BAY PACK:

A comfortable and easily improvised way of carrying equipment, this needs strong and preferably waterproof material about 90cm (1 yard) square, 2 small stones and cord or thonging more than long enough to loop across the body.

Place stones in diagonally opposite corners of the cloth. Fold ends of the cloth over stones. Tie cord below the stones, securing them in position.

The stones in turn prevent the cord slipping off. Lay cloth on the ground and roll possessions up tightly. Wrap pack around the body, either across the back or around the waist.

BACK-PACK FRAME:

Make a ladder frame to fit against your back, with a right angle projection at the bottom secured by side struts.

Add shoulder straps and a belt loop. Use this to support a bag, a bundle of supplies or equipment tied into place.

FORK FRAME:

A quicker but less efficient support can be made from a forked bough with cross-pieces to which baggage can be tied.

BABY BAG:

Carry babies and small children papoose style on your back or front. Tie lower corners of a rectangle of cloth around the waist, pop in the child and tie the upper corners around your neck. Pad at neck to ease the pressure or chafing

CARRYING PEOPLE:

Pick-a-back and firefighter's lift are impracticable for long distances and stretchers are difficult to handle. Sit small children on a back-pack frame or make carrying chairs on poles to be borne by several people. **If you are alone, try a sledge or travois. Equipment can be carried the same way.**

MAKING A SLEDGE:

Sledges are particularly useful on snow and ice, when they will move most smoothly, but also be used on smooth ground.

THE SHAPE OF FRONT RUNNERS IS CRITICAL, ESPECIALLY ON SNOW.

You can make use of doors and cowlings from a crashed aircraft or vehicle in the construction.

Tie lines to the front runners with a bowline to the people hauling-ideally two at the front, and two at the rear as brakemen on gradients or slope. **Test thoroughly before using a long trek.**

Choose 2 forked branches and remove one side of each fork. Make smooth for the runners and lash on cross members. Alternatively, choose 2 longer supple runners. Bend and brace as shown.

This arrangement keeps the lashing off the ground and may be more comfortable for an injured person. Whichever methods you use, add **at least** one diagonal for strength.

PLANNING:

If you are on very high ground, above a large plain, it may be possible to plot out a route with some precision.

In most situations' visibility will be restricted and you will have to guess what is over the farthest ridge and what occupies the dead ground ahead.

Even when you can see the terrain ahead it is difficult to see the details. What looks like a manageable slope may prove to be a barrier when you get closer to it. If you have them, make a good use of field glasses in studying every potential route.

To see farther you may consider climbing a tree-but **keep close to the trunk and test every branch before risking your weight on it**. This is NO time to risk a fall.

FOLLOWING RIVERS:

Following a watercourse, however small, offers a route to civilisation and a life-support system on the way.

Most rivers lead eventually to the sea or great inland lakes. Apart from the rare exception where rivers suddenly descend beneath the earth, they offer clearly defined routes to follow.

Sometimes, in their upper reaches, they may cut through gorges and it can be impossible or inadvisable to take a route along their banks, which may be steep, rocky and slippery.

In that case take to high ground and cut off the bends, following the general course of the stream.

On more level ground a river is easier to follow and may well have animal trails beside it that you can use.

In Tropical conditions the vegetation is likely to be denser by the river-for the light can reach below trees, & the banks may be hard to negotiate.

If the river is wide enough it would be worth considering building a raft. (See raft #?)

Even if there is no bamboo, which makes an ideal raft-building material, there are likely to be sound fallen trees for timber.

When, on flat plains, a river makes huge meanders, the inside of the loops may be swampy and prone to flooding.

You can recognise such very wet ground by the lushness of the vegetation and rush like plants. Avoid marshy areas if you can, & cut across the loop.

MAINTAINING DIRECTION:

Having decided upon a direction, try to maintain it. Choose a prominent feature in the distance and keep heading towards it. Travelling through forests makes orientation very difficult and a compass becomes a valuable asset.

If you are in a featureless territory, but in a group of three or more, separate to follow each other at wider intervals and look back frequently. If you are following in each other's track those behind you will be directly behind each other.

If the party **ALWAYS** moves in relay-one moving on ahead then resting while everyone else moves up from the rear-the straight line will be maintained.

On your own you can try to align yourself by looking backwards at your own tracks if they are visible, as they are likely to be on snow or sand.

Better still, you can set up sticks or piles of stones in alignment with each other so that you can check that you are not deviating from your route.

