

Chocolate as a Revolutionary Beverage

Jean Moats and Rebecca Freeman

Chocolate has been culturally significant since before the time of the ancient Olmec civilization. While today when chocolate is mentioned the solid form is usually the first thing that is thought of, chocolate from the beginning was drunk as a revolutionary beverage. But what does the term ‘revolutionary’ mean? In terms of chocolate, ‘revolutionary’ can mean many different things, from the cultural aspect to the change in the way chocolate is prepared. For the purposes of this paper, revolutionary stands for the idea of change, specifically the change in chocolate beverages over time. This change can be seen especially in the variety of flavours that have been and are currently being added to chocolate. When chocolate was first used by the Olmec it was vastly different from our current perspective of it today. The Olmec were the ‘the first elaborate pre-Columbian civilization of Mesoamerica (c.1200–400 BCE)’ (Britannica). Cultural changes affected the drink and it made a drastic change from the spiced, bitter drink of the past to a highly sweetened drink and is progressing back towards its roots as a spiced beverage. Why has there been such a change in this popular drink? What makes it revolutionary in terms of flavours? This interdisciplinary paper will discuss a very brief history of chocolate, the changes in flavour throughout history, define the chocolate boot camp through which we explored those flavours, discuss what was created during the boot camp, and lastly discuss the changes in the recipes of chocolate beverages, focusing on hot chocolate.

History of chocolate

Historically, chocolate has traditionally been consumed as a drink. This section will discuss a very brief history of cacao and chocolate, because it is important to look at their history when examining how hot chocolate is a revolutionary drink.

To start with, what is the difference between cacao and chocolate? Are they different? Technically cacao and chocolate are the same and can refer to the same thing. For the purpose of this discussion, cacao will refer to the plant, pods and beans as well as the minimally processed material. Chocolate will refer to the product that is created when the cocoa butter, solids, and liquor are combined. An explanation of cocoa butter and cocoa liquor will come later in this paper.

Cacao is native to South and Central America. While generally thought of as a Mayan and Aztec food item, the Olmec are now thought to be the first people to domesticate the cacao and process it (World Agroforestry

Centre n.a. and Coe and Coe 1996, p. 39). In the Mayan and Aztec cultures, cacao was primarily used by the elite (Coe and Coe 1996, p. 93). The cacao consumed may have been in liquid or solid forms. In addition, the unprocessed beans were used as a currency. These first uses of cacao tasted very different from what is consumed today. There were many iterations that were likely drunk by the Maya and the Aztec (Coe and Coe 1996, pp. 88-89). Some of the flavours that were added included maize, honey, vanilla, and chili peppers (Coe and Coe 1996, pp. 89-93). The flavour that is typically thought of as coming from this time involves adding chillies to the drink to add a little bit of a bite to the flavour. This cacao drink was generally not sweetened in any way, the foam on top was encouraged, and it was drunk cold or at room temperature. Cacao was always made with water as the primary liquid ingredient.

The knowledge of cacao stayed in Central and South America until the arrival of the Spanish in the 15th century, in which the flavour of the cacao drink was gradually changed to suit the newcomers’ tastes.

While the drink gradually changed to include new spices such as cinnamon, anise seeds, and black pepper to replace the chili peppers, it stayed the same in how it was processed (Coe and Coe 1996, p. 115). In addition to adding new spices, the Spanish were also the first to sweeten the drink with cane sugar. Lastly, when it was consumed by the Maya and the Aztec, the drink was cold or room temperature. The Spanish started the trend of drinking the cacao hot. As with the Maya and the Aztec, cacao was kept primarily for the elite and those who could afford it. Part of the appeal of this new drink was that it was exotic. As with many new tastes, the exotic has an appeal of its own.

Skip ahead to when cacao is introduced to the rest of Europe. Cacao first goes to Italy from Spain. It is then introduced to France in the early 1600s, although there is some controversy about when exactly this happened (Coe and Coe 1996, pp. 155-156). At this point, the flavour of the cacao and how it is processed has not changed much since it was brought to Spain. It is still a slightly sweetened drink made with spices and it is still drunk out of the traditional cups brought from Central America. Chocolate was introduced to England at about the same time as coffee and tea in the 1650s (Coe and Coe 1996, pp. 165-167). Unlike in France and Spain where chocolate was reserved for the elite, in England ‘chocolate was becoming democratized’ (Coe and Coe 1996, p. 170). The flavours and way of preparing the cacao drink continues to change during this time when cacao is spreading through Europe.

