

# FLAVORS OF THE SAUCIER: STOCKS, SAUCES, AND SOUPS



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Flavors of the Saucier: Stocks, Sauces, and  
Soups (Zeringue and Thibodeaux)

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## Licensing

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## Preface

In the last twenty years, many of the techniques of sauce making have changed. Chefs are not only eager to invent new taste combinations and improve upon older methods but have set out to make sauces healthier and less rich. In the 1970's chefs in France eliminated flour a standard ingredient since the eighteenth century and the United States began to form their sauces and replace it with cream and butter. The latest trend is to eliminate cream or butter and experiment with even newer methods.

With a fundamental knowledge of the variety of sauce making methods available, the chef can make his or her own decisions based on the needs of the clientele, the budget, and style of the restaurant. It is important for a chef to know how liquids, flavorings, and thickeners work and to explain traditional approaches and combinations that will provide the chef with technical guidelines and underlying aesthetic principles.

A basic concept is far more powerful for an improvising chef than a recipe because concepts can be adapted to a far greater variety of ingredients and situations. The number and kinds of sauces served during a meal must receive thorough consideration. Sauce making expertise is of little value if the arrangement and juxtaposition of the sauces lack careful arrangement and the myriad factors inherent in the design of a meal are not closely considered. Every meal is an event that happens only once a kind of reflection or distillation or a grouping of people in a particular setting.

Remember not to serve too many sauces in a single meal; one is often appropriate, and two are usually the maximum. If more than one sauce is served at the same meal, make sure that the flavors, colors, and textures of the sauces contrast while the style remains the same. The time of year and the formality of the meal will significantly affect the kinds of sauces that are best to serve.

Beginning chefs and amateur cooks sometimes include too many contrasting colors or flavors on the same plate. It is better to meld the flavors of a sauce carefully into an integral and seemingly simple whole than to cover the plate with different flavored garnishes or more than one sauce. Usually sauces (and foods) move from light to dark and from cold to hot in the succession of courses, to avoid fatiguing the palate (or the eye). Avoid strong sauces at the beginning of the meal unless you are planning to follow through with something at least equally robust. Sauces should be chosen according to the style and formality of a meal. For example, an aioli or a Mexican salsa is more likely to see service at an informal summer lunch than is a sauce poivrade, which is classic, formal, and best for fall or winter.

The principles of classic French cooking provide an important base for understanding sauce making not because classic French sauces are inherently better than regional sauces or sauces from other countries, but because they are based on a rigid and systematic framework that is easy to remember, build on, and reference. Classic concepts and techniques can be adapted to other cuisines. Once the saucier becomes familiar with basic sauce making techniques and understands how various ingredients behave, he or she will be able to invent new combinations, devise new interpretations of classics, and more easily execute unfamiliar recipes.

## Course Student Learning Outcomes:

Upon completion of this course, the student will be able to:

1. Discuss classifications of stocks, sauces and soups
2. Demonstrate preparation principles of stocks, sauces and soups
3. Demonstrate appropriate food safety and sanitation techniques, and proficient knife skills.

## Core Competencies

1. Explain the types and characteristics of stocks, soups and sauces.
2. Differentiate, and produce the five mother sauces.
3. Differentiate and produce the different categories of stocks.
4. Differentiate and produce the different categories of soups.
5. Practice plate presentations of sauces and soups.
6. Produce meat, poultry, and seafood dishes that accompany sauces and soups.
7. Discuss the importance of the mother sauces in both the classical and modern kitchen.
8. Name, identify and produce mother sauce derivatives.
9. Execute proficient knife skills.
10. Calculate recipe conversions for greater or fewer yields.

## CHAPTER OVERVIEW

### 1: Chapters

- 1.1: Light Stocks
- 1.2: Brown Stocks and Demi-Glace
- 1.3: Sauces and Thickening Agents
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- 1.5: Bechamel Based Sauces
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## 1.1: Light Stocks

### Stocks

A **stock** is a flavored liquid. A good stock is the key to a great soup, sauce or braised dish. The French appropriately call a stock fond ("base"), as stocks are the basis for many classic and modern dishes.

Stocks were originally invented to facilitate kitchen organization and to augment integral sauces. Integral sauces are those prepared directly from the juices released by meats and fish during cooking. There are two major difficulties in preparing sauces only with the natural savory elements released in cooking. First, meats and fish rarely supply enough of their own flavorful elements to make enough savory sauce to go around. Second, in a restaurant setting, it is difficult and impractical to prepare an integral sauce for each dish. Because of these problems, chefs developed stocks, which can be made from less-expensive cuts of meat, inexpensive meat trimmings, and bones.

The first stocks were simple broths, by-products of poached meat and fish dishes. Before the method of preparing stocks was refined and systematized, meat was often braised or roasted with a thick slice of ham or veal to give extra body to the sauce.

The challenge to the chef is to get the maximum flavor into a stock with a minimum of expense. A stock made with a large proportion of meat that is then carefully reduced to a light glaze will have a magnificent flavor but will be too expensive for most restaurants. For this reason, many chefs have replaced much of the meat in older stock recipes with bones. Although bones can supply gelatin and a minimal amount of savor to a stock, a stock made with bones will never have the depth and flavor of one made with meat.

There are several types of stocks. Although they are all made from a combination of bones, vegetables, seasonings and liquids, each type uses specific procedures to give it distinctive character.

A **white stock** is made by simmering chicken, veal or beef bones in water with vegetables and seasonings. The stock remains relatively colorless during the cooking process.

A **brown stock** is made from chicken, veal, beef, or game bones and vegetables, all of which are caramelized before being simmered in water with seasonings. The stock has a rich, dark color.

Both a **fish stock** and a **fumet** are made by slowly cooking fish bones, or crustacean shells, and vegetables, without coloring them, then simmering them in water with seasonings for a short time. For a fumet, wine and lemon juice are also added. The resulting stock or fumet is a strongly flavored, relatively colorless liquid.

A **court bouillon** is made by simmering vegetables and seasonings in water and an acidic liquid such as vinegar or wine. It is used to poach fish or vegetables. **The quality of a stock is judged by four characteristics: body, flavor, clarity and color.** Body develops when collagen proteins dissolve in protein - based stock. Vegetable stocks have less body than meat stocks because they lack animal protein. Flavoring vegetables such as mirepoix: herb sachets and the proper ratios of ingredients to liquid give stocks their flavor. Clarity is achieved by removing impurities during stock making. Any ingredients contribute to a stock's color. Vegetables such as leeks and carrots give white stock a light color. Browned bones and tomato paste provide color to dark stocks. Improper uses of coloring ingredients can overwhelm the color and flavor of a stock.

The term **jus** traditionally describes the light, natural liquid derived from the drippings of a roast. Because a natural jus is perhaps the most satisfying and flavorful of all sauces, chefs use a variety of techniques to simulate the flavor of a natural jus, using meat trimmings and bones. To prepare a stock with some of the full, natural flavor of a jus, meat trimmings are usually browned and cooked for a short time with a previously made full-flavored stock.

Classic **demi-glace** is a stock that has been reduced and bound with starch until it has the consistency of a very light syrup or glaze. Classic demi-glace is the basis for classic brown sauces. Natural demi-glace, also called coulis, is thickened by reduction or continual remoistening with additional meat; no starch is used in its preparation.

**Glaces** are stocks that have been slowly cooked down (reduced) to a thick syrup. These are convenient to have on hand in professional kitchens because they keep well and can be added to sauces at the last minute to give a richer flavor, a deeper color, and a smoother texture. Some chefs rely almost entirely on meat glaze (glace de viande) for preparing brown sauces.

**Essences** are extracts made from vegetables and used as last-minute flavorings for sauces; an essence is to a vegetable what a jus is to meat or fish. In classic sauce making, essences are usually used as a final flavoring for more complex stockbased sauces. In most of these situations, essences can be dispensed with and the ingredient itself simply infused in the sauce and strained out at the last minute.

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The obvious method for supplying additional savory meat juices or drippings is to prepare extra meat; for example, roast two turkeys to make enough full-flavored gravy for one. This was common in French cooking until the eighteenth century: Extra jus was prepared by roasting meat and squeezing out the juices in a press.

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The challenge to the chef is to get the maximum flavor into a stock with a minimum of expense. A stock made with a large proportion of meat that is then carefully reduced to a light glaze will have a magnificent flavor but will be too expensive for most restaurants. For this reason, many chefs have replaced much of the meat in older stock recipes with bones. Although bones can supply gelatin and a minimal amount of savor to a stock, a stock made with bones will never have the depth and flavor of one made with meat.

Much of the expense of using meat in a stock can be defrayed by saving the cooked meat for another use, either to serve in the restaurant or to the staff. Boiled beef can, for instance, be made into excellent salads (with capers, pickles, vinaigrette), into a *salade bouchere* (made with diced boiled beef, hard-boiled eggs, potatoes, tomatoes, and chopped parsley), and into ravioli filling (seasoned, chopped with a little beef marrow). It can also be reheated in tomato sauce, or cooked in a *miroton* (baked into a kind of gratin with stewed onions, breadcrumbs, and a little vinegar) with potatoes (*hachis parmentier*- the meat is minced, covered with mashed potatoes and baked).

Traditional stock recipes divide into white and brown. White stocks are usually prepared by first blanching meat and bones and then moistening them with cold water. Brown stocks are prepared by first browning the meats or bones, either in the oven or on top of the stove. Most of the recipes in this book that use stock call for brown stocks, mainly because they have a richer, more complex flavor.

## Improving a Stock's Flavor

**Prepare Double and Triple Stocks.** Stocks can always be improved by using an already prepared stock to moisten meats for a new batch. When the moistening liquid for a stock is an already prepared stock, the result is called a double stock. If a double stock is in turn used to moisten more meat, the result is a triple stock. The elaborate stocks of the eighteenth and nineteenth centuries were made using this method of continuous remoistening with progressively richer and richer stock to prepare *coulis* and *essences*.

Making double and triple stocks is expensive. Most methods for making stock are designed to imitate double and triple stocks without the expense. If, however, the chef can defray the cost of the ingredients so that double and triple stocks made with meat can be used for sauce making, the resulting sauces will have an inimitable depth, complexity, and savor.

**Caramelize the Ingredients.** Stocks can be given heightened color and flavor by first caramelizing the meat juices on the bottom of the pan before the final moistening with water or stock. Precooking the ingredients in this way will also result in a clearer stock.

**Add Gelatinous Cuts.** Some recipes call for the addition of a veal foot (split and blanched starting in cold water) or strips of pork rind to stocks. These ingredients contribute gelatin and give the stock a smoother, richer texture

**Balance the Ingredients.** The final decision as to how stocks will be prepared depends on the kitchen's cooking style and budget. The chef will have to rely on experience and expertise to balance the components in the stock to derive the best flavor from the ingredients. If a stock is to be radically reduced for sauce making or if double or triple stocks are being prepared, the chef must determine whether additional vegetables and a second or third bouquet garni are needed. If too many vegetables are added to the

preliminary stock or if additional vegetables are added at each stage in the preparation of a double or triple stock, the natural sugars in the vegetables may become too concentrated, and the stock will be too sweet. You may find that as the stock nears completion, one of the vegetables or one of the herbs in the bouquet garni is too assertive; decrease the amount of that ingredient the next time you make the stock.

If a finished stock tastes flat, its flavor can be improved by adding a fresh bouquet garni and some freshly sweated mirepoix vegetables. Whether or not this is necessary depends on how the stock will be used.

### PROPER AND IMPROPER PROCEDURES

1. **Always moisten stock with cold liquid.** If hot water is added to meat, it causes the meat to release soluble proteins (albumin) quickly into the surrounding liquid. These proteins immediately coagulate into very fine particles and cloud the stock. When cold liquid is used and slowly heated, the proteins contained in the meat (or fish) coagulate in larger clumps and float to the top, where they can be skimmed. When adding liquid to an already simmering stock to compensate for evaporation, make sure it is cold.
2. **Never allow a stock to boil.** As meat and bones cook, they release proteins and fats into the surrounding liquid. Stock should be heated slowly to only a simmer. At a slow simmer, these components appear as scum on top of the stock and can be skimmed. If the stock is boiling, these substances are churned back into the stock and become emulsified. The resulting stock is cloudy and has a dull, muddy, greasy flavor, which will only worsen if the stock is reduced (or bound) for a sauce. When the stock comes to a simmer skim it every 5 to 10 minutes for the first hour with a ladle to prevent fat and scum from working their way back into the stock. As the stock cooks, it needs to be skimmed only every 30 minutes to an hour. Keep the ladle in a container of cold water next to the pot so it is convenient for skimming and so that it does not become caked with fat and scum.
3. **Do not use too much liquid.** The higher the proportion of solid ingredients to liquid, the more flavorful the stock will be. Many beginning cooks completely cover the solid ingredients with liquid at the beginning of cooking. Because the solid ingredients in a stock settle during cooking, the cook often finds that he or she has added more liquid than necessary and the resulting stock is thin. It is best to use only enough liquid or stock to come three-quarters of the way to the top of the ingredients. The only exceptions to this rule are stocks with extremely long cooking times, where any excess liquid will evaporate anyway.
4. **Do not move the contents of the stock during cooking and straining.** As stock cooks, albumin and other solids settle along the bottom and sides of the pot. If the stock is disturbed, these solids will break up and cloud the stock. When straining the finished stock, do not press on the ingredients in the strainer; allow enough time for the liquid to drain naturally.
5. **Do not over-reduce.** Stocks are often reduced to concentrate their flavor and to give them an appetizing, light, syrupy texture. Although reduction is an almost essential technique for converting stocks into sauces, much of the delicacy and flavor of meats is lost if reduced for too long. Many of the flavors contained in stock are aromatic and evaporate when simmered over a pro, longed period, leaving a flat taste. Highly reduced stocks often contain a large concentration of gelatin, which gives them a sticky feeling and texture in the mouth.
6. **It is preferable to prepare a double or triple stock rather than to try to reduce a stock to intensify its flavor.** The expense will be the same per given quantity of finished stock.
7. **Do not add the liaison until all the fat and scum have been carefully skimmed.** Traditional recipes often suggest adding a thickener, such as roux, cornstarch, or arrowroot, to stock to thicken it lightly and give it texture. Once starch is added to a stock, any fat emulsified in the liquid will be held in solution by the starch and will become difficult to skim.
8. **Store stocks carefully.** Warm stock is a perfect medium for bacteria (beef broth was originally used to line petri dishes in laboratories). Avoid keeping stocks between 40° and 140°F (5° and 60°C) for long periods. The danger of spoilage increases in hot weather and when larger amounts of stock are being prepared. A quart or two of stock can be allowed to cool at room temperature before it is refrigerated with little danger of spoilage. Larger amounts of stock are best cooled by floating a container (make sure the bottom is well scrubbed) of ice in the stock to chill it before refrigerating. Large amounts of stock may require several batches of ice.

### Ingredients

The basic ingredients of any stock are bones, a vegetable mixture known as a mirepoix, seasonings and water.

## Bones

Bones are the most important ingredient; they add flavor, richness and color to the stock. Traditionally, the kitchen or butcher shop saved the clay's bones to make stock. Because many meals and poultry items are now purchased pre-cut, or portioned, food service operations often purchase bones specifically for stock making.

Different bones release their flavor at different rates. Even though the bones are cut into 3- to 4-inch (8- to 10-centimeter) pieces, a stock made entirely of beef and/ or veal bones requires six to eight hours of cooking time, while a stock made entirely from chicken bones requires only five to six hours.

## Beef and Veal Bones

The best bones for beef and veal stock come from the younger animals. They contain a higher percentage of cartilage and other connective tissue than do bones from more mature animals. Connective tissue has a high collagen content. Through the cooking process, the collagen is converted into gelatin and water. The gelatin adds richness and body to the finished stock. The best beef and veal bones are back, neck and shank bones, as they have high collagen contents. Beef and veal bones should be cut with a meat saw into small pieces, approximately 3 to 4 inches (8 to 10 centimeters) long, so that they can release as much flavor as possible while the stock cooks.

## Chicken Bones

The best bones for chicken stock are from the neck and back. If a whole chicken carcass is used, it can be cut up for easier handling.

## Fish Bones

The best bones for fish stock are from lean fish such as sole, flounder, whiting or turbot. Bones from fatty fish (for example, salmon, tuna and swordfish) do not produce good stock because of their high fat content and distinctive flavors. The entire fish carcass can be used, but it should be cut up with a cleaver or heavy knife for easy handling and even extraction of flavors. After cutting, the pieces should be rinsed in cold-water to remove blood, loose scales and other impurities.

## Other Bones

Lamb, turkey, game and ham bones can also be used for white or brown stocks. Although mixing bones is generally acceptable, be careful of blending strongly flavored bones, such as those from lamb or game, with beef, veal or chicken bones. The former's strong flavors may not be appropriate or desirable in the finished product.

## Mirepoix

A mirepoix is a mixture of onions, carrots and celery added to a stock to enhance its flavor and aroma. Although chefs differ on the ratio of vegetables, generally a mixture of 50 percent onions, 25 percent carrots and 25 percent celery, by weight, is used. For a brown stock, onionskins may be used to add color. It is not necessary to peel the carrots or celery because flavor, not aesthetics, is important.

The size of the mirepoix 'chop' is determined by the stock's cooking time: The shorter the cooking time, the smaller the vegetables must be chopped to ensure that all possible flavor is extracted. For white or brown stocks made from beef or veal bones, the vegetables should be coarsely chopped into large, 1- to 2-inch (2.5- to 5-centimeter) pieces. For chicken and fish stocks, the vegetables should be more finely chopped into 1/2-inch (1.2-centimeter) pieces.

**White Mirepoix.** A white mirepoix is made by replacing the carrots in a standard mirepoix with parsnips and adding mushrooms and leeks. Some chefs prefer to use a white mirepoix when making a white stock, as it produces a lighter product. Sometimes parsnips, mushrooms and leeks are added to a standard mirepoix for additional flavors.

## Seasonings

Principal stock seasonings are peppercorns, bay leaves, thyme, parsley stems and, optionally, garlic. These seasonings generally can be left whole. A stock is cooked long enough for all of their flavors to be extracted so there is no reason to chop or grind them. Seasonings generally are added to the stock at the start of cooking. Some chefs do not add acid seasonings to beef or veal stock until midway through the cooking process, however, because of the extended cooking times. Seasonings can be added as a sachet d'epices, or a bouquet garni.

**Salt.** Salt, an otherwise important seasoning, is not added to stock. Because a stock has a variety of uses, it is impossible for the chef to know how much salt to add when preparing it. If, for example, the stock was seasoned to taste with salt, the chef could not reduce it later; salt is not lost through reduction, and the concentrated product would taste too salty. Similarly, seasoning the stock to taste with salt could prevent the chef from adding other ingredients that are high in salt when finishing a recipe. Unlike many seasonings whose flavors must be incorporated into a product through lengthy cooking periods, salt can be added any time during the cooking process with the same effect.

## Principles of Stock Making

The following principles apply to all stocks. You should follow them in order to achieve the highest-quality stocks possible.

- Start the stock in cold water.
- Simmer the stock gently.
- Skim the stock frequently.
- Strain the stock carefully.
- Cool the stock quickly.
- Store the stock properly.
- Degrease the stock.

### Start the Stock in Cold Water

The ingredients should always be covered with cold water. When bones are covered with cold water, blood and other impurities dissolve. As the water heats, the impurities coagulate and rise to the surface, where they can be removed easily by skimming. If the bones were covered with hot water, the impurities would coagulate more quickly and remain dispersed in the stock without rising to the surface, making the stock cloudy.

If the water falls below the bones during cooking, add water to cover them. Flavor cannot be extracted from bones not under water, and bones exposed to the air will darken and discolor a white stock.

### Simmer the Stock Gently

The stock should be brought to a boil and then reduced to a simmer, a temperature of approximately 185°F (85°C). While simmering, the ingredients release their flavors into the liquid. If kept at a simmer, the liquid will remain clear as it reduces and the stock develops. Never boil a stock for any length of time. Rapid boiling of a stock, even for a few minutes, causes impurities and fats to blend with the liquid, making it cloudy.

### Skim the Stock Frequently

A stock should be skimmed often to remove the fat and impurities that rise to the surface during cooking. If they are not removed, they may make the stock cloudy.

### Strain the Stock Carefully

Once a stock finishes cooking, the liquid must be separated from the bones, vegetables and other solid ingredients. In order to keep the liquid clear, it is important not to disturb the solid ingredients when removing the liquid. This is easily accomplished if the stock is cooked in a steam kettle or stockpot with a spigot at the bottom.

If the stock is cooked in a standard stockpot, to strain it:

- Skim as much fat and as many impurities from the surface as possible before removing the stockpot from the heat.
- After removing the pot from the heat, carefully ladle the stock from the pot without stirring it.
- Strain the stock through a china cap lined with several layers of cheesecloth.

### Cool the Stock Quickly

Most stocks are prepared in large quantities, cooled and held for later use. Great care must be taken when cooling a stock to prevent food-borne illnesses or souring. To cool a stock below the temperature danger zone quickly and safely:

- Keep the stock in a metal container. A plastic container insulates the stock and delays cooling.

- Vent the stockpot in an empty sink by placing it on blocks or a rack. This allows water to circulate on all sides and below the pot when the sink is filled with water.
- Install an overflow pipe in the drain and fill the sink with cold water or a combination of cold water and ice. Make sure that the weight of the stockpot is adequate to keep it from tipping over.
- Let cold water run into the sink and drain out the overflow pipe. Stir the stock frequently to facilitate even, quick cooling.

**Ice Paddles.** In addition to this venting procedure, cooling wands can be used to speed the cooling of stocks, soups, sauces and other liquids. These wands (also known as ice paddles) are hollow plastic containers that can be filled with water or ice, sealed, and then used to stir and cool liquids. Clean and sanitize the wand after each use to prevent cross-contamination.

**Cooling and Handling Stocks (SAFETY).** A two-stage cooling method is recommended for keeping stock out of the temperature danger zone. First, cool the stock to 70°F (21°C) within 2 hours and from 70°F to below 41°F (21°F to below 5°C) in an additional 4 hours, for a total of 6 hours. To prevent bacterial growth if these temperatures have not been met, the stock must be reheated to 165°F (74°C) for 15 seconds within 2 hours.

### Store the Stock Properly

Once the stock is cooled, transfer it to a sanitized covered container (either plastic or metal) and store it in the refrigerator. As the stock chills, fat rises to its surface and solidifies. If left intact, this layer of fat helps preserve the stock. Stocks can be stored for up to one week under refrigeration or frozen for several months.

### Degrease the Stock

Degreasing a stock is simple: When a stock is refrigerated, fat rises to its surface, hardens and is easily lifted or scraped away before the stock is reheated.

### White Stock

A white or neutral stock may be made from beef, veal or chicken bones. The finished stock should have a good flavor, good clarity, high gelatin content and little or no color. Veal bones are most often used, but any combination of beef, veal or chicken bones may be used.

### Blanching Bones

Chefs disagree on whether the bones for a white stock should be blanched to remove impurities. Some chefs argue that blanching keeps the stock as clear and colorless as possible; others argue that blanching removes nutrients and flavor.

#### Procedure for Blanching Bones

1. If you choose to blanch the bones:
2. Wash the cut-up bones, place them in a stockpot and cover them with cold water.
3. Bring the water to a boil over high heat.
4. As soon as the water boils, skim the rising impurities. Drain the water from the bones and discard it.
5. Refill the pot with cold water, and proceed with the stock recipe.

#### White Stock (8:1 Ratio)

##### Mise en Place

- Cut up and wash bones.
- Peel and chop onions, carrots and celery for mirepoix.
- Prepare herb sachet.

##### Yield: 2 gal. (8 Liters)

- Bones, veal, chicken or beef 16 lb. (7 kg)
- Cold water, 3 gal. (11 lt)
- Mirepoix, 2 lb. (1 kg)

### Sachet

- Bay leaves, 2 (2)
  - Dried thyme, ½ tsp. (2 ml)
  - Peppercorns, crushed ½ tsp. (2 ml)
  - Parsley stems, 8 (8)
1. Cut the washed bones into pieces approximately 3-4 inches (8-10 centimeters) long.
  2. Place the bones in a stockpot and cover them with cold water. If blanching, bring the water to a boil, skimming off the scum that rises to the surface. Drain off the water and the impurities. Then add the 3 gallons (11 liters) cold water and bring to a boil. Reduce to a simmer.
  3. If not blanching the bones, bring the cold water to a boil. Reduce to a simmer and skim the scum that forms.
  4. Add the mirepoix and sachet to the simmering stock.
  5. Continue simmering and skimming the stock for 6 to 8 hours. (If only chicken bones are used, simmer for 3 to 4 hours.)
  6. Strain, cool and refrigerate.

### Brown Stock

**Brown chicken stock** is especially useful in kitchens where it is not practical to prepare meat glazes and beef stocks regularly. If the kitchen does not generate enough chicken carcasses for the stock, most wholesale butchers will deliver chicken carcasses at a nominal cost. Stewing hens can also be added to the stock for a fuller flavor, but this of course increases the stock's cost.

Brown chicken stock can be used for deglazing sauté pans and roasting pans and as a base for more concentrated, specialized stocks, such as game or pigeon. It is good to have brown chicken stock on hand to use as a thinner for sauces that may have become too reduced.

**Brown Veal Stock.** Roast all the ingredients for white veal stock, except the bouquet garni and water, in a 400°F (200°C) oven. Turn the meat, bones, and vegetables from time to time until they are evenly browned. Avoid burning any of the ingredients or letting the juices burn on the bottom of the roasting pan. Transfer the ingredients to a stockpot and add the bouquet garni. Deglaze the roasting pan with water. When all the juices have dissolved, add the deglazing liquid to the ingredients in the stockpot. Moistening, cook, and strain the stock as for white veal stock.

#### Mise en Place for a Brown Stock

- Cut up and wash bones.
- Peel and chop onions, carrots and celery for mirepoix.
- Prepare herb sachet.

A brown stock is made from chicken, veal, beef or game bones. The finished stock should have a good flavor, rich dark brown color, good body and high gelatin content. The primary differences between a brown stock and a white stock are that for a brown stock, the bones and mirepoix are caramelized before being simmered and a tomato product is added. These extra steps provide the finished stock with a rich dark color and a more intense flavor.

### Caramelizing

Caramelization is the process of browning the sugars found on the surface of most foods. This gives the stock its characteristic flavor and color.

