Without beverages our meals would be less nutritious and our working hours and social gatherings less enjoyable. Their use is wide, their types varied, and their history long.

Coffee drinking became a popular pastime in the coffeehouses of London in the middle 17th century where literary, scientific, religious, and political matters were discussed over cups of the steaming brew.

Tea has been used as a beverage since ancient days. In many countries the preparation and serving of tea is considered an art—Japanese women of good family sometimes receive up to 3 years' instruction in the ceremony.

During the conquest of Mexico in 1519 Hernando Cortez found the Aztec emperor Montezuma drinking "chocolatl" from great golden bowls and carried the idea back to Spain. The Spanish added cane sugar to the drink and served it hot.

Today in the United States consumption of these and other beverages is on the rise, except for milk which has served man as a food for thousands of years.

A recent nationwide survey by U.S. Department of Agriculture food economists indicates that more youths in the population, more snacking by people in general, and more money in the household budget resulted in a 15 percent increase in the amount of the beverages consumed at home during the 10 years from 1955 to 1965. Ten cents of the 1965 household food dollar was used for beverages other than milk, while approximately 8 cents was spent for the various types of fresh fluid and processed milk.

The trend has been away from milk as a beverage and toward more coffee, soft drinks, fruit ades, and punches. An average of 39 cups of milk (buttermilk, skim milk, chocolate milk, baby and diet formula) were consumed per household per week in 1965 compared to 46 cups in 1955. On the other hand, the number of cups of coffee increased from 38 to 48, soft drinks increased from 5 to 9 cups, while fruit ades and punches consumed rose from 1 to 13 cups a week. Tea and juices remained about the same with an increase of 1 cup for each. Away-from-home purchases added to these totals.

The United States not only produces a plentiful supply of milk, but also an abundant supply of fruit. Juices in many pleasing flavors and colors are used as appetizers with meals, as pickups between meals, as ingredients for the party punchbowl, and in other beverages. Raw materials for coffee, tea, cocoa, and chocolate must be imported.

Beverages and beverage materials are marketed in many forms. Milk, for example, may be packaged as whole fresh milk in bottles or cartons, often homogenized, nearly always pasteurized. It may be sold in the fluid form as skimmed milk; low-fat milk, with or without added nonfat solids; or as buttermilk—all of which require refrigeration. Sterilized milk, evaporated
milk, and sweetened condensed milk are marketed in cans. Nonfat dry milk is sold in bags, cartons, or packets, does not need refrigeration, and under proper storage conditions keeps for months.

Fruit juices are marketed as fluids in glass or cans; single strength or concentrated; pasteurized and refrigerated; or sealed in containers and heat-processed to prevent spoilage. Juices are also sold frozen, either single strength or concentrated.

Of the various juices, orange juice is marketed in the most diverse forms. Under the Federal Food, Drug, and Cosmetic Act, the Food and Drug Administration (FDA) has established standards of identity for the following forms: orange juice, frozen orange juice, pasteurized orange juice, canned orange juice, orange juice from concentrate, frozen concentrated orange juice, and also canned concentrated orange juice. To any of these, sugar or certain other specified sweeteners may be added with appropriate label declaration.

Each form of juice has its advantages and disadvantages. Most people prefer the flavor of fresh fruit juice. Such juice, however, contains enzymes and micro-organisms which quickly cause spoilage or lower the quality, even when the juice is kept chilled. Quality can be maintained by freezing, but the frozen single-strength juice is expensive to store and ship. It is inconvenient to handle, and few firms stock it.

Spoilage may be delayed by pasteurizing the juice. This process inactivates the enzymes and reduces the number of spoilage organisms but, unfortunately, it also changes the flavor. Pasteurized juice must be refrigerated. Most of the orange juice sold by grocery stores or distributed by dairies in glass or cartons has been pasteurized.

Canned juice is sealed into containers and processed by heat to kill the spoilage organisms so it will keep without refrigeration as long as the container remains sealed. The flavor of canned fruit juice is usually considered less desirable than that of other forms.

The juice prepared from frozen concentrated orange juice is commonly rated next to fresh juice in flavor and other desirable characteristics. The frozen concentrate retains its quality indefinitely when stored at the proper temperature. It is cheaper to ship and less bulky to store than the single strength juice, yet keeps some of the taste of the single strength juice mixed into the concentrate before it is frozen.