A 'widely respected and quoted English authorit[y] on chocolate' Dr. Henry Stubbes, recommended adding allspice, cinnamon, nutmeg, cloves, and sherry to chocolate made with milk and eggs (Coe and Coe 1996, pp. 174-175). The cacao drink is now being made with not only water but with milk and eggs as well which makes for a thicker brew than that made with water.

In France in 1776, 'a hydraulic process to grind cocoa beans into a paste, facilitat[ed] the first large-scale production of chocolate' (World Agroforestry Centre n.a.). As the processing of cacao changed and the tastes of the consumers changed, so too did the way the cacao drinks were made. In the 19th century, there were many advances in the world of chocolate including the development of the dutch process for creating cocoa powder, creating solid chocolate, and the addition of hazelnuts and the creation of milk chocolate (World Agroforestry Centre n.a.).

The changes in the flavours and creation of chocolate drinks have been due in part to changes in the tastes of consumers. The flavours have also been affected by the development of solid chocolates. While originally cacao drinks were made with minimally processed cacao, as cacao consumption morphed into a consumption of chocolate, the chocolate was also increasingly used as the basis of the drinks. The very use of chocolate would change the flavour of the chocolate drinks. In addition, the flavour of the chocolate affects the basic flavour of the drink; for example if a hazelnut chocolate is used then the drink will have an underlying flavour of hazelnut. The other major change over time is that the chocolate drinks have become increasingly sweet because of the sugar content in the chocolate used.

Since the creation of cacao drinks there have been many different varieties and flavours. It has greatly changed from its origins but in some ways it is going back to something similar to what was created before. This is in part due to the increase in an emphasis on single origin chocolates as well as an increase in the use of spices in the creation of drinks. The other change that has happened is that while cacao drinks started as a cold or room temperature, they went to being a hot drink. Now that we have a better understanding of where chocolate originated from and how it has changed over time, we will examine how students experimented with new chocolate flavour combinations.

Concept of Baking Boot Camps

At Johnson & Wales University, Charlotte, North Carolina, the concept of Baking Boot Camps was born in the Fall of 2012. Chefs Ellen Duke, Cece Krelitz, and Rhonda Stewart were asked to come up with a new way to deliver the optional Friday classes in the Baking and Pastry Department. In the past, these classes had been taught by teaching assistants and focused on basic skills. These three chefs knew that something better and more engaging could be offered to the students. They want to concentrate on the utilization of product from the labs. These boot camps

would focus on topics not included in the current curriculum (Duke and Krelitz 2015).

The set-up for the Baking Boot Camps is simple. They are four-hour sessions held on Friday mornings in one of the labs and are chef instructor driven with a theme for the day. The chefs volunteer and receive university service points for leading a boot camp. Usually there are four or five separate boot camps held throughout the term. Since the sessions are not bound by curriculum or syllabi, the chefs have collaborated with other departments on campus. Marketing is done through flyers and campus announcements. The outcomes of Baking Boot Camps are student engagement, relaxed learning/teaching environment, personal connections, and faculty learning/collaboration (Duke and Krelitz 2015).

The actual Baking Boot Camp

On March 18, 2016, the Baking Boot Camp theme, 'Single Origin Chocolate: Where are you From?' was a collaboration between a pastry chef and two librarians. Cece Krelitz is a pastry chef and Jean Moats is a librarian at Johnson & Wales University in Charlotte, North Carolina. Rebecca Freeman is a librarian at the University of South Carolina Lancaster. Twelve students signed up for this class. The agenda for the Baking Boot Camp included the history of chocolate, single origin chocolate, the manufacturing process, tastings, creating hot and cold beverages, and the challenges facing cocoa production.

