From Tree to Cup with COFFEE

THE INDISPENSABLE BEVERAGE OF STRONG NATIONS

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FORMOSA TEAS

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FROM TREE TO CUP WITH COFFEE

GROWTH. Coffee, or “Gift of Heaven,” as the wise men of the East declare it, is of the botanical strain of “Rubiaceae,” a family of beautiful and useful fruits, flowers and shrubs. The lovely gardenia is a distant relative, and flavors, fragrances and beauties of form and color, as well as practical human benefit, are the treasures which this family of many graces bestows upon man.

The coffee tree or shrub grows from seed into a small plant, which is transplanted, developing into a bush or tree from about seven to sixteen feet high, and producing a crop in about four or five years from the planting of the seed.

The leaves resemble laurel in form, and the beautiful starlike blossoms suggestive of jasmine, fill the air with fragrance in alluring promise of the fruit to come. Almost like “snowflakes in the sun” the blos-
soms disappear in a few days. Then follow clusters of green cherries which color bright red as they ripen and become bouquets of ripe fruit in about six months from the time of flowering. The cherries each contain two berries or "coffee beans," and shrivel and dry as the time for picking approaches. In the picking, men, women and children strip the fruit from the branches into baskets, one man picking about thirty pounds a day under good conditions. From the baskets the coffee is placed in heaps, sifted from leaves, sticks, etc., and then transported to the drying grounds.

Drying Ground

DRYING, HULLING, ETC. In the drying process the cherries are spread as evenly and thinly as possible upon cement floors in the air and sunlight. Every morning, after the dew is dried, the coffee is raked over to insure thorough sunning. Thus, the good soil having grown the product, the sun and air are called upon to contribute further in perfecting this highly cherished fruit of the earth.

The outer covering of the coffee berry is a
tough hull, and under this is a pulpy material with an inside thin skin. The two beans lie in the cherry with the flat faces together, and are each covered with a delicate parchment.

To remove all these coverings the coffee, after being dried, is repeatedly run through fanning and hulling machines, which remove the hulls, pulp, skins, sticks, leaves, dirt, etc., and complete the finished green product.

By the "washed" process the coffee is placed in water, the imperfect berries floated off, and the pulp softened for the hulling and cleaning machines which follow.

Cup Testing

ROASTING. The functions of the wholesale roaster are among the most vital of coffee processes.

It is in the roaster's offices that coffee is put on trial for its ultimate value—drinking quality.

Previously judged in the green "by appearances," here, on the revolving round tables, it passes through the "fire and water" judgment of critical cup testers for its merit in beverage form for the consumer's table—its final testing.
The Roaster or "Coffee Chef" is the only cook necessary to a good cup of coffee. He sends it to the consumer a completely cooked product.

In the roasting process the berries swell up by the liberation of gases within their substance. The aromatic oils contained in the cells are sufficiently developed or "cooked," and made ready for instantaneous solution with boiling water, when the cells are thoroughly opened by grinding.

The roasting principles of different green coffees vary. Trained study and a nice science in timing the roast and manipulating the fire is necessary to a perfect development of aroma and flavor.

The drinking quality is largely dependent upon the experienced knowledge of the coffee roaster and his scientific methods and modern machinery, by which the coffee is not only roasted, but cleaned, milled and completely manufactured to a high point of perfection.

In their National Association work, the wholesale roasters are giving the public new facts and valuable information, from scientific researches, investigations, etc.
GRINDING. The roasted berry is constructed of fibrous tissues formed into tiny cells visible only under the microscope, which are the "packages" wherein are stored the whole value of coffee, the aromatic oils. Like cutting open an orange, the grinding of coffee is the opening of surrounding tissue and pulp, and the finer it is cut the more easily are the "juices" released.

The fibrous tissue itself is waste material, yielding, by boiling or too long percolations, a coffee colored liquid which is fibrous and twangy in taste, has no aromatic character, and contains undesirable elements.

The true strength and flavor of roasted coffee is ground out, not boiled out. The finer coffee is ground, the more thoroughly are the cells opened, the surfaces multiplied, and the aromatic oils made ready for separation from their husks. Hence it follows that:

Coarse ground coffee is unopened coffee—coffee thrown away.