If possible skirt rocky outcrops and areas of dense vegetation and once on high ground, stick to it until certain that you have found the spur down which you can make the best progress in the desired direction.

MOVING IN GROUPS:

ALWAYS move in an organised manner, in some kind of formation, and not as an unruly gaggle.

This way it will be easier to check that no stragglers have been left behind and to ensure that there is help for anyone in difficulty.

Before setting out for the day, have a briefing to discuss the route, any obstacles expected & any special procedures.

DIVIDE RESPONSIBILITIES:

One person becomes a scout, responsible for selecting the best route, **avoiding dead falls, loose rocks, etc.** & finding the best way down a slope.

Number two is responsible for making sure the scout who will be preoccupied with skirting obstacles, maintains correct overall direction.

Others should relieve them frequently, for the lead scout's job in particular is very tiring.

The rest of the party should keep their eyes open for edible plants, berries and fruits and everyone should be responsible for **at least** one other person to ensure that no one drops by the wayside.

A head count and check on everyone's condition are particularly important after a river crossing or negotiating a particularly tricky stretch of terrain. Someone should initiate equipment checks at frequent intervals. (Every pit stop!)

ALWAYS TRAVEL IN AT LEAST PAIRS.

And be especially careful in bad weather, and if you have to travel at night, that you do not get split up.

IT IS USUALLY THE PERSON IN FRONT WHO GETS SPLIT OFF FROM THE GROUP.

People are more likely to **REMEMBER** to look for the stragglers.

The scout climbs over an obstacle, the second person sees the scout struggling and then sees an easier route to take-the rest of the party follows and the lead person is separated from the group.

This is when the benefit of everyone knowing the proposed route & nominating prominent features as rallying point is apparent. If separated or in an emergency everyone knows where to regroup.

Availability of water, fuel and plants may be an indication of what is available in similar locations farther ahead.

An eye should ALWAYS be open for places that offer good shelter. If the weather suddenly turns bad you can backtrack to one of them.

PACE AND PROGRESS:

A large group can send an advance party ahead with the responsibility for clearing the route and setting up the night's camp, ready for the slower-moving injured or less able.

A clear trail will make the carrying of baggage and any unfit person much easier. Sick and injured should be provided with fully fit escorts in case they encounter any difficulties.

Ensure that the lead person in the party does not go too fast for those behind. After an obstacle waits & allows everyone to catch up before moving on.

IT IS BEST TO TRY TO MAINTAIN AN EVEN PACE. SMOOTH PENDULUM -- LIKE MOVEMENT TIRES THE LEGS LESS THAN A JERKY PACE OR FLEXING THE KNEES.

It helps to swing the arms and they should certainly not be pushed in the pockets, especially when going up or down hills for if you then slip you have less chance or stopping yourself falling or sliding.

REST FREQUENTLY, WHETHER IN A PARTY OR ALONE:

Stop, sit down and see how everyone is doing. Adjust loads that are uncomfortable and repack them if need be.

On average take a break of 10 minutes every 30-45 minute, depending on the terrain and condition of the group.

On steep ground the pace should be shortened, on easy ground lengthened.

On descents avoid overstepping for this jars the body and increases fatigue.

On steep or slippery ground ropes can provide a hand-hold to help people negotiate a particularly tricky stretch.

(Quite apart from abseiling and other climbing techniques.) They will be an asset on scree, as much as on icy slopes.

You can also use a line with Prusik knots (see knots) attached so that the young and aged can be tied to a fixed rope for extra safety.

In estimating distances you have covered allow 3 km (under 2 miles) per hour, but going uphill knock off a third.

WALKING AT NIGHT:

Negotiating unknown territory at night can be very dangerous, but may be necessary in an emergency, or there are circumstances-into the desert for instance-when it may be more comfortable to travel at night.

The night is **NEVER** completely dark and outdoor vision is not totally lost, even for a man.

However, because it is difficult to see things clearly you are easily disoriented, which leads to a feeling of being lost.

A compass is a great help in maintaining a heading and dispelling any such fears. It is **ALWAYS** darker among trees than out in the open. So keep to open country if you can.

NIGHT VISION:

WHEN LOOKING AT AN OBJECT AT NIGHT IT'S BEST TO LOOK AT ONE SIDE OF IT THAN DIRECTLY AT IT.

It is difficult to distinguish anything in a dark central mass but the edges show more clearly and in poor light objects at the edges of your vision are often seen more distinctively.