After listening to a lecture on the history of chocolate and looking at single origin chocolate characteristics, the students watched a short video segment about how chocolate is manufactured from start to finish. Single origin chocolate refers to cacao that is grown in one country and the characteristics refers to the flavour profile of the chocolate. Next, we talked about the different flavour characteristics of chocolate, using a flavour wheel from the Guittard Chocolate Company (2005, p. 1). The general taste characteristics include aromatic, roasted, earthy, chemical, fruity, dairy and sweetness. Each person received a copy of the tasting form from *Tasting Club* by Dina Cheney which looks at the appearance, aroma, flavour, texture, and finish of the chocolate (2006, p. 66).

The first tasting was three different kinds of cocoa butter. Cocoa butter is the fat that is extracted from the cacao liquor. Chocolatiers will combine certain proportions of the butter and cacao liquor to make eating chocolate (Morton 1986 p. 79). Two of the samples were deodorized, which students found to not taste like chocolate but more like lotion. The third sample, which was clear and dark in colour, was not deodorized, lending to mild caramel vanilla flavour. Sampling the cocoa butter first gave everyone a good starting point before we moved onto the cacao or chocolate liquor.

Cacao or chocolate liquor is the '...deep-colored chocolaty-smelling paste, which hardens as it cools'

(Morton 1986 p. 79). The first liquor that came from the Ivory Coast had a thick texture to it with a mild fruity aroma and a long finish. It was also very glossy and dark colored. The second liquor also came from the Ivory Coast but was different in that the texture was light with mild acidic flavour. The third liquor, which was from Ecuador, was light in aroma and texture. Yet the taste was both acidic and fruity with a long finish.

Chocolate tasting

Tasting the actual chocolate was the next item on the agenda. There were thirteen kinds of chocolate to taste from a variety of sources. We began with 100% Cacao Unsweetened Chocolate. (The percentages listed refer to the amount of cocoa in the product.) This chocolate had a mild, balanced flavour with a smooth, creamy texture while having a long, bitter finish. The next one was 70% Cacao Bittersweet Chocolate which had a fruity aroma and flavour with velvety texture. It was a blend of nine different cacao beans.

The third and fourth ones were both 64% Cacao Semisweet Chocolate from two different companies. One had a caramel, fruit flavour while the other one had a more spicy, earthy flavour. The majority of the participants preferred these particular chocolates over the other ones that were sampled. They also served as a good example of how different chocolate companies have their own proprietary formula or blend.

Participants also tasted Single Origin 64% Semisweet Chocolate from Peru. It had a nutty aroma, with the flavour described as sweet, nutty, and earthy. This chocolate had a firm texture with a long finish.

70% Cacao Fair Trade Bittersweet Chocolate had both a nutty and smoky aroma. The flavour seemed to be fruity and smoky with a touch of orange. The aftertaste tended towards bitter with a strong aftertaste.

Gianduja tasted very fruity and nutty. It has a hazelnut flavour, reminding us of Nutella. It is more like milk chocolate. Many times this type of chocolate serves as a filling for candies.

Milk chocolate had a caramel aroma and flavour along with being sweet. Even with its creamy texture, everyone commented on how sweet the milk chocolate tasted compared to earlier ones.

For some, White Chocolate is not really chocolate in that it does not have any cacao liquor added to it. For the purpose of this tasting, White Chocolate was included for comparison purposes. It was very creamy which comes from the high percentage of cocoa butter.

Drink creations

A total of seventeen drinks were created by the student groups. Each group made one cold drink with water, one hot drink with water, one cold drink with milk, and one hot drink with milk. Each drink needed to use the 100%

Cacao Unsweetened Chocolate as the main ingredient. The students had a variety of flavoured simple syrups, fresh fruit, fruit compounds, spices, almond milk, coconut water, and sweeteners to use in their recipes. We asked the students to write down their drink ingredients. Once the drinks were completed, then everyone tasted each drink, offering compliments on it and suggestions for improvement. The comments in this section are all direct quotes from the tasting sheets that the students filled out.

Here are a few samples of the drinks that received both a good number of compliments and suggestions. We felt it was important to start with hot chocolate as it would have been drunk by the early Mayans. For this drink, it was 100% Unsweetened Chocolate, hot water and cayenne pepper. Nearly everyone suggested the addition of sugar and an additional flavour component.