FDA has established standards for canned pineapple juice, tomato juice, and prune juice. However, no standards have been set for other popular juices such as apple, grape, or grapefruit. These nonstandardized juices are sometimes preserved with chemicals like sodium benzoate or sorbic acid. When used, such preservatives must be declared on the label.
There are on the market many beverages and beverage bases made in part from fruit juices. Some contain significant quantities of fruit juice or pulp. Those labeled as “juice-drinks” sometimes contain 30 percent or more juice. Nectars contain an even higher percentage of juice and pulp. Other beverages of this type contain little fruit or juice and derive most of their flavor from added acids, natural or synthetic flavoring materials, and other additives. Still others, including some dried or frozen concentrates, contain no fruit ingredients, being made entirely from synthetic colors, flavors, and other nonfruit ingredients.

Standards of identity for frozen concentrates for lemonade, colored lemonade, and artificially sweetened lemonade have been established by FDA. In May 1968 the agency published an order intended to do the same thing for certain nectars, ades, juice-drinks, cranberry juice cocktail, and other diluted fruit drinks. This order, which prescribed the minimum percentage of juice or pulp for each and required that the percentage be listed on the label, had to be stayed pending a requested public hearing.

The nutrient value of carbonated beverages is mainly in sugar and calories. Artificially sweetened carbonated drinks and drink bases are popular with persons on low calorie or sugar restricted diets. They provide few nutrients and are valuable only as thirst quenchers. These drinks come in bottles (returnable or non-returnable) and in metal cans. Carbonated beverages, other than those that are artificially sweetened, must comply with FDA standards. Action on proposed standards for artificially sweetened soda water was postponed pending public hearings upon FDA’s special dietary food regulations.

Because of the rapid rise in use of artificial sweeteners there has been concern about their safety. In 1955 and again in 1965, the Food Protection Committee of the National Academy of Sciences—National Research Council (NAS/NRC) evaluated all available scientific evidence on the safety of the artificial sweeteners and published reports which gave no basis for restricting special dietary use of the sweeteners.

In 1968, at the request of FDA, NAS/NRC reviewed recent research reports, and concluded that “totally unrestricted use of the cyclamates is not warranted at this time.” In the Federal Register of April 5, 1969, FDA published a proposal to require labeling of foods containing cyclamates which would make it practical for consumers to limit their intake of cyclamates to recommended levels. The recommended maximum daily intake for adults is 3,500 milligrams—for children, 1,200 milligrams.

It is estimated that close to a third of the world’s population uses coffee in greater amounts than any other

USDA coffee tester at work. He helps assure better quality coffee for schools, institutions, the military, and State and Federal agencies that use the testing service.
beverage, with coffee drinkers in the United States consuming around 50 percent of the supply.

Coffee is imported as green beans which must be blended, roasted, and are usually ground before they reach the consumer. "Coffee testers" who spend many years in developing their senses of taste and smell (the only way coffee can be appraised) use actual cup tests rather than physical characteristics of the coffee bean as a basis for combining different varieties. They try to balance costs with acceptable quality, and many blends are available at different prices. The only way to find the "right" one is to try different brands.

The flavor depends also upon the degree of roasting which brings out the "coffee taste" and the aroma not apparent in the coffee bean. People have different preferences depending upon region and national origin. A dark roast is generally preferred in the South, a light roast along the Pacific coast, and medium roast elsewhere in the United States. Some people may even prefer the almost black roast common in Italy, Turkey, and the surrounding areas.

Blends of coffee with chicory are popular in Louisiana and may be purchased elsewhere.

The device used for brewing coffee governs the choice of grind to a large extent, but it should be remembered that a finer grind permits quicker extraction with less loss of desirable flavor and aroma.

Instant coffees, first used by the U.S. armed forces in the field, now account for more than a fourth of the coffee prepared at home. They are available in a number of blends. Some are freeze-dried while others are prepared by various extraction, evaporation, and drying processes.

For those who do not like the stimulating effect of caffeine, green coffee is sometimes steamed and soaked using a chlorinated organic solvent. Consumer preference for the "decaffeinated" coffee is for the instant or soluble type of product.

About half the people of the world drink hot or cold tea. Consumption in the United States is said to average about three-fourths of a pound per year compared to 10 pounds for Great Britain and for Ireland, perhaps the world's greatest tea-drinking countries. Instant tea and tea bags are contributing to the growing popularity of this beverage in the United States.

Teas may be selected from three classes: Green (from leaves that have been withered, rolled, and fired immediately); black (leaves have been fermented or oxidized before firing); and oolong (from partially oxidized or fermented leaves). They are usually imported, blended, and packed for sale to consumers. Americans have preferred black, whole leaf teas, particularly those labeled "pekoe" or "orange pekoe." These names designate the small first and second leaves next to the end of the tea shoots. Broken and cut leaves are utilized in tea bags.

Instant teas are made principally from the black teas and are available as either "pure" instant teas or with malto-dextrin as a carrier. Consumers are sometimes confused because a teaspoonful of the light, fluffy, pure form of instant tea contains the same amount of extracted tea solids as the heavier mixture.