#### Procedure for Caramelizing Bones

For caramelizing, do not wash or blanch the bones as this retards browning. To caramelize:

1. Place the cut-up bones in a roasting pan one layer deep. It is better to roast several pans of bones than to overfill one pan.
2. Roast the bones for approximately 1 hour in a hot oven (375°F/190°C). Stirring occasionally, brown the bones thoroughly, but do not allow them to burn.
3. Transfer the roasted bones from the pan to the stockpot.

## Deglazing the Pan

After the bones are caramelized, the excess fat should be removed and reserved for future use. The caramelized and coagulated proteins remaining in the roasting pan are very flavorful. To utilize them, deglaze the pan.

### Procedure for Deglazing the Pan

1. Place the pan on the stove over medium heat, and add enough water to cover the bottom of the pan approximately 1/2 inch (1.2 centimeters) deep.
2. Stir and scrape the pan bottom to dissolve and remove all the caramelized materials while the water heats.
3. Pour the deglazing liquid (also known as the deglazing liquor) over the bones in the stockpot.

### Procedure for Caramelizing Mirepoix

1. Add a little of the reserved fat from the roasted bones to the roasting pan after it has been deglazed. (Alternatively, use a pan large enough to contain all the mirepoix comfortably.)
2. Sauté the mirepoix, browning all the vegetables well and evenly without burning them.
3. Add the caramelized mirepoix to the stockpot.
4. Almost any tomato product can be used in a brown stock: fresh tomatoes, canned whole tomatoes, crushed tomatoes, tomato puree or paste. If using a concentrated tomato product such as paste or puree, use approximately half the amount by weight of fresh or canned tomatoes. The tomato product should be added to the stockpot when the mirepoix is added.

### Brown Stock Recipe

- Bones, veal, chicken or beef 15 lb. (7 kg)
- Cold water, 3 gal. (11 lt)
- Mirepoix, 2 lb. (1 kg)

#### Sachet

- Bay leaves, 2 (2)
- Dried thyme, 1/2 tsp. (2 ml)
- Peppercorns, crushed 1/2 tsp. (2 ml)
- Garlic cloves, crushed 3 (3)
- Parsley stems, 8 (8)

1. Place the bones in a roasting pan, in one layer and brown in a 375°F (190°) oven. Turn the bones occasionally to brown them evenly.
2. Remove the bones and place them in a stockpot. Pour off the fat from the roasting pan and reserve it.
3. Deglaze the roasting pan with part of the cold water.
4. Add the deglazing liquor and the rest of the cold water to the bones, covering them completely. Bring to a boil and reduce to a simmer.
5. Add a portion of the reserved fat to the roasting pan and sauté the mirepoix until evenly browned. Then add it to the simmering stock.
6. Add the tomato paste and sachet to the stock and continue to simmer for 6 to 8 hours, skimming as necessary.
7. Strain, cool and refrigerate.

## Fish Stock and Fish Fumet

A fish stock and a fish fumet are similar and can be used interchangeably in most recipes. Both are clear with a pronounced fish flavor and very light body. A fumet, however, is more strongly flavored and aromatic and contains an acidic ingredient such as white wine and / or lemon juice. Only the bones and heads of lean fish and crustacean shells are used to make fish stock. Oily fish such as mackerel, salmon or tuna are not used as their pronounced flavor would overwhelm the stock.

The fish bones and shells used to make a fish stock or fumet should be washed but never blanched because blanching removes too much flavor. They may be sweated without browning if desired, however. Because of the size and structure of fish bones and crustacean shells, stocks and fumets made from them require much less cooking time than even a chicken stock; 30 to 45 minutes is usually sufficient to extract full flavor. Mirepoix or other vegetables should be cut small so that all of their flavors can be extracted during the short cooking time. The procedure for making a fish stock is very similar to that for making a white stock.

## Commercial Bases

Commercially produced flavor (or convenience) bases are widely used in food service operations. They are powdered or paste flavorings added to water to create stocks or, when used in smaller amounts, to enhance the flavor of sauces and soups. These products are also sold as bouillon cubes or granules. Although inferior to well-made stocks, flavor bases do reduce the labor involved in the production of stocks, sauces and soups. Used properly, they also ensure a consistent product. Because bases do not contain gelatin, stocks and sauces made from them do not benefit from reduction. Bases vary greatly in quality and price.

Sodium (salt) is the main ingredient in many bases. Better bases are made primarily of meat, poultry or fish extracts. To judge the quality of a flavor base, prepare it according to package directions and compare the flavor to that of a well-made stock. The flavor base can be improved by adding a mirepoix, standard sachet and a few appropriate bones to the mixture, then simmering for one or two hours. It can then be strained, stored and used like a regular stock. Although convenience bases are widely used in the industry, it is important to remember that even the best base is a poor substitute for a well-made stock.

### Fish Stock

#### Mise en Place

- Wash fish bones or shells.
- Peel and chop onions, carrots celery for mirepoix.
- Prepare herb sachet.

#### Yield: 1 gal. (4 It)

- Mirepoix, small dice, 1 lb. (450 g)
- Mushroom trimmings, 8 oz. (250 g)
- Clarified butter 2 fl. oz. (60ml)
- Fish bones or crustacean shells, 8 lb. (4.5 kg)
- Water, 5 qt. (5 lt)

#### Sachet

- Bay leaves, 2 (2)
  - Dried thyme ½ tsp. (2 ml)
  - Peppercorns, crushed ¼ tsp. (1 ml)
  - Parsley stems, 8 (8)
1. Sweat mirepoix and mushroom trimmings in butter until tender for 1 to 2 minutes.
  2. Combine all ingredients except the sachet in a stockpot.
  3. Bring to a simmer and skim impurities as necessary.
  4. Add the sachet and simmer uncovered for 30 to 45 minutes.
  5. Strain, cool and refrigerate.

### Fish Fumet

#### Mise en Place

- Peel onion and chop into small dice.
- Cut up and wash bones.

#### Yield: 2 gal. (8 Lt)

- Whole butter, 2 oz. (60 g)
  - Onions, small dice 1 lb. (500 g)
  - Parsley stems, 12 (12)
  - Fish bones, 10 lb. (5 kg)
  - Dry white wine, 1½ pt. (750 ml)
  - Lemon juice, 2 fl. oz. (60 ml)
  - Cold water or fish stock, 7 qt. (7 lt)
  - Mushroom trimmings, 2 oz. (60 g)
  - Fresh thyme ,1 sprig (1 sprig)
  - Lemon slices, 10 (10)
1. Melt the butter in a stockpot.
  2. Add the onion, parsley stems and fish bones. Cover the pot and sweat the bones over low heat.
  3. Sprinkle the bones with the wine and lemon juice.
  4. Add the cold water or stock, mushroom trimmings, thyme and lemon slices. Bring to a boil, reduce to a simmer and cook approximately 30 minutes, skimming frequently.
  5. Strain, cool and refrigerate.

## Vegetable Stock

A good vegetable stock should be clear and light-colored. Because no animal products are used, it has no gelatin content and little body. A vegetable stock can be used instead of a meat-based stock in most recipes. This substitution is useful when preparing vegetarian dishes or as a lighter, more healthful alternative when preparing sauces and soups. Although almost any combination of vegetables can be used for stock making, more variety is not always better.

Sometimes a vegetable stock made with one or two vegetables that complement the finished dish particularly well will produce better results than a stock made with many vegetables. Strongly favored vegetables such as asparagus, broccoli and other cruciferous vegetables, spinach and bitter greens, for example, should be avoided when making an all-purpose vegetable stock. Potatoes and other starchy vegetables will cloud the stock and should not be used unless clarity is not a concern.

Vegetable stock can be used to impart a lightness and a delicate aromatic flavor to sauces. In traditional cooking, it was primarily used as a poaching liquid for fish and sometimes calves' brains. Contemporary chefs are using it more frequently in sauce making because of its delicacy, freshness, and ease of preparation. Vegetable stock can also be used instead of water for steaming fish, meats, or vegetables. It is often an excellent substitute for fish stock when good -quality fresh fish or fish bones are unavailable.

### Vegetable Stock Recipe

#### Mise en Place

- Peel and chop onions, carrots and celery for mirepoix.
- Clean, peel and chop leeks, garlic cloves, fennel and turnip.
- Wash and dice tomato. Prepare herb sachet.

#### Yield: 1 gal. (4 lt)

- Vegetable oil, 2 fl. oz. (60 ml)
- Mirepoix, small dice 1 lb. (900 g)
- Leek, whites and greens, chopped 8 oz. (250 g)
- Garlic cloves, chopped 4 (4)
- Fennel, small dice 4 oz. (120 g)
- Turnip, diced 2 oz. (60 g)
- Tomato, diced 2 oz. (60 g)
- White wine, 8 fl. oz. (250 ml)
- Water, 1 gal. (4 lt)

#### Sachet

- Bay leaf 1 (1)
- Dried thyme ½ tsp. (2 ml)
- Peppercorns, crushed ¼ tsp. (1 ml)
- Parsley stems 8 (8)

1. Heat the oil. Add the vegetables and sweat for 10 minutes.
2. Add the wine, water and sachet.
3. Bring the mixture to a boil, reduce to a simmer and cook for 45 minutes.
4. Strain, cool and refrigerate.

## Court Bouillon

A court bouillon though not actually a stock, is prepared in much the same manner as stocks, so it is included here. A court bouillon (French for "short broth ") is a flavored liquid, usually water and wine or vinegar, in which vegetables and seasonings have been simmered to impart their flavors and aromas.

Although the terms *court bouillon* and *nage* are often used interchangeably, court bouillon describes a broth from which the vegetables have been strained, whereas a nage is used for serving fish and shellfish a la nage - a style of presentation in which the fish is served surrounded by the poaching liquid containing the vegetables cut in to decorative shapes.

The technique for preparing court bouillon depends on whether the chef wants the vegetables to release all their flavor into the surrounding liquid or prefers them to retain some of their flavor and texture (as in the preparation a la nage). To get the vegetables to release the most flavor into the surrounding liquid, they are best sweated in a small amount of butter before being moistened. They should then be cooked in water alone for at least 15 minutes before any wine or vinegar is added- the acidity in both these liquids prevents the vegetables from cooking completely. When preparing a nage, where the vegetables will be served as an accompaniment, bring the wine and water to a simmer and slide in the chopped and sliced vegetables. There are no hard and fast rules for which and how many vegetables should go into the stock.

This decision depends largely on the final use of the stock. It is practically impossible to add too many onions, leek greens, or fennel, whereas too many carrots can make the stock too sweet, especially if it is going to be reduced for a sauce. The following recipe suggests the usual bouquet gami ingredients, but these too can be altered to give the stock a personal or regional character.

Full-flavored herbs, such as oregano, marjoram, or lavender, should generally be avoided except under special circumstances, for example, for grilled fish surrounded by a court-bouillon -based sauce or steamed crustaceans. Although traditional recipes call for a standard combination of vegetables to arrive at an anonymously flavored vegetable stock, contemporary chefs often prepare court bouillon using only one or two vegetables to give a sauce a particular, subtle flavor. Court bouillon made with leeks or fennel alone will give a delicate yet pronounced character to a sauce. Salt should be added to a vegetable stock only if it is to be used as is, without reduction. If using vegetable stock as an accompaniment to fish or meats cooked a la nage, the vegetables should be cut carefully and evenly. Vegetable stock is best used the day it is made.

- Court bouillon is most commonly used to ‘poach’ foods such as fish and shellfish. Recipes vary depending on the foods to be poached. Although a court bouillon can be made in advance and refrigerated for later use, its simplicity lends itself to fresh preparation whenever needed.

### Court Bouillon Recipe

#### Mise en Place

- Peel and chop onions, carrots and celery for mirepoix.
- Crush peppercorns.

#### Yield: 1 gal. (4 lt)

- Water, 1 gal. (4 lt)
- Vinegar, 6 fl. oz. (180 ml)
- Lemon juice, 2 fl. oz. (60 ml)
- Mirepoix, 1 lb. 6 oz. (650 g)

- Bay leaves, 4 (4)
- Peppercorns, crushed 1 tsp. (8 ml)
- Dried thyme, 1 pinch (1 pinch)
- Parsley stems, 1 bunch (1 bunch)

## Nage

An aromatic court bouillon is sometimes served as a light sauce or broth with fish or shellfish. This is known as a nage, and dishes served in this manner are described as a la nage (French for "swimming"). After the fish or shellfish is cooked, additional herbs and aromatic vegetables are added to the cooking liquid, which is then reduced slightly, and strained. Alternatively, the used court bouillon can be strained, chilled, and clarified with egg whites and aromatic vegetables. This is similar to a consommé. Finally, whole butter or cream may be added to a nage for richness.

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## 1.2: Brown Stocks and Demi-Glace

### Brown Stock

**Brown chicken stock** is especially useful in kitchens where it is not practical to prepare meat glaces and beef stocks regularly. If the kitchen does not generate enough chicken carcasses for the stock, most wholesale butchers will deliver chicken carcasses at a nominal cost. Stewing hens can also be added to the stock for a fuller flavor, but this of course increases the stock's cost.

Brown chicken stock can be used for deglazing sauté pans and roasting pans and as a base for more concentrated, specialized stocks, such as game or pigeon. It is good to have brown chicken stock on hand to use as a thinner for sauces that may have become too reduced.

**Brown Veal Stock.** Roast all the ingredients for white veal stock, except the bouquet garni and water, in a 400°F (200°C) oven. Turn the meat, bones, and vegetables from time to time until they are evenly browned. Avoid burning any of the ingredients or letting the juices burn on the bottom of the roasting pan. Transfer the ingredients to a stockpot and add the bouquet garni. Deglaze the roasting pan with water. When all the juices have dissolved, add the deglazing liquid to the ingredients in the stockpot. Moisten, cook, and strain the stock as for white veal stock.

#### Mise en Place for a Brown Stock

- Cut up and wash bones.
- Peel and chop onions, carrots and celery for mirepoix.
- Prepare herb sachet.

A brown stock is made from chicken, veal, beef or game bones. The finished stock should have a good flavor, rich dark brown color, good body and high gelatin content. The primary differences between a brown stock and a white stock are that for a brown stock, the bones and mirepoix are caramelized before being simmered and a tomato product is added. These extra steps provide the finished stock with a rich dark color and a more intense flavor.

### Caramelizing

Caramelization is the process of browning the sugars found on the surface of most foods. This gives the stock its characteristic flavor and color.

#### Procedure for Caramelizing Bones

For caramelizing, do not wash or blanch the bones as this retards browning. To caramelize:

1. Place the cut-up bones in a roasting pan one layer deep. It is better to roast several pans of bones than to overfill one pan.
2. Roast the bones for approximately 1 hour in a hot oven (375°F/190°C). Stirring occasionally, brown the bones thoroughly, but do not allow them to burn.
3. Transfer the roasted bones from the pan to the stockpot.

### Deglazing the Pan

After the bones are caramelized, the excess fat should be removed and reserved for future use. The caramelized and coagulated proteins remaining in the roasting pan are very flavorful. To utilize them, deglaze the pan.

#### Procedure for Deglazing the Pan

- Place the pan on the stove over medium heat, and add enough water to cover the bottom of the pan approximately '12 inch (1.2 centimeters) deep.
- Stir and scrape the pan bottom to dissolve and remove all the caramelized materials while the water heats.
- Pour the deglazing liquid (also known as the deglazing liquor) over the bones in the stockpot.

### 📌 Procedure for Caramelizing Mirepoix

1. Add a little of the reserved fat from the roasted bones to the roasting pan after it has been deglazed. (Alternatively, use a pan large enough to contain all the mirepoix comfortably.)
2. Sauté the mirepoix, browning all the vegetables well and evenly without burning them.
3. Add the caramelized mirepoix to the stockpot.
4. Almost any tomato product can be used in a brown stock: fresh tomatoes, canned whole tomatoes, crushed tomatoes, tomato puree or paste. If using a concentrated tomato product such as paste or puree, use approximately half the amount by weight of fresh or canned tomatoes. The tomato product should be added to the stockpot when the mirepoix is added.

### 📌 Brown Stock Recipe

- Bones, veal, chicken or beef 16 lb (7 kg)
- Cold water 3 gal (11 lt)
- Mirepoix 2 lb (1 kg)

#### Sachet

- Bay leaves 2 (2)
- Dried thyme ½ tsp (2 ml)
- Peppercorns, crushed ½ tsp (2 ml)
- Garlic cloves, crushed 3 (3)
- Parsley stems 8 (8)

1. Place the bones in a roasting pan, in one layer and brown in a 375°F (190°) oven. Turn the bones occasionally to brown them evenly.
2. Remove the bones and place them in a stockpot. Pour off the fat from the roasting pan and reserve it.
3. Deglaze the roasting pan with part of the cold water.
4. Add the deglazing liquor and the rest of the cold water to the bones, covering them completely. Bring to a boil and reduce to a simmer.
5. Add a portion of the reserved fat to the roasting pan and sauté the mirepoix until evenly browned. Then add it to the simmering stock.
6. Add the tomato paste and sachet to the stock and continue to simmer for 6 to 8 hours, skimming as necessary.
7. Strain, cool and refrigerate.

## Glace

Classic *demi-glace* is a stock that has been reduced and bound with starch until it has the consistency of a very light syrup or glace. Classic demi-glace is the basis for classic brown sauces. Natural demi-glace, also called coulis, is thickened by reduction or continual remoistening with additional meat; no starch is used in its preparation.

*Glaces* are stocks that have been slowly cooked down (reduced) to a thick syrup. These are convenient to have on hand in professional kitchens because they keep well and can be added to sauces at the last minute to give a richer flavor, a deeper color, and a smoother texture. Some chefs rely almost entirely on meat glace (*glace de viande*) for preparing brown sauces.

A glaze is the dramatic reduction and concentration of a stock. One gallon (4 liters) of stock produces only 1 to 2 cups (2.5 to 5 deciliters) of glaze. **Glace de viande** is made from brown stock, reduced until it becomes dark and syrupy. **Glace de volaille** is made from chicken stock, and, *glace de poisson* from fish stock. Glazes are added to soups or sauces to increase and intensify flavors. They are also used as a source of intense flavoring for several of the small sauces to be discussed.

### Meat Glace (Glace de Viande)

Meat glace takes from 8 to 12 hours to prepare from already made stock. If it is difficult to work in a single stretch, the glace can be reduced for a couple of hours, allowed to cool, and then continued the next day. It is best to begin reduction of the bone stock in a wide-mouthed pot to encourage evaporation and rapid reduction. As the stock reduces, it should be transferred into clean pots of decreasing size. Usually three pots are required to reduce 10 quarts of stock.

Meat glaces can be prepared from any kind of stock, but the technique works best for stocks that already contain a fair amount of gelatin. For this reason, meat glace is most often prepared with a stock made from beef knuckle -bones, which release a large amount of gelatin into the surrounding liquid. Stocks containing little gelatin require too much reduction to become glaces, and by the time the reduction is complete, much of their savor has been compromised.

### Fish Glace (Glace de Poisson)

Fish glace is prepared in the same way as meat glace except that fish stock is used instead of meat stock. Fish glace has a strong, fishy taste, which it can impart to sauces if used in more than tiny amounts. It is better to substitute reduced mussel or clam cooking liquid or reduced court -bouillon. If concentrated fish stock is required, prepare a double fish stock by moistening fish or fish bones with a previously made fish stock.

#### Procedure for Reducing a Stock to a Glace

Simmer the stock over very low heat. Be careful not to let it burn, and skim it often.

1. As it reduces and the volume decreases, transfer the liquid in to progressively smaller saucepans. Strain the liquid each time it is transferred into a smaller saucepan.
2. Strain it a final time, cool and refrigerate. A properly made glaze will keep for several months under refrigeration.

#### Glace De Viande (Modern) Recipe

**Yield: 20 quarts**

- 120 lbs. or 3 cases veal neck bones - roasted in roasting pans
  - 10 lbs. roasted poultry bones, weigh after roasting
  - 8 pigs feet (16 pieces split)
  - 48 oz. tomato paste
  - 3 liters red wine
  - 10 lbs. onions, onions trimmings and leek greens-rough chopped and washed
  - 4lbs carrots, peeled and rough chopped
  - 4lbs celery, washed and rough chopped
  - 8 bulbs of garlic, split across the middle
  - 2oz. fresh thyme
  - 1-Tbsp. black peppercorns
  - 1-bay leaves
  - ½ bunch parsley (utilize the stems, possible 3 bunches to equal the weight of 1 ½ bunches)
1. Add red wine and tomato sauce to a non-reactive pot and reduce by 2/3.
  2. Roast all bones on full sheet pans until golden brown in color. Be careful not to burn.
  3. Remove bones into stock kettle and reserve the pans.
  4. Add a bit of water to the sheet pans and place over the stove to loosen the fonds. Add fonds the stockpot.
  5. Caramelize the vegetables in batches and be sure to get a good color of caramelization. Have water nearby if you need to deglaze the pan often to ensure caramelization.
  6. Add all ingredients to the kettle and set at setting 5.5 or 180 degrees for 48 hours. Strain through a china cap with a filter. Reduce stock down by 2/3 or to your liking.

## Stock - Problems and Solutions

Problem	Reason	Solution
Cloudy	Impurities Stock boiled during cooking	Start stock in cold water; Strain through layers of cheesecloth
Lack of Flavor	Not cooked long enough Inadequate seasoning Improper ratio of bones to water	Increase cooking time; Add more flavoring ingredients; Add more bones
Lack of Color	Improperly caramelized bones and mirepoix not cooked long enough	Caramelize bones and mirepoix until darker. Cook longer.
Lack of Body	Wrong bones used Insufficient reduction Improper ratio of bones to water	Use bones with a higher content of connective tissue; Cook longer; Add more bones
Too salty	Commercial base used Salt added during cooking	Change base or make own stock; do not salt stock

## Essences

Contemporary chefs use essences, sometimes tightly bound with butter or oil, as light-bodied sauces.

### Mushroom Essence

Mushroom essence is made by reducing mushroom cooking liquid to one-fourth its original volume. Mushroom cooking liquid is prepared by cooking mushrooms for 15 minutes in a covered pot with an equal weight of water (for example, 1 pound of mushrooms to 2 cups water). Although most recipes calling for mushroom essence assume that ordinary cultivated mushrooms are used, it is far better when prepared from wild types such as morels, ceps, or chanterelles.

### Truffle Essence

Older recipes for classic sauces often call for truffle essence. Truffle essence is prepared by infusing sliced truffles in a small proportion of brown stock in a covered saucepan. Today, truffles are so scarce that it is unlikely that a restaurant would make truffle essence to have on hand to use in sauces. It is more likely that sliced truffles would be infused in the sauce itself or that the sauce would be finished with truffle butter or commercially available truffle juice.

### Vegetable Essences

Almost any vegetable can be chopped and cooked in a small amount of stock, water, or wine. The method is almost the same as preparing a court bouillon except that the flavor of one vegetable is accentuated, rather than a combination. These flavorful essences can then be served as accompaniments to delicately flavored foods such as fish or can be combined with other ingredients for more complex sauces.

#### Classic Demi Recipe

- 1 qt. of brown stock
- 1 qt. of brown sauce (aka Espagnole sauce)

Combine the stock and sauce in a saucepan over medium heat. Simmer until the mixture is reduced by half. Strain and cool in a water bath.

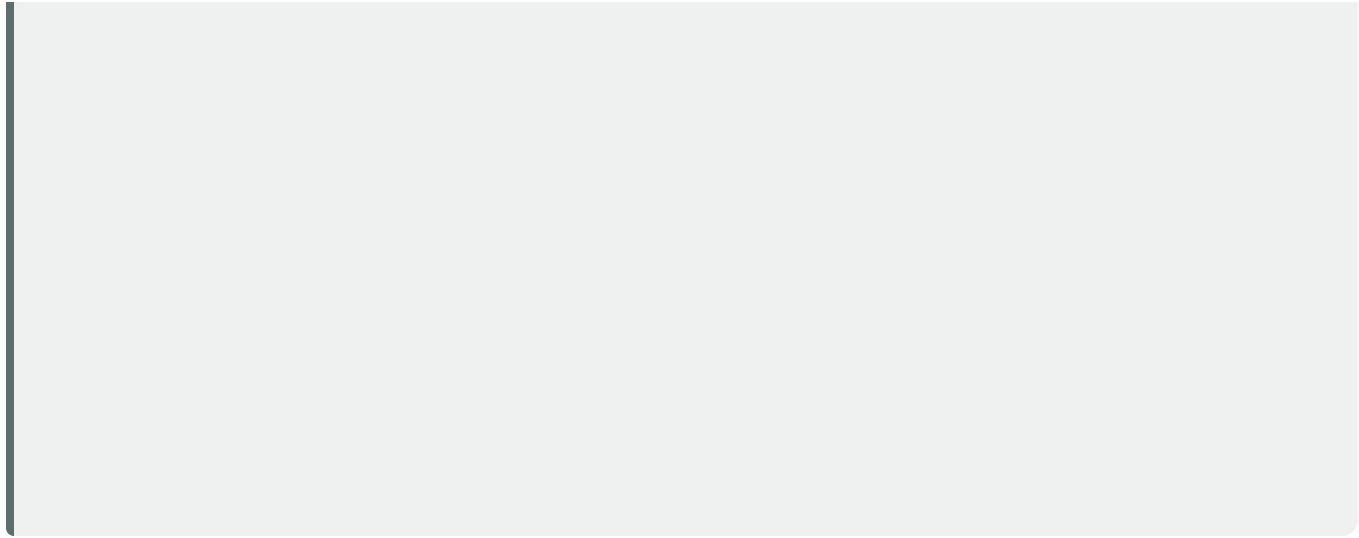
## 📌 Espagnole Recipe

- 1/4 c. of Clarified butter or neutral oil
- 1/4 c. of AP flour
- 1/2lbs of mirepoix, medium dice
- 1.25 qts. Brown Stock
- 1/2 tbsp. Tomato paste
- Salt and pepper to taste

### Sachet

- 1/2 bay leaf
  - 1 sprig of fresh thyme (or 1/2 tsp of dried)
  - 1/4 tsp of black peppercorns, crushed parsley stems
1. Make brown roux with butter and flour and set aside to cool completely
  2. Sauté the mirepoix until caramelized
  3. Add tomato paste to mirepoix and sauté for 30 seconds
  4. Add stock and bring to a boil
  5. Carefully whisk in roux breaking up any lumps
  6. Once thickened reduce heat to a simmer and add sachet
  7. Allow to simmer for approximately 45 minutes, allowing the sauce to reduce.
  8. Skim the surface as needed to remove any impurities.
  9. Strain through a chinois, hold for service or cool completely

*This is a picture of our class glace de viande production storage. Photo Credit: Amelie Zeringue*



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## 1.3: Sauces and Thickening Agents

### Roux

There are four types of roux:

1. White roux is cooked only briefly and should be removed from the heat as soon as it develops a frothy, bubbly appearance. It is used in white sauces, such as béchamel, or in dishes where little or no color is desired.
2. Blond roux is cooked slightly longer than white roux, and should begin to take on a little color as the flour caramelizes. It is used in ivory colored sauces, such as veloute, or where a richer flavor is desired.
3. Brown roux is cooked until it develops a darker color and a nutty aroma and flavor. Brown roux is used in brown sauces and dishes where a dark color is desired. It is important to remember that cooking a starch before adding a liquid breaks down the starch granules and prevents gelatinization from occurring. Therefore, because brown roux is cooked longer than white roux, more brown roux is required to thicken a given quantity of liquid.
4. Cajun Dark Roux is roux that is darker than a traditional French brown roux. This color roux is hard to do and the base color of dark gumbos.

