Bamboo and Human History: An Interconnected Story

In The Twenty-four Filial Exemplars, a Confucian storybook, there comes a story titled “He Cried and the Bamboo Sprouted”. In it, a child searches for bamboo shoots to create medicine for his ill mother. Miles and miles away, the Phillipines creates a creation myth saying humans were born from a stalk of bamboo. In Japan, they have the “Tale of The Bamboo Cutter”, where a bamboo cutter finds a beautiful child in a stalk of glowing bamboo. These are just a small sample of the folklore and stories that hold bamboo at the center of it all. Many of the stories take far different routes, from a quest to save a sick mother to creation to a lovely princess to far many more stories. However, each has a striking similarity to each other, and that is that bamboo is depicted as a source of life. And why wouldn’t it be?

Bamboo and humanity can be traced back to the dawn of human civilization. If one wants to be precise about it, 9500 years ago, it was used as building materials. Before metal, bricks, and ceramics, bamboo was there for humanity. Relics of mats and baskets woven from bamboo have been dated as far back as 3300-2800 BC. But its staying power is far longer than that because bamboo remains a vital part of humanity today. Food, medicine, storage, construction, and comfort: Bamboo has always had a vital place in the mechanisms of human society. As one of the most easily identifiable, most renewable, and valuable trees, its use is unparalleled. It’s been used so much through the centuries that stories have set it as a valuable material, even in countries miles apart. And its role has become even more vital as climate change sweeps across the planet and humanity looks forward to an uncertain future.

A quote from William Edgar Geil in his book A Yankee on The Yangtze which was first published in 1904 (Geil, 2010). He truly puts it best on the myriad of uses bamboo has in daily life. He wrote, “A man can sit in a bamboo house under a bamboo roof, on a bamboo chair at a bamboo table, with a bamboo hat on his head and bamboo sandals on his feet. He can at the same time hold in one hand a bamboo bowl, in the other hand bamboo chopsticks and eat

bamboo sprouts. When through with his meal, which has been cooked over a bamboo fire, the table may be washed with a bamboo cloth, and he can fan himself with a bamboo fan, take a siesta on a bamboo bed, lying on a bamboo mat with his head resting on a bamboo pillow…He might then take a walk over a bamboo suspension bridge, drink water from a bamboo ladle, and scrape himself with a bamboo scraper."

In areas where bamboo thrived, long before refrigeration and Tupperware was available, bamboo fibers and leaves were used to wrap food to preserve it for longer periods of time. This helped the food to be stored for longer and in some cases, even infused the food with flavor. This may have led to the rise of bamboo in cooking. Though unlike pandas, people can't eat the hard, woody part of the bamboo. Instead, recipes are created using the soft and tender bamboo shoots. Some cases had meat cooked while wrapped in bamboo leaves, giving it a very particular and described as 'tea-like' flavor. The common uses are in salad or soup, but even since ancient times, these were said to contain medicinal properties. While the earliest scientific research study of the potential medicinal use of bamboo was published in the early 1960s, it holds a history far longer than that. In traditional Chinese medicine, bamboo is generally considered cooling and calming, and was part of ancient medicine as a method to treat lung and stomach heat. In modern times, it has been explored as both alternative and research focused medicine. However, most new research focused on the uses of bamboo leaves. This is a positive as the leaves are often seen as a waste product, thus allowing every part of the bamboo to be utilized. While many studies are still in preliminary stages, so far, it has been deemed possible that many extracts made from leaves of common bamboo species could be vital for the medical industry.

But bamboo has already revolutionized the textile and construction industry. Bamboo is one of the most used construction materials. In the Philippines and Polynesia, they were called nipa huts, a type of inexpensive and hurricane resistant house. In China, they constructed tree houses. Today, bamboo has become a marker of reliable and sustainable houses. This is

understandable due to innate benefits bamboo has when compared to other materials. For one, bamboo is fire resistant, a factor which is very important when using wood in home construction. In addition to this, bamboo has incredibly high tensile strength, making it one of the most common materials in areas prone to earthquakes. It reduces the risk of major home destruction and protects the home owners themselves. When compared to other brands of wood used, bamboo is also exceedingly lightweight. While this fact may seem like less of a big deal compared to the other two facts, lightweight materials are very important for an industry where workers are highly likely to retire early due to the physical strain. When compared to the production process of cement and steel, bamboo has also been proven to be far cleaner for the environment. Cement and steel production produce massive amounts of byproducts and in some areas, have even been heavily discouraged due to concerns of environmental damage. Should a cloud of concrete powder be released into the air, it can affect the surrounding soil and even be a health hazard. Should bamboo accidentally get released, it just presents a minor inconvenience and a temporary increase in cutting back new root systems to make sure native flora remains unaffected