Like coffee and tea, chocolate beverages are made from imported raw materials—in this case dried cacao beans. The manufacturer cleans, blends, roasts, and removes the shells, leaving the meat or "nibs." These are crushed in a process which generates enough frictional heat to liquefy the cocoa butter (the nibs average 54 percent cocoa butter content) and form what is known by the industry as "chocolate liquor."

That portion of the liquor used for cocoa is pumped into hydraulic presses to remove the desired amount of cocoa butter. This leaves a pressed cake that can be cooled, pulverized, and sifted into powder.

Breakfast or high-fat cocoa contains at least 22 percent fat, medium-fat cocoa (sometimes labeled simply as
“cocoa”) contains 10 to 22 percent, while low-fat cocoa contains less than 10 percent.

Chocolate may be treated with alkali to prepare “Dutched” or Dutch-process cocoa. This makes a darker beverage which looks stronger but actually has a milder flavor.

Chocolate and cocoa are often used to flavor milk or skinned milk. When milk is made with chocolate, it may be labeled “chocolate milk.” Milk or other dairy drinks made with cocoa should be labeled “chocolate flavored.”

Cocoa, because of its popular flavor, is often used in food items intended for special diets. Some of these items are used “as is” while others are in dry form to be added to milk or skim milk.

Careful reading of labels is essential if you are to choose wisely from the big supply of beverages and beverage materials. The Federal Food, Drug, and Cosmetic Act (FD&C Act) and the more recent Fair Packaging and Labeling Act require accurate and informative labeling to help prospective buyers compare and make wise choices.

The principal display panel or panels must bear a prominent declaration of the identity of the beverage. If the beverage is standardized, the name is the one prescribed by the standard such as “orange juice from concentrate” or “club soda.” In the absence of a standard, the designation must be the common or usual name, modified when necessary to indicate the form of the beverage as, for example, “coffee—drip grind.” Also, an accurate declaration of the contents in terms of weight, volume, or count must appear on the principal display panel, usually in the lower 30 percent of the panel, printed in letters of prescribed height, and separated by specified distances from other printed information. Solids are normally declared by weight, liquids by volume. Some are declared by count and the volume or weight such as “100 tea bags—8 ounces.”

Name and address of the manufacturer, packer, or the shipper must appear prominently, modified, when necessary, by some statement such as “distributed by.” Ingredients must be declared in descending order of predominance unless the beverage is one where they are specified by a standard of identity. Standards prescribe which optional ingredients must be declared, if used. Always the label must state the presence of any artificial coloring, artificial flavoring, or a chemical preservative.

If intended for special dietary use, the beverage must be labeled with information about its vitamin and mineral content; percentages of fat, protein, and carbohydrates; the calories it will provide; or other information needed to guide the user. Names and percentages of artificial sweeteners must be stated.

Additives are sometimes listed by long, formidable, technical names. Consumers may rest assured that the beverages containing these are safe. Since its passage in 1938, the FD&C Act has prohibited adding any substance which would make the beverages injurious to health. The act was later amended to provide more positive protection by requiring pretesting of food additives and color additives in order to demonstrate that the proposed uses are safe.

Other helpful information is sometimes found on labels. They may bear directions for preparing, recipes, or information about the number and size of servings. Most milk and other dairy drinks are labeled “Grade A” to show that they have been produced under sanitary conditions and from raw materials which meet standards recommended by the U.S. Public Health Service and adopted by most States.

U.S. “Grade A” or U.S. “Fancy” markings on other beverages or beverage bases indicate that these meet the quality standards established by USDA.

Factors considered in grading include those affecting appearance, like depth and brightness of color, absence
of flecks and excess sediment; and those affecting taste, like sweetness, acidity, the Brix/acid ratio (which measures the balance between sweetness and tartness), the amount of peel oil, and other characteristics. If a beverage has been packed under the voluntary inspection service provided by USDA, the label may bear the inspection shield showing that it was “Packed Under Continuous Inspection” and the grade may also be shown in the USDA shield.

Value comparisons are hard to make, not only because there are many beverages in different forms but also because individual taste preferences or dietary needs may outweigh price considerations. A coffee or tea that makes a distasteful brew is no bargain at any price. For dietary reasons some may choose skim milk or low-fat cocoa, while others need the nutrients in whole milk or chocolate. Prices of diluted juice drinks usually vary according to their juice content. Nutritive values do not necessarily vary proportionately.

The large “economy” size may cost less per pint, but offers no advantage if much of the product deteriorates before it can be used.

Available storage facilities may dictate the form or the amount of a beverage to be purchased. Frozen products must be stored in the freezer compartment, which should be maintained at between 0° (or below) and 5° F. Milk, orange juice (other than canned or frozen), and opened containers of other beverages should be kept in the refrigerator, preferably at a temperature no higher than 40° F.