#### Procedures for Preparing Roux

Whether it will be white, blond or brown, the procedure for making a roux is the same:

1. Using a heavy saucepan to prevent scorching, heat the clarified butter or other fat.
2. Add all the flour and stir to form a paste. Although all-purpose flour can be used, it is better to use cake or pastry flour because they contain a higher percentage of starch. Do not use high-gluten flour because of its greatly reduced starch content.
3. Cook the paste over medium heat until the desired color is achieved. Stir the roux often to avoid burning. Burnt roux will not thicken a liquid; it will simply add dark specks and an undesirable flavor.

The temperature and amount of roux being prepared determine the exact length of cooking time. Generally, however, a white roux needs to cook for only a few minutes, long enough to minimize the raw flour taste. Blond roux is cooked longer, until the paste begins to change to a slightly darker color. Brown roux requires a much longer cooking time to develop its characteristic color and aroma. A good roux will be stiff, not runny or pourable.

### Incorporating Roux into a Liquid

There are two ways to incorporate roux into a liquid without causing lumps:

1. Warm or hot stock can be added to the hot roux while stirring vigorously with a whisk. (Adding cold stock to a hot roux should be avoided as it can cause the mixture to seize up or create too much of a temperature difference that will create steam and/or burning).
2. Room-temperature roux can be added to a hot stock while stirring vigorously with a whisk.
3. When the roux and the liquid are completely incorporated and the sauce begins to boil, it is necessary to cook the sauce for a time to remove any raw flour taste that may remain. Most chefs feel a minimum of 20 minutes is necessary.

*When thickening stock with roux, either (a) add cold stock to hot roux, or (b) add cold roux to hot stock.*

### Guidelines for Using Roux

1. Avoid using aluminum pots. The scraping action of the whisk will turn light sauces gray and will impart a metallic flavor.
2. Use sufficiently heavy pots to prevent sauces from scorching or burning during extended cooking times.
3. Avoid extreme temperatures. Roux should be no colder than room temperature so that the fat is not fully solidified. Extremely hot roux is dangerous and can spatter when combined with a liquid. Stocks should not be ice cold when combined with roux; the roux will become very cold, and the solidified pieces may be very difficult to work out with a whisk.
4. Avoid over thickening. Roux does not begin to thicken a sauce until the sauce is almost at the boiling point; the thickening action continues for several minutes while the sauce shimmers. If a sauce is to cook for a long time, it will also thicken by

reduction.

### Proportions: Roux to Liquid

Flour	plus	Butter	or	Roux	plus	Liquid	makes	Sauce
6 oz./190 g	plus	6 oz./190 g	or	12 oz./375 g	plus	1 gal./4 lt	makes	light
8 oz./250 g	plus	8 oz./250 g	or	1 lb./500 g	plus	1 gal./4 lt	makes	medium
12 oz./375 g	plus	12 oz./375 g	or	24 oz./750 g	plus	1 gal./4 lt	makes	heavy

### Thickening Variables

1. The starch content of a flour determines its thickening power.
2. Cake flour, being lowest in protein and highest in starch, has more thickening power than bread flour, which is high in protein and low in starch.
3. In addition, a dark roux has less thickening power than a lighter one, so more will be needed to thicken an equal amount of liquid.



The above pictures are examples of different roux colors. Photo Credit to flickr.

The most common method for thickening liquids with flour is to prepare a roux; by cooking the flour with an equal weight of butter. This attenuates the flavor of the flour and eliminates lumps. Then, hot liquids are added to the cooked roux, and the mixture is brought to a simmer until it thickens. Because flour contains proteins and other compounds that impart flavor, sauces thickened with roux are usually skimmed for at least 30 minutes once they have been brought to a simmer to eliminate impurities.

Although stock that is used for sauce making should be carefully skimmed and degreased before it is combined with roux, further skimming is necessary once the roux has been added to eliminate the butter and to remove impurities in the flour. One excellent method for using flour is to cut the amount called for in classic sauces by half and then reduce carefully the thickened sauce to the desired thickness. This method allows more time for skimming and degreasing and will attenuate any floury taste.

In classic French cooking, both white and brown roux are prepared. White roux is used for white sauces; brown roux, for espagnole, the traditional base for the classic brown sauces. To prepare brown roux, the flour is either cooked for 15 to 20 minutes in clarified butter or browned first in the oven and cooked with butter in the same way as white roux. Brown roux is seldom used in modern restaurant kitchens.

Top rep are roux, use a whisk to stir together equal weights of butter and flour in a saucepan over medium heat. Bring the liquid to be thickened (such as stock or milk) to a simmer in another pot. Cook the roux for about 5 minutes, until it has a pleasant toasty smell, and then remove the saucepan from the heat for a minute to let the roux cool. Return the pan to the heat and pour in the hot liquid while whisking. Continue whisking until the sauce comes to a simmer. Turn down the heat and slowly simmer the sauce (such as béchamel or veloute) for 30 minutes. Skim any froth and impurities from the sauce's surface with a ladle. (It is also possible to thicken liquids with roux by simply adding the cold liquid to the hot roux thus saving time and a pot. When using this method, however, be careful to whisk thoroughly to prevent lumps.)

## Starches

In the first edition of *Le Guide Culinaire*, published at the turn of the century, Escoffier predicted that the traditional roux-thickened sauces would be replaced with sauces thickened with purer forms of starch such as arrowroot, potato starch, and cornstarch. Using these starches would eliminate the need for the careful skimming necessary to rid flour-thickened sauces of impurities. He was correct in predict in g the demise of flour-thickened sauces but incorrect in assuming that other starches would be used to fill the gap.

Perhaps the glossy look of sauces thickened with these pure forms of starch explains why Western chefs and diners have never grown accustomed to cornstarch- or arrowroot-thickened sauces. The look of these sauces is almost too perfect, like costume jewelry that glitters just a bit too garishly.

Almost any thickener has drawbacks, which can be lessened by using the thickener in tandem with other methods or ingredients. A small amount of starch added to an already well-reduced stock or cooking liquid will hardly be noticed.

One method occasionally used in contemporary kitchens is to prepare a basic brown stock, reducing and degreasing it to concentrate flavor and eliminate impurities, and then thickening the entire stock with arrowroot. This lightly thickened brown sauce base - a kind of arrowroot espagnole - is then used as a base for made-to-order derivative sauces. When preparing a base in this way, starch must be used judiciously: There is nothing more irksome than a deeply colored, glistening sauce with no taste.

Purified starches should be worked to a thin paste with cold water before being added to hot liquids. If added directly, they will form insoluble lumps that must be strained out. Purified starches are approximately twice as efficient as flour is in thickening.

Starches derived from roots and grains are among the oldest and most versatile thickeners for sauces. They are inexpensive and efficient in small amounts, so that they can be used without imparting a flavor of their own.

Starches must be combined with liquid and heated almost to boiling to be effective. Some starches are purer than others. Cornstarch, arrowroot, and potato starch are almost pure starches and produce shiny sauces, whereas flour contains protein, which gives flour-thickened sauces a slightly mat appearance.

## Flour

In Western cooking, flour has long been the most popular sauce thickener. Although flour has largely been replaced in recent years by other thickeners, it is still the appropriate choice for many country-style and regional dishes. Chefs are also learning to use flour in limited amounts in conjunction with other thickeners.

One precaution to take when using flour for sauce making is to always make sure that liquids to be thickened have been thoroughly degreased before the flour is incorporated. Flour binds with fat and holds it in suspension throughout the liquid, making it difficult to skim. The result is a greasy, indigestible sauce with a muddy texture and flavor.

## Cornstarch

Cornstarch, a very fine white powder, is a pure starch derived from corn. It is used widely as a thickening agent for hot and cold sauces and is especially popular in Asian cuisines for thickening sauces and soups. Liquids thickened with cornstarch have a glossy sheen that may or may not be desirable.

One unit of cornstarch thickens about twice as much liquid as an equal unit of flour. Sauces thickened with cornstarch are less stable than those thickened with roux because cornstarch can break down and lose its thickening power after prolonged heating. Products thickened with cornstarch should not be reheated.

## Incorporating Cornstarch

Cornstarch must be mixed with a cool liquid before it is introduced into a hot one. The cool liquid separates the grains of starch and allows them to begin absorbing liquid without lumping. A solution of a starch and a cool liquid is called a **slurry**. The starch slurry may be added to either a hot or cold liquid. If added to a hot liquid, it must be stirred continuously during incorporation. Unlike roux, cornstarch begins to thicken almost immediately if the liquid is hot. Sauces thickened with cornstarch must be cooked gently until the raw starch flavor disappears, usually about 5 minutes.

## Arrowroot

Arrowroot, derived from the roots of several tropical plants, is similar in texture, appearance and thickening power to cornstarch and is used in exactly the same manner. Arrowroot does not break down as quickly as cornstarch, and it produces a slightly clearer finished product although it is much more expensive.

## Potato Starch

Although potato starch was one of the first starches to be used in French cooking, it has never been popular as a sauce thickener in the United States. It is used in the same way that cornstarch and arrowroot are. Like cornstarch, it tends to break down after prolonged exposure to heat.

## Beurre Manie

Beurre manie is a combination of equal amounts, by weight, of flour and soft whole butter. Beurre manie is used for quick thickening at the end of the cooking process. The butter also adds shine and flavor to the sauce as it melts.

### Procedure:

1. Knead flour and butter together until smooth.
2. Form the mixture into pea-sized balls, and then whisk the beurre manie gradually into a simmering sauce.

Like roux, beurre manie contains equal parts by weight of butter and flour. It differs from roux, however, in that it is not cooked and is usually added at the end of a sauce's cooking rather than at the beginning. It is most often used to thicken stews at the end of cooking when the braising liquid is too thin. To prepare beurre manie, simply work together equal parts by weight of flour and butter with the back of a dinner fork until they form a smooth paste. To thicken a liquid simply whisk in the beurre manie a bit at a time, and wait for the liquid to come to a simmer (the thickening effect does not occur and cannot be gauged until the mixture comes to a simmer). Continue in this way until the liquid has the right thickness. Unlike roux, beurre manie should not be cooked any longer once the mixture thickens or the sauce will develop a strong floury taste. One of the peculiarities of flour is that it develops a strong floury taste after 2 minutes of cooking that begins to disappear as the cooking progresses, usually after 30 minutes.

## Flouring Ingredients for a Stew

In home-style and country cooking, stew meat is often floured (in French, *singer*) before it is browned in hot fat. This is an excellent technique because the flour is thoroughly browned, eliminating any starchy flavor; moreover, the browning of the meat is made easier because the flour helps form a crust. The total amount of flour added to the stew is relatively small so that, if necessary, the cook can add more thickener (beurre manie) or reduce the stewing liquid at the end of cooking.

Some cooks add flour to stews by cooking it in the pan along with chopped aromatic vegetables after the meat has been removed. This method is effective as long as the caramelized meat juices on the bottom of the pan are not allowed to burn and too much flour is not used. Be sure to discard any burnt fat and replace it with fresh butter or olive oil before stirring in the flour.

## Liaisons

Sauces are distinguished from broths and soups not only because they are thicker but because they are more intensely flavored. Liaisons were used in ancient and medieval cooking as thickeners so that the sauces would cling to the foods they accompanied, making the food easier to eat with the fingers. These liaison-thickened sauces were further developed in the seventeenth century as an economical alternative to earlier sauces, which were essentially concentrated extracts made with enormous quantities of meat. For centuries since, sauces have been thickened not only to help them cling to food but to give them the look of highly concentrated and flavorful meat juices or cooking liquids.

In modern times, chefs and diners have become skeptical of sauces that are thickened only to give them a richer appearance. Today's diner is more impressed by a light-appearing sauce than one that is thick or seems overly rich. Modern sauces are often less thick or have been thickened by reduction alone.

#### How Liaisons Thicken

Liaisons usually cause thickening by dispersing solids or insoluble liquids in a water-based medium; on a molecular level, these fine components prevent the water from moving freely and thus increase the sauce's viscosity.

Starch thickens sauces because its large molecules (made up of bush-like rows of sugar molecules) unravel in the liquid medium and bond into larger groupings with the water molecules. The efficiency of a particular starch as a thickener depends on the shape and size of its molecules - and how they disperse in the liquid medium.

Whereas the viscosity of starch-thickened sauces is attributable to solids suspended in a liquid (the scientific term for this kind of system is sol), emulsified sauces consist of two mutually insoluble liquids - usually fat and water - suspended one within the other. Emulsions rely on various additional ingredients to prevent the tiny particles from running into one another, joining up into larger particles, and eventually separating into two distinct layers- the usual course of events when combining water and oil alone.

Emulsifiers usually work in one of two ways. In the first, the emulsifier consists of long molecules that float between the microscopic globules of fat (or water, depending on what is suspended in what), preventing the globules from touching one another; the stability of butter sauces containing flour is an example of this. In the second system, the emulsifier molecules are asymmetrical: Half of the molecule is soluble in fat, the other half in water. The result is that half of the molecule embeds itself in the suspended globule while the other half protrudes into the liquid medium. The protruding ends of these molecules prevent the globules from touching and forming larger aggregates. Egg yolks emulsify in this way.

**Vegetable and fruit purees** can also be used as thickeners and function in different ways depending on how they are used. Some vegetable purees contain sufficient starch so that they behave like purified starches such as flour or cornstarch, but, most purees contain insoluble components that give most puree-thickened sauces a relatively rough texture and mat appearance. They also contribute flavor, whereas plain starch does not (at least not an agreeable one). Some purees, such as those made with tomato or green vegetables, contain so little starch that they thicken a sauce simply by adding a large bulk of fine solid particles to a liquid medium. Sauces thickened with these purees alone will separate into liquid and solid when left to sit unless another liaison is used along with the puree. Vegetable purees are also used as emulsifiers in vinaigrettes, where they prevent the vinegar (or other acid) and the oil from coalescing (joining up into larger globules).

Sauces can be thickened by suspending solids in liquids (such as starch - and vegetable -puree-thickened sauces), liquids in liquids (emulsions, such as hollandaise and mayonnaise), and, in some cases, air in liquids (foams, such as sabayons and hollandaise). A well-made sauce bearnaise is both a foam and an emulsion: Minute fat globules and microscopic bubbles of air are surrounded by a liquid medium.

#### Liaison Use

A liaison does not thicken a sauce through gelatinization. A liaison is a mixture of egg yolks and heavy cream; it adds richness and smoothness with minimal thickening. Special care must be taken to prevent the yolks from coagulating when they are added to a hot liquid because this could curdle the sauce.

##### Procedure for Using a Liaison

1. Whisk together one part egg yolk and three parts whipping cream. Combining the yolk with cream raises the temperature at which the yolk's proteins coagulate, making it easier to incorporate them into a sauce without lumping or curdling.
2. Temper the egg yolk and cream mixture by slowly adding a small amount of the hot liquid while stirring continuously.
3. When enough of the hot liquid has been added to the liaison to warm it thoroughly, begin adding the warmed liaison to the remaining hot liquid. Be sure to stir the mixture carefully to prevent the yolk from overcooking or lumping. Plain egg yolks coagulate at temperatures between 149°F and 158°F (65°C and 70°C). Mixing them with cream raises the temperatures at which they coagulate to approximately 180°F-185°F (82°C- 85°C).

- Temperatures over 185°F (85°C) will cause the yolks to curdle. Great care must be taken to hold the sauce above 135°F (57°C) for food safety and sanitation reasons, yet below 185°F (85°C) to prevent curdling.

## Gelatin

As meats and fish cook, they release juices that contain gelatin, a water-soluble protein. Depending on the cooking method, these juices end up in the roasting pan or the sauté pan, or, in the case of poaching and braising, they are released into the surrounding liquid. When the gelatin is sufficiently concentrated, it gives the cooking liquid a natural, lightly syrupy consistency.

The natural gelatinous consistency that is so appealing in sauces and braising liquids can be achieved in several ways. The most obvious and expensive is to continually reuse meat or fish stocks as moisteners for more meat or fish until the gelatin (and flavor) is so concentrated that the stock has a natural consistency of its own. The resulting liquid is a natural, unthickened demi-glace. Home cooks and professionals have long added strips of pork skin, veal feet, veal knuckles, or chicken or turkey wing tips to stews and stocks to contribute additional natural gelatin.

Restaurant chefs often combine these methods with careful reduction to eliminate liquid and concentrate the natural gelatin. In a restaurant setting, natural gelatin is most often added to sauces at the last minute in the form of meat glace (glace de viande) or fish glace (Glace de Poisson). These glaces not only give a finished sauce the natural texture that results from careful reduction but also provide a complex flavor backdrop to offset more assertive components, such as wine or herbs, which are added to give the sauce its final character.

In the last twenty years, sauces made by natural reduction and concentration of meat and fish flavors have gradually replaced the more traditional flour-thickened sauces. Although these sauces are almost always better than a care less, / made roux-based sauce, there are disadvantages to relying on reduction alone to give a sauce a syrupy or "sauce like" consistency. If a sauce has been overly reduced, it will feel gluey in the mouth; it will also quickly congeal on hot plates. Stocks and sauces that have been overly reduced often have a flat, cooked taste that must be offset with more assertive flavors. For this reason, natural gelatin alone is rarely relied on to thicken a sauce. Sauces containing a high concentration of natural gelatin are often finished with butter, which attenuates the gelatin's stickiness.

## Egg Yolks

Because they thicken sauces in several ways, egg yolks are versatile liaisons. They provide the base for emulsified sauces, such as mayonnaise and hollandaise, and are used in conjunction with cream to finish the cooking liquid of poached meats and fish. They not only form emulsions of fat and liquids but also combine with air so they can be used for sabayon sauces. They are also used to give richness and texture to crème anglaise.

Egg yolks contain several emulsifiers - among them, cholesterol and lecithin, which account for their versatility. Many scientific studies have been done to explain the behavior of egg yolks, but a few tips and precautions are especially useful to the saucier. Sauces containing egg yolks should not be allowed to boil unless they contain flour, which stabilizes them. Sauce allemande and pastry cream are examples of sauces with flour that are boiled after the yolks are added. Egg yolks are also stabilized to some degree by sugar and acids such as lemon and vinegar, but not so much that the yolks can be boiled without curdling.

When combining egg yolks with hot liquids, be sure to whisk some of the hot liquid into the yolks before returning the mixture to the saucepan. If the yolks are added directly to a hot liquid, they are liable to coagulate as soon as they are exposed to the heat. Never cook sauces containing egg yolks in aluminum pots, or the sauces will turn gray.

## Egg yolks and cream

Egg yolks are rarely used alone as a thickener for sauces. They are usually combined with cream, and then added to a liquid already lightly thickened with flour. Blanquette de veau, a white veal stew finished with cream and egg yolks, one of the cornerstones of French home cooking, illustrates the use of egg yolks as a final liaison for poached meats. The pieces of veal are poached in water or white veal stock along with aromatic vegetables and a bouquet garni.

When the veal is tender, the liquid is strained, thickened into a classic veloute with flour - about 3 ½-ounces (100 grams) roux to 1-quart (1 liter) poaching liquid - and then finished with the cream and egg yolk liaison. Recipes vary, but an egg yolk liaison is usually made by combining each yolk with 3- to 4-tablespoons (45 to 60 milliliters) heavy cream and then using 3 to 4 egg yolks' worth of this mixture to thicken 1-quart (1 liter) of veloute. After the liaison has been added to the veloute, the sauce is then gently

stirred until it naps the back of a spoon. The stability of the egg yolks will depend on the proportion of flour in the veloute, but most recipes do not risk curdling and warn against letting the sauce boil.

## Cream

Heavy cream has long been used to finish cooking liquids and sauces, but only in recent years has reduced cream largely replaced roux as a thickener, becoming an almost universal base for white sauces. Because of its richness, chefs are beginning to use cream more judiciously, and many of the reduced cream-thickened sauces of the last two decades are being abandoned for lighter versions, in which only enough cream is used to contribute a smooth texture.

Heavy cream can be used to finish a sauce, to give it a smooth texture and a more subtle flavor, but it becomes effective as a thickener per se only when it is reduced. Heavy cream or crème fraîche can be reduced and used in two ways. They can be reduced alone and used as needed as thickeners for last-minute sauces, or the cream can be combined with the sauce base or cooking liquid and the two reduced together. The second method is best used for sauces made in advance. One of the most commonly used methods is to finish pan sauces with cream (see the recipe that follows).

Whichever method is used, several precautions should be followed when reducing cream. Always reduce cream in a saucepan three or four times its volume; if cream is allowed to boil for even a few seconds, it will boil over. Although it is not necessary to stir or whisk simmering cream continually, give the cream a quick whisking at least every 2 minutes while it is reducing. Cream that is allowed to sit unheeded over even a low flame will become granular and may break.

Always use a saucepan with a large enough diameter to accommodate a medium to high flame. If the pan is too small, the flame will wrap around the outside of it and cause the cream to brown along the pan's inside, discoloring the finished sauce. This is less of a problem on an electric range. Never cook cream covered. Water will condense on a lid or covering and drip down into the cream, causing it to become granular and eventually to break.

When using reduced cream as a thickener for wine sauces, be sure to reduce the wine thoroughly before adding the cream. Not only can the raw wine's acidity cause the cream to break, but an unpleasant flavor of uncooked wine will remain in the sauce.

The degree that heavy cream should be reduced can vary, from one-third to two-thirds its original volume, depending on its butterfat content and the desired thickness of the finished sauce. In other words, if 1 ½ cups (375 milliliters) of heavy cream were added to ½ cup (125 milliliters) of flavor base, the mixture could be reduced to ½ cup (125 milliliters) for a very thick sauce or to 1 cup (250 milliliters) for a lighter sauce.

When used alone, reduced cream is very rich and sometimes has a slightly chalky texture in the mouth. Thus, it is rarely used as the only thickener for sauces but is usually used in conjunction with butter, egg yolks, or flour. Butter is often used to finish reduced cream sauces to give them an appealing sheen and a smoother texture; it of course does nothing to attenuate the sauce's richness. Some chefs use roux as a preliminary thickener for the sauce base or add *beurre manie* at the end so that the sauce requires less reduction and is hence less rich (and expensive). Using flour to augment the thickening power of cream is almost the same as preparing a classic sauce supreme, except the approach is reversed.

## Double Cream

European recipes often call for double cream or crème double. Double cream has an especially high butterfat content and is particularly useful as a sauce thickener because it requires less reduction. It is not marketed in the United States but can be prepared using homemade crème fraîche. To prepare double cream, line a large strainer with a wet napkin or a triple layer of cheesecloth, fill it with crème fraîche, tie it at the top, and suspend it overnight in the refrigerator. The whey drains from the cream, leaving the remaining cream with a higher butterfat content. The approximate butterfat content of the finished cream can be calculated by measuring the amount of liquid (whey) that drained off the cream (for example, if 1 quart (1 liter) of cream released 2 cups (500 milliliters) of whey—that is, half its volume—then the butterfat content can be doubled, to 70 percent, given that heavy cream is 35 percent butterfat).

## Butter

Butter has long been used in classic French cooking to finish sauces thickened with flour and for certain simple pan-deglazed sauces. In recent year, it has become popular as a liaison for flourless sauces and in fact has become the thickener of choice for made-to-order brown sauces.

When you whisk butter into a hot liquid, it forms an emulsion, similar to the action of egg yolks. The milk solids and proteins contained in the butter act as emulsifiers, which keep microscopic globules of fat in suspension and give butter sauces their characteristic sheen and consistency. Because the milk solids contained in the butter are what maintain the emulsion, sauces and cooking liquids cannot be thickened with clarified butter. In fact, cold butter, itself an emulsion, is preferable to warm butter that may have begun to turn oily. Emulsions based on butter alone are less stable than reduced-cream sauces, egg-yolk sauces, or sauces that contain flour. Until recently, butter was usually used in conjunction with other thickeners. Even today, many emulsified butter sauces are only made to order so they do not sit around and break.

**Enriching Sauces with Butter (Monter au Beurre).** Finishing sauces with butter has become one of the most important and widely used techniques in contemporary sauce making. The technique consists of swirling chunks of cold butter into a hot flavor base, usually just before serving.

Certain precautions should always be followed when using butter as a thickener. If too large, or too small, a proportion of butter is used for a given amount liquid the sauce will break. The proportion of butter used to thicken a given amount of liquid can vary from about 20 percent butter to almost ten times much butter as flavor base (for example, beurre blanc). If too small a proportion of butter is used, it tends to separate and float to the surface of the sauce unless the sauce is already an emulsion based on cream or egg yolks, or it contains flour. Large proportions of butter are used to finish intensely flavored liquids – beurre blanc is an example - but if too much butter is used, the taste of the flavor base is lost, the sauce takes on a thick, waxy appearance, and it may break.

Most chefs finish made-to-order sauces by eye and can quickly judge the correct amount of butter to add based on the sauce's look and flavor. Even though many well-reduced flavor bases do not require a liaison because of the natural gelatin they contain. Butter is often added to soften the sauce's flavor and to eliminate the sticky consistency of highly reduced meat and fish sauces. When using butter to finish a flavor base, it is better to risk over reducing the flavor base before adding the butter. A butter sauce can easily be thinned, but thickening a sauce containing butter would require reduction, and boiling a butter-enriched sauce for any length of time will cause it to break and become oily. As a general rule, a made-to-order butter sauce should contain about one third butter.

In other words,  $\frac{1}{2}$  cup (125 grams) of butter should be used to finish 1 cup (250 milliliters) of liquid sauce base. These proportions will vary widely, depending on the thickness of the sauce base, the intensity of its flavor, the water content of the butter, and the desired consistency of the finished sauce. Because of the richness of butter-enriched sauces, many chefs are starting to use butter in combination with vegetable purees. Tomato and mushroom purees work especially well as a preliminary thickener for brown sauces. Much less butter is then required to give subtlety and a brilliant shine to the sauce.

