

## Primitive 70

### Chapter 70: Bone shovel and pottery board

The vast wilderness was covered with heavy snow, seemingly sealing everything off. The entire world appeared incredibly quiet.

After a year of busyness, people could finally take advantage of this rare opportunity to rest. However, compared to previous years when they would sleep extensively, the people of the Green Sparrow tribe seemed a bit busy this year.

Due to the daily consumption of salt and ample food supply, the people of the Green Sparrow tribe no longer faced the same struggles as in the past, when they would barely have enough to eat and would lose energy with the passing of winter, leading to excessive sleep.

Now, after the initial seven to eight days, their sleep duration gradually decreased. As the Divine Child, Han Cheng found them new tasks during their waking hours.

In addition to making gloves, socks, and hats, there was also the task of making tools for digging soil. A simple flattened wooden stick was not convenient for digging soil because it lacked sharpness, wore out quickly, and the part used for digging could easily break due to excessive thinning. Moreover, the wooden stick was not wide enough, limiting the amount of soil dug up each time.

The Green Sparrow tribe needs soil for making pottery, building walls, and planting rapeseed, making it necessary to improve digging tools.

Han Cheng didn't have any better solutions, so he had to rely on the wisdom of ancient people and make bone shovels.

With many bones collected from years of hunting, Han Cheng selected hard and large pieces from these bones. He chose suitable places, ground the edges thin on stones to make them as sharp as possible, and then combined them with the wooden sticks previously used for digging. By binding them together, a bone shovel was created.

Describing the process might sound simple when spoken, but it was quite challenging in practice due to various factors.

Besides overcoming other difficulties, connecting the bones with the wooden sticks proved to be headache-inducing.

Without nails and unlike modern shovels, where you could simply thread the wooden handle through a hole in the shovel head, connecting the bone to the wooden stick was not an easy task.

Thinking it over, Han Cheng could only resort to a simple method: drilling holes in the bone used as the shovel head.

The bone used to make the shovel head was roughly rectangular. The sharp edge was the rectangle's width, and the wooden handle needed to be fixed from the side opposite it. The description may be inadequate, but it was a simple matter. You can imagine a shovel similar to a modern one, except the fixing method was more troublesome.

Four holes needed to be drilled, corresponding to each other in pairs.

The first pair was drilled in the middle and upper part of the shovel head, while the second was drilled in the upper part, about two centimeters from the edge.

Using straw to tie the shovel proved impractical since straw, while tough, was not wear-resistant and could easily break.

Han Cheng had people cut many one-centimeter-wide strips from small or damaged leather pieces to use as straps. The wooden handle was placed in the middle of the two pairs of bone holes when binding. The leather strips were threaded through the front of the bone, crisscrossed around the wooden handle, and then threaded back to the front from the holes on either side of the wooden handle. Repeating this process five times, the wooden handle would be wrapped with at least nine layers of leather strips. With these nine layers, the shovel would be much more resilient and less prone to breaking during soil excavation.

Drilling the lower pair of bone holes in the middle and slightly above helped prevent the bottom end of the wooden handle from hitting the ground during soil digging, enhancing the shovel's usability.

Of course, to securely bind the bones and the wooden handle, besides these small tricks, another aspect is not to be overlooked. That is, on the wooden handle where the rope needs to be tied, a semi-circle of grooves that are not too deep should be carved in advance using a stone knife. This can catch the leather rope and reduce the possibility of loosening.

Moreover, some changes must be made at the bottom of the wooden handle, where it meets the bone.

This involves using a stone knife to flatten this side as much as possible, ensuring a large contact area between the wood and the bone.

Firstly, this ensures a firmer connection between the two, and secondly, during soil excavation, due to the increased force area on the back of the bone, compared to a round wooden stick, it can withstand greater force. This means it is less likely to break at the joint between the bone and the wooden handle due to excessive force.

After numerous experiments and combining the knowledge of modern shovels, wooden shovels used in threshing fields, and ancient bone plows, Han Cheng summarized the experience and created the tool.

Threshing fields involve using a stone roller to press wheat straw after harvest, clearing away the straw, gathering the remaining wheat, and using a wooden shovel to toss the mixed wheat and chaff into the air. The wind blows away the chaff, leaving clean wheat and some unseparated wheat spikes on the ground.

Of course, this method is also suitable for soybeans, rapeseed, and the like.

When they were younger, they used this method to process wheat. As they grew older, they introduced threshing machines driven by electricity or machinery and, later, combined harvesters.

With a lack of metal tools, making bone shovels was not easy, and drilling holes in bones using sharp stones was particularly challenging, requiring significant effort.

This is why Han Cheng did not suggest making bone shovels earlier and only started the process after the winter snowfall when people had more free time.

While it's true that sharpening the axe does not delay the cutting of firewood, it will undoubtedly delay the cutting if it takes too much time.

Especially when Han Cheng wanted to finish building the wall before the heavy snow fell.

As always, Shaman was eager to learn and valued knowledge. When people in the tribe were engaged in these activities, he watched from the sidelines, and after understanding, he recorded in the inner cave, as he had done in the past.

Now, the space inside the cave has become much smaller because Shaman has recorded too much.

He treasures these things and does not allow them to be placed outside the inner cave.

This situation led Han Cheng to improve the writing material for Shaman, replacing the heavy stone tablets with fired clay tablets. Otherwise, there would probably be very little space left in the inner cave.

Initially, Shaman was somewhat reluctant to record these valuable pieces of knowledge on clay tablets. However, after using them twice, he found them so convenient that he immediately abandoned the habit of recording knowledge on stone tablets passed down from the previous shaman.