Repotting Imperial Pine

“Well, this is what we are doing today” were the first words that Jack Sustic, the curator of the National Bonsai and Penjing Museum at the U.S. National Arboretum, told me after we said “hellos”. “You can leave your bag in the staff room and I need you to sign the form and then come and help us.” What he meant was help us repot one of the original 53 trees that were gifted to the US for the bicentennial in 1976 and one of the oldest trees in the US. This particular red pine was in training since 1795 and is about 5 feet tall. It was standing on a hydraulic table with a rope going around the trunk (with a protective towel in place) attached to a metal beam above it. The plan was to remove about an inch of soil around the perimeter of the root ball about half way to the bottom. The next step was to carefully lower the table leaving the tree hanging, and thus separate it from the pot. The team consisted of Jack and Aaron digging in the pot, Ked continuously taking pictures and, apparently, me!

A few months earlier I visited NBF and asked Jack if they offered workshop or had an apprentice program. He said that although they don’t have anything organized I was welcome to come to volunteer and that if I were willing to take the time to do it they would find something for me to do. Never in my wildest dreams did I imagine that “something to do” would be repotting one of the most famous trees in the US, and maybe the whole world.

I was given a tool I have never used before, which looked like a metal chisel, and was told to be careful since the pot might be even older than the tree. The tree is potted in the antique Chinese pot it arrived in thirty years ago. After I got over the shock and started working I had to be careful not to hit the low branch with the handle of the chisel. I soon switched to using a big bamboo chopstick and a root hook, which were shorter and made me less worried.

It took two tries of slowly dropping the table and allowing for about an inch of space under the pot until the pot gave way and gently lowered onto the table. The next stage was to get the tree out of the pot, which was a challenge since we were not getting enough clearance under the tree. Jack suggested swinging the tree to the side and rotating the pot sideways to peel it off the root ball. I don’t remember who was the person pushing but I remember that I was one of the people holding the pot, and a heavy pot it was.

Once the pot was removed we could see the beautiful new roots and micorrhiza, symbiotic white fungus, all over the root ball. Jack and Aaron searched for a stamp on it and Ked took documenting pictures. I am not sure if there is a registry of antique Chinese pot stamps similar to the one for Tokoname pots.

Aaron suggested that I install the drainage screen while they started removing the soil from bottom and sides of the root ball. The idea was to remove about a third of the old soil. However, instead of removing the soil all the way around the root ball,
Jack decided to only remove soil from the east and west sides, and then do the same for the north and south sides in the next repotting.

The roots looked extremely healthy. Aaron mentioned it was great to see since the staff was a little worried about the health of the pine and had to move it to a sunnier spot recently. We noticed that it was much easier to remove soil from the bottom part since it was mostly granite while there was more organic soil in the top layers.

I was using the same bamboo stick and we kept spraying the roots with water every few minutes. Every once in a while I would think, “This is just like the repotting I did a few days earlier at the apprentice program” just to calm myself down a little. However, the scale, as well as the quality of the project, were very different.

As we kept removing the soil we found what looked like old soil which seemed to be pure Akadama reduced to red clay. There were no roots inside the clay and Jack decided to remove some of it and
Since the drainage hole was not in the lowest point of the pot and the area around the drainage hole was a little lower Jack decided to add pure granite at the bottom. The soil mixture we were going to use was granite and Akadama mixture. Jack mentioned that he prefers granite to Pumice or lava rock because it does not hold any water. It looked like 5 bags worth of medium grade Akadama and I thought it looked just like Mark’s Akadama.

Replacing the pine in the pot was tricky too because we had to fit the pot around the root ball with some soil already in the pot and, and then to readjust the soil in the pot with an inch of clearance between the root ball and the bottom. Ked made a comment that it was scary to see my hand right under the tree, it looked like the tree was resting on my hand. Interestingly enough, there is a new pot on its way from Japan but the pine could not wait. Jack’s plan is to put it into the new pot at the next repotting. However, as I found out later, Jack decided to wait until Friday to repot it so that I could have the experience. And some experience it was.

As I was working on removing the soil from the root ball I would stop my work every few minutes and reflect on what I was doing and how many people have done the same task over the last 200 years. I kept thinking about how fortunate I was to be given this opportunity. How many amateur painters do you know who were invited to a Guggenheim to help with a restoration of a Rembrandt painting?

Once the tree was positioned in the pot we started adding soil. We filled the space around the root ball half way and then Jack showed me how to compact the soil carefully. The idea is not to jab the chopstick into the soil repeatedly, which can break down Akadama, but to gently insert it into the soil and move it sideways while pressing the soil down with the other hand.

Moving the tree back to its display stand was not an easy task either. Jack poured some soap water on the table (just like removing a ring) and together with Aaron they moved the tree while I was holding the table. When it was in place I was allowed to water it thoroughly.
Aaron said that they sifted all the Akadama to make sure that none of the small particles were left. However, it is important to water the tree thoroughly after repotting, until the water runs clear out of the bottom of the pot. After that Jack watered it with some root growth enhancer.

After all that and lunch, as a reward, or at least that is how I viewed it, I was allowed to water half the trees in the pavilion. And if this was not enough I also got to water (using a watering can and not a hose) the oldest bonsai in the US – the famous 380 year old white pine.

I cannot express how grateful I am to folks at the National Bonsai & Penjing Museum for this experience. These are some of the nicest, most dedicated people I have met. They were very open and friendly. I would encourage anyone interested in Bonsai to check out the NBF website http://www.bonsai-nbf.org/ and visit it next time you are in Washington DC. If you are interested in receiving a newsletter, volunteering, or getting more involved with NBF, consider becoming a member.