## Emulsification

Sauces can also be thickened by the process of **emulsification**, whereby un-mixable liquids such as oil and water are forced into a uniform, creamy state. Usually an emulsifying agent such as the lecithin found in egg yolks must be present to aid in the process. The action of stirring or whisking a sauce to incorporate the ingredients will produce an emulsion that is permanent, semi-permanent or temporary. A permanent emulsion, such as that formed when making mayonnaise, will last for several days. A semi-permanent emulsion will last for a few hours. [Hollandaise sauce](#) is one example of a semi-permanent emulsion. A temporary emulsion will last very briefly and usually does not contain an emulsifying agent. Rather, vigorous whisking aerates the mixture, causing the temporary suspension of liquids. Such is the case when oil and vinegar are whisked together to make a simple salad dressing.

## Sauce Finishing Techniques

### Reduction

As sauces cook, moisture is released in the form of steam. As steam escapes, the remaining ingredients concentrate, thickening the sauce and strengthening the flavors. This process, known as **reduction**, is commonly used to thicken sauces because no starches or other flavor-altering ingredients are needed. Sauces are often finished by allowing them to reduce until the desired consistency is reached.

### Straining

Smoothness is important to the success of most sauces. They can be strained through either a china cap lined with several layers of cheesecloth or a fine mesh chinois. As discussed later, often vegetables, herbs, spices and other seasonings are added to a sauce for

flavor. Straining removes these ingredients as well as any lumps of roux or thickener remaining in the sauce after the desired flavor and consistency have been reached.

### Monter Au Beurre

Monter au beurre is the process of swirling or whisking whole butter into a sauce to give it shine, flavor and richness. Compound or flavored butters, discussed later, can be used in place of whole butter to add specific flavors. Monter au beurre is widely used to enrich and finish small sauces.

### Nappe

Nappe consistency is a French culinary term. It is a term that refers to the consistency of a sauce. Nappe consistency is achieved when the sauce reaches a thickness that allows it to coat the food evenly. It should not be too thick or too thin. How do you know then your sauce has reached the right consistency? Take a spoon, immerse it in the sauce and turn it over with the back of the spoon facing you. Run your index finger down the spoon (see image above). If you end up with a clean line down the middle, your sauce is ready. Some examples of sauces that nappe consistency applies to are: hollandaise, bearnaise and bechamel. Nappe consistency basically ensures that your sauce will have a velvety smooth texture, without any lumps.

The secret to achieving a perfect, silky, nappe consistency lies in two things: constant stirring (always use a metal whisk) and the right temperature. The stirring will prevent the proteins from separating while keeping a silky consistency. The constant temperature will prevent your sauce from thickening and creating “gruel” - for lack of a better term.

### Sauce Families

Leading or mother sauces are the foundation for the entire classic repertoire of hot sauces. The five leading sauces *béchamel*, *veloute*, *espagnole* (also known as brown), *tomato* and *hollandaise* can be seasoned and garnished to create a wide variety of small or compound sauces. These five leading sauces are distinguished principally by the liquids and thickeners used to create them.

Small or compound sauces are grouped into families based on their leading sauce. Some small sauces have a variety of uses; others are traditional accompaniments for specific foods. A small sauce may be named for its ingredients, place of origin or creator. Although there are numerous classic small sauces, we have included only a few of the more popular ones following each of the leading sauce recipes.

Mother Sauce	Liquid	Thickener
Béchamel	Milk	Roux
Veloute <ul style="list-style-type: none"> <li>• Veal veloute</li> <li>• Chicken veloute</li> <li>• Fish veloute</li> </ul>	White Stock <ul style="list-style-type: none"> <li>• Veal stock</li> <li>• Chicken stock</li> <li>• Fish stock</li> </ul>	Roux
Espagnole (brown sauce)	Brown stock	Roux (optional)
Tomato sauce	Tomato	Roux (optional)
Hollandaise	Butter	Egg Yolks

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## 1.4: Demi-Based Sauces

A **sauce** is a thickened liquid used to flavor and enhance other foods. A good sauce adds flavor, moisture, richness and visual appeal. A sauce should complement food; it should never disguise it. A sauce can be hot or cold, sweet or savory, smooth or chunky.

Although the thought of preparing stocks and sauces may be intimidating, the procedures are really quite simple. Follow the basic procedures outlined in this chapter, use highquality ingredients and, with practice and experience, you will soon master fine stocks and sauces.

### The Espagnole Family

*Espagnole* is the French word for "Spanish", but the sauce's origin story is argued by French cooks. According to Louis Diat, the creator of vichyssoise and the author of the classic *Gourmet's Basic French Cookbook*: "There is a story that explains why the most important basic brown sauce in French cuisine is called *sauce espagnole*, or *Spanish sauce*. According to the story, the Spanish cooks of Louis XIII's bride, Anne, helped to prepare their wedding feast, and insisted upon improving the rich brown sauce of France with Spanish tomatoes. This new sauce was an instant success, and was gratefully named in honor of its creators."

Espagnole sauce is a basic 'brown sauce', has a strong taste, and is sparingly used directly on food. As a mother sauce, it serves as the starting point for many derivatives. The mother sauce of the espagnole or brown sauce family is full-bodied and rich. It is made from a brown stock to which brown roux, mirepoix and tomato puree have been added. Most often, this sauce is used to produce demi-glace. Brown stock is also used to make jus lie. Demi-glace and jus lie are intermediary sauces used to create the small sauces of the espagnole family.

#### Espagnole (Brown Sauce) Recipe

##### **Yield: 1 gal. (4 lt)**

- Mirepoix, medium dice 2 lb. (1 kg)
- Clarified butter 8 fl. oz. (250 ml)
- Flour 8 oz. (250 g)
- Brown stock 5 qt. (5 lt)
- Tomato puree 8 oz. (250 g)

##### **Sachet**

- Bay leaf 1 (1)
- Dried thyme ½ tsp. (2 ml)
- Peppercorns, crushed ¼ tsp. (1 ml)
- Parsley stems 8 (8)
- Salt and pepper TT (TT)

1. Sauté the mirepoix in butter until well caramelized.
2. Add the flour and cook to make a brown roux.
3. Add the stock and tomato puree. Stir to break up any lumps of roux. Bring to a boil; reduce to a simmer.
4. Add the sachet.
5. Simmer for approximately 1½ hours, allowing the sauce to reduce. Skim the surface as needed to remove impurities.
6. Strain the sauce through a china cap lined with several layers of cheesecloth. Adjust seasonings and cool in a water bath or hold for service.

### Demi-Glace

Brown stock is used to make the espagnole or brown sauce described earlier. Espagnole sauce can then be made into demi-glace, which in turn is used to make the small sauces of the espagnole family. Demi-glace is half brown sauce, half brown stock, reduced by half. It is usually finished with a small amount of Madeira or sherry wine. Because demi-glace creates a richer, more flavorful base, it produces finer small sauces than those made directly from a brown sauce.

A properly made demi-glace is rich, smooth and lump-free. Its prominent roasted flavor comes from the bones used for the brown stock. There should be no taste of roux. The caramelized bones and mirepoix as well as the tomato product contribute to its glossy dark brown, almost chocolate, color. It should be thick enough to cling to food without being pasty or heavy.

#### Demi-Glace Recipe

##### **Yield: 1 qt. (1 It)**

- Brown stock 1 qt. (1 lt)
  - Brown sauce 1 qt. (1 lt)
1. Combine the stock and sauce in a saucepan over medium heat.
  2. Simmer until the mixture is reduced by half (a yield of 1 quart or 1 liter).
  3. Strain and cool in a water bath.

### Jus Lie

Jus lie, also known as fond lie, is used like a demi-glace, especially to produce small sauces. Jus lie is lighter and easier to make than a demi-glace, however. It is made in one of two ways:

1. A rich brown stock is thickened with cornstarch or arrowroot and seasoned.
2. A rich brown stock is simmered and reduced so that it thickens naturally because of the concentrated amounts of gelatin and other proteins.

The starch-thickened method is a quick alternative to the long-simmering demiglace. However, because it is simply a brown stock thickened with cornstarch or arrowroot, it will be only as good as the stock with which it was begun. Sauces made from reduced stock usually have a better flavor but can be expensive to produce because of high food costs and lengthy reduction time.

A properly made jus lie is very rich and smooth. It shares many flavor characteristics with demi-glace. Its color should be dark brown and glossy from the concentrated gelatin content. Its consistency is somewhat lighter than demi-glace, but it should still cling lightly to foods.

### Gravy

A gravy is a jus (the natural juices from a roast) that has been thickened with flour. Depending on the amount of cooking liquid remaining in the roasting pan, gravies can be prepared using one of two similar techniques. If a small amount of jus remains in the pan, it should be boiled down on top of the stove until it caramelizes; all but a tablespoon or two of fat should be removed and discarded. The flour is then added and cooked for 2 or 3 minutes in the roasting pan on top of the stove; the mixture is then moistened with stock, water, or other liquids.

If a large amount of roasting jus remains in the pan, it should be transferred to a saucepan or glass container and the fat skimmed off with a ladle. A roux is then prepared in the roasting pan with a little of the fat or some fresh butter. The jus is then returned to the roasting pan and whisked until smooth and thickened. Because flour used as a last-minute thickener for gravies has little time to cook, an alternative is to use a previously thickened veloute- or espagnole-style flour-thickened sauce instead of plain stock to deglaze the pan; the roux is then omitted.

### Small Brown Sauces

Demi-glace and jus lie are used to produce many small sauces. The quantities given are for 1 quart (1 liter) demi-glace or jus lie. The final step for each recipe is to season to taste with salt and pepper.

**BORDELAISE** - Combine 16 fluid ounces (500 milliliters) dry red wine, 2-ounces (60 grams) chopped shallots, 1 bay leaf, 1 sprig thyme and 1 pinch black pepper in a saucepan. Reduce by three-fourths, then add demi-glace and simmer for 15 minutes. Strain through a fine chino is. Finish with 2-ounces (60 grams) whole butter and garnish with sliced, poached beef marrow.

**CHASSEUR (HUNTER'S SAUCE)** - Sauté 4-ounces (120 grams) sliced mushrooms and 1/2 ounce (15 grams) diced shallots in whole butter. Add 8 fluid ounces (250 milliliters) white wine and reduce by three-fourths. Then add demi-glace and 6 ounces (170 grams) diced tomatoes; simmer for 5 minutes. Do not strain. Garnish with chopped parsley.

**CHATEAUBRIAND** - Combine 16 fluid ounces (500 milliliters) dry white wine and 2-ounces (60 grams) diced shallots. Reduce the mixture by two-thirds. Add demi-glace and reduce by half. Season to taste with lemon juice and cayenne pepper. Do not strain. Swirl in 4-ounces (120 grams) whole butter to finish and garnish with chopped fresh tarragon.

**CHEVREUIL** - Prepare a poivrade sauce but add 6 ounces (170 grams) bacon or game trimmings to the mirepoix. Finish with 4 fluid ounces (120 milliliters) red wine and a dash of cayenne pepper.

**MADEIRA OR PORT** - Bring demi-glace to a boil and reduce slightly. Then add 4 fluid ounces (120 milliliters) Madeira wine or ruby port.

**MARCHAND DE VIN** - Reduce 8 fluid ounces (250 milliliters) dry red wine and 2 ounces (60 grams) diced shallots by two-thirds. Then add demi-glace, simmer and strain.

**MUSHROOM** - Blanch 8-ounces (250 grams) mushroom caps in 8 fluid ounces (250 milliliters) boiling water seasoned with salt and lemon juice. Drain the mushrooms, saving the liquid. Reduce this liquid to 2- tablespoons (30 milliliters) and add it to the demi-glace. Just before service stir in 2-ounces (60 grams) whole butter and the mushroom caps.

**PERIGUEUX** - Add finely diced truffles to Madeira sauce. Perigourdine sauce is the same, except that the truffles are cut into relatively thick slices.

**PIQUANT** - Combine 1-ounce (30 grams) shallots, 4 fluid ounces (120 milliliters) white wine and 4 fluid ounces (120 milliliters) white wine vinegar. Reduce the mixture by two-thirds. Then add demi-glace and simmer for 10 minutes. Add 2-ounces (60 grams) diced cornichons, 1-tablespoon (15 milliliters) fresh tarragon, 1-tablespoon (15 milliliters) fresh parsley and 1-tablespoon (15 milliliters) fresh chervil. Do not strain.

**POIVRADE** - Sweat 12-ounces (340 grams) mirepoix in 2-tablespoons (30 milliliters) oil. Add 1 bay leaf, 1 sprig thyme and 4 parsley stems. Then add 16 fluid ounces (500 milliliters) vinegar and 4 fluid ounces (120 milliliters) white wine. Reduce by half, add demi-glace and simmer for 40 minutes. Then add 20 crushed peppercorns and simmer for 5 more minutes. Strain through a fine chinois and finish with up to 2-ounces (60 grams) whole butter.

**ROBERT** - Sauté 8-ounces (250 grams) chopped onion in 1-ounce (30 grams) whole butter. Add 8 fluid ounces (250 milliliters) dry white wine and reduce by two-thirds. Add demi-glace and simmer for 10 minutes. Strain and then add 2-teaspoons (10 milliliters) prepared Dijon mustard and 1-tablespoon (15 milliliters) granulated sugar. If the finished Robert sauce is garnished with sliced sour pickles, preferably cornichons, it is known as Charcutiere.

*Demi sauce plate up example. Photo Credit Amelie Zeringue*

*Different demi sauces prepared in class. Photo Credit: Amelie Zeringue*

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## 1.5: Bechamel Based Sauces

### The Bechamel Family

Balsamell or Besciamella is the Italian equivalent of the French Béchamel: a very simple white sauce of flour, butter and milk. The sauce was originally from Renaissance Tuscany and was known as "Salsa Colla or Colletta" ("glue sauce") because of the gluey consistency of the sauce, and was brought to France by the chefs of Catherina de' Medici in 1533. This sauce was prominent in Italian cooking texts of the Renaissance as "salsa colla", but was renamed much later in *Le Cuisinier François*, published in 1651 by François Pierre La Varenne (1615–1678).

Named for its creator, Louis de Béchamel (1630-1703), steward to Louis XIV of France, béchamel sauce is the easiest mother sauce to prepare. Traditionally, it is made by adding heavy cream to a thick veal veloute. Although some chefs still believe a béchamel should contain veal stock, today the sauce is generally made by thickening scalded milk with a white roux and adding seasonings. Often used for vegetable, egg and gratin dishes, béchamel has fallen into relative disfavor recently because of its rich, heavy nature. It is nevertheless important to understand its production and its place in traditional sauce making.

A properly made béchamel is rich, creamy and absolutely smooth with no hint of graininess. The flavors of the onion and clove used to season it should be apparent but not overwhelm the sauce's clean, milky taste. The sauce should be the color of heavy cream and have a deep luster. It should be thick enough to coat foods lightly but should not taste like the roux used to thicken it.

### Ingredients

**Scalded Milk** -to heat a liquid, usually milk, to just below boiling point. Boiling can cause the milk to curdle, which is not particularly appetizing. The milk separates and loses its emulsion which then will create the look of a broken sauce.

**Onion Piquet** - attach a bay leaf to a piece of onion by pushing whole cloves (like a toothpick) through the bay leaf into the onion. This is the classic seasoning for béchamel sauce. Clove is a spice that are flower buds from a tree. Very aromatic (May be considered as a Christmas Spice).



*Example of an onion piquet. Photo Credit: Flickr*

- **Nutmeg** - used sparingly and can be considered intrusive. Also a Christmas spice.
- **White Roux** - Barely cooked and has the most thickening power. Can be made with butter to added flavor since it is not cooked very long.

Sauce	Qualities	Small Sauce or Flavorings	Use
Béchamel	Smooth, rich and creamy; no graininess; cream- colored with rich sheen	Cream	Vegetables, pasta, eggs, fish, shellfish
		Cheese	Vegetables, pasta
		Mornay	Fish, shellfish, poultry, vegetables
		Nantua	Fish, shellfish
		Soubise	Veal, pork, eggs

## Ingredients in Derivatives and Troubleshooting

- **Cheese** - can cause a bechamel to curdle because it can separate if heated to high. That is why it is usually slightly melted at the end
- **Mustard** - can cause curdling because of the acid in it.
- **Horseradish** - can cause curdling because of the acid in it.
- **Lemon** – can cause curdling because it is an acid.
- **Mushrooms** - add water, and may make the sauce watery if not sautéed before.
- **Corn** - is a starch and can cause additional thickening.
- **Crawfish** - can change the color or can become over cooked.
- **Onions** - add sweetness.
- **Smoking flavor** - too much/too little-could be considered an intrusive ingredient.

## Factors affecting NAPPE

- Reducing too much
- Reducing too little
- Letting a sauce stand
- Refrigerating
- Other ingredients added to the sauce

All of the above notes can affect the consistency of a bechamel. Remember this is a tricky sauce because it can become easily gloopy or too thick.

### A proper béchamel should be:

- Rich and Smooth
- With no hint of graininess
- You should not taste the roux
- When used as a sauce it should be thick enough to lightly coat the food.

### Bechamel Sauce Recipe

#### Yield: 1 gal. (4 lt)

- Onion piquet 1 (1)
- Milk 1 gal. (4 lt)
- Flour 8 oz. (250 g)
- Clarified butter 8 fl. oz. (250 ml)
- Salt and white pepper TT (TT)
- Nutmeg TT (TT)

1. Tack a bay leaf onto a small peeled onion using a clove to make onion piquet. Add the onion piquet to the milk in a heavy saucepan and simmer for 20 minutes.

2. In a separate pot, make a white roux with the flour and butter.
3. Remove the onion piquet from the milk.
4. Gradually add the hot milk to the roux while stirring constantly with a whisk to prevent lumps. Bring to a boil.
5. Reduce the sauce to a simmer, add the seasonings and continue cooking for 30 minutes.
6. Strain the sauce through a china cap lined with cheesecloth. Carefully ladle melted butter over the surface of the sauce to prevent a skin from forming. Hold for service or cool in a water bath.

## Small (Daughter) Sauces

With a good béchamel, producing the small sauces in its family is quite simple. The quantities given are for 1 quart (1 liter) of béchamel. The final step for each recipe is to season to taste with salt and pepper.

- **CREAM SAUCE** - Add to béchamel 8-12 fluid ounces (250-360 milliliters) scalded cream and a few drops of lemon juice.
- **CHEESE** - Add to béchamel 8 ounces (250 grams) grated Cheddar or American cheese, a dash of Worcestershire sauce and 1-tablespoon (15 milliliters) city mustard.
- **MORNAY** - Add to béchamel 4-ounces (120 grams) grated Gruyere and 1 ounce (30 grams) grated Parmesan. Thin as desired with scalded cream. Remove the sauce from the heat and swirl in 2-ounces (60 grams) whole butter.
- **NANTUA** - Add to béchamel 4 fluid ounces (120 milliliters) heavy cream and 6-ounces (180 grams) crayfish butter. Add paprika to achieve the desired color. Garnish the finished sauce with diced crayfish meat.
- 
- **SOUBISE (MODERN)** - Sweat one pound (500 grams) diced onions in 1-ounce (30 grams) whole butter without browning. Add béchamel and simmer until the onions are fully cooked. Strain through a fine chinois.



*Béchamel sauce plate up examples. Photo Credit: Amelie Zeringue*

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## 1.6: Veloute Based Sauces

### The Veloute Family

A velouté sauce is a savory sauce, made from a roux and a light stock. It is one of the five "mother sauces" of French cuisine listed by Auguste Escoffier in the 19th century. The term *velouté* is the French word for 'velvety'.

### Veloute Sauces

Fish stock + Roux = Veloute

Chicken stock + Roux = Veloute + Cream = Supreme

Chicken stock + Roux = Veloute + Liaison and lemon = Allemande

Veal stock + Roux = Veloute + Liaison and lemon = Allemande

Veloute sauces are made by thickening a white stock or fish stock with roux. The white stock can be made from veal or chicken bones. A veloute sauce made from veal or chicken stock is usually used to make one of two intermediate sauces: **Allemande** and **Supreme**, from which many small sauces are derived. **Allemande** sauce is made by adding lemon juice and a liaison to either a veal or chicken veloute. (The stock used depends on the dish with which the sauce will be served.) **Supreme** sauce is made by adding cream to a chicken veloute.

A properly made veloute should be rich, smooth and lump-free. If made from chicken or fish stock, it should taste of chicken or fish. A veloute made from veal stock should have a more neutral flavor. The sauce should be ivory-colored, with a deep luster. It should be thick enough to cling to foods without tasting like the roux used to thicken it.

#### Veloute Sauce Recipe

- Clarified butter 8 fl. oz. (250 ml)
  - Flour 8 oz. (250 g)
  - Chicken, veal or fish stock 5 qt. (4.7 lt)
  - Salt and white pepper TT (TT)
1. Heat the butter in a heavy saucepan.
  2. Add the flour and cook to make a blond roux.
  3. Gradually add the stock to the roux, stirring constantly with a whisk to prevent lumps. Bring to a boil and reduce to a simmer. (Seasoning are optional; their use depends on the seasonings in the stock and the sauce's intended use.)
  4. Simmer and reduce to 1 gallon {4 liters}, approximately 30 minutes.
  5. Strain through a china cap lined with cheesecloth.
  6. Melted butter may be carefully ladled over the surface of the sauce to prevent a skin from forming. Hold for service or cool in a water bath

### Small Fish Veloute Sauces

A few small sauces can be made from fish veloute. The quantities given are for 1-quart (1 liter) fish veloute sauce. The final step for each recipe is to season to taste with salt and pepper.

#### Bercy

Sauté 2 ounces (60 grams) finely diced shallots in butter. Then add 8 fluid ounces (250 milliliters) dry white wine and 8 fluid ounces (250 milliliters) fish stock. Reduce this mixture by one-third and acid the fish veloute. Finish with butter and garnish with chopped parsley.

#### Cardinal

Acid 8 fluid ounces (250 milliliters) fish stock to 1-quart (1 liter) fish veloute. Reduce this mixture by half and add 1 pint (500 milliliters) heavy cream and a dash of cayenne pepper. Bring to a boil and swirl in 1 1/2 ounces (45 grams) lobster butter. Garnish

with chopped lobster coral at service time.

### Normandy

Add 4 ounces (120 grams) mushroom trimmings and 4 fluid ounces (120 milliliters) fish stock to 1 quart (1 liter) fish veloute. Reduce by one-third and finish with an egg yolk and cream liaison. Strain through a fine chinois.

#### Allemande Sauce Recipe

**Yield: 1 gal. (4 lt)**

- Veal or chicken veloute sauce 1 gal. (4 lt)
- Egg yolks 8 (8)
- Heavy Cream 24 fl. oz. (675 ml)
- Lemon juice 1 fl. oz. (30 ml)
- Salt and white pepper TT (TT)

1. Bring the veloute to a simmer.
2. In a stainless steel bowl, whip the egg yolks with the cream to create a liaison.
3. Ladle approximately one-third of the hot veloute sauce into this mixture, while whisking, to temper the yolk-and-cream mixture.
4. When one-third of the veloute has been incorporated into the now-warmed yolk-and-cream mixture, gradually add the liaison to the remaining veloute sauce while whisking continuously.
5. Reheat the sauce. Do not let it boil.
6. Add the lemon juice; season with salt and white pepper to taste.
7. Strain through a china cap lined with cheesecloth.

### Small Allemande Sauces

Several small sauces are easily produced from an allemande sauce made with either a chicken or veal veloute. The quantities given are for 1-quart (1 liter) allemande. The final step for each recipe is to season to taste with salt and pepper.

#### Aurora

Add to allemande 2-ounces (60 grams) tomato paste and finish with 1-ounce (30 grams) butter.

#### Horseradish

Add to allemande 4 fluid ounces (120 milliliters) heavy cream and 1-teaspoon (5 milliliters) dry mustard. Just before service add 2-ounces (60 grams) freshly grated horse radish. Cook the horseradish separate from the sauce.

#### Mushroom

Sauté 4 ounces (120 grams) sliced mushrooms in 12 ounce (340 grams) whole butter; acid 2- teaspoons (10 milliliters) lemon juice. Then acid the allemande to the mushrooms. Do not strain.

#### Poulette

Sauté 8-ounces (225 grams) sliced mushrooms and 1/2 ounce (15 grams) diced shallot in 1- ounce (30 grams) whole butter. Add to the allemande; then acid 2 fluid ounces (60 milliliters) heavy cream. Finish with lemon juice to taste and 1-tablespoon (15 milliliters) chopped parsley.

#### Supreme Sauce Recipe

**Yield: 1 gal. (4 lt)**

- Chicken veloute sauce 1 gal. (4 lt)
- Mushroom trimmings 8 oz. (225 g)
- Heavy cream 1 qt. (1 lt)
- Salt and white pepper TT (TT)

1. Simmer the veloute sauce with the mushroom trimmings until reduced by one-fourth.
2. Gradually whisk in the cream and return to a simmer
3. Adjust the seasonings.
4. Strain through a china cap lined with cheesecloth.

## Small Supreme Sauces

The following small sauces are easily made from a supreme sauce. The quantities given are for 1-quart (1 liter) supreme sauce. The final step for each recipe is to season to taste with salt and pepper.

### Albufera

Add to supreme sauce 3 fluid ounces (90 milliliters) glace de volaille and 2-ounces (60 grams) red pepper butter.

### Hungarian

Sweat 2-ounces (60 grams) diced onion in 1-tablespoon (15 milliliters) whole butter. Add 1 table spoon (15 milliliters) paprika. Stir in supreme sauce. Cook for 2 to 3 minutes, strain and finish with whole butter.

### Ivory

Add to supreme sauce 3 fluid ounces (90 milliliters) glace de volaille.

*Veloute sauce plate up examples. Photo Credit: Amelie Zeringue*

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## 1.7: Tomato Based Sauces

### The Tomato Sauce Family

The use of tomato sauce with pasta appears for the first time in 1790 in the Italian cookbook *L'Apicio moderno*, by Roman chef Francesco Leonardi. Tomato sauce (also known as *Neapolitan sauce*, or *salsa di pomodoro* in Italian) can refer to a large number of different sauces made primarily from tomatoes, usually to be served as part of a dish, rather than as a condiment. Tomato sauces are common for meat and vegetables, known as bases for Mexican salsas or sauces for pasta dishes, and have a rich flavor, high water content, soft flesh which breaks down easily, and the right composition to thicken into a sauce when they are cooked (without the need of thickeners such as roux). All of these qualities make them ideal for simple and appealing sauces. Classic tomato sauce is made from tomatoes, vegetables, seasonings and white stock and thickened with a blond or brown roux. In today's kitchens, however, most tomato sauces are not thickened with roux. Rather, they are created from tomatoes, herbs, spices, vegetables and other flavoring ingredients simmered together and pureed.

