

Thesis Portfolio

It Should Just Work - Thermo-Stasis (Technical Report)

Food Storage Technology and Social Interaction (STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

Foodborne illnesses are quite common and one reason for this is that people don't keep their food at the correct temperature that would prevent bacteria from growing. To solve this problem the goal of the capstone project was to implement thermoelectric cooling units also known as Peltier devices to create a stable thermally regulated environment, capable of both heating and cooling for food and beverages. Peltier devices are solid-state devices that use metal to transfer thermal energy. With the device a user can be able to set the inside of the container to a specified temperature, which can be colder or warmer than the outside temperature. The device is battery powered which allows for transportation of the device to places where there might not be another form of food storage such as a refrigerator.

Food preservation technologies have helped humans be able to store and consume food in a safe manner but they have impacted human societies in other ways. The research question that was analyzed was how food storage technologies integrated within society to facilitate social interaction. The STS research looks into the history of food storage technology and sees how they have impacted society on a global and individual level. The lens that was used to analyze this question is technological determinism, in particular soft determinism. This is the idea that technology advances without influence from society but that the technology itself has an impact on how society functions. Soft determinism does allow for society to have some input on how a certain technology is developed. The STS paper looks into how technology has helped humans not only develop a sedentary lifestyle, but also develop complex societies.

From both the technical project and the STS research it is shown that food storage devices play an important role in human society from keeping food at safe temperatures for consumption to helping advance human interaction at the global and individual level.