A sample drink contained 100% Unsweetened Chocolate, hot water, hearts of palm simple syrup, coconut water, vanilla and toasted coconut. Compliments included 'nice sweet chocolate flavour', 'sweet vanilla taste', 'tastes like hot cocoa', and 'nice strong chocolate flavour'. Two suggestions were 'add milk' and 'add some spice or some other flavour'.

Another drink contained 100% Unsweetened Chocolate, hot water, Sriracha-infused simple syrup, and egg yolks. Compliments included 'nice texture and taste', 'nice, spicy flavour, nice after taste', 'like the spice component', and 'strong flavour'. Suggestions to the creator were 'change the spice', 'strain and add some milk', and 'less spice'.

One of the cold drinks contained 100% Unsweetened Chocolate, cold water, sugar, cinnamon, hibiscus flavouring, and blueberries. 'Great taste, especially once the drink had time to chill' and 'good, sweet flavour' were some of the compliments. Suggestions were 'whipped cream for the top' and for the drink to be thicker in texture. A participant who tasted the drink the following day commented that it was even better with age.

A hot drink was created using 100% Unsweetened Chocolate, condensed milk, coffee beans, cocoa powder, chocolate chips and cinnamon. In the compliments, the mocha/coffee taste came through along with a 'nice cinnamon flavour'. Several people remarked on the nice flavour and texture of the drink. Yet others made suggestions that the drink was too thick and to add more chocolate to it. Someone wrote 'it's a little rich'.

Another hot sample drink contained 100% Unsweetened Chocolate, milk chocolate, banana, and peanut butter. This drink received numerous compliments from the participants. Some of them were 'good combo, creamy, thick', 'nice flavour', 'creamy, nutty', 'good flavour', and 'taste like home'. Suggestions were 'even amounts of banana and peanut butter', 'make a bit thinner (more milk)', and 'more chocolate, spice'.

A cold drink was made up of 100% Unsweetened Chocolate, 64% Cacao Semisweet Chocolate, strawberries, mango, blueberries and grapes. It was processed using a

blender. The participants commented that it had a 'nice fruity flavour', 'good flavour', 'can taste the chocolate', and 'not too bitter, not too sweet, good balance'. Suggestions included 'heat it up', 'needs more flavour', 'maybe a spice', 'add a binder', and 'too watered down'.

Overall, the Baking Boot Camp created student engagement around chocolate and how it can be seen as a revolutionary drink. The students increased their knowledge of chocolate as they learned more about its history. They also got to express their creativity through the different drinks that were created.

Trends today in cookbooks and stores

Hot chocolate is one of the oldest drinks in the world. From the ancient Mayans who were known to drink multiple cups per day to contemporary people today, chocolate or hot chocolate is still popular. The individual ingredients have evolved in a revolutionary style. The first cups or bowls of chocolate drunk by the Aztec may have contained unsweetened cacao, water, honey, maize, allspice and chillis (Coe and Coe 1996, p. 92). It was much thicker than the drink enjoyed today. Through the years, hot chocolate changed becoming a single packet of cocoa and other ingredients that was added to hot water and usually drunk by children. We may also remember that hot chocolate which came from a machine with a pale milky brown colour. This drink ended up being a little bit of chocolate flavour with hot water or milk.

Over the years, the taste of hot chocolate has changed in many ways. Powdered cocoa is no longer used exclusively; instead, we see bar chocolate replacing it, giving us an European-style hot chocolate. In the past 10 years or so, chocolate shops have brought about the return of speciality chocolate drinks. These drinks are usually hot and have more content than just cocoa or even chocolate. We can enjoy these new flavour combinations in shops or try them at home, using the following two cookbooks on hot chocolate.

The first of these cookbooks, *Hot Chocolate: 50 Heavenly Cups of Comfort*, was written by Fred Thompson. Published in 2006, he makes European-style hot chocolate, using bar chocolate and not cocoa powder while adding in other flavours, making it more an adult beverage (Thompson 2006, p. 7).

