Assignment 1: The Designed Object, Utility, and Constraints

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ARTF2223 Experience and Drawing

Object Chosen: Metal Water Bottle

I carry my metal water bottle with me everywhere I go. Water bottles are a fairly simple and essential utilitarian object used to hold and transport water to keep people hydrated at all times.

A water bottle has many affordances. Primarily, the water bottle affords holding, transporting, and drinking liquid. It acts as a watertight container that can hold hot and cold drinks like water, soda, tea, or coffee. This empty bottle allows liquid to be gathered and transported so that it is portable and can be drunk on the go. It also affords the storage of other things, someone could put food, loose change, or flowers in the bottle. Not only is this a method of transportation of water, the bottle is also a method of drinking the water. This bottle has a straw which can be flipped up and put into one's mouth to easily drink. After use, the straw can be flipped back down to make the water bottle more compact to allow it to take up less storage space in a cabinet or bag. Also, the cap can be screwed off and a person could drink the liquid that way. It also keeps drinks from spilling, since it can be closed with the watertight lid. It affords storage, since this water bottle could be filled up, put in a backpack, and left until needed, without spilling out. The water bottle is easy to use by holding it in your hand and lifting it up to your mouth. The width of the bottle affords comfortable holding because it fits very gently into the size and shape of your hand wrapped around it. The size, shape, and length of the straw fits comfortably in your mouth, which makes for easy drinking without using a lot of effort to suck up the water. In addition, the water bottle affords lifting and carrying. It is lightweight which makes it easy to carry, and there is a convenient plastic loop at the top of the cap that is designed so

that someone can easily carry the bottle with only one finger wrapped around the loop. Also, the flat bottom of the water bottle is designed so that it can be set on a flat surface like a table or desk. Most of these affordances are quite obvious and visible, which allows the user to understand exactly how to use it.

This bottle also has some invisible affordances that are not as obvious from looking at it. The bottle affords keeping liquids insulated and controlling their temperature. The stainless steel closed-cap insulated water bottle can keep drinks cold or hot for a longer period of time than would be possible in a normal open glass that is more exposed to room-temperature air. This is an invisible affordance because this cannot be easily determined just by looking at it, instead one needs to understand the material used and its qualities. This bottle also affords being washed and reused since the material is durable and nonporous.

Long before metal water bottles existed, drinking vessels were used to hold and transport water. Since water is essential to survival, holding and transporting it was necessary to even the earliest primitive civilizations dating back to 6,000 BCE. At that time, most vessels were made of potter-clay, animal horns, or bamboo. Later on, during the Shang and Zhou Dynasties, water vessels were made of bronze and were differentiated by specific use; there were separate vessels for boiling, holding, drinking, and storing liquid. In addition, many vessels were used for alcohol. Over the years, all of these different uses merged into one convenient bottle that can serve many purposes, and lightweight metal developed as the most effective nonporous material.

In addition to its many affordances, this water bottle also has many constraints. One physical constraint is the size of the bottle. The bottle must be small and thin enough to be easily grasped in one hand, short enough to fit under a faucet, and light enough to carry and lift to your mouth even when

filled with heavy water. Therefore, a limited amount of water can be fit in the bottle, and once that runs out, it will be empty until refilled manually. There are also material constraints. The water bottle needs to be made of nonporous materials so that it can transport water, and the materials need to be durable long term (it cannot rust or wear down when in contact with water), therefore stainless steel is effective. In addition, this water bottle has environmental constraints. Firstly, the water bottle cannot keep liquids cool forever, because eventually the air outside will bring the liquid back to room-temperature. So no matter the material, the water bottle cannot be perfectly insulated. Also, the bottle needs water from the environment to be useful, as it cannot produce its own water.

Some constraints have become cultural constraints. Recently, common behaviors have developed around the use of water bottles in popular culture. At this point in time, it has become very common for many people to carry around a reusable water bottle at all times. This is partly because it is more environmentally-friendly to carry a metal bottle as opposed to a disposable plastic bottle, so this bottle-carrying behavior can now indicate certain sustainable values someone holds. Also, many people decorate their water bottles with stickers or personal items, so bottles' use has developed from pure function to projection of personal identity and aesthetic taste.

Works Cited

"7.1.1 Primitive-Aged Drinking Vessels." *Primitive-Aged Drinking Vessels*, web.archive.org/web/20130120230718/http://www.sytu.edu.cn/zhgjiu/u7-2.htm.


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