The finer the grind, the better and greater the yield. With pulverized coffee (fine as corn meal) the fully released aromatic oils are instantaneously soluble with boiling water.

In ground coffee the oils are standing in "open packages," escaping into the air and absorbing moisture, etc., necessitating quick use or confinement in air proof and moisture proof protection.
The production of coffee has increased from the few pounds grown in ancient times, on wild trees, in an obscure quarter of the globe, to gigantic crops produced today in many countries. One modern plantation alone contains over eight million trees. The world's production for the crop year 1912-1913 was 16,373,000 bags. For the crop year of 1913-1914 over 18 million bags is estimated. An old time New York market report dated December 20, 1823, gives the following:

"The import of coffee during the past week was 2 tierces, 1 barrel and 715 bags."

For December, 1913, the imports of coffee into the United States averaged over 138,000 bags per week.

The consumption of coffee in the United States has increased from 2.98 pounds per year for each person in 1830, to an estimated 10.31 pounds per person in 1914. The yearly consumption for each person, averaged by periods of twenty years and compiled from reports of the United States Department of Commerce, is shown below:

<table>
<thead>
<tr>
<th>Period</th>
<th>1854 to 1873</th>
<th>1874 to 1893</th>
<th>1894 to 1913</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly per capita consumption, average of twenty years</td>
<td>5.786 pounds</td>
<td>8.118 pounds</td>
<td>10.256 pounds</td>
</tr>
</tbody>
</table>

Thus it is shown that coffee drinking by the people of the United States has increased with the increasing greatness of the country, and that coffee is more and more universally beloved as the indispensable national beverage of a strong nation.
BREWING. From scientific researches by the National Coffee Roasters' Association, including the first chemical analysis on record of brewed coffee, produced by various brewing methods, the fundamental principles of coffee making have been clearly established. These principles are simple, and when once understood equip any person to intelligently judge the merits and defects of the various coffee making devices on the market. They constitute the law of coffee brewing, and may be stated as follows:

Correct brewing is not "cooking." It is a process of extraction of the already cooked aromatic oils from the surrounding fibrous tissue, which has no drinkable value. Boiling or stewing cooks in the fibre, which should be wholly discarded as dregs, and damages the flavor and purity of the liquid. Boiling coffee and water together is ruin and waste.

The aromatic oils, constituting the whole true flavor, are extracted instantly by boiling water when the cells are thoroughly opened by fine grinding. The undesirable elements, being less quickly soluble, are left in the grounds in a quick contact of water and coffee. The coarser the grind the less accessible are the oils to the water, thus the inability to get out the strength from coffee not finely enough ground.

Too long contact of water and coffee causes twang and bitterness, and the finer
the grind the less the contact should be. The infusion, when brewed, is injured by being boiled or overheated. It is also damaged by being chilled, which breaks the fusion of oils and water. It should be served immediately, or kept hot, as in a double boiler.

Tests show that water under the boiling point, 212°, is inefficient for coffee brewing, and does not extract the aromatic oils. Used under this temperature, it is a sure cause of weak and insipid flavor. The effort to make up this deficiency by longer contact of coffee and water, or repeated pouring through, results in no extraction of the oils, but draws out undesirable elements, such as coffee-tannin, which is soluble in water at any temperature and is governed by the time of contact.

Coffee-tannin, which is not the commercial tannic acid, is eliminated to practically nothing in the quick brewing methods.

The chemical analysis of brewed coffee shows the following:

<table>
<thead>
<tr>
<th>Method</th>
<th>Coffee Tannin per Cup</th>
<th>Comparative Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percolator method, fine gran.</td>
<td>2.90 grains</td>
<td></td>
</tr>
<tr>
<td>5 minutes' steeping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Method, medium &quot;</td>
<td>2.35 &quot;</td>
<td></td>
</tr>
<tr>
<td>Steeping Method, &quot; &quot;</td>
<td>2.31 &quot;</td>
<td></td>
</tr>
<tr>
<td>Filtration (or Drip) Method }</td>
<td>0.29 &quot;</td>
<td></td>
</tr>
<tr>
<td>Pulverized</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Brewing is the final manufacturing process of coffee. All previous perfection is dependent upon it. Like food products which lose nutritive value by bad cooking, coffee loses its best values by wrong brewing. Brewed by the very simple correct methods, it is an unfailingly clear, fragrant, taste-charming beverage, universally loved and scientifically approved.
DIET VALUE. In the remarkable worldwide spread of coffee drinking among the great nations by millions of families, human experience is a thousand-year-old demonstration of the value of coffee as a universal creature comfort.

