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Sustainable Design

11-15-2008

Bottled Water versus tap water

Go take a gander in your refrigerator. Next time you're in the grocery store, take a walk down the beverage aisle. There is more grocery shelves stacked with bottled water than there currently is by the soda companies, only to be almost equal with the beer companies. Why do consumers do it? Is it a marketing gimmick that has us all fooled. Is it because bottled water could possibly be as healthy as they advertised? Maybe. When the bottled water companies are mainly owned by soda giants, how could they possible lose?

In general, the global bottled water industry has become very profitable in the past ten years. Huge multinational companies currently make billions of dollars on water they simply extract from the ground, slap a label on and sell at competitive prices. Examples of these companies include: Aquafina (Fig.1)(Pepsi), Dasani (Coke), Perrier (Nestle), Evian, and Fiji Water among hundreds of others.

Fig 1. *Thomas Hilton*

Bottled water consumption has grown exponentially over the past ten to fifteen years. This growth has taken place globally, but particularly in Europe and North America. The bottled water industry has literally created its own water culture. For example, when one enters a gas station, grocery store or a restaurant in any country of the world, one is bound to find at least a few different brands of bottled water. There are several types of bottled water, all processed through a different process. First starters, we all often hear the label that all bottled water is called “Spring Water”. This is kind of misleading to the consumer. The origin and processing of different types of bottled water actually make them quite different in content and taste. The list of the different types of bottled water includes:

Spring Water: Ah, the ever-popular "spring water" is defined as bottled water derived from an underground formation from which water flows naturally to the surface of the earth.

Purified Water: This is a type of drinking water that has been treated with processes such as distillation, deionization or reverse osmosis. In simple terms, it just means that that the bacteria and dissolved solids have been removed from the water by some process, making it "purified."

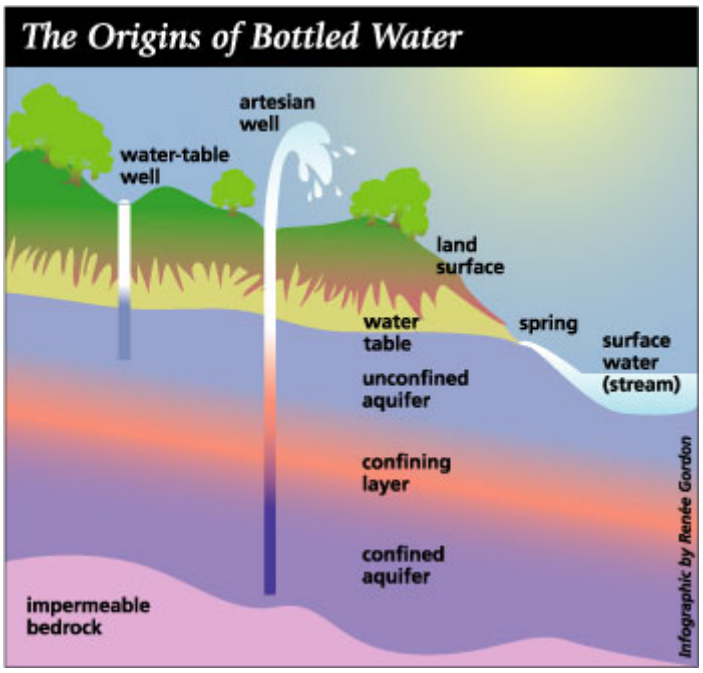
Mineral Water: Mineral water contains not less than 250 parts per million total dissolved solids and is defined by its constant level and relative proportions of mineral and trace elements at the point of emergence from the source. Despite its name, no minerals can be added to the water.

Sparkling Bottled Water: This type of water contains the same amount of carbon dioxide that it had when it emerged from its source. Sparkling bottled waters may be labeled as sparkling drinking water, sparkling mineral water, sparkling spring water, *etc.*

Artesian Water/Artesian Well Water: Artesian water comes from a well that taps *a* confined aquifer-a water-bearing underground layer of rock or sand-in which the water level is above the top of the aquifer.

Well Water: Well water is exactly what it sounds like- water from a hole made in the ground that taps the water source.

Bottled Water Regulation: The FDA is in charge of the bottled water industry and is one of the most extensively regulated packaged-food products. The bottled water industry receives government oversight from federal and state agencies across the country, providing consumers with multiple layers of safety assurance - from the finished water product back to the source.



However, where did it come from and how is it made. Even thought bottled water has been documented to be around since the 1800's, the 1980's really sparked on a revolution with advertisement after drilling advertisement into consumer's minds. However, the downfall of bottled water has always been it is contained in plastic bottles. Environmentalist has already

had a huge issue with this. So, it becomes whether the consumer is afraid of tap water because of pollutants or having to drink something from a container that is pretty not biodegradable.