Thompson uses water, not milk, as the water gives the drink a deeper chocolate flavour. Some of the flavours added into the chocolate and water include tea, peanut butter, lemongrass, orange, lavender, amaretto, bourbon, Irish cream liqueur, and brandy. Don't worry; not all of these flavours show up together in a single drink. Thompson also suggests using a good South American single origin chocolate in order to bring out the floral components. He explains that South American hot chocolate is thinner in style than the European (Thompson 2006, p. 25).

The second cookbook, *Hot Chocolate*, was written by Hannah Miles and published in 2015. She takes her

inspiration from countries all around the world (Miles 2015, p. 7). Some of her unique ingredients include salted caramel sauce, espresso coffee, malted drink powder, coconut, rose syrup, amaretto, cinnamon, cherry brandy, Irish cream liqueur, rum, bourbon whiskey, red chillies, ginger, and pumpkin. Miles uses a variety of bittersweet, semisweet, milk and white chocolate (2015, p. 5) in her recipes.

Having seen both of these cookbooks, it is not as surprising to look at the flavour combinations that the students created in the Baking Boot Camp. Hot chocolate appears to be going back to its roots.

Conclusion

Some of the questions originally asked in this paper were: 1) Why has there been such a change in this popular drink? And 2) what makes it revolutionary in terms of flavours?

Having a basic understanding of the history of chocolate helps answer these questions. The changes started as early as the time that the Spanish started to drink chocolate and have progressed as chocolate extended through Europe back to the Americas. The question is why these changes have happened. There are many factors for these changes, including social changes, changes in who has access to the chocolate, what it is used for, and even the changes in the taste of the consumers. In addition, changes in how the chocolate is processed have affected the taste. Chocolate has gone from being an elite item that was used for health and rituals, to being consumed by everyone for any and every purpose, including health and pleasure.

What then makes this change in flavour revolutionary? The very fact that chocolate has changed so much and continues to have a variety of permutations, makes chocolate revolutionary. As previously stated, for the purpose of this paper, revolutionary means change. What does this mean though? When looking at chocolate throughout time, it is possible to see that the flavours have gone from spiced to sweet and are making their way back to spiced. The flavour will likely never go completely back to what it was due to processing changes. Today drinks can be made with a variety of chocolates, including unsweetened, milk, white, and even chocolate cocoa. It can be seen in the comments by the students during the boot camp that the tastes of the consumers have changed enough that having an unsweetened drink is not desired, even when the drink is spiced. This may be due to the fact that the society generally thinks of hot chocolate and other chocolate drinks as being sweetened. There are other changes that have affected this revolutionary concept. In the United States in the last 10 years, the use of chocolate cocoa in chocolate drinks is no longer the required base. Solid chocolate is increasingly used in the European style to make a thicker and richer drink.

Looking at these questions from the point of view of the boot camp and the cookbooks, it becomes obvious that the

better question would almost be why would chocolate *not* be considered a revolutionary beverage. In the boot camp the sheer variety of drinks that were created by the students was very interesting. No one went with a very basic chocolate drink, they all offered up complex drinks that highlighted the chocolate in new ways. It can be seen that chocolate is a very versatile item that leads to exploration and experimentation in flavour. Single origin chocolates are even more so in many ways due to their underlying complex flavour created by growing the cacao near other plants such as oranges. Where the cacao is grown influences the flavour composition and that flavour can be brought out by the addition of other similar or opposite flavours.

Another interesting element that was clear during the boot camp and is seen in the recipes from a variety of cookbooks is that in a chocolate drink, water or milk can be used successfully. While in the beginning chocolate was only made with water due to the fact that the society it was being used by did not drink milk, once it was used by societies that used milk, milk became a common liquid element to the drink.

To answer the question of whether chocolate is a revolutionary beverage, the answer is a resounding yes. These drinks are constantly being changed and experimented with. New flavours are being developed to complement the chocolate being used. In an interesting turn, the flavours that are now considered new and exotic are the spiced flavours that were originally created either

under the Maya and the Aztec or when the drink was first brought to Europe in the 17th century. The chocolate drink is starting to come back full circle and at the same time is changing towards a new future.

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