Once the eyes get accustomed to the dark, more and more is seen as "night vision" is acquired.

IT TAKES ABOUT 30-40 MINUTES FOR THE EYES TO GET ACCUSTOMED TO THE DARK.

Once this is achieved the **eyes MUST be protected** from bright light or the night vision will be impaired for quite a while.

If there is an unavoidable reason for having to use a light, cover one eye so that the vision in that eye at least will be retained.

If for instance, you need to consult a map, a red filter over a torch will help you retain your night vision.

The ears are good sensors in the dark-the sound of a river for instance, provides a good guide to how fast it is flowing. Vegetation can be smelt in the dark and familiar smells can aid identification.

WALK SLOWLY IN THE DARK & TEST EACH STEP BEFORE PUTTING ALL YOUR WEIGHT FORWARD.

If going down a slope use a shuffling step.

UPLAND TRAVEL:

In mountainous and hilly country it is best to keep to high ground-it makes navigation easier.

Rivers may be in steep-side gullies and have rapids, falls, and slippery rocks that are difficult to negotiate on foot. You could end up spending an unhealthy length of time in the water.

Use spurts to climb out of valleys & get on to the ridges. If they are very exposed you may have to drop down into the valleys for shelter at night and to find water but you will be able to cover more ground than by negotiating the spurs.

It is NO USE following a river as it winds in deep valleys through very hilly country.

By climbing from the valley at (A) 192 and following the ridge, steep and tiring descents & climbs are avoided.

At (B) night halt is taken dropping down to the first available water source. This could provide shelter too, which may be unavailable on an exposed ridge.

Be aware of fading light and your own flagging energy. Look for shelter before they are exhausted. (See moving test #?)

Do not go down to the valley bottom if you can find shelter and water on the way. **Not only will you save energy, you may be warmer.** Pockets of cold air are quite often trapped in the bottom of valleys.

If you carry water and shelter materials, stay on high ground, choosing the most sheltered spot or nearest Holiday Inn?

The route follows the ridge farther before dropping down into the widening main valley to follow the watercourse again at (C).

Follow the tip of a spur to go down into the valley when a river gets larger and the valley opens out.

STEEP SLOPES:

In mountainous country and on high hills, snow and ice may be encountered, and even without them such country can be **dangerous** with loose scree, steep slopes and crags that have to be negotiated.

Traverse steep slope in zigzag and as you change direction ALWAYS set off with the uphill foot.

This avoids having to cross your legs over each other, which can make you lose balance. When climbing steep slopes lock your knees together after each step. This rests the muscles.

Descending steep slopes, keep your knees bent. Try to go straight down and if you are picking up too much speed, sit back.

Avoid loose rocks and scree but, if you have to negotiate loose surfaces, it helps to dig in the heels and lean back while descending.

IN CLIMBING TEST EVERY FOOTHOLD BEFORE PUTTING YOUR WEIGHT ON IT.

Don't step on stones or logs on steep slopes, they may dislodge.

With practice it is possible to jump down loose ground-dig in the heels and slide-provided that there are no sudden drops below. Keep the feet square and shoulder-width apart & allow yourself to slide.

As you increase in speed, dirt will build up under your feet and you will loose control. Jump and start again. If the slope is **very steep abandon this method** - abseiling (rappelling) is then the answer.

JUNGLE TRAVEL:

In dense jungle you may have to cut your way through if there is no way of going round.

Chop downwards and as low as possible at the stems on both sides so that they fall away from the path you are making, not across it.

Avoid leaving spikes standing, bamboo points can be lethal if someone stumbles. High growth and creeper can often be cut & travelled over.

Jungle vegetation seems to be covered in thorns and spikes. You may have to twist and turn to avoid vegetation that seems to surround you.

Rushing only makes it worse. Those types of the climbing atap and rattan, that are known as nanti sikit "wait a while." In Malaya and similar names elsewhere, they have thorns like fish-hooks at the end of the leaf.

When snared by them you MUST back off and untangle. Do not try to tear through wait-a-while vine, it will strip you or her naked. You will soon see why it got its name!

However it has many uses and rattan is one of best of jungle water vines. Keep feet covered to protect them from sapling spikes, snakes & chigoes or (chiggers) (not check-hers!)?!).

Stop frequently to remove parasites. Chigoes ignored for more than an hour or so will cause infection. (Ouch!)

THE MOST ENERGY SAVING WAY TO CLIMB A SLOPE: (see also mountain climbing)

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