

THE ESSENCE OF COFFEE BREWING

Coffee drink has had a curious evolution. It began not only as a drink, but as a food. Initially the coffee cherries were first eaten as fresh fruit. Subsequently dried pemmican like form was made & eaten straight or mixed with dried grain and consumed. These two preparations comprised a premedieval power bar which gave energy and kept travelers awake on long journeys. The usefulness of the fruit of the coffee tree was gradually established, and thus the trees & their viable seeds were transported to Yemen & cultivated there. Sun tea made of coffee cherries, beans & a few leaves were first prepared in Yemen. This sweetened sun tea spontaneously fermented, developing a combination of alcohol and Caffeine (today it is typically consumed in the form of Irish coffee).

*The Coffee wine was the first beverage to be named with the original word for Coffee “**Qahwah**” which is derived from Arabic verb meaning “to put one off”, essentially everything if consumed to excess. Qahwa was considered as a medicinal beverage. After his arrival in Medina in A.D. 622; Prophet Muhammad established the Islamic faith that the faithful should not consume any alcoholic beverages, due to the rampant drunkenness he found in that city. After this the coffee sun tea know as ‘**QISHR**‘ brewed from coffee beans & boiling water mixed with cinnamon, cardamom, cloves or ginger was consumed.*

During early 1400 A.D water soluble extract of roast coffee and boiling water in metal pots first evolved. Through this it was possible to prepare Coffee Sun tea more quickly. It is assumed that this combination of fire & coffee seeds; accidentally led to the happy creation of coffee which could not have been prepared without the ability to boil water. Boiling the beverage continued into the 18th century and was

usually served black in English Coffee houses. By 1760 boiling coffee was recognized as producing an objectionable tasting beverage and therefore steeping with or without a bag to separate grounds was first used in France. By 19th century, coffee's commercial importance grew and more attention was given to its natural flavor, quality, origin and modes of preparation. Thus several modes of brewing Coffee evolved.

BREWING METHODS

OPEN POT BREWING OR JUG METHOD



Invented by Sans Ebulition of France in 1711 is the most basic and simplest brewing method of all which used to be the favorite hot beverage preparation in Nordic Countries like Norway and Finland. This consists in putting coarsely ground coffee into water in a pot or jug and allowing it to warm up to a boiling point on a stove. The resulting beverage is poured into a cup or mug after allowing some

settling of the floating grounds or with the aid of a strainer.

IBRIQ



Ibriqs or Turkish coffee pots are used for making Turkish coffee. Two distinctive tools are used for its preparation – the long brass grinder and the copper pot called an IBRIQ. The grinder is designed to produce a very fine powder. Ibriqs are small long handled pots made of brass or copper. The pot is narrower at the top than at the bottom. This method of brewing is based on the traditional Arabian

way of making coffee. This is also known as Moorish, Greek or Oriental Coffee and should be served in either demitasse cups and saucers or tiny cups with metal holders especially made to serve Middle Eastern Coffee.

The Ibrik is loaded with finely ground impalpable coffee powder and sugar; & is filled with cold water and placed on an open flame. After reaching the ebullition temperature revealed by vigorous bubbling and foaming, the pot is removed from the flame and allowed to cool down a bit and then replaced on the flame to a second and thereafter a third boiling. The brew is gently poured into a cup and served This type of Coffee can be drunk in 2 ways – immediately while the particles are still suspended or after letting it stand for a while until the non soluble part settles.

DRIP POT

This is the oldest kind of Coffee maker, invented in 1800 by Jean Baptist de Belloy, Arch Bishop of Paris. Here the ground Coffee is placed in a pottery vessel perforated at the base and water is poured through into a pot underneath. A variant of this method is the 'Napoletana' made of tin plate.

FLIP DRIP OR NEAPOLITAN MACCHINETTA BREWING



This is a popular variation of the drip pot and was invented by a French Tinsmith Morize in 1819. This cafe filter is reversible, double or flip-drip pot, which has since been adopted by the Italians as the Neapolitan macchinetta. This is a three section coffee maker where water is poured into the bottom & spout less section. A filter basket containing finely ground Coffee fits over the bottom section and placed on a heat source. When the water begins to boil the two pots are flipped over to allow the water to drip through the coffee. The spouted section originally on top becomes the bottom serving container.

THE FILTER OR DRIP METHOD

This method is generally used in Northern Europe. The typical set up consists of a simple device where a paper filter is placed in a plastic cone-shaped holder. Medium ground coffee is put into the filter and the holder placed on top of a glass jug. Boiled water is poured into the filter and allowed to seep through & the commercial implementation of this method is attributed to Mrs. Melitta Bentz as early as 1908. Besides the disposable paper ones, cloth filters can be used, but need proper maintenance for hygienic reasons. Micro perforated gold filters which are not disposable have become fashionable.