A gastrique is sometimes added to reduce the acidity of a tomato sauce. To prepare a gastrique, caramelize a small amount of sugar, then thin or deglaze with vinegar. This mixture is then used to finish the tomato sauce.

A properly made tomato sauce is thick, rich and full-flavored. Its texture should be grainier than most other classic sauces, but it should still be smooth. The vegetables and other seasonings should add flavor, but none should be pronounced. Tomato sauce should not be bitter, acidic or overly sweet. It should be deep red and thick enough to cling to foods.

#### Tomato Sauce Recipe

##### **Yield: 1 gal. (4 lt)**

- Salt pork, small dice 4 oz. (120 g)
- Mirepoix 1 lb. 8 oz. (750 g)
- Tomatoes, fresh or canned 3 qt. (3 lt)
- Tomato puree 2 qt. (2 lt)

##### **Sachet**

- Dried thyme 1 tsp. (5 ml)
- Bay leaves 3 (3)
- Garlic cloves 3 (3)
- Parsley stems 10 (10)
- Peppercorns, crushed ½ tsp. (3 ml)
- Salt 1 ½ oz. (45 g)
- Granulated sugar ¾ oz. (20 g)
- White stock 3 qt. (3 lt)
- Pork bones 2 lb. (1 kg)

1. Render the salt pork over medium heat.
2. Add the mirepoix and sauté, but do not brown.
3. Add the tomatoes, tomato puree, sachet, salt and sugar.
4. Add the stock and bones.
5. Simmer slowly for 1 to 2 hours or until the desired consistency has been reached.
6. Remove the bones and sachet and pass the sauce through a food mill. Cool in a water bath and refrigerate.

### Small Tomato Sauces

The following small sauces are made by adding the listed ingredients to 1-quart (1 liter) tomato sauce. The final step for each recipe is to season to taste with salt and pepper.

### Creole

Sauté 6-ounces (170 grams) finely diced onion, 4-ounces (120 grams) thinly sliced celery and 1-teaspoon (5 milliliters) garlic in 1 fluid ounce (30 milliliters) oil. Add tomato sauce, a bay leaf and 1 pinch thyme; simmer for 15 minutes. Then add 4-ounces (120 grams) finely sliced green pepper and a splash of hot pepper sauce; simmer for 15 minutes longer. Remove the bay leaf.

### Spanish

Prepare creole sauce as directed, adding 4 ounces (120 grams) sliced mushrooms to the sautéed onions. Garnish with sliced black or green olives.

### Milanaise

Sauté 5 ounces (140 grams) sliced mushrooms in 1/2 ounce (14 grams) whole butter. Incorporate the tomato sauce and then stir in 5-ounces (140 grams) cooked ham (julienne) and 5 ounces (140 grams) cooked tongue (julienne). Bring to a simmer.



*Tomato sauce production. Photo Credit: Amelie Zeringue*

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## 1.8: Hollandaise Based Sauces

### The Hollandaise Family

Hollandaise is a sauce that is made by the **emulsification** of clarified butter into a sabayon or fluffy cooked egg yolks sauce.

It gets its name because when butter production slowed in France due to WWI it was imported from Holland. The name was changed to reflect the country of origin of the butter and never changed back.

Sauce hollandaise is French for "Dutch sauce". The name implies Dutch origins, but the actual connection is unclear. The name "Dutch sauce" is documented in English as early as 1573, though without a recipe showing that it was the same thing. The first documented recipe is from 1651 in La Varenne's: *Le Cuisinier François* for "asparagus with fragrant sauce":

"make a sauce with some good fresh butter, a little vinegar, salt, and nutmeg, and an egg yolk to bind the sauce; take care that it doesn't curdle"

Hollandaise and the small sauces derived from it are emulsified sauces. Egg yolks, which contain large amounts of lecithin, a natural emulsifier, are used to emulsify warm butter and a small amount of water, lemon juice or vinegar. When the egg yolks are vigorously whipped with the liquid while the warm butter is slowly added, the lecithin coats the individual fat droplets and holds them in suspension in the liquid.

A properly made hollandaise is smooth, buttery, pale non-yellow-colored and very rich. It is lump-free and should not exhibit any signs of separation. The buttery flavor should dominate but not mask the flavors of the egg, lemon and vinegar. The sauce should be frothy and light, not heavy like a mayonnaise.

### Temperatures and Sanitation Concerns

Temperatures play an important role in the proper production of a hollandaise sauce. As the egg yolks and liquid are whisked together, they are cooked over a bain marie until they thicken to the consistency of slightly whipped cream. Do not overheat this mixture, because even slightly cooked eggs lose their ability to emulsify. The clarified butter used to make the sauce should be warm but not so hot as to further cook the egg yolks. Although hollandaise sauce can be made from whole butter, a more stable and consistent product will be achieved by using clarified butter.

### Handling Emulsified Butter Sauces

- Emulsified butter sauces must be held at the specific temperatures most conducive to bacterial growth: 41°F- 135°F (5°C- 57°C).
- If the sauce is heated above 150°F (65°C), the eggs will cook and the sauce will break and become grainy. If the sauce temperature falls below 45°F (7°C), the butter will solidify, making the sauce unusable. In order to minimize the risk of food-borne illnesses:
- Always use clean, sanitized utensils.
- Schedule sauce production as close to the time of service as possible. Never hold hollandaise-based sauces more than 1½ hours.
- Make small batches of sauce.
- Never mix an old batch of sauce with a new one.

### Rescuing a Broken Hollandaise

Occasionally, a hollandaise will break or separate and appear thin, grainy or even lumpy. A sauce breaks when the emulsion has not formed or the emulsified butter, eggs and liquid have separated. This may happen for several reasons: The temperature of the eggs or butter may have been too high or too low; the butter may have been added too quickly; the egg yolks may have been overcooked; too much butter may have been added or the sauce may not have been whipped vigorously enough.

To rescue and re-emulsify broken hollandaise you must first determine whether it is too hot or too cold. If it is too hot, allow the sauce to cool. If it is too cold, reheat the sauce over a double boiler before attempting to rescue it.

For 1-quart (1 liter) of broken sauce, place 1 tablespoon (15 milliliters) water in a clean stainless steel bowl and slowly beat in the broken sauce. If the problem seems to be that the eggs were overcooked or too much butter was added, add a yolk to the water before incorporating the broken sauce.

## Tips for Hollandaise

- The general rule is that an egg yolk can hold 8 ounces of clarified butter (or oil for mayo)
- You should whip the sabayon to ribbon stage
- The sauce must be held at below 150 degrees F (45-145) (If the yolks or the butter get too hot the eggs will curdle and cook and if below 45 the butter will start to solidify and your sauce will break
- If the yolks or clarified butter gets too cold your sauce will break when you place it on your hot food product.
- You can make a perfect hollandaise then put it in a place that is too hot or too cold and it will break
- Also because it is held at less than 150 degrees F. it by definition sits in the “Danger Zone” and should be only held for 2 hrs max.
- Flavoring agents or added ingredients need to be within proper temperatures
- If you add extra yolks to make it more stable it can become too heavy
- If you don’t have enough yolks for the amount of clarified butter it can break
- If you don’t slowly add the butter it will break
- If you add it too slowly it will break
- There are two schools of thought on a broken hollandaise. You can fix it or start over. Your choice usually depends on how seriously you take your sauce making and how quickly you need it.

## Ingredients

1. **Egg yolks** - contain lecithin, a natural emulsifier. When egg yolks are whisked vigorously with a liquid (water and acid) while warm butter is added slowly, lecithin coats the fat droplets and holds them in a suspension.
2. **Clarified butter** - although whole butter can be used, clarified will provide a more stable sauce and traditionally is used.
3. **Acid** - Balances flavor and cuts through the fat
4. **Water** - helps stabilize the emulsion
5. **Seasoning** - flavor

## Emulsification

- The process by which generally unmixable liquids, such as oil and water, are forced into a uniform distribution.
- **Permanent** - Mayonnaise (lasting several days or longer)
- **Semi-permanent** - Hollandaise (lasting a few hours)
- **Temporary** - Vinaigrette with no emulsifier in it (lasting briefly)

## Techniques

- **Double Boiler** - heating with water that cannot exceed 212 degrees, instead of directly over the stove which can exceed 212 degrees. Used in temperature sensitive cooking.
- **Tempering** - gradually raising the temperature of a cold liquid such as eggs by slowly stirring in a hot liquid.
- **Sabayon stage** - actually a dessert sauce of egg yolks, sugar, and wine. It resembles a light fluffy sauce that when thick enough to form a ribbon when the whisk is lifted while whipping. The sabayon stage will be what you are looking for before adding clarified butter.

### Hollandaise Sauce Recipe

**Yield: 24 fl. oz. (750 ml)**

- White peppercorns, crushed ½ tsp. (2 ml)
- White wine vinegar 3 fl. oz. (90 ml)
- Water 2 fl. oz. (60 ml)
- Egg yolks, pasteurized 6 (6)
- Lemon juice 1½ fl. oz. (45 ml)
- Clarified butter, warm 1 pt. (450 ml)
- Salt and white pepper TT (TT)
- Cayenne pepper TT (TT)

1. Combine the peppercorns, vinegar and water in a small saucepan and reduce by one-half.

2. Place the egg yolks in a stainless steel bowl. Strain the vinegar-and-pepper reduction through a chinois into the yolks. There should be ½ fluid ounce (15 milliliters) acidic reduction for each egg yolk used.
3. Place the bowl over a double boiler whipping the mixture continuously with a wire whip. As the yolks cook, the mixture will thicken. When the mixture is thick enough to leave a trail across the surface when the whip is drawn away, remove the bowl from the double boiler. Do not overcook the egg yolks.
4. Whip in 1 fluid ounce (30 milliliters) lemon juice to stop the yolks from cooking.
5. Begin to add the warm clarified butter to the egg yolk mixture a few drops at a time, while constantly whipping the mixture to form an emulsion. Once the emulsion is started, the butter may be added more quickly. Continue until all the butter is incorporated.
6. Whip in the remaining lemon juice. Adjust the seasonings.
7. Strain the sauce through cheesecloth if necessary and hold for service in a warm (not simmering) bain marie. This sauce may be held for approximately 1 to 1½ hours.

#### Hollandaise Blender Method

**Yield: 1 qt. (1 lt.)**

- Egg yolks, pasteurized 9 (9)
- Water, warm 3 fl. oz. (90 ml)
- Lemon juice 1 fl. oz. (30 ml)
- Cayenne pepper TT (TT)
- Salt 1 tsp. (5 ml)
- White pepper ¼ tsp. (1 ml)
- Tabasco sauce TT (TT)
- Whole butter 24 oz. (750 g)

1. Place the egg yolks, water, lemon juice, cayenne pepper, salt, white pepper and Tabasco sauce in the bowl of the blender. Cover and blend on high speed for approximately 5 seconds.
2. Heat the butter to approximately 175°F (80°C). This allows the butter to cook the yolks as it is added to them.
3. Turn the blender on and immediately begin to add the butter in a steady stream. Incorporate all the butter in 20 to 30 seconds. Adjust the seasonings.
4. If any lumps are present, strain the sauce through a mesh strainer. Transfer the sauce to a stainless steel container and adjust the seasonings. Hold for service in a bain marie, remembering the sanitation precautions discussed earlier.

### Small Hollandaise Sauces

The following small sauces are easily made by adding the listed ingredients to 1-quart (1 liter) hollandaise. The final step for each recipe is to season to taste with salt and pepper. Bearnaise is presented here as a small sauce although some chefs consider it a leading sauce.

**BEARNAISE** - Combine 2- ounces (60 grams) chopped shallots, 5 tablespoons (75 milliliters) chopped fresh tarragon, 3 tablespoons (45 milliliters) chopped fresh chervil and 1-teaspoon (5 milliliters) crushed peppercorns with 8 fluid ounces (250 milliliters) white wine vinegar. Reduce to 2 fluid ounces (60 milliliters). Acid this reduction to the egg yolks and proceed with the hollandaise recipe. Strain the finished sauce and season to taste with salt and cayenne pepper. Garnish with additional chopped fresh tarragon.

**CHORON** - Combine 2-ounces (60 grams) tomato paste and 2 fluid ounces (60 milliliters) heavy cream; acid the mixture to a bearnaise.

**FOYOT** - Add to bearnaise 3 fluid ounces (90 milliliters) melted glace deviande.

**GRIMROD** - Infuse a hollandaise sauce with saffron.

**MALTAISE** - Add to hollandaise 2 fluid ounces (60 milliliters) orange juice and 2 teaspoons (10 milliliters) finely grated orange zest. Blood oranges are traditionally used for this sauce.

**MOUSSELINE (CHANTILLY SAUCE)** - Whip 8 fluid ounces (250 milliliters) heavy cream until stiff. Fold it into the hollandaise just before service. Mousseline sauce is also used as a glaze coating.

## Beurre Blanc and Beurre Rouge

Beurre blanc and beurre rouge are emulsified butter sauces made without egg yolks. The small amounts of lecithin and other emulsifiers naturally found in butter are used to form an oil-in-water emulsion. Although similar to hollandaise in concept, they are not considered either classic leading or compound sauces. Beurre blancs are thinner and lighter than hollandaise and bearnaise. They should be smooth and slightly thicker than heavy cream.

Beurre blanc and beurre rouge are made from three main ingredients: shallots, white (Fr. *blanc*) wine or red (Fr. *rouge*) wine and whole butter (not clarified). The shallots and wine provide flavor, while the butter becomes the sauce. A good beurre blanc or beurre rouge is rich and buttery, with a neutral flavor that responds well to other seasonings and flavorings, there by lending itself to the addition of herbs, spices and vegetable purees to complement the dish with which it is served. Its pale color changes depending on the flavorings added. It should be light and airy yet still liquid, while thick enough to cling to food.

### Preparing Beurre Blanc or Beurre Rouge

1. Use a non-aluminum pan to prevent discoloring the sauce. Do not use a thin-walled or nonstick pan, as heat is not evenly distributed in a thin-walled pan and a nonstick pan makes it difficult for an emulsion to set.
2. Over medium heat, reduce the wine, shallots and herbs or other seasonings, if used, until au sec (that is, nearly dry). Some chefs add a small amount of heavy cream at this point and reduce the mixture.
3. Although not necessary, the added cream helps stabilize the finished sauce.
4. Whisk in cold butter a small amount at a time. The butter should be well chilled, as this allows the butterfat, water and milk solids to be gradually incorporated into the sauce as the butter melts and the mixture is whisked.
5. When all the butter is incorporated, strain and hold the sauce in a bain-marie.

### Temperature

Do not let the sauce become too hot. At 136°F (58° C), some of the emulsifying proteins begin to break down and release the butterfat they hold in emulsion. Extended periods at temperatures over 136°F (58°C) will cause the sauce to separate. If the sauce separates, it can be corrected by cooling to approximately 110°F - 120 °F (43°C-49°C) and whisking to re incorporate the butterfat.

If the sauce is allowed to cool below 85°F (30°C), the butterfat will solidify. If the sauce is reheated, it will separate into butterfat and water; whisking will not re-emulsify it. Cold beurre blanc can be used as a soft, flavored butter, however, simply by whisking it at room temperature until it smooths out to the consistency of mayonnaise.

#### Beurre Blanc Recipe

##### **Yield: 1 qt. (1 lt)**

- White wine 1 fl. oz. (30 ml)
- White wine vinegar 4 fl. oz. (120 ml)
- Salt 1 ½ tsp. (7 ml)
- White pepper 1/8 tsp. (2 ml)
- Shallot, minced 1 oz. (30 g)
- Whole butter, chilled 2 lb. (1 kg)

1. Combine the white wine, white wine vinegar salt, white pepper and shallot in a small saucepan. Reduce the mixture until approximately 2-tablespoons (30 milliliters) of liquid remain. If more than 2-tablespoons of liquid are allowed to remain, the resulting sauce will be too thin. For a thicker sauce, reduce the mixture au sec.
2. Cut the butter into pieces approximately 1 ounce (30 grams) in weight. Over low heat, whisk in the butter a few pieces at a time, using the chilled butter to keep the sauce between 100°F and 120°F (38°C and 49°C).
3. Once all the butter has been incorporated, remove the saucepan from the heat. Strain through a chinois and hold the sauce at a temperature between 100°F and 130°F (38°C and 54°C) for service.

## Variations

*Beurre Rouge* - Substitute a dry red wine for the white wine and red wine vinegar for the white wine vinegar.

*Lemon-Dill* - Heat 2-tablespoons (30 milliliters) lemon juice and whisk it into the beurre blanc. Stir in 4 tablespoons (60 milliliters) chopped fresh dill.

*Pink Peppercorn* - Add 2-tablespoons (30 milliliters) coarsely crushed pink peppercorns to the shallot-wine reduction when making beurre rouge. Garnish the finished sauce with whole pink peppercorns.

## Compound Butters

A compound butter is made by incorporating various seasonings into softened whole butter. These butters, also known as beurres composes give flavor and color to small sauces or may be served as sauces in their own right. For example, a slice of maître' D' hotel butter (parsley butter) is often placed on a grilled steak or piece of fish at the time of service. The butter quickly melts, creating a sauce for the beef or fish.

Butter and flavoring ingredients can be combined with a blender, food processor or mixer. Using parchment paper or plastic wrap, the butter is then rolled into a cylinder, chilled and sliced as needed. It can be piped into rosettes and refrigerated until firm. Most compound butters will keep for two to three days in the refrigerator, or they can be frozen for longer storage.

## Recipes for Compound Butters

For each of the following butters, add the listed ingredients to 1 pound (500 grams) of softened, unsalted butter. The compound butter should then be seasoned with salt and pepper to taste.

**BASIL BUTTER** - Mince 2 ounces (60 grams) basil and 2 ounces (60 grams) shallots; add to the butter with 2-teaspoons (10 milliliters) lemon juice.

**HERB BUTTER** - Add to the butter up to 1-cup (250 milliliters) mixed chopped fresh herbs such as parsley, dill, chives, tarragon or chervil.

**LOBSTER OR CRAYFISH BUTTER** - Grind 8 ounces (250 grams) cooked lobster or crayfish meat, shells and/or coral with 1-pound (500 grams) butter. Place in a saucepan and clarify. Strain the butter through a fine chinois lined with cheesecloth. Refrigerate, and then remove the butterfat when firm.

**MAITRE D'HOTEL BUTTER** - Mix into the butter 4-tablespoons (60 milliliters) finely chopped parsley, 3 tablespoons (45 milliliters) lemon juice and a dash of white pepper.

**MONTPELIER BUTTER** - Blanch 1-ounce (30 grams) parsley, 1-ounce (30 grams) chervil, 1-ounce (30 grams) watercress and 1-ounce (30 grams) tarragon in boiling water. Drain thoroughly. Mince two hard-boiled egg yolks, 2 garlic cloves and 2 gherkin pickles. Blend everything into the butter.

**RED PEPPER BUTTER** - Puree 8-ounces (250 grams) roasted, peeled reel bell peppers until liquid, then acid to the butter.

**SHALLOT BUTTER** - Blanch 8-ounces (250 grams) peeled shallots in boiling water. Dry and finely dice them and mix with the butter.

*Hollandaise sauce plate up examples. Photo Credit: Amelie Zeringue*

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## 1.9: Miscellaneous Sauces

### Pan Gravy

Pan gravy is aptly named: It is made directly in the pan used to roast the poultry, beef, lamb or pork that the gravy will accompany. Pan gravy is actually a sauce; it is a liquid thickened with a roux. Pan gravy gains additional flavors from the drippings left in the roasting pan and by using a portion of the fat rendered during the roasting process to make the roux. A properly made pan gravy should have all the characteristics of any brown sauce except that it has a meatier flavor as a result of the pan drippings.

#### Procedure for Pan Gravy

1. Remove the cooked meat or poultry from the roasting pan.
2. If mirepoix was not added during the roasting process, add it to the pan containing the drippings and fat.
3. Place the roasting pan on the stovetop and clarify the fat by cooking off any remaining moisture.
4. Pour off the fat, reserving it to make the roux.
5. Deglaze the pan using an appropriate stock. The deglazing liquid may be transferred to a saucepan for easier handling, or the gravy may be finished directly in the roasting pan.
6. Add enough stock or water to the deglazing liquid to yield the proper amount of finished gravy.
7. Determine the amount of roux needed to thicken the liquid and prepare it in a separate pan, using a portion of the reserved fat.
8. Add the roux to the liquid and bring the mixture to a simmer. Simmer until the mirepoix is well cooked, the flavor is extracted and the flour taste is cooked out.
9. Strain the gravy and adjust the seasonings.

### Pan Sauces

Sauces served with sautéed meats, poultry or fish are often made directly in the sauté pan in which the dish was cooked. Once the food is sautéed, it is removed from the pan and kept warm while the sauce is prepared. Stock, jus lie or other liquid is added to deglaze the pan. Like pan gravy, these pan sauces gain flavor from the drippings left in the pan. Unlike pan gravy, pan sauces are usually thickened by reduction, not with a starch.

### Coulis

The term coulis most often refers to a sauce made from a puree of vegetables and/or fruit that is strained before serving. A vegetable coulis can be served as either a hot or a cold accompaniment to other vegetables, starches, meat, poultry, fish or shellfish. It is often made from a single vegetable base (popular examples include broccoli, tomatoes and sweet red peppers) cooked with flavoring ingredients such as onions, garlic, shallots, herbs and spices and then pureed. An appropriate liquid (stock, water or cream) may be added to thin the puree if necessary. Vegetable coulis are often prepared with very little fat and served as a healthy alternative to a heavier, classic sauce.

A fruit coulis, often made from fresh or frozen berries, is generally used as a dessert sauce. It is usually as simple as pureed fruit thinned to the desired consistency with sugar syrup.

Typically, both vegetable and fruit coulis have a texture similar to that of a thin tomato sauce. However, their textures can range from slightly grainy to almost lumpy, depending on their intended use. The flavor and color of a coulis should be that of the main ingredient. The flavors of herbs, spices and other flavoring ingredients should only complement and not dominate the coulis.

#### Procedure for a Vegetable Coulis

Cook the main ingredient and any additional flavoring ingredients with an appropriate liquid.

1. Puree the main ingredient and flavoring ingredients in a food mill, blender or food processor.
2. Combine the puree with the appropriate liquid and simmer to blend the flavors.
3. Strain, then thin and season the coulis as desired.

## Contemporary Sauces

Modern chefs and menu writers are relying less on traditional sauces and more on salsas, relishes, juices, broths, essences and infused oils in their work. Unlike classic sauces, these modern accompaniments do not rely on meat-based stocks and starch thickeners, but rather on fresh vegetables, vegetable juices, aromatic broths and intensely flavored oils. The names for these sauces are not codified, as are those in the classic sauce repertoire. Chefs apply various terms freely using whatever name best fits the dish and the overall menu. Most of these contemporary sauces can be prepared more quickly than their classic counterparts, and the use of fresh fruits and vegetables enhances the healthfulness of the dish. These so-called contemporary or modern sauces may have a lighter body and less fat than classic sauces, but they are still derived from classical culinary techniques and principles. The sauces should be appropriate in flavor, texture and appearance and should complement, not overwhelm the food they accompany.

## Salsa and Relish

Many people think of salsa (Spanish for "sauce") as a chunky mixture of raw vegetables and chiles eaten with chips or ladled over Mexican food; they think of relish as a sweet green condiment spooned onto a hot dog. But salsas and relishes - generally, cold chunky mixtures of herbs, spices, fruits and/ or vegetables can be used as sauces for many meat, poultry, fish and shellfish items. They can include ingredients such as oranges, pineapple, papaya, black beans, jicama, tomatillos and an array of other vegetables.

Although not members of any classic sauce family, salsas and relishes are currently enjoying great popularity because of their intense fresh flavors, ease of preparation and low fat and calorie content. Salsas and relishes are often a riot of colors, textures and flavors, simultaneously cool and hot, spicy and sweet.

**Chutney** - A sweet-and-sour condiment made of fruits and/ or vegetables cooked in vinegar with sugar and spices; some chutneys are reduced to a puree, while others retain recognizable pieces of their ingredients.

## Vegetable Juice Sauces

Juice extractors make it possible to prepare juice from fresh, uncooked vegetables such as carrots, beets and spinach. Thinner and smoother than a puree, vegetable juice can be heated, reduced, flavored and enriched with butter to create colorful, intensely flavored sauces. Cream or stock can be added to finish the sauce. Sauces made from vegetable juices are sometimes referred to as an essence or tea on menus.

Juice from a single type of vegetable provides the purest, most pronounced flavor, but two or more vegetables sometimes can be combined successfully. Be careful of mixing too many flavors and colors in the juice, however. Juiced vegetable sauces are particularly appropriate with pasta, fish, shellfish and poultry, and can be useful in vegetarian cuisine or as a healthier alternative to classic sauces.

### Procedure for Vegetable Juice Sauce

1. Wash and peel vegetables as needed.
2. Process the vegetables through a juice extractor.
3. Place the juice in a saucepan and add stock, lemon juice, herbs or other flavorings as desired.
4. Bring the sauce to a simmer and reduce as necessary.
5. Strain the sauce through a fine chinois.
6. Adjust the seasonings and whisk in whole butter to finish.

## Broth

Broth, which also appears on menus as a tea, au jus, essence or nage, is a thin, flavorful liquid served in a pool beneath the main food. The broth should not be so abundant as to turn an entree into a soup, but it should provide moisture and flavor. The essence, broth or nage is often made by simply reducing and straining the liquid in which the main food was cooked. Alternatively, a specifically flavored stock - tomato, for example, can be prepared, then clarified like consommé to create a broth or essence to accompany an appetizer or entree.

## Flavored Oil

Small amounts of intensely flavored oils can be used to dress or garnish a variety of dishes. Salads, soups, vegetable and starch dishes and entrees can be enhanced with a drizzle of colorful, appropriately flavored oil. Because such small quantities are used, these oils provide flavor and moisture without adding too many calories or fat.

Unless the flavoring ingredient goes especially well with olive oil (for example, basil), select a high quality but neutral oil such as peanut, safflower or canola. Although flavoring ingredients can be simply steeped in oil for a time, a better way to flavor oil is to crush, puree or cook the flavoring ingredients first. Warming the oil before infusing it with dry herbs or spices is recommended, as is decanting the oil to remove solids before using.