Bamboo textiles are far younger than that. Most historical uses of bamboo clothing, fabric, and paper were far more rudimentary. Structural support such as bustles and corset ribs, but usually coarse bamboo paper was the most common use outside of food and construction. Bamboo cloth started to hit its stride in 1864 when a man named Philipp Lichtenstadt decided to experiment with a process for disintegrating the fiber of bamboo. His plan was to use this method to manufacture items like cordage, cloth, mats, or pulp for paper. While bamboo saw some use, the real boom came in the 2000s, when society started looking for more sustainable alternatives to fabric. Prized for its silky feel and slight sheen, bamboo has seen heavy popularity in the last few years, being used in everything from toilet paper to designer clothing. Another unexpected benefit was it also contains antibacterial and antifungal properties, so the bamboo fabric can go longer without needing to be washed. There is also a longer period of

time before it begins to smell and there has been some research into whether it is more useful in cleaning supplies than basic cotton or polyester rags. Bamboo materials are highly absorbent and wick away sweat well due to the make of the fabric. It pulls moisture away from the skin rather than letting it linger. It's extremely soft, is hypoallergenic, and its non-irritant qualities make it a great choice for clothing.

But what this boom really comes down to is that bamboo is looking like the material of the future. Climate change is sweeping across the globe. Deforestation has been a major contributor, trees can take decades to grow to the point that they can make a dent in the ambient carbon dioxide in the air. Bamboo, on the other hand, grows rapidly and can be harvested in 3-5 years. Introducing this as a mainstream material can and has cut down on some of the deforestation due to providing a suitable alternative to mowing down trees that took a century to grow. Unlike trees which add just a few inches or feet per year, bamboo culms finish growing in a single growing season once the plant root system has finished maturing. For the larger varieties of bamboo, that means each new shoot can grow 60 or 80 or even 100 feet tall for some varieties in just a few months, and instead of growing thicker, most species keep growing vertically and adding new leaves. This is because bamboo is not in fact really a tree. It's grass. One of the most surprising facts about bamboo is that it actually evolved from prehistoric grasses thousands of years ago. This contributes to its differing shape and incredibly fast growth period when compared to most species of trees. Instead of growing one tree from a singular seed, it instead grows a complex rhizome root system which in 5-6 years, can produce many full sized sprouts in a year and be harvested sustainably as long as the roots aren't damaged.

And bamboo, on average, tends to cause less damage to the surrounding land than monotypic crops. Because the areas where bamboo grows are built around the monotypic bamboo crop, it is far less damaging to the soil than other mono crops like corn or wheat.

Unless bamboo is transplanted and forced to compete with native wildlife, most bamboo plantations can run out of natural bamboo forests without damaging the land. And in some cases, a transplant can even be beneficial. In areas where native species of trees and grasses can't be coaxed back due to climate change, bamboo provides a suitable alternative to turn back ecological destruction in some cases. Its complex root system holds the soil firm, presenting incidents like the dust bowl where the soil fell apart when native plant life that stabilized the ground was removed. On top of this, it requires no pesticides or chemical fertilizers during this growth period. It is naturally resistant to most bugs and pests, and due to how fast it grows, those it isn't resistant to can rarely damage it to an unusable state. Much of the climate change and ecological damage today can be traced back to the use of pesticides in farming, from crop dusting to DDT in peregrine falcon eggs. And from a financial perspective, it just makes sense. Pest resistance means less money is put towards synthesizing and buying pesticides which means less pollution.

Bamboo forests are also an efficient carbon sink which produces more oxygen than hardwood trees. This is in part due to its fast growth rate. To keep up with the fast vertical growth, bamboo has a high metabolism that requires extremely fast photosynthesis. In some cases, oxygen output has been measured to 35% more than an equivalent hardwood forest. It also stores ambient carbon dioxide in its roots unlike most trees, which means that its carbon sink isn't released when the sprouts are chopped down. This means the harvesting can continue without concern of releasing extra carbon dioxide into the atmosphere in a time where every little bit taken out of the atmosphere counts. People in ancient times had it right when they chose bamboo to build their houses and make their food. Unknowingly, they were keeping their planet more sustainable and protecting the ecosystem.

Folklore and artifacts had it right. Bamboo is an important part of life. It kept people fed during famine times and let people stay warm in their houses. It became part of their stories and their myths. And today, it can be a solution to some of the problems humanity is currently facing

on our planet. It provides a solution to the production of more oxygen and stripping carbon dioxide out of the atmosphere. Its unique growth cycle means that it can be safely and sustainably harvested. And the properties of bamboo in construction and textiles make it equivalent, if not superior, to most hardwoods. From stories to real life, bamboo has been part of our lives for generations and promises to be there for many more.

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