

WHAT COULD POSSIBLY MAKE BEEFAMATO BETTER? PLASTIC!

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This article was originally intended as a three-minute presentation at the 2020 Society for California Archaeology Annual Meeting (which was unfortunately cancelled due to COVID-19), as part of a session of other similarly fast-paced papers highlighting the changes to material culture over time, especially during the transition from what is considered “historic-era” to products in our modern, disposable economy. Many of the consumer goods made of and packaged in materials such as ceramic, metal, and glass have shifted to plastic and other nonbiodegradable materials. Think of a modern plastic toothbrush versus a bone toothbrush. The focus here is on single-use and disposable items by comparing a modern item to its historical antecedents, namely Beefamato and Clamato jars. The idea is for the reader to think about the change of a single artifact or artifact type through time and the potential impacts on archaeology and our environment.

Beefamato, in some circles known as Beefmato, is a combination of beef and tomato juices with spices, and the lesser known cousin of Clamato. Mott’s advertises Beefamato as “Tomato cocktail from concentrate lightly blended with beef broth” that pairs well with alcohol and aspics alike (Figure 1). While Clamato is widely celebrated as a favorite mixer for drinks, Beefamato has had its own, if somewhat limited, fan base. I know a few of you may be thrilled to discover the existence of this fabulous elixir, but sadly, I must confess that Beefamato as a commercial product is now extinct. But honestly, what’s not to love? Well, that would be the single-use plastic bottle that Mott’s products were packaged in starting in the 1980s.

Sightings of Beefamato are rare, but luckily for us, Clamato was produced with the same bottle design. The history of Beefamato and Clamato are closely tied together, both beverages patented by Mott’s. The company was founded in 1842 by S. R. Mott based on apple products, including sauce and cider, from his family’s Bouckville farm in New York state; they consolidated into Duffy-Mott Company, Inc., in 1914. According to the company’s website: “After the death of one of his sons, S. R. retired from the apple business, selling the company to his remaining sons, John and Frederick, for \$1. After John’s death, Frederick sold the company, renamed Genesee Fruit Company, to the W. B. Duffy Cider Company for substantially more” (About Motts 2020). Under Duffy-Mott, the company branched out from apple sauce, and both Beefamato and Clamato juices were patented. Mott’s was clearly inspired by the glamorous era of 1960s cocktails and patented Clamato in 1969, based on the Canadian-inspired Cesar, and improving the tomato again with Beefamato in 1975 (Motts Clamato 2018). Cadbury Schweppes purchased Duffy-Mott in 1982 and began using Mott’s as the company’s product name in 1986. By this point, both Beefamato and Clamato juice cocktails were produced in plastic single-use bottles (About Motts 2020).

IDENTIFYING BEEFAMATO BOTTLES

How do you recognize a Beefamato bottle versus a Clamato bottle in an archaeological context? You can’t. Beefamato came canned in single-serving sizes or in glass bottles, or jars as the company identified them, for larger Beefamato needs. Cans were manufactured with standard designs, such as pop-tops, and are identifiable by intact applied labeling. Glass bottles came in 32-ounce sizes and had threaded twist-off caps with a distinct “twisted” neck (circled in red in Figure 2). Given the patent date of Beefamato, paper labels on bottles may still exist in the archaeological record. Without these labels, the critical identification between Clamato versus Beefamato juice may not be possible based on bottle design alone. More sophisticated techniques, such as residue analysis, may yield results. Modern plastic bottles are designed to emulate the traditional glass bottle, with screw-on lids and the signature twisted bottle neck. It is assumed



Figure 1. Key ingredients for making Beefamato: cow, tomato, Worcestershire sauce (do not try this at home).



Figure 2. Mott's Beefamato advertisement (ca. 1975), identifying key characteristics of bottle design (circled in red).

that there are manufacture marks on the glass bottles, but at this point I have not identified a bottle in situ in an archaeological setting. Attempts to rummage through my grandmother's pantry and various garages has not resulted in examples of the now-extinct Beefamato bottles. Likewise, continued searches on eBay have not yielded results; clearly, collectors are hoarding the last existing examples of Beefamato. The Smithsonian's collection of tomato-based beverages was investigated for this article, but to date known archaeological samples do not exist.

MASS PRODUCTION AND THE MODERN ARCHAEOLOGICAL RECORD

In regards to historical archaeology, material culture found in the modern archaeological record began to swell with mass production. Along with mass production came issues of disposal and mass waste. In rural settings, waste could often be disposed of on the "back 40," effectively hiding a resident's proclivity for either Clamato or Beefamato. In urban settings, residential waste and refuse began to become increasingly depersonalized with the removal of waste to locations outside the cities to landfills (Melosi 1981; Reno 2016). In both settings, glass bottles mixed with other traditional material culture products, including glass, ceramics, metals, papers, and textiles, degrading through exposure to the elements over time. Reuse and recycling were often employed, but with the ease and affordability of modern manufacturing techniques, combined with the growing efficiency of transportation of products, reuse and recycling grew less and less important. In the 1950s, as our disposable economy raced forward unchecked and enthusiastically, plastic provided one of the most malleable and cheap packaging options ever invented, revolutionizing manufacturing (Freinkel 2011). Since then, unabated consumerism in the United States and beyond has led to increasing levels of environmental degradation and toxic exposure.