Modern chefs are also using vinaigrettes, a combination of oil and vinegar, citrus or other acidic liquid, as quick light sauces. Vinaigrettes give the illusion of lightness that many health -conscious customers are demanding, although the oil in such sauces can raise the fat and calorie content substantially.

### Procedure for Flavored Oils

1. Puree or chop fresh herbs, fruits or vegetables. Sweat dry spices or seeds in a small amount of oil to form a paste.
2. Place the selected oil and the flavoring ingredients in a jar or other tightly lidded container.
3. Allow the mixture to stand at room temperature until sufficient flavor extraction occurs. This may take from 1 hour to 24 hours. Shake the jar periodically. Do not allow the flavoring ingredients to remain in the oil indefinitely, as the flavor may become harsh or bitter.
4. Strain the oil through a chinois lined with a coffee filter.
5. Store the flavored oil in a covered container in the refrigerator

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## 1.10: Soups

### Introduction to Soups

Most soups can be classified by cooking technique and appearance as either clear or thick. Clear soups include broths that are made from meat, poultry, game, fish or vegetables as well as consommés, which are broths clarified to remove impurities. Another name for broths is bouillon.

Thick soups include cream soups and puree soups. The most common cream soups are those made from vegetables cooked in a liquid that is thickened with a starch and pureed; cream is then incorporated to add richness and flavor.

Pureed soups are generally made from starchy vegetables or legumes. After the main ingredient is simmered in a liquid, the mixture, or a portion of it, is pureed.

Some soups (notably bisques and chowders as well as cold soups such as gazpacho and fruit soup) are neither clear nor thick soups. Rather, they use special preparation methods or a combination of the methods mentioned before.

A soup's quality is determined by its flavor, appearance and texture. A good soup should be full-flavored, with no off or sour tastes. A soup is the beginning course and should set the tone for the rest of the meal. It is associated with comfort so the soup should be made with thought. Soups are a great way to utilize leftover foods and can be a great profit menu item. Flavors from each of the soup's ingredients should blend and complement, with no one flavor overpowering another. Consommés should be crystal clear. The vegetables in vegetable soups should be brightly colored, not gray. Garnishes should be attractive and uniform in size and shape. The soup's texture should be very precise. If it is supposed to be smooth, then it should be very smooth and lump-free. If the soft and crisp textures of certain ingredients are supposed to contrast, the soup should not be overcooked, as this causes all the ingredients to become mushy and soft.

Garnishing is an important consideration when preparing soups. Garnishes should complement the soup or add an additional affect to it such as complimentary flavors, textures and colors.

### Classification of Soups - Escoffier

In his 1903 culinary treatise *Le Guide Culinaire*, Auguste Escoffier recognized many more categories of soups than we do today. They include the following:

1. Clear soups, which are always "clear consommés with a slight garnish in keeping with the nature of the consommé."
2. Purees, made from starchy vegetables, thickened with rice, potato, or soft breadcrumbs.
3. Cullises, which use poultry, game or fish for a base and thickened with rice, lentils, espagnole sauce or bread soaked in boiling salted water.
4. Bisques, which use shellfish cooked with a mirepoix as a base and thickened with rice.
5. Veloute, which use veloute sauce as a base and are finished with a liaison of egg yolks and cream.
6. Cream soups, which use bechamel sauce as a base and are finished with heavy cream.
7. Special soups, which are those that do not follow the procedures for veloute or creams.
8. Vegetable soups, which are usually paysanne or peasant-type and "do not demand very great precision in the apportionment of the vegetables of which they are composed, but they need great care and attention, notwithstanding. "Foreign soups, "which have a foreign origin whose use, although it may not be general, is yet sufficiently common."

Because of changes in consumer health consciousness and kitchen operations, many of the distinctions between Escoffier's classic soups have now become blurred and, in some cases, eliminated. As discussed in this chapter, for example, clear consommés and vegetable soups are now made with stocks or broths; most cream soups use veloute as a base and are finished with milk or cream rather than a liaison. However, not everything has changed: The procedures for making purees and bisques are essentially the same today as they were when Escoffier haunted the great kitchens of Europe.

### Clear Soups

All clear soups start as stock or broth. Broths may be served as finished items, used as the base for other soups or refined (clarified) into consommés.

## Broths

The techniques for making stocks are identical to those used for making broths. Like stocks, broths are prepared by simmering flavoring ingredients in a liquid for a long time. Broths and stocks differ, however, in two ways. First, broths are made with meat instead of just bones. Second, broths (often with a garnish) can be served as finished dishes, while stocks are generally used to prepare other items.

Broths are made from meat, poultry, fish or vegetables cooked in a liquid. An especially full-flavored broth results when a stock and not just water is used as the liquid. Cuts of meat from the shank, neck or shoulder result in more flavorful broths, as will the flesh of mature poultry. Proper temperature, skimming and straining help produce well-flavored, clear broths.

### Broth Preparation method

1. Prepare the main ingredient.
2. Brown the meat; brown or sweat the mirepoix or vegetables as necessary.
3. Place the main ingredient and mirepoix or vegetables in an appropriate stockpot and add enough cold water or stock to cover. Add a bouquet garni or sachet d'epices if desired.
4. Bring the liquid slowly to a boil; reduce to a simmer and cook, skimming occasionally, until the main ingredient is tender and the flavor is fully developed.
5. Carefully strain the broth through a china cap lined with damp cheesecloth; try to disturb the flavoring ingredients as little as possible in order to preserve the broth's clarity.
6. Cool and store following the procedures for cooling stocks or bring to a boil, garnish as desired and hold for service.

## Broth Soups

Broths are often used as bases for such familiar soups as vegetable, chicken noodle and beef barley.

Transforming a broth into a broth-based vegetable soup, for example, is quite simple. Although a broth may be served with a vegetable (or meat) garnish, a broth-based vegetable soup is a soup in which the vegetables (and meats) are cooked directly in the broth, adding flavor, body and texture to the finished product. Any number of vegetables can be used to make a vegetable soup; it could be a single vegetable as in onion soup or a dozen different vegetables for a hearty minestrone.

When making broth-based vegetable soups, each ingredient must be added at the proper time so that all ingredients are cooked when the soup is finished. The ingredients must cook long enough to add their flavors and soften sufficiently but not so long that they lose their identity and become too soft or mushy. Because broth-based vegetable soups are made by simmering ingredients directly in the broth, they are generally not as clear as plain broths but appearances are still important. So when cutting ingredients for the soup, pay particular attention so that the pieces are uniform and visually appealing. Small dice, julienne, batonnet, or paysanne cuts tend to be the most appropriate.

### Broth Vegetable Preparation Method

1. Sweat long -cooking vegetables in butter or fat.
2. Add the appropriate stock or broth and bring to a simmer.
3. Add seasonings such as bay leaves, dried thyme, crushed peppercorns, parsley stems and garlic in a sachet, allowing enough time for the seasonings to flavor the soup.
4. Add additional ingredients according to their cooking times.
5. Simmer the soup to blend all the flavors.
6. If the soup is not for immediate service, cool and refrigerate it.
7. Just before service, add any garnishes that were prepared separately or do not require cooking.

## Consommés

A consommé is a stock or broth that has been clarified to remove impurities so that it is clear. Traditionally, all clear broths were referred to as consommés; a clear broth further refined using the process described later was referred to as a double consommé. The term double consommé is still used occasionally to describe any strongly flavored consommé.

Well-prepared consommés should be rich in the flavor of the main ingredient. Beef and game consommés should be dark in color; consommés made from poultry should have a golden to light amber color. They should have substantial body because of their high gelatin content, and all consommés should be perfectly clear with no trace of fat.

Because a consommé is a refined broth, it is essential that the broth or stock used be of the highest quality. Although the clarification process adds some flavor to the consommé, the finished consommé will be only as good as the stock or broth from which it was made.

#### Consommé Preparation Method

1. In a suitable stockpot (one with a spigot makes it much easier to strain the consommé when it is finished), combine the ground meat, lightly beaten egg white and other clearmeat ingredients.
2. Add the cold stock or broth and stir to combine with the clearmeat ingredients.
3. Over medium heat, slowly bring the mixture to a simmer, stirring occasionally.
4. As the raft forms, make a hole in its center so that the liquid can bubble through, cooking the raft completely and extracting as much flavor as possible from the raft ingredients.
5. Simmer the consommé until full flavor develops, approximately 1 to 1 1/2 hours.
6. Carefully strain the consommé through several layers of cheesecloth and degrease completely.
7. If the consommé is not for immediate use, it cool and refrigerate. When the consommé is completely cold, remove any remaining fat that solidifies on its surface.
8. If, after reheating the consommé, small dots of fat appear on the surface, they can be removed by blotting with a small piece of paper towel.

#### Stock or Broth Clarification Method

To make consommé, you clarify a stock or broth. The stock or broth to be clarified must be cold and grease-free.

1. To clarify, the cold degreased stock or broth is combined with a mixture known as a clearmeat or clarification. A clearmeat is a mixture of egg whites; ground meat, poultry or fish; mirepoix, herbs and spices; and an acidic product, usually tomatoes, lemon juice or wine. (An oignon brulé, also known as an onion brulé, is also often added to help flavor and color the consommé.)
2. The stock or broth and clearmeat are then slowly brought to a simmer. As the albumen in the egg whites and meat begins to coagulate, it traps impurities suspended in the liquid. As coagulation continues, the albumen -containing items combine with the other clearmeat ingredients and rise to the liquid's surface, forming a raft. As the mixture simmers, the raft ingredients release their flavors, further enriching the consommé.
3. After simmering, the consommé is carefully strained through several layers of cheesecloth to remove any trace of impurities. It is then completely degreased, either by cooling and refrigerating, then removing the solidified fat, or by carefully ladling the fat from the surface. The result is a rich, flavorful, crystal-clear consommé.

#### Correcting a Cloudy Consommé

A clarification may fail for a variety of reasons. For example, if the consommé is allowed to boil or if it is stirred after, the raft has formed, a cloudy consommé can result. If the consommé is insufficiently clear, a second clarification can be performed using the following procedure. This second clarification should be performed only once, however, and only if necessary, because the eggs remove not only impurities but also some of the consommé's flavor and richness.

1. Thoroughly chill and degrease the consommé.
2. Lightly beat four egg whites per gallon (4 liters) of consommé and combine with the cold consommé.
3. Slowly bring the consommé to a simmer, stirring occasionally. Stop stirring when the egg whites begin to coagulate.
4. When the egg whites are coagulated, carefully strain the consommé.

#### Thick Soups

There are two kinds of thick soups: cream soups and puree soups. In general, cream soups are thickened with a roux or other starch, while puree soups rely on a puree of the main ingredient for thickening. But in certain ways the two soups are very similar: Some

puree soups are finished with cream or partially thickened with a roux or other starch.

### Cream Soups

Most cream soups are made by simmering the main flavoring ingredient (for example, broccoli for cream of broccoli soup) in a white stock or thin veloute sauce to which seasonings have been added. The mixture is then pureed and strained. After the consistency has been adjusted, the soup is finished by adding cream. In classic cuisine, thin bechamel sauce is often used as the base for cream soups and can be substituted for veloute in many cream soup recipes, if desired.

Both hard vegetables (for example, celery and squash) and soft or leafy vegetables (for example, spinach, corn, broccoli and asparagus) are used for cream soups. Hard vegetables are usually sweated in butter without browning before the liquid is incorporated. Soft and leafy vegetables are usually added to the soup after the liquid is brought to a boil. Because cream soups are pureed, it is important to cook the flavoring ingredients until they are soft and can be passed through a food mill easily.

All cream soups are finished with milk or cream. Using milk thins the soup while adding richness; using the same amount of cream adds much more richness without the same thinning effect. Cold milk and cream curdle easily if added directly to a hot or acidic soup.

#### To prevent curdling

1. Never add cold milk or cream to hot soup. Bring the milk or cream to a simmer before adding it to the soup.
2. Never temper the milk or cream by gradually adding some hot soup to it and then incorporating the warmed mixture into the rest of the soup.
3. Add the milk or cream to the soup just before service, if possible.
4. Do not boil the soup after the milk or cream has been added.
5. Use bechamel or cream sauce instead of milk or cream to finish cream soups because the presence of roux or other starch helps prevent curdling.

### Puree Soups

Puree soups are hearty soups made by cooking starchy vegetables or legumes in a stock or broth, then pureeing all or a portion of them to thicken the soup. Puree soups are similar to cream soups in that they both consist of a main ingredient that is first cooked in a liquid, and then pureed. The primary difference is that unlike cream soups, which are thickened with starch, puree soups generally do not use additional starch for thickening. Rather, puree soups depend on the starch content of the main ingredient for thickening. In addition, puree soups are generally coarser than cream soups and are typically not strained after pureeing. When finishing puree soups with cream, follow the guidelines discussed previously for adding the cream to a cream soup.

Puree soups can be made with dried or fresh beans such as peas, lentils and navy beans, or with any number of vegetables, including cauliflower, celery root, turnips and potatoes. Diced potatoes or rice is often used to help thicken vegetable puree soups.

### Adjusting Thick Soups

Cream and puree soups tend to thicken when made in advance and refrigerated. To dilute a portion being reheated, add hot stock, broth, water or milk to the hot soup as needed. If the soup is too thin, additional roux, beurre manie or cornstarch mixed with cool stock can be used to thicken it. If additional starch is added to thicken the soup, it should be used sparingly and the soup should be simmered a few minutes to cook out the starchy flavor. A liaison of egg yolks and heavy cream can be used to thicken cream soups when added richness is also desired. Remember, the soup must not boil after the liaison is added or it may curdle.

### Additional Soups

Several popular types of soup do not fit the descriptions of, or follow the procedures for, either clear or thick soups. Soups such as bisques and chowders as well as many cold soups use special methods or a combination of the methods used for clear and thick soups.

### Bisques

Traditional bisques are shellfish soups thickened with cooked rice. Today, bisques are prepared using a combination of the cream and puree soup procedures. They are generally made from shrimp, lobster, or crayfish and are thickened with a roux instead of rice

for better stability and consistency.

Much of a bisque's flavor comes from crustacean shells, which are simmered in the cooking liquid, pureed (along with the mirepoix), returned to the cooking liquid and strained after further cooking. Pureeing the shells and returning them to the soup also adds the thickness and grainy texture associated with bisques.

Bisques are enriched with cream, following the procedures for cream soups, and can be finished with butter for additional richness. The garnish should be diced flesh from the appropriate shellfish.

## Chowders

Although chowders are usually associated with the eastern United States where fish and clams are plentiful, they are of French origin. Undoubtedly the word chowder is derived from the Breton phrase 'Faire Chaudière', which means to make a fish stew in a caldron. The procedure was probably brought to Nova Scotia by French settlers and later introduced to New England.

Chowders are hearty soups with chunks of the main ingredients (including, virtually always, diced potatoes) and garnishes. With some exceptions (notably, Manhattan clam chowder), chowders contain milk or cream. Although there are thin chowders, most chowders are thickened with roux. The procedures for making chowders are similar to those for making cream soups except that chowders are not pureed and strained before the cream is added.

## Cold Soups

Cold soups can be as simple as a chilled version of a cream soup or as creative as a cold fruit soup blended with yogurt. Cold fruit soups have become popular on contemporary dessert menus. Other than the fact that they are cold, cold soups are difficult to classify because many of them use unique or combination preparation methods. Regardless, they are divided here into two categories: cold soups that require cooking and those that do not.

### Cooked Cold Soups

Many cold soups are simply a chilled version of a hot soup. For example, 'consommé madrilene' and 'consommé Portuguese' are prepared hot and served cold.

Many cooked cold soups use fruit juice (typically apple, grape, or orange) as a base, and thickened with cornstarch or arrowroot as well as with pureed fruit. For additional flavor, wine is sometimes used in lieu of a portion of the fruit juice. Cinnamon, ginger and other spices that complement fruit are commonly added, as is lemon or lime juice, which adds acidity as well as flavor. Crème fraiche, yogurt or sour cream can be used as an ingredient or garnish to add richness.

### Un-Cooked Cold Soups

Some cold soups are not cooked at all. Rather, they rely only on pureed fruits or vegetables for thickness, body and flavor. Cold stock is sometimes used to adjust the soup's consistency. Dairy products such as cream, sour cream, and crème fraiche are sometimes added to enrich and flavor the soup.

## Garnishing Soups

Garnishes and toppings can range from a simple sprinkle of chopped parsley on a bowl of cream soup to tiny profiteroles stuffed with foie gras adorning a crystal-clear bowl of consommé. Some soups are so full of attractive, flavorful and colorful foods that are integral parts of the soup (for example, vegetables and chicken in chicken vegetable soup) that no additional garnishes are necessary. In others, the garnish determines the type of soup. For example, a beef broth garnished with cooked barley and diced beef becomes beef barley soup.

### Garnishing Guidelines

Although some soups (particularly consommés) have traditional garnishes, many soups depend on the chef's imagination and the kitchen's inventory for the finishing garnish. The only rules are as follows:

- The garnish should be attractive.
- The meats and vegetables used should be neatly cut into an appropriate and uniform shape and size. This is particularly important when garnishing a clear soup such as a consommé, as the consommé's clarity highlights the precise (or imprecise) cuts.

- The garnish's texture and flavor should complement the soup.
- Starches and vegetables used as garnishes should be cooked separately, reheated and placed in the soup bowl before the hot soup is added. If they are cooked in the soup, they may cloud or thicken the soup or alter its flavor, texture and seasoning.
- Garnishes should be cooked just until done; meat and poultry should be tender but not falling apart, vegetables should be firm but not mushy, and pasta and rice should maintain their identity. These types of garnishes are usually held on the side and added to the hot soup at the last minute to prevent overcooking.

### Garnishing Suggestions

Some garnishes are used to add texture, as well as flavor and visual interest, to soups. Items such as crunchy croutons or oyster crackers, or crispy crumbled bacon on a cream soup, or diced meat in a clear broth soup add a textural variety that makes the final product more appealing.

- Clear soups- any combination of julienne cuts of the same meat, poultry, fish or vegetable that provides the dominant flavor in the stock or broth; vegetables (cut uniformly into any shape), pasta (flat, small tortellini or tiny ravioli), gnocchi, quenelles, barley, spaetzle, white or wild rice, croutons, crepes, tortillas or won tons.
- Cream soups, hot or cold- toasted slivered almonds, sour cream or crème fraiche, croutons, grated cheese or puff pastry fleurons'; cream vegetable soups are usually garnished with slices or florets of the main ingredient.
- Puree soups- julienne cuts of poultry or ham, sliced sausage, croutons, and grated cheese or bacon bits.
- Any soup- finely chopped fresh herbs, snipped chives, edible flowers, parsley or watercress.

### Preparing Soup in Advance

Most soups can be made ahead of time, and reheated as needed for service. To preserve freshness and quality, small batches of soup should be heated as needed throughout the meal service.

Clear soups are quite easy to reheat because there is little danger of scorching. If garnishes are already added to a clear soup, care should be taken not to overcook the garnishes when reheating the soup. All traces of fat should be removed from a consommé's surface before reheating.

Thick soups present more of a challenge. To increase shelf life and reduce the risk of spoilage, cool and refrigerate a thick soup when it is still a base (that is, before it is finished with milk or cream). Just before service, carefully reheat the soup base using a heavy-gauge pot over low heat. Stir often to prevent scorching. Then finish the soup (following the guidelines noted earlier) with boiling milk or cream, a light bechamel sauce or a liaison and adjust the seasonings. Always taste the soup after reheating and adjust the seasonings as needed.

### Temperature

The rule is simple: Serve hot soup hot and cold soup cold. Hot clear soups should be served near boiling; 210°F (99°C) is ideal. Hot cream soups should be served at slightly lower temperatures; 190°F- 200°F (88°C- 93°C) is acceptable. Cold soups should be served at a temperature of 41°F (5°C) or below, and are sometimes presented in special serving pieces surrounded by ice.

Soup, often served as the first course, may determine the success or failure of an entire meal. Although a wide variety of ingredients can be used to make both clear and thick soups, including trimmings and leftovers, poor-quality ingredients make poor-quality soups. By using, adapting and combining the basic techniques described in this chapter with different ingredients, a chef can create an infinite number of new and appetizing hot or cold soups. However, exercise good judgment when combining flavors and techniques; they should blend well and complement each other. Moreover, any garnishes that are added should contribute to the appearance and character of the finished soup.

*Butternut squash soup plate up example. Photo Credit: Amelie Zeringue*

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## 1.11: Gumbos

Gumbo in Louisiana is staple of the cuisine. It is a thick stew-like dish usually served with rice. There are many different types of gumbos including chicken and andouille and shrimp and okra gumbo. Gumbo is a common soup de jour on restaurant menus in Louisiana. For dark gumbos, the traditional roux is a dark Cajun roux. Okra is also used as a thickening agent as well as file powder.

### Ingredients

- **Trinity** - 50% onions, 25% bell pepper, 25% celery
- **File** - an herb made from ground up leaves of the sassafras tree
- **Andouille** - smoked sausage coarsely ground pork sausage usually heavily smoked and seasoned, and commonly used in Cajun and creole dishes.
- **Cajun Dark Roux** - Cooked to a dark color without burning. Using the trinity to stop the cooking process. Has minimal thickening power but adds color, richness and mouthfeel.

### Other proteins

- Stock - provides additional flavor in the gumbo as well as body.

### Tips and Techniques for Cooking Gumbo

- If a gumbo contains meat or game, you must brown your meat.
  - This adds the richness in color and the building of extra flavor.
- When you cook chicken in gumbo, do not cook it too much because it can over cook, and become shredded.
- When you cook seafood in gumbo, you should add this at the end to ensure you do not over cook
- **Stock** - Added flavor and body
- **Trinity** - flavor, stops the roux cooking
- **Seasonings** - spice and flavor
- **Andouille** - Smokiness and flavor
- **File** - Thickener
- **Okra** - added thickener. You must cook it down in a separate pot to prevent sliminess



*Gumbo plate up example. Note the richness and color of the dark roux.*

*Photo Credit: Amelie Zeringue*

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## 1.12: Pureed, Thick Soups

The two kinds of thick soups are **cream** and **pureed** soups. Most pureed soups are thickened by the vegetable being pureed. The starches in the pureed vegetable aids in the thickening of the soup. Cream soups tend to have a roux. These two categories can be combined in the technique of the soup being made. For example, a pureed soup can have a roux.

A **cream soup** can be associated by the sauce category of veloute. Most cream soups have a roux, stock and then cream added for richness. A cream soup can also be associated with the sauce category béchamel.

**Pureed soups** can be pureed using a blender or immersion stick blender. They should be very smooth and lump free.

These soups are your bread and butter in the soup du jour world because:

- They are not time consuming to prep
- They use up product that needs to get used
- They are only limited by your imagination
- Especially with flavors, textures and garnishes
- Don't be the chef that makes them as an after-thought with no love, passion or technique
- All praise the invention of the mighty immersion blender and Vitamix. It is one of the best investments you can make.



*Soup plate up examples. Photo Credit: Amelie Zeringue*

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## 1.13: Bisques and Cream Soups

**Bisque** is a smooth, creamy, highly seasoned soup of French origin, classically based on a strained broth (coulis) of crustaceans. It can be made from lobster, langoustine, crab, shrimp, or crayfish.

Bisque is a method of extracting flavor from imperfect crustaceans not good enough to send to market. In an authentic bisque, the shells are ground to a fine paste and added to thicken the soup. Julia Child even remarked, "Do not wash anything off until the soup is done because you will be using the same utensils repeatedly and you don't want any marvelous tidbits of flavor losing themselves down the drain." [4] Bisques are thickened with rice, which can either be strained out, leaving behind the starch, or pureed during the final stages.

Seafood bisque is traditionally served in a low two-handled cup on a saucer or in a mug.

**Bisque is also commonly used to refer to cream-based soups** that do not contain seafood, in which the sometimes pre-cooked ingredients are pureed or processed in a food processor or a food mill. Common varieties include squash, tomato, mushroom, and red pepper.

### Traditional bisques are shellfish soups and thickened with cooked rice

Today, bisques are prepared using a combination of the cream and puree soup procedures. The word bisque nowadays is sometimes used to describe a thick creamy soup and would not technically mean that it is made from crustacean shells. They are generally made from shrimp, lobster, or crawfish and are thickened with a roux instead of rice for better stability and consistency. (We will prepare both methods in class)

- Traditionally would not be garnished with actual seafood.
- Traditionally would only use small amounts to no heavy cream.
- Crawfish bisque (stuffed crawfish heads or boulettes dropped into soup) (South Louisiana Variation)
- Crab and corn (Cream method)
- Crawfish and corn (Cream method)
- Lobster bisque (traditional method with roux added for flavor and consistency)
- Shrimp bisque (traditional method)

### Bisque Technique

- Caramelize the mirepoix and main flavoring agent in fat
- Add tomato product and deglaze with alcohol
- Add cooking liquid ( stock )
- Incorporate roux if needed
- Simmer and skim
- Puree and strain
- adjust thickness by adding cooked rice and pureeing
- simmer and finish with hot cream or cold compound butter

### Steps to making Bisques

- Sauté
- Deglaze
- Add liquid and simmer
- Puree
- Strain
- Puree again with white rice
- Finish with cream
- Garnish



*Crawfish Bisque plate up example. Photo Credit: Amelie Zeringue*



*Lobster bisque plate up example. Photo Credit: Amelie Zeringue*

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## 1.14: Broth Based Soups

### Consommé

In cooking, a **consommé** is a type of clear soup made from richly flavored stock, or bouillon that has been clarified, a process that uses egg whites to remove fat and sediment.

A consommé is made by adding a mixture of ground meats, together with mirepoix (a combination of carrots, celery, and onion), tomatoes, and egg whites into either bouillon or stock. The key to making a high quality consommé is simmering; the act of simmering, combined with frequent stirring, brings impurities to the surface of the liquid, which are further drawn out due to the presence of acid from the tomatoes. Eventually, the solids begin to congeal at the surface of the liquid, forming a 'raft', which is caused by the proteins in the egg whites.

Once the 'raft' begins to form, the heat is reduced, and the consommé is simmered at a lower heat until it reaches the desired flavor, which usually takes anywhere from 45 minutes to over an hour. The resulting concoction is a clear liquid that has either a rich amber color (for beef or veal consommé) or a very pale yellow color (for poultry consommé). It is then carefully drawn from the pot and passed again through a filter to ensure its purity, and is then put through a lengthy process where all of the visible fat is skimmed from the surface.

