Notes on Tracking and Trapping: Examples of hunter-gatherer ingenuity

Louis Liebenberg

Spinghare Probe

The Kalahari San use a method similar to that used by the Yanomamö to trap Springhares.

The Springhare probe consists of three long, flexible sticks tied together to form a 3.5-meter-long probe with a sharp hook at the front end. The probe is shoved down a Springhare burrow and pulled back with sudden jerks until the Springhare is caught on the hook. They can tell that they have caught one by the vibrations they feel at the other end of the probe. The length of the probe that remains outside the burrow indicates the length of the probe inside the burrow, from which they estimate how far from the entrance the Springhare has been trapped. They then dig down from that point to retrieve the Springhare. (Field Notes)

Fighting Lions

Khomani San tracker Karel Kleinman glanced at some lion tracks going up the side of a dune. He pointed out that a male lion got up, ran up the dune at a trot, stood still, and then trotted off at a steady pace in a specific direction. He explained that the lion had heard a female in the distance, got up and trotted higher up on the dune where he stood still to listen, and then trotted off to go and find her. We went to where he predicted the lion had been going. We picked up the tracks and followed them to a spot where the lion had encountered two other lions, a male and a female. The tracks indicated that the two males had been fighting over the female, after which one of the males went off together with the female. The original set of tracks only indicated a male lion that got up, stopped, and continued at a trot. But the way it moved showed that it was not hunting, since it was not trying to move stealthily to stalk a prey animal. Rather, it stopped to listen to something at a distance that it found attractive, and then moved off at a steady pace. The way it moved indicated that it was attracted to a female in the distance. (from Liebenberg, 2013)

Lioness with Cubs

When Kalahari hunters see circling vultures, they will run over to the spot to take the meat, even if lions were still feeding on the carcass. However, there are exceptions to the rule.

As we approached the area where circling vultures were dropping down from the sky, !Nam!kabe observed that there were many tracks, from a number of days, of a lioness always going back to the same place after hunting and outgoing tracks radiating away from her home. This, he said, indicated that she had cubs nearby and that she will therefore be too dangerous. She will not run off and let us take her meat but will fight with us. !Nam!kabe recognised that a number of tracks over a large area spread over a number of days belonged to the *same* lioness, and that these tracks radiated from the same place, which indicated that she had cubs that were too small to move around with her on hunts. If he were not able to make these observations, we could have walked into a life-threatening situation. (Field Notes)

Feeding Jackals

One day we found a concentration of fresh jackal tracks converging to a point, usually an indication that there is a carcass nearby. !Nate, Kayate and Boroh//xao started looking for the carcass, hoping to get some meat, while !Nam!kabe stood to one side, silently watching the younger trackers scouring the area. After a while, when they found nothing and could not explain what had happened, !Nam!kabe pointed to some fresh dung. He explained that the jackals were feeding on dung beetles in the dung. Since they ate all the dung beetles, there was no evidence of what the jackals were feeding on. (Field Notes)

Jackal Communication

!Xõ trackers' ability to interpret spoor enables them to reconstruct the context of an animal's communication even when they could hear it, but not see it. By estimating the distance and direction of a call, trackers can go to the place where the animal was and study its tracks to determine what it was doing. So, for example, hunters are able to interpret the nocturnal calls of jackals. When a jackal gives a long, smooth howl that diminishes in loudness (WHAaaa…), then it is simply maintaining contact with other jackals. If, on the other hand, it gives a shuddering howl, diminishing in loudness and ending in a soft cough (WHA-ha-ha-ha…umph), then it is following the spoor of a scavenger or a large predator. !Xõ trackers explain that it "stutters" because it is afraid. If the jackal gives the shuddering howl only once, then it was following a hyaena spoor. It has left the spoor after the first call because it will not get much meat by following the hyaena. If, however, it repeats the shuddering howl several times, then it is following the spoor of a leopard or a lion. It continues to follow the spoor because it knows that the spoor will lead to a lot of meat. Apart from warning the hunters of the danger of lions at night, jackal calls may indicate the recent movements of predators and scavengers, which may be considered when planning hunting strategy. (From Liebenberg, 1990)

Wild Dogs

We were asked by a conservation official to investigate a complaint from a farmer in the Ganzi district, Botswana, who claimed that Wild Dogs were killing his cattle. His farm workers showed us a den - we found the tracks of Brown Hyena, but no sign of Wild Dog. They then took us to some bushes where they claimed the Wild Dogs were lying under some bushes. It had been raining for several days and there were no footprints to identify the animals, but there were still depressions in the ground around the bushes where the animals were lying close together. !Nam!kabe pointed out that if they were Wild Dogs, we would not have seen any depressions where they were lying – Wild Dogs do not create depressions before they lie down, they simply lie down on the ground. Furthermore, Wild Dogs would not lie close together around a bush but would lie down scattered over a larger area. Only Brown Hyena would lie close together under the bushes and dig shallow depressions in the sand. Even after days of heavy rains, with no tracks to give a positive identification, the way they lay down indicated that these were Brown Hyena, not Wild Dog. (Field Notes)

Ostrich Eggs

When the Barking Gecko starts to give its distinctive *click-click-click* call, !Xõ hunters say that it is the time of the year that the Ostrich lays its eggs.