ARCHAEOLOGY AND ACTIVISM

On most occasions, professional three-minute presentations, such as this article was supposed to be, are simply a fun way to share information with colleagues on an archaeological project, topic, or artifact. At the Society for California Archaeology's 2020 cancelled annual meeting, the fast-paced session, *Our Disposable Economy—Artifacts from Present to Past*, the intent was both to lure the audience in with a bit of fun and to use archaeology as a way to look at environmental issues. This year's three-minute session was a call to highlight the culture of single-use plastic and the discard of these objects, many of which make their way into the world's oceans. Archaeology as activism is not new, with one of the most enduring examples in regards to modern consumer waste conducted in the 1970s by William Rathje for his Tucson Garbage Project (Rathje 2002; Rathje and Murphy 2001).

My own plastics journey began in October 2018 when I applied as crew to sail on eXXpedition's round-the-world voyage. A year later, I was boarding the 73-foot ketch S. V. TravelEdge on the first leg of the journey. Emily Penn, co-founder of eXXpedition, had envisioned an ambitious scientific research trip that would travel more than 38,000 nautical miles, taking 300 women through all five of the world's gyres to research plastic pollution and related toxins (eXXpedition 2020). I was invited as a historical archaeologist, where I planned to apply archaeological methods in understanding microplastics and plastic debris. Before departing, I generated a handbook to use during my leg, created catalog sheets, packed measuring equipment, and immersed myself in historical methodology and studies of consumer behaviors. While doing citizen science with 13 other women from eight nations, I would record data on plastics, creating the basis for a new methodology to tackle plastic. No sailing experience required! And I had none, for what was predicted to be the most difficult leg of the two-year voyage: nine days on the North Atlantic between Plymouth, England, and the Azores, 900 miles off the coast of Portugal.

So, did I do archaeology? The reality was that I vomited violently for the first two days straight, clung to my lifelines in terror through storms that generated 70-knot winds and 30-foot swells, tolerated pain

because there was no other choice but to do so, found I could use my big toes as a new appendage, cooked for 14 in a kitchen space smaller than 6 x 6 feet, and learned basic sailing skills, including 48 hours of night watch. After 1,600 nautical miles and 12 days at sea, I arrived in Ponta Delgada, on São Miguel, 15 pounds lighter, every inch of my body covered in bruises in a grotesque variety of colors, and unable to walk normally from land sickness. Hurricanes, it turns out, are not conducive to citizen science, but in the three days we managed to take surface ocean samples, every single sample contained microplastics. Random chunks of plastic, from oil drums to lunch box-sized Styrofoam coolers floated out in the middle of nowhere. I returned home with a newfound belief in the effectiveness of citizen science and the importance of using archaeological methods to understand modern human behaviors and generate solutions to our environmental crises.

THE ENVIRONMENTAL CONSEQUENCES OF CONSUMERISM

Archaeology, as a discipline, captures the attention of the public at large, and with the study of human behavior through material culture, is uniquely positioned to expand our understanding of why we consume to such a dangerous degree and in spite of the dire environmental consequences. The three-minute paper symposium was intended to be a way to bring awareness to the connection between our archaeological past and our consumer choices today. Unlike many of our earlier pre-plastic products, such as ceramics and glass, when plastics decay they break down to smaller and smaller pieces called microplastics, a term coined in the early 2000s by Richard Thompson (Thompson et al. 2004). Plastics and microplastics are found in all the world's ocean systems, including maritime sites. The ocean's gyres rotate with millions of pounds of plastic soup (Decker 2014), in essence creating the world's largest archaeological site, to which all of humanity contributes. Microplastics are now found in our snow and rain, and growing evidence shows they are absorbed in our agricultural products, ultimately to be consumed (Toussaint 2020). With the COVID-19 pandemic, what was a growing awareness of the impacts of plastics and rejection by consumers of single-use products has been impacted, hopefully temporarily, with the United States seeing a resurgence in single-use plastics products (Simon 2020). As of today, every person on the planet consumes and disposes of 300 pounds of single-use plastic annually, much of it entering our oceans.

CONCLUSION

Finally, a note to the archaeologists of the future regarding the plastic Mott's bottles, which will take 400 years to degrade: we're sorry. The truth is, we are creating an archaeological record in the here-and-now that is contributing to the climate crisis. If we think we have curation issues now, it is nothing compared to what you will have to deal with in the future. Will there even be anyone here to excavate it in 400 years? So, however you choose to vote for your favorite tomato cocktail—Beefamato or Clamato—just remember to forego the single-use plastic packaging (Figure 3).



Figure 3. Mott's Beefamato-Clamato faux political pin, ca. 1980s.

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To learn more about eXXpedition and plastic pollution and solutions, I recommend the following websites:

<https://exxpedition.com/shift-platform-launch/> — provides hundreds of solutions to navigate ocean plastic pollution.

<https://exxpedition.com/> — to learn more about eXXpedition’s mission and to apply (really, do it!)

<https://www.nurdlehunt.org.uk/> — a citizen science/crowdsourcing project that allows participants to count nurdles (tiny beads of virgin plastic) on local beaches.

<https://www.storyofstuff.org/plastic/> — provides excellent information on understanding single-plastics and ways to participate to reduce your plastic footprint.

<https://marinedebris.engr.uga.edu/> — a crowdsourcing app that can be used to track plastic debris both in our oceans and on land.

<https://www.southernliving.com/recipes/tomato-aspic-recipe> — and something unique to serve at the holidays, tomato aspic.