It is a “natural selection” by humanity, which has utilized it instinctively as a provision of nature for human need. Coffee is coupled with bread as indispensable in the diet of peoples, and its beneficent powers are now being demonstrated by science.

Medical investigations, particularly, are pronouncing its dietary influence “favorable,” as the London Lancet states, “its effect upon the vital centers after a meal making it useful as an aid to digestion.”

It is more germ proof than water or milk, it has a strengthening influence upon mind and muscle without reaction, as indicated by exhaustive experiments by Prof. Hollingsworth of Columbia University, and from tests with students by the Hahnemann Hospital of Philadelphia, proving coffee, as Dr. Wildman, Professor of Physiology, states, a “valuable drink,” “lightening fatigue” and “sustaining strength.”
The pleased and satisfied sense of taste which coffee gives has a recognized physiological influence. Dr. Woods Hutchinson honors coffee as a true helper in nourishment, starting the appetite juices of food assimilation by its delight to the palate, which coffee charms more than any other food or drink known. The "good cheer" of coffee has yet to be analyzed by the psychologist, but its kindly power upon the mood and even the character is known by every man or woman who loves coffee—and who ever heard of anyone not having the taste for coffee, a taste about as universal as thirst itself?

Coffee, as well as milk, cream, and many other products, does not have an equal effect upon all. Coffee drinking, like other diet, must be moderated to individual susceptibility.

A medical authority observes that "after generations of almost universal coffee drinking, our own times see men of gigantic intellect and athletes equal to any in history, and our soldiers acquitting themselves manfully in fatiguing campaigns." The Surgeon General of the United States Army has very lately written that the drinking of coffee is general in the army, and its moderate use beneficial among troops.

This is the verdict of students of coffee confirming human experience. The average man knows that coffee "warms him up" and makes him "feel good." The scientist shows that the "warming up" is caused by the increased nutrition of improved digestion, and "strengthened muscular and mental power" is the scientific term for "feeling good."
THE RETAIL GROCER—THE EFFICIENT COFFEE DISTRIBUTOR.

The Retail Grocer—there are about 300,000 of him in the United States—is the housewife’s right arm.

No other dealer is as important to the health and welfare of the home, and none upon whom the quality and purity of food more depends.

The modern grocery store is an immense stride forward from the older times when customers “lugged home” their goods at the expense of ill-spared time and energy. The time saving telephone and delivery service, and other conveniences were unknown then, as were also the scientific storekeeping and sanitary principles of the present day. Under the pressure of fierce competition, fast eliminating the inefficient, all the retail grocer’s resources of energy and ability are called upon to gratify and satisfy the consumer. The modern retail grocer is a specialist in food distribution and service.

As financial reports show, his business is done on close margins of profit, and requires long and unremitting hours of labor and thought.

The successful grocer of today, as a coffee seller, is first of all an uncompromising advocate of quality. He is also the conserver of quality. By right storekeeping, intelligent grinding and packing and individual attention to the tastes, customs, brewing methods, etc., of his customers, he follows up his coffee to the cup, where its quality is finally gained or lost.

In close contact with both manufacturer and customer, he is the natural and most competent distributor, not only of the manufacturer’s goods, but of the information which the modern manufacturer and wholesaler realizes is necessary to the right use and understanding of his products.

By means of this booklet, new light upon coffee from laboratories, researches, etc., valuable to every consumer, is being brought into the home through the grocery store, which, with the schools of domestic science teaching the same principles, becomes an educational factor in the betterment of coffee, and the better knowledge of its beneficent value to health and happiness.
SWAIN, EARLE & CO.

Importers

AND

Roasters

THE BOSTON (Brand)

AND

SILVER QUARTER COFFEES

BOSTON MASS.