To ensure total purification, the consommé can be refrigerated, which draws out remaining fat, which can easily be skimmed off with a cheesecloth. Alternatively, the consommé can be placed in a wide, shallow container such as a sauté pan or large bowl and wide strips of parchment paper can be dragged along the surface; the tiny amounts of remaining fat adhere to the parchment, leaving the consommé perfectly de-greased. Cartilage and tendons should be left on the meat because of the gelatin they contain, which enhances the mouthfeel of the soup. If beef or veal is used, shin meat is ideal<sup>[4]</sup> because it is very low in fat and very high in gristle, and although it is undesirable for most other purposes, it is near essential for the flavor of the consommé. The meat is best if it is ground very fine, as if for a mousseline.

Consommés are usually served piping hot because they tend to cool down more quickly than other soups and form a gel. They are most often served with garnishes, which vary in complexity from a simple splash of sherry or egg yolk, to cut vegetables, to shaped savory custards called 'royales'.

A large amount of meat only yields a small amount of consommé. In some recipes, as much as 500 g (a little over a pound) of meat can go into a single 250 mL (8.2 fl. oz.) serving. This low-yield is part of what has traditionally given consommé its refined reputation as a dish fit for the higher levels of society and not consumed among the poorer classes, who could not afford such extravagance.<sup>[citation needed]</sup>

Other types of consommé such as a tomato consommé are traditionally served chilled; this keeps the clearness of the consommé.

Oignon Brulé (onion brûlé) - French for burnt onion, made by charring halves. It is used to flavor and color stocks and sauces

In addition to consommé, there are many other broth based soup variations. The broth based soup category consists of any soup that is prepared with broth. Some examples of broth-based soups are minestrone, chicken tortilla, French onion and the Vietnamese soup, Pho. These are some soups that we prepare in class.



*Consomme plate up examples. Photo Credit: Flickr*



*The straining of the raft in the consomme procedure.*

*Photo Credit: Flickr*

## French Onion Soup

Onion soups have been popular at least as far back as Roman times. Throughout history, they were seen as food for poor people, as onions were plentiful and easy to grow. The modern version of this soup originates in Paris, France in the 18th century, made from beef broth, and caramelized onions. It is often finished by being placed under a grill in a ramekin with croutons and gruyere melted on top. Recipes for onion soup vary greatly. Recipes specify that the onions should be cooked slowly, becoming caramelized. Brandy or sherry is added at the end. The soup base is often topped with a slice of bread (a "croustade" or "croustillon").

*It is important to caramelize onions to a deep brown color. Photo Credit: Flickr*

## Pho

Pho is a popular street food in Vietnam and a specialty in a number of restaurant chains around the world. Pho originated in the early 20th century in northern Vietnam, and was popularized throughout the rest of the world by refugees after the Vietnam War.

Pho is served in a bowl with a specific cut of flat rice noodles in clear beef broth, with thin cuts of beef (steak, fatty flank, lean flank, brisket). Variations feature slow-cooked tendon, tripe, or meatballs in southern Vietnam. Chicken pho is made using the same spices as beef, but the broth is made using chicken bones and meat, as well as some internal organs of the chicken, such as the heart, the undeveloped eggs, and the gizzard.

When eating at ‘phở stalls’ in Vietnam, customers are generally asked which parts of the beef they would like and how they want it done.

**Pho plate up example** **Minestrone soup plate up example**

*Photo Credit: Amelie Zeringue*

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## CHAPTER OVERVIEW

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## 2.1: Measurement and conversation charts

### Measurement and Conversion Charts

Formulas for Exact Measurement			
	WHEN YOU KNOW:	MULTIPLY BY:	TO FIND:
Mass (weight)	Ounces	28.35	grams
	Pounds	0.45	kilograms
	Grams	0.035	ounces
	Kilograms	2.2	pounds
Volume (capacity)	Teaspoons	5.0	milliliters
	Tablespoons	15.0	milliliters
	Fluid Ounces	29.57	milliliters
	Cups	0.24	liters
	Pints	0.47	liters
	Quarts	0.95	liters
	Gallons	3.785	liters
	Milliliters	0.034	fluid ounces
Temperature	Fahrenheit	$\frac{5}{9}$ (after subtracting 32)	celsius
	Celsius	$\frac{9}{5}$ (then add 32)	fahrenheit

### Rounded Measurement for Quick Reference

1 oz.		= 30 g
4 oz.		= 120 g
8 oz.		= 240 g
16 oz.	= 1 lb.	= 480 g
32 oz.	= 2 lb.	= 960 g
36 oz.	= 2¼ lb.	= 1000 g (1 kg)
1/4 tsp.	= 1/24 fl. oz.	= 1 ml
½ tsp.	= 1/12 fl. oz.	= 2 ml
1 tsp.	= 1/6 fl. oz.	= 5 ml
1 Tbsp.	= 1/2 fl. oz.	= 15 ml
1 C.	= 8 fl. oz.	= 240 ml
2 c. (1 pt.)	= 16 fl. oz.	= 480 ml
4 c. (1 qt.)	= 32 fl. oz.	= 960 ml
4 qt. (1 gal.)	= 128 fl. oz.	= 3.75 It
32°F		= 0°C
122°F		= 50°C
212°F		= 100°C

### Conversion Guidelines

1 gallon	4 quarts
	8 pints
	16 cups (8 fluid ounces)
	128 fluids ounces
1 fifth bottle	approximately 1 ½ pints or exactly 26.5 fluid ounces
1 measuring cup	8 fluid ounces (a coffee cup generally holds 6 fluid ounces)
1 large egg white	1 ounce (average)
1 lemon	1 to 1 ¼ fluid ounces of juice
1 orange	3 to 3½ fluid ounces of juice

Scoop Sizes	
Scoop Number	Level Measure
6	2/3 cup
8	1/2 cup
10	2/5 cup
12	1/3 cup
16	1/4 cup
20	3 1/5 tablespoons
24	2 2/3 tablespoons
30	2 1/5 tablespoons
40	1 3/5 tablespoons

\*The number of the scoop determines the number of servings in each quart of a mixture: for example, with a No. 16 scoop, one quart of mixture will yield 16 servings.

Ladle Sizes			
Size	Portion of a Cup	Number per Quart	Number per Liter
1 fl. oz.	1/8	32	34
2 fl. oz.	1/4	16	17
2 2/3 fl. oz.	1/3	12	13
4 fl. oz.	1/2	8	8.6
6 fl. oz.	3/4	5 1/3	5.7

Canned Goods			
Size	No. of Cans per Case	Average Weight	Average No. Cups per Can
No. 1/4	1 & 2 doz.	4 oz.	1/2
No. 1/2	8	8 oz.	1
No. 300	1 & 2 doz.	14 oz.	1 3/4
No. 1 tall (also known as 303)	2 & 4 doz.	16 oz.	2
No. 2	2 doz.	20 oz.	2 1/2
No. 2 1/2	2 doz.	28 oz.	3 1/2
No. 3	2 doz.	33 oz.	4
No. 3 cylinder	1 doz.	46 oz.	5 2/3
No. 5	1 doz.	3 lb. 8 oz.	5 1/2
No. 10	6	6 lb. 10 oz.	13

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## 2.2: Tree of Sauces

Mother Sauce	Daughter Sauces	Derivatives
<b>Béchamel</b>	Mornay	Nantua
	Crème	
	Soubise	
<b>Espagnole</b>	Africaine	Chevreuil
	Bourguignonne	
	Sauce aux Champignons	
	Sauce Charcutière	
	Chasseur	
	Poivrade	
	Demi-glace	
<b>Velouté</b>	Albufera	Poulette
	Allemande	
	Bercy	
	Aurore	
	Hungarian	
	Normande	
	Suprême	
<b>Hollandaise</b>	Venetian	Divine
	Béarnaise	
<b>Tomate</b>	Barvaroise	Divine
	Crème Fleurette	
	Dijon	
	Maltaise	
	Mousseline	Divine
	Spanish	
	Creole	
	Portuguese	
	Provençale	

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## 2.3: Classification of Sauces

### Classification of Sauces

Base Liquid	Basic Sauce	Derivative Sauce
Milk	Béchamel	Cream Mornay Nantua Soubise Mustard
White veal stock	Veal velouté	Allemande Poulette Aurore Hungarian
Chicken stock	Chicken velouté	Supreme Mushroom Ivory
Fish stock	Fish velouté	Allemande Poulette Aurora Hungarian
Brown Stock	Espagnole Demi-glace	Bordelaise Robert Charcutière Chasseur Diable Madeira Périgueux Mushroom
Butter	Hollandaise	Maltaise Mousseline Dijon
	Béarnaise	Choron Foyot Rachel
Oil	Mayonnaise	Tartare Remoulade Cocktail

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## 2.4: Sauce & Terminology

### Sauces & Terminology

Sauces are liquids of various thicknesses that are flavored or seasoned to enhance the flavor of food. Sauces can be sweet, sour, spicy, or savory and may be added to the food to become part of a main dish or used as an accompaniment to the food being prepared. Sauces add a variety of features to foods, such as complementing or enhancing flavors, adding an attractive appearance, and/or providing additional texture.

Initially perfected by the French, all sauces are now universally categorized into one of seven groups of sauces that are used as base sauces or foundations for other sauces known as secondary sauces. The primary sauces are known as Grand Sauces or Mother Sauces.

**The following are the categories of the Mother Sauces of French cooking from which all other sauces are prepared.**

- White Sauces (such as Béchamel Sauce)
- Brown Sauces (such as Madeira Sauce)
- Tomato Sauces or Red Sauces (such as Tomato Puree)
- Egg Yolk and Butter Sauces (such as Hollandaise Sauce)
- Egg Yolk and Oil Sauces (such as Mayonnaise)
- Oil and Vinegar Sauces (such as Salad Dressings)
- Flavored Butter Sauces (such as Beurre Blanc Sauce)

### Reduction Sauce

A sauce made with the juices released from oven roasted or stove top cooked foods, such as meat, poultry or vegetables. The released juices become the base for the sauce, to which other ingredients may be added, such as wine, fruit juices, tomato paste, or bits of foods and herbs. The juice is boiled (or steamed) separately and stirred constantly to evaporate excess liquid (such as water), thus reducing the volume of the juices into a thicker consistency, providing a more intense flavor. The resulting liquid is strained and then used as a base for sauces, soups and stews. Gravies, meat sauces, wine sauces, and fruit sauces are all examples of reduction sauces that are used to enhance the flavor of foods being served.

A simple procedure for making a reduction sauce begins by removing the meat, poultry, fish, or vegetables from the pan containing the juices after the foods have cooked. Estimate the amount of juice remaining in the pan, and then add double that amount of water, wine, vermouth, liqueur, fruit juice, cream, milk, or any other liquid desired for the type sauce being prepared. On a stovetop burner, heat the combined liquids to boiling in order to evaporate the excess fluids. While doing this, stir continually and attempt to scrape the bottom of the pan to mix in any excess solids provided by the cooked foods in order to add flavor to the sauce. Cook the reduction sauce until evaporation decreases the sauce to half its beginning volume, turning down the heat to medium, being careful not to reduce the sauce too much, resulting in a somewhat dull tasting sauce with little aroma. Some sauces require additional thickening, so it may be wise to add a small amount of cornstarch or flour to thicken the consistency if necessary. In addition, butter, extra-virgin olive oil, or cream can be added to provide a thicker or more flavorful sauce.

For sauces in which a nonalcoholic alternative is desired, use lemon juice, white wine vinegar, or verjus, which is a wine without alcohol. The acidity provided by a cup of the alcoholic ingredient can be replaced and balanced with a half cup of verjus, or use 1 to 2 teaspoons of lemon juice, or white wine vinegar. It would be wise to add the amounts slowly, testing the results for the desired flavor before adding the entire amount of substituted liquid.

### Secondary Sauce

A sauce that is derived from a mother sauce and has flavorings and seasonings added to create a new sauce. A secondary sauce is also referred to as a Small Sauce.

### Small Sauce

A sauce that is derived from a mother sauce and has flavorings and seasonings added to create a new sauce. A small sauce is also referred to as a Secondary Sauce.

## Finishing Sauce

A term commonly applied to mixtures that are served over various foods either as it finishes cooking or for use after it is served. As an example, a Finishing Sauce may be mixed into spaghetti as a pasta sauce or served as a topping over sliced pieces of roasted meat such as roast beef. Other types of Finishing Sauces may include red wine sauces, pepper sauces, béarnaise sauce, or mushroom sauces to name a few.

## Pan Sauce

A sauce made from the juices left after pan-frying or sautéing food. It is served along with the food that is fried or sautéed.

## French Sauces

### White Sauces

In French cooking, traditional white sauces are one of two types: those made with hot milk added to a white roux (such as Béchamel sauce or Mornay sauce) or sauces made with hot broth or stock added to a white roux (such as Velouté sauce). A roux is a combination of flour and butter that are cooked together to be used as a thickening agent for the sauce. The roux may be referred to as a white, blonde, or brown roux, depending on the amount of cooking time of the flour and butter mixture. The mixture increasingly darkens the longer it cooks. Once the roux is ready, the hot milk or stock is stirred into the roux to create a thick sauce that may be seasoned with herbs and spices.

### Béchamel Sauce

A basic French white sauce made by adding hot milk to a white roux (heated butter mixed with flour). In an early era, cream was generally used instead of milk. The roux thickens the milk into a creamy white sauce. Some sauces refer to a blonde and a white roux, the difference being the length of time the flour or mixture was allowed to cook and thus become brown or golden tan in color. Seasonings can be added based on the type of dish served with the sauce and the flavors desired.

A typical béchamel sauce begins by melting 3 or 4 tablespoons of unsalted butter in a saucepan on low heat and then mixing in 3 tablespoons of unbleached, all-purpose flour. Turn the heat up to medium and cook the mixture (referred to as the roux), allowing it to bubble but not turn brown as it cooks for 2 to 3 minutes. Whisk or stir the hot roux gently, letting it cool slightly and begin to add 1½ cups of milk, whisking the mixture so it becomes very smooth and thickens by whisking, which may take 4 to 5 minutes. Seasonings such a dash of salt, pepper, paprika, and nutmeg can be added as the sauce becomes smooth. If necessary, more milk can be added to thin the mixture. Remove the sauce from the heat and use it to pour over vegetables, pasta, poultry or fish dishes.

### Mornay Sauce

A **cheese sauce** made by using Béchamel sauce (white sauce made by cooking flour and butter and then adding milk) as the base with Swiss and Parmesan cheese added to thicken and flavor the sauce. Some recipes suggest adding fish or chicken stocks to enhance the flavor or other ingredients, such as egg yolks, cream and/or butter to provide a richer flavor. Mornay sauce is commonly served over vegetables, eggs, various meats, poultry, and shellfish.

### Veloute Sauce

One of the basic white sauces of French origin, which is prepared from a white stock, such as chicken or seafood stock, and a roux. The roux is a thickening agent made from cooked flour and fat. Numerous variations of this sauce are made, such as sauce Aurore (puréed tomatoes are added) or **sauce suprême** (cream and mushroom cooking stock is added).

A typical velouté sauce begins by making a roux. A 6 to 4 ratio of flour and fat (usually whole butter or clarified butter) is cooked over moderate heat. (The actual quantity of flour and fat to use depends on the quantity of liquid added to the roux and the desired thickness of the sauce). While stirring for 2 to 3 minutes, the mixture should bubble and foam and the color should gradually darken the longer the roux cooks. A light yellow to golden yellow color is typical of a roux that will be used for a velouté sauce. It is important that the flour not burn, but it should be cooked thoroughly so that the resulting sauce will not attain a pasty, floury flavor.

When the roux has cooked sufficiently, remove the pan from the heat to allow the roux to cool slightly. After the short cooling period, pour heated stock into the pan and return the pan to moderate heat. Vigorously whisk the liquid into the roux, reduce the heat to a low simmer, and continue stirring until the sauce becomes smooth. When the velouté sauce is ready to serve, stir in a small

quantity of cream and season with salt and pepper to taste. Other seasonings can be added based on the type of dish that the sauce is accompanying.

### Allemande or Parisienne Sauce

Occasionally referred to as **Parisienne Sauce**, Allemande Sauce is made by combining cream cheese, oil, lemon juice, and chervil. It is often spread over cold vegetables, most notably asparagus.

### Brown Sauces

In French cooking, brown sauces serve as a base for other similar sauces that are used as an accompaniment for meats and vegetables. Brown sauces are made from a brown meat stock and thickened with cornstarch or roux (flour cooked with butter). Some chefs suggest using arrowroot to thicken the sauce; however, it can be thickened according to personal preference and taste with ingredients best suited for the food being prepared.

### Espagnole Sauce

Also known as a brown sauce or demiglace, a basic sauce serves as a base for use in making other variations of the original sauce. It has been simmered and reduced to half of its original volume, resulting in a very thick, intensely flavored mixture. Typically, espagnole sauce is made by mixing roux as a thickener into the espagnole and then adding other ingredients such as vegetables, spices, herbs, wine, and vinegar to enhance the flavor and aroma. This sauce is then used as a topping for meats and other foods or is used as a base to make other types of sauces.

A traditional French sauce, espagnole is one of the Grand or Mother sauces used as a base or foundation sauce for making smaller versions that are seasoned and flavored separately. Common sauces in this group that use espagnole as a base include Bordelaise, Chasseur, Chateaubriand, Diablo, Diane, Estragon, Lyonnais, Madera, Madeira, Moscovite, Mushroom, Piquant, Porto, Robert, Romaine, Tarragon, and Zingara.

### Demiglace

A French term historically used to describe a traditional brown sauce, such as Espagnole, which has been simmered and reduced to half of its original volume, resulting in a very thick, intensely flavored mixture. This sauce is then used as a topping for meats and other foods or is used as a base to make other types of sauces. Today, the term demiglace is often used in reference to a much wider variety of sauces, such as pan sauces and reduction sauces, which all use a brown stock as a base.

A **demiglace** often contains **half brown sauce** (Espagnole) and **half brown stock**. Common sauces in this group include Bordelaise, Chasseur, Chateaubriand, Diable, Diane, Estragon, Lyonnais, Madera, Madeira, Moscovite, Mushroom, Piquant, Porto, Robert, Romaine, Tarragon, and Zingara.

### Madeira Sauce

A wine sauce that is made from **Madeira wine** as the key ingredient. Although this sauce may consist only of Madeira wine and broth, there are also numerous variations that include other ingredients to enhance the flavors of the foods topped with the sauce. As an example, another version of the sauce may include the wine, a demiglace, water and/or broth, seasonings, and vegetables or mushrooms if desired that goes well with selected cuts of beef. Madeira sauces are typically used to season pasta, meats, stews, and savory dishes.

### Tomato Sauces (Or Red Sauces)

#### Tomato Sauce

A tomato product that is not as thick as tomato puree but thicker than tomato juice. It generally has its flavor enhanced by the addition of herbs, spices, onion and garlic. Tomato sauce is commercially canned and sold in most food stores. It is used as a base for other sauces and in a variety of dishes. The difference between tomato paste, tomato puree and tomato sauce is texture and depth of flavor. The thicker the consistency, the deeper the flavor. Tomato paste is the thickest in consistency, puree is thinner than paste, and tomato sauce is the thinnest.

## Tomato Coulis

A coulis is a liquid or sauce made with ingredients, such as fruits or vegetables, which have typically been puréed and strained to create a thick sauce-like consistency. The sauce may be thick, but is still easily poured. When making a coulis, it is important to not over or under cook the ingredients, so the texture and flavor are not diluted if overcooked or too stiff and thick if undercooked.

Tomatoes are often used to make a coulis, serving as a base for tomato soups and sauces, or passattas, fish sautés, grilled fish, and fresh pasta dishes. Similarly, other fruits such as raspberries, blueberries and strawberries are made into a coulis to be served over foods such as cheesecake, ice cream, tortes, soufflés, crêpes, waffles, pancakes, and French toast.

## Egg Yolk and Butter Sauces

### Hollandaise Sauce

A sauce made with egg yolks that are beaten as they are warmed slightly. Butter is gradually added along with lemon juice to create a thick, creamy sauce. Hollandaise sauce is used to accompany egg dishes, boiled or poached fish, and a variety of vegetables. It is the mother sauce for all of the variations of egg yolk and butter sauces.

### Béarnaise Sauce

A derivation of the traditional French hollandaise sauce, this sauce is made with egg yolks and butter. Instead of being flavored with lemon juice like hollandaise sauce, it is flavored with wine, vinegar, shallots, pepper, and tarragon. This sauce is most often served as a dressing over meat, fish, poultry, vegetables, and eggs.

### Mousseline Sauce

This term can apply to several different sauces or food dishes that all have a light, airy texture derived from using whipped cream or beaten egg whites added to the food dish immediately before it is served. The traditional Mousseline Sauce is a hollandaise sauce with whipped cream whisked into it prior to serving. When the term Mousseline is used to refer to a food dish, it will commonly refer to a savory dish containing meat, poultry, fish, or shellfish as the main ingredient. Typical of a Mousseline Sauce, either whipped cream or beaten egg whites are added just before serving to lighten the texture.

### Normandy Sauce

A sauce consisting of fish stock, egg yolk, butter, and heavy cream, generally served with seafood but is also served with other foods. The ingredients may vary according to the type of food it is served with or because of regional preferences. Other ingredients used are mushrooms, apples, apple cider, and Calvados.

## Egg Yolk and Oil Sauces

### Mayonnaise

Mayonnaise is a sauce made with **egg yolks, olive or vegetable oil, mustard, and lemon juice or vinegar**, and various **seasonings**. It is one the mother sauces of French cooking and forms the base for a number of other sauces. Mayonnaise is an **emulsion**, which means that it is a substance created from the combination of two liquids that do not typically mix well, such as eggs and oil. Sauces or dressings that look like mayonnaise but which do not contain eggs as an ingredient, cannot be labeled as mayonnaise. Available as a traditional mixture of ingredients containing higher levels of fat, mayonnaise is also available in lighter versions that are considered low-fat and contain lower levels of fat content. Mayonnaise and its lighter versions are generally available in most food stores.

### Remoulade Sauce

A classic French sauce made from **mayonnaise, mustard, capers, chopped gherkins, anchovies, and fresh herbs**. Typically made with a mayonnaise base, rémoulade is served cold as a condiment or dressing with vegetables, cold meats, fish, or shellfish. There are many versions of sauces referred to as Rémoulade sauce with a variety of ingredients, but the traditional sauce is commonly referred to as Sauce Rémoulade.

## Tartar Sauce

A cold sauce used as a condiment most often with fish but also with other foods, such as vegetables. It is made with a **mayonnaise base** combined with ingredients such as **chopped pickles, chopped onions, capers, olives, lemon juice** or **vinegar**, and at times, it is lightly flavored with **mustard**. This sauce may also be referred to as tartare sauce.

## Verte Sauce

An emulsion sauce made with mayonnaise as the base that is colored green with various other ingredients. Made to be served as a cold sauce, Verte Sauce or Sauce Verte as it is also known is often used as a condiment for fish and potato dishes. It is made by combining **mayonnaise** with the juice of herbs such as **parsley** and fresh **spinach** that are pureed together, giving the sauce a green or "verte" appearance. As versions of recipes evolve, the ingredients for this sauce have changed so that the Sauce Verte may include the juice as well as tiny bits of the spinach and herbs such as chervil, parsley, tarragon, and watercress.

## Oil and Vinegar Sauces

### Oil and Vinegar Sauce (Vinaigrette Salad Dressing)

An oil and vinegar sauce, or vinaigrette, is a temporary emulsion, which means that the oil and vinegar (or wine) will quickly separate when not in motion. An oil and vinegar sauce is most often used as a salad dressing, but since the oil and vinegar separate so readily, the sauce is vigorously whisked or shaken immediately before using in order to keep the oil and vinegar in suspension. As a general rule, the ratio for making a vinaigrette sauce is three parts oil to one part vinegar or wine (or other acidic ingredient). Vinaigrettes can be enhanced with the use of different oils, but a balance is needed between the oils so that an oil with an intense flavor doesn't overpower a less intense oil.

## Flavored Butter Sauces

### Beurre Blanc Sauce

Traditionally, this sauce is a white butter sauce native to France and is used to enhance a variety of foods, such as egg dishes, poultry, seafood, and vegetables; however, in many kitchens it is now also being made as a brown sauce.

Beurre Blanc Sauce is typically made as an emulsion containing **white wine, vinegar, minced or chopped shallots, unsalted butter, heavy cream** (or water), and **seasonings**. Often considered as a difficult sauce to prepare, it is more time consuming than difficult. To prepare Beurre Blanc Sauce, the shallots, wine, and vinegar are combined and reduced by heating the mixture to only 10% of the original volume. The cream or water is added to the reduction and the butter is combined into the ingredients as it melts and is whisked to blend evenly. When finished, the shallots can be removed by straining the sauce or allowed to remain in order to add to the presentation appearance and texture.

There are many variations of the traditional Beurre Blanc Sauce that can be made to provide a variety different versions and flavors. Some of the most common include Beurre Rouge, a red wine butter sauce (or versions of the sauce without wine such as Beurre Citron, a butter sauce, which uses lemon juice instead of wine); Beurre Fondu, an emulsified butter sauce; and Beurre Noisette, a nutty flavored sauce with lemon juice that employs a cooking procedure in which flavor is achieved by allowing the butter to brown.

## Italian Pasta Sauces

The pasta sauces of Italy are made from any of a variety of savory toppings and mixtures of ingredients that enhance the flavor of the pasta dish being served. The traditional pasta sauces will generally be categorized as one of the following:

1. Tomato or vegetable-based sauce
2. Cream or butter-based sauce
3. Cheese sauce
4. Meat sauce
5. Herb-based sauce
6. Oil-based sauce

All of the variations contain a variety of ingredients mixed into the sauce base. As a rule, the lighter the sauce, the more noticeable the flavor of the pasta will be. When selecting a sauce, consider the shape and size of the pasta noodle, since some sauces are best

suiting for specific types of pasta. As an example, light tomato sauces go better with thinner pasta rather than shaped or tubular pasta.

### Classic Pasta Sauce

An Italian sauce, which uses traditional or country ingredients, that has a rustic style of preparation comparable to the region from which it is created. Most always prepared as tomato-based sauce, the ingredients may include tomatoes, diced vegetables, olive oil, and seasonings. It is a sauce that is commonly served as a pasta sauce as well as a sauce for some poultry and fish dishes.

### Bolognese Sauce

Like many pasta sauces, there are several that are traditional sauces native to their region of origination, such as Bolognese, a traditional Italian sauce originating in Bologna, Italy. Most often a Bolognese sauce will contain at least two types of meat, which may include veal, beef, pork, or chicken cut into small pieces. Unlike some sauces that use ground meat, traditional Bolognese sauces start with large pieces of meat that are chopped into finely cut bits.