Many automatic or semiautomatic machines are available in the market, some of them electrically operated; produce hot water that actually drips at a controllable rate on the ground coffee, sticking to the proper infusion pattern. Most of them have a heating plate on which the jug rests. By letting the brewed coffee dwell there for a long time, more chemical reactions can occur, which make the coffee taste change in a generally

unpleasant direction.

The Indian two tier filter jug is generally made of brass or stainless steel. It consists of an upper unit with perforated bottom on which the coffee powder is placed with a plunger to keep the grounds down. The upper unit fits tightly on to the lower unit. A measured quantity of hot water which is poured over the plunger, filters through the coffee powder and drips into the lower unit, creating the decoction.

CAFETIERE OR PLUNGER OR MELIORCOFFEE PRESS



The coffee maker with a metal plunger was invented by a man from Lorraine; France in 1947. It consists of a cylindrical glass beaker equipped with a freely moving piston (plunger) whose perforated base is lined with a very fine wire mesh. The Plunger is removed & a spoonful of coffee (medium - coarse ground) is poured into the beaker and boiling water is added. Ingredients are infused for about 4 minutes, after which the plungers with the mesh filter

made of wire gauge is pushed alone through the coffee, allowing the sediment free liquid to pass through.

VACUUM POT



A commercial model is called “CONA” was designed by an English man in 1840. This method of Coffee making mainly found in high end Japanese Coffee houses and Caterers. The device consists of a funnel shaped glass flask; with a perforated screen, placed on top of a second one. Ground coffee is put upon the screen and the water in the bottom flask. The assembly of the two vessels is heated up to boiling, the steam pressure

forces hot water up the neck of the funnel to invade the upper vessel mixes with ground coffee, thus starting the extraction. The heat source is removed and the assembly is allowed to cool down until the pressure in the lower flask has subsided, which is low enough to allow the upper liquid to flow down through the same funnel neck. Coffee is served directly from the lower bowl.

THE PERCOLATOR COFFEE



A favorite old time brewing method in the United States is informally called 'perk'. The stem and brew basket is removed from the pot & is filled with required amount of coarsely ground coffee. Measured quantity of fresh cold water is poured into the pot replacing the stem & the brew basket with the lid on. The water is gently brought to boiling and the heat is reduced until the coffee begins to 'Perc'. The coffee should be

allowed to percolate for 6-8 minutes and is removed from heat and served.

MOKA POT

It is an Italian household brewer, commercially known as an inexpensive brewing machine, often misnamed stove – top espresso. The Moka pot has 3 chambers. The bottom chamber to boil water, middle one contains ground coffee and top chamber is the place the coffee brews into. In a Mokapot, water is boiled in



the lower part (boiler) and is forced up through the filter containing the coffee by the steam pressure and reaches the upper part of the pot. The filter should be filled with coffee powder up to the rim. The rim marks the optimal dose for preparing a good coffee with Moka. When the first drops of coffee begin to flow to the top, the flame should be lowered. Too high a temperature in this phase could

give “burned taste” to the beverage.

ESPRESSO



Originally an Italian specialty, Espresso is a mix of art and science. This method requires 6-7 grams of Arabica blend, grind ranging from impalpable powder to 1 millimeter grains, approximately 30 cc of water at 90° c and pressure at 9

atmospheres ; 30 seconds extraction time. This could be the definition of espresso

described by a scientific formula, but it is also an all Italian art, which has conquered Italy and aficionados the world over. Preparing a quality espresso demands a skilled Barista who makes Espresso a mix of art and science.

These procedures can be summarized in the formula which in Italian is dubbed as The "4Ms" namely -

MISCELA – Blend;

MACINA DOSATORE – Grinder / Dispenser,

MACIHIINA ESPRESSO – Espresso Machine

MANO Dell OPERATORE – the hand of the Espresso – Bar-Tender.

A fifth M is added to the 4M rule of Italian Espresso which is "MANUTENZIONE DEL Macchinario (maintenance). According to him this is a factor of great importance. He suggests that greatest attention is given for cleaning the machine especially those parts coming in contact with the drink such as porta filter, filter holders, douches, gaskets, water softener and a blind filter.

Using the same type of coffee in different brewing equipment creates coffee beverages with different taste and body characteristics. The equipments design will use one of the six basic methods to extract the flavoring compounds from the ground coffee. These flavoring compounds significantly contribute to the perception of beverages flavors.