

Experimental Snow Archaeology
Paul Harmon, 2004

On February 26 and 27, 2004, Charlotte, North Carolina received its largest snowfall in more than 100 years. Days before, it was warm enough to go outside in shorts and t-shirts, sit under the Carolina blue sky, and let the sun blush your skin. It's not unusual for the temperature and weather to fluctuate wildly this time of year in the Carolinas. Little did I know that along with the snow fell the ancient secrets of the Incas and the Tiwankans, unknowingly infecting the knowledge of all those that played in it. And although the hands of time may not have turned back thousands of years, it did turn back 20 or 30 years that day, at least for my brother and me.

The snow was perfect. The kind that would easily stick together in your hands as you molded a snowball to throw at the kids that had gathered in front of your house. It was the kind that was still light and dry enough to do no bodily harm when it found its target, in this case, my nephew Caleb. Better yet, it was the kind of snow that inflicted no pain when all the kids, in rather large numbers, retaliated with surprising accuracy, but this time with me being the target. Imagine this blanket of white snow covering everything, yet the temperature was friendly, so friendly that we stayed outside for hours without feeling the chill. Mark and I battled all the kids on the street for hours, breaking at some point to grab a bite to eat.

After the warring kids scattered, it was time to build our snowman. I'm not sure we intended for it to get so big. I'm not even sure we were controlling it! It could have been the other way around. I started with a small snowball, rolling it through virgin snow in my brother's front yard. Within 30 seconds I needed my brother to help me push this mass of snow that was already a couple of feet in diameter. The two of us pushed, easily for a minute or so, then struggled some, then pushed with everything we had until it would move no more. We still weren't satisfied. "One, two, three, puuuush!" We rocked the snowball back and forth, building momentum, until we could start it rolling, ever so slightly, and to keep the inertia we threw our shoulders into it, blocking dummy style, finally falling to our knees as it would go no further. Guess what...still not satisfied!

Mark found a long board to use as a lever in conjunction with a 5 gallon paint bucket. But now we needed more muscle. Caleb and Cullen, Mark's 4 and 9 year old boys joined us. We shoved one end of the board as far under the snowball as we could, placed the bucket under the board for our fulcrum, and as the 2 boys applied all their weight to the other end of the board Mark and I drove our shoulders into the snowball again. It worked just the way it was supposed to! Caleb and Cullen's feet were dangling in the air as they applied all the weight they had to the end of the board. We succeeded in moving the snowball and making it still larger. Guess what...no, no, no...we were satisfied this time, only because we knew we had to stop. Our snowman had a base, a ball that was more than 12 feet around. Mark and I could not wrap our hands around it and meet each other.

We both joked about making the first snowball too large to make a snowman. "How are we going to put the 2nd snowball on top of the first?" Mark asked. "A snow ramp...we

will make a ramp out of snow, gently sloping to the top of the first snowball, and roll our 2nd snowball all the way up,” was my “expert” reply. Those of you that know me realize that Tiwanaku and Lake Titicaca have forever warped my mind

Mark wasn't so sure about the idea. As a matter of fact, he questioned the idea a few times, more in his expressions than his words. We duplicated our snowball building process and our 2nd snowball grew to a size just smaller than the 1st. If I had any doubt at all, I didn't let on, nor will I here. But, to be quite honest with you, in hindsight, I was a little surprised at Mark's skepticism. His experience was not insignificant either.

Mark had just recently finished constructing a natural stone retaining wall in his back yard, without the use of cement, so impressive that it would not look out of place in Machu Pichu or Tiwanku. He discovered ingenious methods, by necessity, to move and transport stones weighing as much as a quarter ton, all by himself. For months he collected large stones, all shapes and sizes, from wherever he could find them. Typically he would find them at construction sites where the ground had been leveled, prepared, for the houses soon to follow. Powerful bulldozers had unearthed and pushed them out of the way. He would roll them, sometimes long distances, sometimes, short, using boards as levers when necessary, until he could get them to the family minivan. He would place a board as a ramp from the rear of the van, and somehow roll these monstrous stones into the van, carry them home, and then unload them the same way. He would do this sometimes at strange hours, but for those of you that know my brother also know that there are no “strange” hours...or maybe they all are strange hours. You decide.

At least on one occasion, during those strange hours, a police car with spotlight pulled up to Mark for a little interrogation. I honestly don't remember how that conversation went, but I can imagine it. Nevertheless, when it was all said and done, Mark had amassed an impressive collection of tons and tons and tons of very large stones, and had completed a masterpiece (see fig.1).