Chocolate should be kept cool to prevent melting and should not be subjected to wide swings of temperature. Tea may be stored in any cool, dry place.

Coffee is more difficult to keep. The oils and other constituents that provide its flavor and fragrance are easily dissipated or, if exposed to air, are quickly oxidized to substances yielding disagreeable odors and tastes. In contrast, coffee is a rare treat when made from freshly roasted and ground beans in an atmosphere where the air is still full of the rich aroma released by roasting, grinding, and brewing.

By the time most roasted and ground coffee reaches the consumer, even when protected in vacuum-packed containers, much of its aroma and flavor have been lost. Once the container is opened, the loss speeds up. It can be retarded but not stopped by keeping the coffee container tightly closed and stored in a cool place. Coffee should be purchased in amounts small enough to be quickly used.

We drink tea and coffee partly because of the stimulating effect of the caffeine they contain (cocoa or chocolate is mildly stimulating). If we want only this effect, it matters little how we prepare them. We might even enjoy the dark and bitter brew prepared by that champion tea-drinker, the Australian sheepman, by long boiling of the leaves in his blackened "billy-can" celebrated in the song "Waltzing Matilda." Most of us prefer to just sing about "Matilda" while drinking tea or coffee brewed in ways that do not drive off the constituents that provide pleasant aroma and taste.

Much of the tea and coffee served in the United States could be improved if the water used were of better quality. Usually we take whatever comes from the tap. Vendors of spring water no longer wander the
streets shouting "Tea water! Come and get your tea water!" as they did in pre-Revolutionary New York.

Coffee is brewed in pots, percolators, dripolators, or any of several vacuum-type devices. Scientific research undertaken by the Coffee Brewing Institute since its formation in 1951 has shown that to make good coffee you should:

- Start with utensils that have been thoroughly cleaned.
- Use freshly drawn water.
- Use the finest grind suited to your coffeemaking device.
- Use plenty of coffee; the standard proportion of 2 level tablespoons per cup may be increased, if so desired. More coffee with less brewing time usually gives better flavor.

When you use a percolator, keep the heat adjusted to barely percolate. Percolate no longer than 5 to 10 minutes.

Keep coffee hot over low heat to avoid boiling and loss of flavor.

After the Mardi Gras balls in New Orleans, it is traditional for participants to go to the Old French Market to enjoy "cafe-au-lait," made by mixing equal portions of hot milk and strong coffee.

During the gay days of the Old Empire, the Viennese invented ways to serve whipped cream with coffee. Coffee with whipped cream is still called "Vienna coffee."

To make good tea:

- Add water to the tea as soon as it comes to a bubbling boil; do not let water boil since this drives out dissolved air which helps give tea its "bite."
- Prewarm the pot, which preferably should be of ceramic material.
- If using tea leaves, weigh out about one-third ounce per pint or measure 1 rounded teaspoon per cup. Use tea bags according to directions.
- Allow the tea to "draw" for 3 to 4 minutes unless milk or cream is to be added, in which case it may draw for 4, 5, or even 6 minutes.
- Separate the brew from the leaves, and keep it hot until served.

Sugar, lemon, cream, or milk may be added. Cream or milk mellows the taste, and casein in the milk causes the tannin which is in the tea to become insoluble.

For iced tea, brew 5 to 6 minutes and add extra tea (4 tablespoons tea to 3 cups boiling water).

Hot chocolate or cocoa can be made from these recipes:

**HOT CHOCOLATE**

6 servings

- 2 squares unsweetened chocolate
- 1 cup hot water
- ¼ cup sugar
- Dash of salt
- 3 cups milk

Melt the chocolate in water in top of double boiler directly over low heat. Add sugar and salt; simmer 4 minutes with constant stirring. Place over hot water. Stir in milk. Heat to serving temperature and beat with rotary beater.

**BREAKFAST COCOA**

6 servings

- ½ cup cocoa
- 4 to 6 tablespoons sugar
- ⅛ teaspoon salt
- ¼ cup water
- 3½ cups milk

Mix cocoa, sugar and salt, pour in water, and cook 3 minutes. Stir in milk and heat to boiling, but do not boil. Beat with rotary beater to prevent scum formation.

Juices usually require no preparation other than chilling. If ice is added, do not overdilute. Since sugar is hard to dissolve in cold liquids, sugar sirup is preferable if juices are to be sweetened. Sirup drained from canned fruits may be used for this purpose. This saves money and may add flavor.

Cookbooks contain pages of recipes for punches, varying from a simple mixture of 2 pints ginger ale and 1 pint of grape juice, to some involving many ingredients and complex mixing instructions. Punchmaking offers ample room for study and imaginative experimentation.