Now the debate on tap water, which has grew to incremental proportions. According to the National Geographic, A bottle of spring or mineral water has become the lifestyle accessory of the health-conscious (Fig. 2).

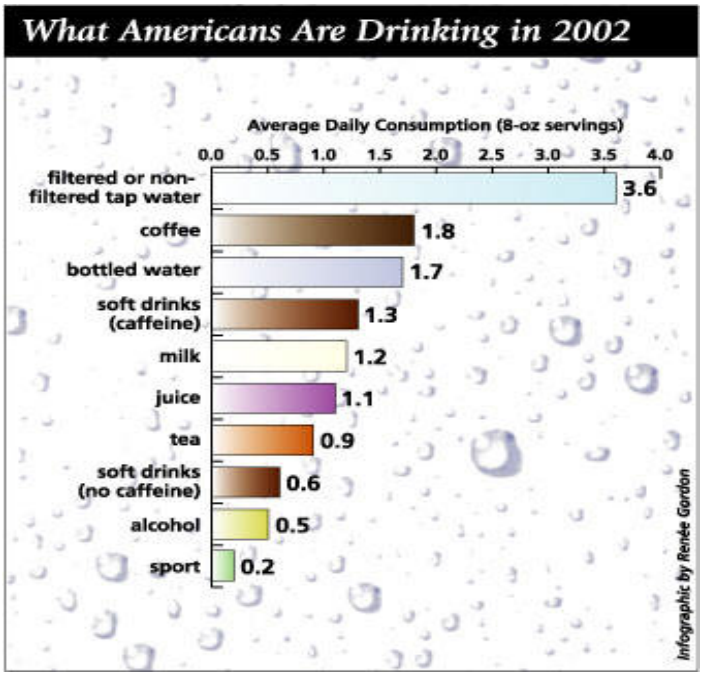


Fig. 2 *Thomas Eric*

There are so many tap water filtration systems:

1. *Charcoal water filters* - Carbon Block is a solidified form of honeycombed carbon. It is the best form of filter but flow rate is significantly slower than with loose charcoal**.**

2. *Water Distillers* – In recent years there has been growing awareness of distilled water's effects on the balance of minerals in the body, plus the acidic result that a typical distiller creates. People now realize that dissolved minerals in the water are more natural than pure water, and serve an important function in supporting the body's immune system an metabolism.

3. *Ceramic Water Filters* – Some ceramic filters incorporate nano-silver impregnated into a porous ceramic outer shell that can trap bacteria down to as low as .22 of a micron in particle size

4. *Reverse Osmosis Filters* – The membrane act like an extremely fine filter to create drinkable water from salty (or otherwise contaminated) water. The contaminated water is put on one side of the membrane and pressure is applied to stop, and then reverse, the osmotic process. It generally takes a lot of pressure and is fairly slow, but it works. The result is extremely finely filtered water.

5. Ultra Violet Radiation Systems – UV systems use high frequency light to irradiate water through a glass element. Water passing the element is exposed to the light, which kills all living organisms.

6. Catalytic Conversion Water Filters – These systems use technology not unlike that used to control emissions in our modern car. They convert heavy metals, chlorine, pollutants and viruses into harmless oxidized form, breaking them down to their basic elements.

No longer has a luxury item, the beverage has become a common sight worldwide. But according to campaigners, the planet's health may be suffering as a result. A new report warns that people's thirst for bottled water is producing unnecessary garbage and consuming vast quantities of energy, even in areas where perfectly good drinking water is available on tap. A report released earlier by the EPI stated that The report, released earlier this month by the Earth Policy Institute (EPI), says global consumption of bottled water doubled between 1999 and 2004, reaching 41 billion gallons (154 billion liters) annually. Bottled water is often no healthier than tap water, but it can be 10,000 times more expensive, says Emily Arnold, a researcher with the Washington D.C.-based nonprofit.

My thoughts on product's sustainability tell me that bottled water can eventually and will eventually hurt us. It already creates more trash than is necessary, along with soft drinks and others that have the potential of ruining sustainable design and it's environment Besides, tap water has a plethora of companies out there who sell home-based water filters for your sinks at home.

In closing, how does bottled water compare tap water? An analysis from the HeartSpring, a water testing facility has concluded after 10 years that their analysis tested three tap water samples and three bottled waters for bacterial contamination, impurities that affect taste such as dissolved solids, and other factors. It also screened the samples for the minerals calcium, magnesium,

sodium, fluoride and nitrate. The analysis tested three tap water samples and three bottled waters for bacterial contamination, impurities that affect taste such as dissolved solids, and other factors it also screened the samples for the minerals calcium, magnesium, sodium (a measure of salt), fluoride and nitrate. Neither tap nor bottled water samples had detectable bacterial contamination, and all were well within guideline limits for the other substances.

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