Fig. 1 Caleb in front of Mark's stone wall

After our 2nd snowball was finished, we began building our snow ramp. It didn't take long, 10 minutes maybe. Etsuko, Mark's wife, and Caleb and Cullen began to help. We simply piled snow up, patted it down to make a smooth surface and to slope it the way we wanted. The surface was only about 2 feet wide. We didn't need it to be too wide as long as we could roll our snowball straight. That may have been a big assumption. When the ramp was what we wanted, we poured a little water on the surface to make it smoother and slipperier, to make the rolling process easier by decreasing friction, a technique I have used successfully in Bolivia and Costa Rica.

Mark, Etsuko and I began to push the ball up the ramp. We used the board and the bucket as a lever and fulcrum with Caleb and Cullen, sometimes with our assistance, providing the weight (see fig. 2). When we needed to adjust the lever, we put a stone under the downhill side of our snowball for a brake. The process worked perfectly. The ramp held strong under the weight. Actually it was remarkably easy. In a few minutes our 2nd snowball was sitting comfortably on top of the 1st.



Fig. 2 The snow ramp in action

There are those that believe a ramp system such as this was used in the building of the pyramids of Egypt. We used a ramp technique in our reed boat project to load our stone onto the boat and to unload it. The ruins of Sillustani in Peru consist of ancient Inca burial towers built of large stones, some weighing many tons, stacked perfectly upon each other. One of the towers shows a stone ramp, very similar to our snow ramp, leading to the top of the tower (see fig. 3). The technology is simple and effective, still today.



Fig. 3 Stone ramp at Sillustani

Finally we made our 3rd and last snowball, the head of our snow giant. It seemed so small compared to the other two. It seemed small until I tried to lift it. Wow, it was so deceptively heavy. I was able to wrap my arms only partly around it in a squatting position. With Mark steadying me, I rose with the snow head in my arms. I staggered up the ramp, Mark still by my side. Mark and I together lifted the head and put it to rest on the shoulders of the giant. We quickly dismantled the ramp, shoveling the snow all about, as Etsuko went inside in search of a carrot. Mark found 2 good sticks for arms as I created eyes, eyebrows, and a mouth out of gum balls that had fallen from the tree next to our creation. With the carrot we gave our “monolith” a nose, and our little project was done (see fig. 4).



Fig. 4 Caleb, Cullen, Mark, & Frosty's DADDY

When finished, our snowman stood over 8 feet tall. And although I don't know the actual weight and didn't feel like figuring calculations that would only make you think that I needed to get a life, I do know it was heavy!

Because of all the modern equipment, tractors, forklifts, cranes, bulldozers, surrounding our everyday lives, we take for granted what can be done without them. We assume that certain things can not, and could not, be done without such tools. What we don't realize, or don't consider, is that many people cannot afford the use of these expensive machines, and yet still accomplish significant feats, by necessity or grit, determination and desire. Mark's stone wall is a small example, one person with simple means. Maybe because we live among the wealthiest countries in the world we are blinded to the possibilities without the things we have become accustomed to. The first time you see a weather beaten old man on his hands and knees in Guatemala, cutting his grass with a machete,

you are in awe. Maybe after the 50th or 100th time you see it, the oddity disappears as you realize that lawn mowers for all practical purposes don't exist. You do what you do by necessity.

On the rocky shores of Lake Titicaca in Bolivia I was prepared to explain and demonstrate to the local how we would move our 9 ton stone without the use of modern tools. I think they laughed at me. Guess what...that's how they do things every day, by necessity, because they don't have the luxury of modern equipment. And that's how they did it hundreds and thousands of years ago. It amazes me how difficult we believe it is to move heavy rocks. It amazes me how much mystery we create around gigantic stones in ancient ruins throughout the world. Moving such large, heavy objects without modern equipment IS NOT difficult. If necessity required it we could again do it again today. If necessity required it we would rediscover the techniques that made it "easy", and we would become very proficient at it. It's not a mystery.

On this particular day, Friday, February 27, 2004, Mark and I became kids again. And although that may not be a fair assessment, for those of you that know Mark and me realize that it was just an excuse to be who we always are, everyday. But there was magic in that day. For whatever reason we decided to create our snow monolith, we did. And we used ancient techniques, not to test them to see if they worked, but because that was what was available to us. That was all we had. And we were having fun...no...we were having a blast.

At 8:00 pm that same evening, Mark and I climbed in and out of the igloo we just completed, with room for four. We looked around and realized that all the kids in the neighborhood were gone. Mark's own kids were inside by the fire. We were the only kids left.