Usually tracking involves predicting where the animal was going to. However, when they find a fresh dust bath, they do not track it to see where it has gone, but to find its eggs they will back-track it to see where it came from. This is because the Ostrich will have a dust bath after leaving its nest. The distance from the dust bath back to its nest is therefore much shorter than the distance from the dust bath along the route it followed feeding during the day. (From Liebenberg, 1990)

Snares

Snares are not only intricate devices, but are set up to target specific animals, sometimes particular individual animals.

The snare makes use of a spring-loaded bent branch (with one end buried in the ground) which, when triggered, snaps back to tighten the noose (that is tied to the other end of the branch). The trigger mechanism consists of three small sticks holding the noose in place. One stick act as an anker for the taught rope tied to the spring-loaded branch, the second stick is at the end of a short string looped around the anker stick, keeping the branch from snapping back. The tip of the third stick, the trigger, holds the second stick in place so that the slightest movement of the trigger will release the taught rope, resulting in the bent branch snapping back and tightening the noose.

To snare a Steenbok (a small antelope), its resting place will be identified from fresh tracks (while it is away feeding). Branches are used to create a barrier around the resting spot, with several gaps in the barrier. At each gap a snare will be set, with the noose and trigger mechanism hidden inside a hole with twigs covered by leaves and a layer of sand.

In front of the trigger mechanism two long sticks are stuck into the ground to form an X across the gap in the barrier. Within the gap it therefore forms a V-shaped obstacle, with the bottom point of the V (the middle of the X formed by the two sticks) at knee height for the Steenbok. When the Steenbok approaches the gap, it will step in front of the two sticks forming the X, and lift its hoof over the obstacle to pass over the bottom point of the V, placing its foot on the other side exactly onto the trigger mechanism, releasing the trap to tighten the noose around its leg.

To snare Ostrich, !Xõ hunters will identify fresh tracks underneath a Camelthorn tree, where the Ostrich will be feeding on the Camelthorn pods, one of its favoured foods. To attract its attention, and lure it into their snare, they will place a large dehydrated bone underneath the tree. Near the large bone they will place a smaller bone, but one that is still too large to swallow. And near the smaller bone they set an even smaller bone (small enough to swallow) in the trigger mechanism of the snare.

Kori Bustards and Korhaans are lured by placing the sweet-tasting gum in the snare trigger, while smaller birds like Francolins and Guineafowl are lured using seeds placed inside the noose.

(Field Notes)

Conservation Ethics

It is often claimed that it is naïve to believe that hunter-gatherers were great conservationists by pointing out that when *Homo sapiens* migrated to new continents they hunted some megafauna to extinction.

There may be two reasons why this happened. Firstly, hunter-gatherers who were in the process of migrating to a new continent were probably under stress (and therefore may have over-hunted because they had no choice). Secondly, the megafauna on other continents did not co-evolve with human hunters and therefore were not adapted to survive human hunters. This is why the Dodo was rapidly hunted into extinction.

In contrast, wildlife in Africa co-evolved with humans over two million years and were therefore well-adapted to evade human hunters. Unlike other continents, we still have megafauna in Africa.

Another factor may have been that hunter-gatherers in Africa actively practised a conservation ethic to avoid over-exploiting animal and plant species.

/Dzau /Dzaku of Grootlaagte and independently !Nam!kabe Molote of Lone Tree in Botswana explained to me a conservation ethic practiced by Kalahari hunter-gatherers. During periods of drought plant foods would be scarce. If a particular plant was scarce, they would not exploit it, but leave it so that the population can grow back again. This meant that they had to hunt more animals to survive. In addition to animals dying due to the drought, hunters would have killed more animals, thereby reducing animal populations. After the first good rains, when plant foods recovered, they would then stop hunting to allow animal populations to recover. (from Liebenberg, 2013)

What is significant about this tradition is that it required all hunter-gathers to co-operate on a voluntary basis over a large area. It is not something that they could force others to do and if some cheated it would not work. It required ethics to maintain this tradition for the benefit of all bands living over a large area of the Kalahari. The success of this tradition is demonstrated by the fact that the San hunter-gatherers are genetically amongst the oldest modern humans (Tishkoff, et al, 2009; Henn, et al, 2011) and continued to live as hunter-gatherers until the 1950's.

Over a period of perhaps two hundred thousand years or more, since *Homo sapiens* evolved, the animals and plants they depended on were not driven into extinction by human overexploitation.

For a book on Rationality it may be a good example of how Kalahari hunter-gatherers acted in a rational way to conserve their animal and plant resources.

References

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