The meats in Bolognese sauce are just some of a variety of ingredients that are used in the sauce. Among the other ingredients used are onions, celery, carrots, chili peppers, tomatoes, olive oil, and white wine, along with seasonings and herbs, such as oregano, basil, bay leaves, and nutmeg, all of which provide the distinct flavor of the sauce. It is also common to add cream or milk to the ingredients which provides a richer flavor to the sauce. Bolognese sauce can be added to many different foods but it goes especially well with fettuccine or tagliatelle ribbon pasta, tube pastas or with lasagna and cannelloni pasta as a stuffing.

### Marinara Sauce

A traditional Italian tomato sauce that combines crushed tomatoes, garlic and a variety of other ingredients, such as onions, basil or parsley, oregano, and olive oil into a sauce that is well seasoned. Commonly served on pasta or meats, Marinara sauce has evolved as so many other pasta sauces, into many different variations that attempt to provide an acceptable balance between mildly acidic and slightly sweet flavors. Recipes that include various forms of tomatoes, such as ground, crushed or pureed, vegetables such as carrots and chili or sweet peppers, several types of herbs or spices, and sweet ingredients such as sugar or honey are becoming more common.

### Amatriciana Sauce

Originating in a region of central Italy from a town known as Amatrice located near the Adriatic Sea coast, this sauce is a type of pasta sauce known for its meaty contents. Two versions of this sauce exist, however the second sauce became known as Alla Gricia to separate the distinctive quality of each.

The traditional Amatriciana Sauce typically includes tomatoes combined with pork meat sautéed in olive oil, minced onions, garlic if desired, a small amount of ground chili pepper, and a pinch of black pepper. The recipe, when made in the manner of a true Amatrice sauce, is served with cured pork meat from the cheek of the pig, which is referred to as guanciale; however, it is common to find Amatriciana Sauce prepared with the Italian bacon known as pancetta. Other types of pork are also used when the sauce is prepared in areas outside of Italy, generally because of limited access to guanciale or pancetta. Substitutes such as Canadian bacon may be used when necessary in an attempt to keep the flavor of sauce as close to the original as possible.

The second sauce from Amatrice is an Alla Gricia Sauce, which is considered the "white" version of Amatriciana. Both sauces are prepared in the same manner using the same ingredients except that the Alla Gricia Sauce does not contain tomatoes; therefore, it does not have the dark red coloring but instead is white in color. Some of the variations of these sauces have changed over the years and may include cheese, such as Romano, as an additional ingredient to enhance the flavors.

Both sauces go well as a topping for strand pasta, such as spaghetti; however, in traditional Amatrice cooking, the pastas most often used include bucatini, perciatelli, or fresh ravioli.

### Puttanesca Sauce

An Italian sauce that is very spicy and strong flavored. Traditionally made with **garlic**, bits of **dried chili peppers**, **capers**, and **anchovies** as key ingredients, this sauce can be mild or well-seasoned depending on the type and amount of spices added. There are a variety of pasta and fish dishes using this sauce to enhance the flavor of the dish, such as Pasta Puttanesca, Spaghetti Puttanesca, Linguine Puttanesca, and Shrimp Puttanesca.

## Arrabbiata Sauce

Italian in origin, this sauce is considered to be one of the fiery or spicier types of tomato sauces from Italy. Arrabbiata, which is a term generally used to describe aspects of anger or rage, is applied to the characteristics and intensity of this sauce made **with chili peppers** that add a spicy flavor to pasta, meats, poultry, seafood, and other foods such as pizza. Penne all'Arrabbiata (angry penne pasta) or Agnello all'Arrabbiata (angry lamb) typify dishes having a spicier taste made with Arrabbiata sauces.

## Formaggi Sauce

A traditional cheese-based sauce that is most often used as pasta sauce. The classic Formaggi sauce may be referred to as a "Quattro Formaggi" sauce, referring to the four varieties of cheese mixed in with the other ingredients in the sauce. Some of the common cheeses that are combined together and blended into the sauce include **Cheddar, Fontina, Gorgonzola, Gouda, Grana, Gruyere, Mozzarella, Parmigiano, Provolone, Ricotta, and Romano**. The type of pasta and the selection of other ingredients with the pasta dish generally determine the types of cheeses that will be included in the Formaggi sauce. A few of the additional ingredients that will be added to the cheeses may include: cream, tomato sauce, a type of meat such as ham or bacon, herbs such as rosemary, sage, oregano, and several other mild seasonings.

## Alfredo Sauce

An Italian sauce that is usually combined with fettuccine noodles and is then referred to as Fettuccine Alfredo. The sauce consists of heavy cream or half-and-half that is mixed with butter, grated Parmesan cheese, pepper, and occasionally nutmeg to create a rich Italian meal.

## Carbonara Sauce

Italian pasta dishes that are served with a sauce (Carbonara sauce) made with cream, eggs, Parmesan cheese, small pieces of bacon and vegetables, such as peas. Although any type of pasta can be used, spaghetti and linguine are most suitable with this sauce. The sauce is heated for several minutes until it begins to thicken. It is then spread over pasta that is very hot, enabling the eggs to continue cooking while the food simmers.

## Vodka Sauce

A creamy smooth textured pasta sauce that goes well with penne, ravioli, rigatoni, tortellini, or ziti pasta as well as on some poultry dishes or bruschetta appetizers. Rich in flavor, this sauce typically contains tomatoes, cream, vodka, olive oil, garlic, onions, and seasonings. Parmesan, pecorino or Romano cheese and meats such as prosciutto are also additional ingredients that may be included in some vodka sauces.

## Alla Grica Sauce

A type of white pasta sauce that originated in Amatrice, Italy a small town located adjacent to the Gran Sasso massif, a mountain region in the middle of the country. Made with the distinct flavor of cured pork, the traditional Alla Grica Sauce will use cured pork sautéed in olive oil and seasoned with onions, possibly garlic, and a very small amount of ground chili pepper with a pinch of black pepper as well. When prepared as a local Amatrice sauce, the recipe will contain guanciale, which is the cheek meat of the pig. Since guanciale is not always available outside of Italy, this sauce may be prepared in other countries with pancetta, an Italian bacon, or other pork substitutes such as Canadian bacon.

A second sauce from Amatrice that is considered to be the "sister" sauce to Alla Grica is Amatriciana Sauce, which is considered the "red" version of Alla Grica. Prepared in the same manner, each sauce goes through the same preparation process; however, the Amatriciana Sauce includes tomatoes as an ingredient, which results in the deep red color of the sauce. There are variations of the sauce that include other ingredients, such as cheese or garlic. Romano cheese is often used as an additional ingredient in some of the Alla Grica and Amatriciana sauces. Strand pasta such as spaghetti is the most common pasta topped with these sauces, but in Amatrice or other areas of Italy, the pasta typically served is bucatini, perciatelli, or fresh ravioli.

## Other Types of Italian Sauces

### Marsala Sauce

Marsala sauce is a rich sauce made with Marsala wine as a key ingredient. The sauce is used to enhance the flavor of pasta, poultry, pork, veal, fish, and game. It can be made from a variety of flavored bases, such as tomato, mushroom, or fruit flavors, and it is

served as a sauce for several traditional food dishes, such as pollo (chicken) Marsala or veal Marsala.

A typical recipe for the sauce may include onions, garlic, herbs, mushrooms, heavy cream, oil or butter, and the key ingredient of Marsala wine. When making the sauce, the wine can be added to the other ingredients immediately or, as preferred by many, added at the end of the sauce making process.

To prepare the sauce using the preferred method, the meat is first seared and cooked in a bit of oil; then it is removed from the pan. The sauce ingredients, excluding the wine (and heavy cream, if it is used), are added to the pan and are cooked with the meat juices and pan drippings for a short period. The Marsala wine is added, which helps deglaze the pan and loosen any bits that have stuck to the pan. If heavy cream is to be used in the sauce recipe, it is added last. The sauce can be spooned over the meat and served immediately, or the meat can be returned to the pan to allow the sauce to enhance the flavor of the meat.

### Ragu Sauce

A slow cooked sauce that uses the cooking process to combine all the ingredients into a blend of unique flavors. Made from ingredients that cook for 3 to 4 hours, the traditional Italian ragù included the cooking of bits of beef with chicken livers and unsmoked pancetta to be combined with tomato purée, mushrooms if desired, onions, celery, olive oil, seasonings, white wine and a stock base. As the meat cooked with the other ingredients, it began to soften and absorb all of the other flavors, turning into a fully flavored sauce providing only a mildly pronounced tomato taste.

Variations of the traditional ragù sauce have evolved to include carrots, sautéed shallots, and depending on taste, either cream or milk and cheese. Typically, the meats used in the sauce were diced, later to be minced or ground from meats such as beef, lamb, or pork, used individually or in combinations, such as beef and lamb. Made as either a tomato-based red sauce or a cheese-based white sauce, ragù is served as a base sauce for cooked pastas such as lasagna or ravioli in addition to many other pastas. This sauce may also be referred to as Bolognese sauce, a classic ragù sauce of Bologna, Italy.

### Fresca Sauce

Any of a variety of sauces made from fresh ingredients that have not been cooked and are ready to serve on pasta, meat, poultry, fish, and other foods. Fresca, meaning "fresh" is commonly created with uncooked ingredients that are combined to be made into salsas and pasta sauces, which are then added, either warm or cold to the foods after they have been prepared.

### Spinach Sauce

Very common in Italian and Indian dishes, this type of sauce is used as a base for cooking and flavoring dishes with poultry, vegetables, legumes, and pasta. Spinach Sauce may be made as a white creamy sauce or a red, tomato-based sauce. For a white Spinach Sauce, ingredients such as garlic, cheese, fresh or frozen spinach, and seasonings are often combined in a food processor to be blended, but not to the texture of a puree. For the red sauce, ingredients are similarly processed only to a point of fine bits, which may include tomatoes and tomato paste, fresh or frozen spinach, red peppers, onions, olives, lemon juice, garlic, ginger, cumin, coriander, cinnamon, paprika, and cloves.

### Gribiche Sauce

Attributed to early Roman times, this sauce, which was more commonly referred to as Sauce Gribiche, is usually served as a condiment or dressing for salad greens, fish, poultry, and eggs. Very similar to tartar sauce, Gribiche is made with shallots, parsley, cornichons, capers, eggs, oil, vinegar, and seasonings. However, other ingredients are often added such as chives, other herbs, and prepared mustard. A key difference between Sauce Gribiche and tartar sauce is that the oil, vinegar, and seasonings are not emulsified (fully blended) into the Sauce Gribiche as they are in tartar sauce.

### Pesto Sauce

An herb-based sauce originating in Italy that is typically made with basil, parsley, pine nuts, garlic, olive oil, and parmesan or Romano cheese. Many variations of this sauce exist, which may be different simply by the type of cheese, nuts or herbs, or other ingredients that are used to make the sauce. As an example, a red colored version of pesto, known as pesto rosso in Italian, is made with sun-dried tomatoes as one of the key ingredients, in addition to the basil, parsley, garlic, cheese and olive oil. Pesto is traditionally used as a pasta sauce but may be used as a seasoning for other foods as well as an ingredient or topping for appetizers.

Fresh pesto can be kept refrigerated for 2 to 3 days, or frozen to keep for longer periods. As the fresh pesto is exposed to air, the outer fringes of the pesto will darken while the inner areas will tend to remain brighter in color. This discoloration of the sauce occurs naturally and is part of the aging process that decreases the full flavor of fresh pesto.

## Chinese Sauces

### Plum Sauce

A thick sweet-and-sour Chinese sauce, which is used as a condiment for Asian foods. It is made from a combination of dried plums and apricots, vinegar, sugar, and spices, which provide a sweet tangy and somewhat spicy flavor to foods. The sauce is generally served with duck, pork and spareribs and can be commonly used as a dipping sauce, a seasoning in cooking sauces, or as a glaze on roasts. Also known as duck sauce, it is available in Asian markets and well-stocked grocery stores.

### Duck Sauce

A sweet and sour sauce prepared from a combination of dried plums and apricots, vinegar, sugar, and spices, which is served as a condiment with cooked duck or pork. A common sauce for Asian foods, which may also be referred to as plum sauce, provides a sweet tangy and somewhat spicy flavor to foods. The sauce is generally served with duck, pork, and spareribs, as well as being used as a dipping sauce, a seasoning in cooking sauces, or as a glaze on roasts.

### Leek Flower Sauce

A condiment made from the Chinese Leek Flower, a long thin and very narrow stem that grows a tiny flowering bulb at the top of the stem. Produced to harvest both the stem and the bulb, the Chinese Leek Flower is processed into a condiment that is served over rice dishes or with lamb dishes such as boiled mutton. The Chinese Leek Flower, which is also known as the Chinese chive, provides a garlic-like flavor with a chive overtone, thus the Leek Flower Sauce adds a similar flavoring when served with meat and rice.

### Oyster Sauce

A Chinese seasoning made by cooking a blend of steamed oysters, soy sauce, and salt together until thick and concentrated. The ingredients used may vary according to different recipes. It is used as a condiment, in stir-frying and to season other dishes. Oyster sauce enriches the flavor of a dish without overpowering its taste. It can be found bottled in Asian markets or in well-stocked supermarkets.

## Japanese Sauces

### Shoyu Sauce

Shoyu is a Japanese word for "soy sauce." Shoyu is a salty brown Asian sauce used as a seasoning or a condiment for Asian dishes. The sauce is made from fermented soybeans, wheat, water and salt. There are two varieties, light and dark. The dark soy sauce is darker in color, thicker in consistency and sweeter in taste than the light soy sauce. The dark soy sauce is used more often in Japanese cooking. The Chinese soy sauce is generally the light soy sauce, which is lighter in color and saltier. The dark soy sauce has a longer life than the light. The light should be used shortly after opening.

A Japanese sauce that is used as a dipping sauce for poached meats, dumplings, fried foods and seafood; as a sauce added to sautéed foods during cooking, or a salad and cooked greens vinaigrette; or as a dressing for Asian noodle dishes. It is traditionally made by mixing soy sauce, lemon or lime juice, rice vinegar, mirin (sweet rice wine or sake), dried bonito flakes, and Kombu seaweed or dried kelp.

### Teriyaki Sauce

A Japanese sauce that is made from a combination of soy sauce, sake, sugar, ginger, and seasonings. The sauce is generally used as a marinade for meats that are then grilled, broiled or fried.

### Tamari Sauce

A sauce that is made primarily from soybeans that is used as a condiment for dipping foods or as a basting sauce. It is created as a liquid when miso, which is a soybean paste, ripens as it ferments. Similar to soy sauce, Tamari is mild flavored, contains little or no

wheat, but is thicker in consistency. It is brewed over a longer period of time, sometimes up to six months, giving the Tamari a smoother flavor than soy sauce.

## Other Asian Sauces

### Soy Sauce

Soy sauce is a salty brown Asian sauce used as a seasoning or condiment to enhance and harmonize the flavors of various foods. It is a sauce that is used to bring out the flavor in foods, such as meats, poultry, fish, and cheese. The traditional soy sauce, typically considered as an Asian condiment, is made from fermented soybeans, ground roasted wheat, and a starter mold known as koji to begin the fermentation. A brine of sea salt and water are added after the original mixture has aged for 3 to 5 days. This combination of ingredients is then seasoned again and allowed to mature for approximately 6 months after which it is pasteurized and prepared for commercial use.

In Japan, soy sauces are referred to as shoyu, or in Chinese, they are called pinyin jiàngyóu (Mandarin) and see 'yau' (Cantonese). There are a number of different varieties made, of which there are basically two different categories, referred to as either the light or the dark sauces. Dark soy sauce is darker in color, thicker in consistency and sweeter or richer in flavor than the light soy sauce. Dark soy sauce, which typically contains molasses and other seasonings, is used most often in Japanese or Chinese cooking for stir-fry marinades, meat glazes, and to flavor stews.

Chinese dark soy is a traditional dark soy sauce, which is very thick in texture and contains molasses as a main ingredient. Another dark, thick textured sauce made with an Asian dark soy sauce, is Kecap Manis or Ketjap Manis, which contains palm sugar, star anise and garlic as flavorings. This sauce is a common condiment, marinade and flavoring for Indonesian food dishes. A version of soy sauce that may be referred to as "wheat free" is the Japanese Tamari, a strong flavored sauce processed either as a sauce made only from soybeans or as a sauce containing only a small amount of low quality wheat. Tamari is thick in consistency, stronger flavored than traditional Chinese sauces, and is generally used as a sauce for raw fish or a cooking sauce for dishes with longer cooking times, such as stews, soups and cooked meat dishes. However, it can also be used as a marinade sauce, a salad dressing, or as a seasoning and dipping sauce. Flavored soy sauces are also available, such as mushroom soy sauce, made with dried mushrooms and considered a dark soy sauce. The mushroom sauce has an earthy flavor that goes well with meat stews and marinades.

The light soy sauces are lighter in color, thinner in texture, saltier in flavor, and contain more of the sour overtones than other soy sauces. The Japanese word for this type of soy sauce is "shoyu," which is a sauce typically made from soybeans, roasted wheat, sea salt, water, and koji starter mold. The lighter sauces, which will generally not alter the color of the foods being prepared, are traditionally used when cooking vegetables, clear soup, soup bases for noodles, and white fish. Since light soy sauces have a shorter shelf life than the darker sauces, they should be used shortly after opening.

The alternative to a traditional fermented sauce is the hydrolyzed soy sauce, but it often lacks the full flavor of the natural or traditional sauces. Hydrolyzed soy is a synthetic sauce that has not been brewed in the same manner as a naturally brewed soy sauce.

Soy sauces can be used in salad dressings, as well as an ingredient for many other sauces, such as marinades, steak sauces, barbecue sauces, or as flavorings in soups, stews, and a variety of food dishes.

### Hoison Sauce

A popular thick sauce used for Asian foods, both as an ingredient in cooking and also as a condiment. It is made from fermented soybeans, garlic, chilies, vinegar, sugar, and various spices that provide a sweet and somewhat tangy flavor. There are different brands of this sauce that vary in consistency and flavor, some being less sweet and spicy than others.

If used for cooking, the sauce is often brushed onto meats prior to being broiled or grilled. It can be added to meats and other ingredients as they are stir-fried or used as a dipping sauce. Since it contains a higher level of sugar than many other sauces, it is best to use caution when applying heat, making sure not to burn the sauce as it cooks. Keep unused sauce refrigerated and it can then be kept for very long periods of time without losing much flavor.

### Fish Sauce

An amber red to reddish-brown colored sauce produced as a liquid byproduct from fermenting salt-cured fish. In some countries such as the Philippines, an Asian food known as bagoong monamon is prepared first in order to produce a fish sauce referred to as

patis, which becomes the byproduct of making bagoong. But bagoong monamon can also be considered a type of fish sauce, since bagoong is basically a flavoring for other foods, which fish sauce is as well.

Some sauces are clear in consistency as they are often removed or refined from a more dense mixture of cured fish, while others are cloudy and appear more like a pureed food substance. Bagoong has the opaque or pureed consistency and often is produced with whole anchovy filets in the sauce to improve the flavor. Many fish sauces are made with anchovies which are the species of fish typically prepared to produce bagoong monamon. However, other varieties or combinations of fish are also used to make fish sauce, such as mackerel, tuna, shrimp, and squid. Sauces made with 100% of a specific variety of fish, like anchovies, are considered to be the best tasting of the fish sauces.

Fish sauce has a sharp, salty taste with a strong aroma that is used as a seasoning or condiment to enhance the flavor of various foods. It is popular in Southeast Asian dishes and can be found in many Asian markets. The traditional fish sauce is known as nuoc nam in Vietnam, patis in the Philippines, Nampla in Thailand, and shottsuru in Japan. Fish sauce may also be referred to as fish gravy in some regions.

Fish sauce is generally not served separately as a topping sauce or seasoning due to its overpowering flavor. Instead, it is most often used on foods that may have already been flavored with other seasonings or sauces. In addition, if desired, it can be tempered by adding sugar and lime juice to make it less intense in flavor for use as a dipping sauce with vegetables or wrapped foods, such as spring rolls.

### Bean Paste or Bean Sauce

A type of seasoning made from fermented or germinated soybeans that are used to flavor a variety of Asian foods. Bean pastes and sauces are common in Asian cooking and are often used as a base sauce from which other types of pastes or sauces are developed. Combining a bean sauce with hoisin sauce or a hoisin sauce with chili bean paste enhances the flavor of the sauce and the food to which it is added. Bean pastes and sauces are used to flavor hot or spicy tasting food dishes and are often combined with chili peppers or other seasonings to intensify the heat and taste. Poultry, meat, noodles, pork, and vegetables are all foods that are frequently seasoned with bean sauces.

There are many different types of bean pastes and sauces made for use in Asian cooking such as chili bean pastes made in red, green, yellow, or roasted varieties, bean sauces made in yellow or brown varieties, and chili bean sauce made as a red sauce. In addition, within all the varieties, there are different textures (from thick to thin), different intensities of heat (from mild to hot), and different levels of sweetness. Black bean sauce contains ground black beans combined with seasonings such as garlic and at times star anise. The pastes and sauces labeled as hot such as hot black bean sauce will often contain chilies to provide the heat combined with the ground beans, garlic seasoning and sugar. Yellow bean sauce, which contains yellow beans and is brown in color is basically the same as brown bean sauce or ground bean sauce. Chili bean sauce is a salty flavored sauce containing chili peppers, fermented soybean paste, possibly fermented broad bean paste, sugar, garlic, and other seasonings.

Bean paste or sauce is typically sold as a sauce either made with whole beans or crushed (mashed) beans that have been ground into a puree-like texture. The pastes and sauces made with whole beans are typically labeled as bean sauce or bean paste, which are mixtures containing the whole beans processed into a thick paste or sauce, which may be sweetened or unsweetened. These pastes and sauces are generally the preferred types of mixtures since they have more of the soy flavor and texture that is similar to the traditional soy sauces. Beans that have been crushed are most often puréed, as they are ground or mashed into a smoother texture and labeled as a yellow or crushed bean sauce. The crushed bean sauces are saltier tasting than the whole bean sauces. Other names often used for the pastes or sauces may include brown bean sauce, bean paste, soybean sauce or soybean condiment.

For storage, keep opened paste and sauces stored in an airtight plastic or glass container placed in the refrigerator. Storing for several months is acceptable and use by the date displayed on the label.

### Asian Chili Sauce

A type of condiment that is somewhat similar to the Chile Sauces produced in countries such as Mexico and the U.S. Often referred to as either a Sauce or a Paste, Asian Chile Sauces can contain any one of many different chili peppers used to produce the sauces, which provide numerous variances in flavor and heat intensity. Some ingredients commonly used to produce an Asian Chile Sauce or Chile Paste may include soybean or palm oil, herbs such as basil, garlic, sugar, and other seasonings to produce a somewhat sweet and spicy flavored red, green, yellow, or brown colored Chili Sauce.

Many US and Mexican Chile Sauces use tomatoes and chilies as a base while the Asian Chili Sauces and Pastes most often do not use tomatoes, so there is less of a lighter water-like texture and more of an oily consistency to the Asian Sauces. All types of Chile Sauces are commonly served as toppings for red meat, poultry, fish, and egg dishes, while Asian Sauces and Paste are commonly used during the preparation and cooking of the foods as well as a topping or dipping Sauce.

### **Maggi® Sauce.**

An Asian sauce, made from vegetable proteins combined with salt, pepper and various spices, which is used as a food flavoring. Commonly found in food stores, Maggi® Seasoning is used as an ingredient with stir-fried foods, cooked vegetables, noodle or rice dishes, salads, meats, and poultry. Versatile in use, it is served as a dipping sauce, it can be made into a marinade or it is simply added as a seasoning sauce to a variety of foods. This sauce provides a flavor that is very similar to a sweet soy sauce.

### **Banana Sauce**

An Asian condiment that has the same appearance and flavor as tomato ketchup. Made with bananas, water, sugar, vinegar and seasonings such as garlic, onions, salt, and spices, this sauce is produced as an alternative to ketchup for regions that grow significant numbers of bananas.

### **Peanut Sauce**

A popular sauce in Southeast Asia which is made from peanut oil, peanut butter or ground peanuts, garlic, onions, chilies, and soy sauce. Peanut sauce is served with dishes such as tofu, satay dishes, and gado-gado where it may be considered a dipping sauce, a dressing or in some instances altered to be used as a marinade.

### **Sriracha Sauce**

Thai chili sauce, sold commercially in a mild or hot form, which is similar to an orange-red ketchup and used in cooking or as a condiment.

## **Mexican Sauces**

### **Chili or Chile Sauce**

A sauce or condiment that can be made from any one of many different chili peppers, depending on the desired intensity and flavor. This sauce may be blended with vinegar, herbs, garlic, and other seasonings to produce a somewhat sweet and spicy flavored chili sauce that can be red, green, yellow, or brown in color. Many different ingredients can be added to create this sauce, such as tomatoes in some recipes, giving the sauce a deeper red color and a stronger tomato flavor, while green ingredients produce a green chili sauce. A combination of ingredients, some of which may be roasted, will provide a brown-toned sauce.

Asian chili sauces are available that contain various herbs such as basil and are flavored with different levels of sweetness as well as heat intensities. The sauces may be produced as red, green, or yellow mixtures that are also referred to as chili pastes. Typically, the Asian sauce or paste will contain more of an oil base (palm or soybean oil) than a U.S. or Mexican variety of chili sauce.

Mexican chili sauces are typically red in color, using tomatoes as a base, and are flavored with various chilies that contain a higher level of heat to provide a very spicy taste. Prepared with varying intensities of heat, from mild to extra hot, all types of chili sauces are commonly served as toppings for red meat, poultry, fish, egg dishes, and other foods that are often seasoned with a spicy sauce.

### **Mexican Chili Sauce**

Defining one type of sauce as a traditional Mexican chili sauce is difficult because of the many different varieties that are made and referred to as a chili sauce. Mexican chili sauces are typically very spicy, very hot, and very flavorful. Many sauces are made with a tomato and chili base that may contain red or green tomatoes combined with a desired variety of chili pepper, such as jalapeño chili peppers. In addition, many chili sauces may have tomatillos added or consist of tomatillos instead of tomatoes. As a way to identify various sauces, it is common practice to name the sauce according to the type of chili pepper used in the sauce, such as arbol chili sauce, which refers to the use of arbol chilies as the key ingredient for making the sauce.

Mexican chili sauces are served with all types of meats, such as shredded and whole sliced meats. In addition, it is common to add sauce as a topping for sandwiches, such as when served with torta sandwiches that are usually covered with sauce. This is known as torta ahogada, which translates to drowned in sauce. Mexican chili sauce is also served as a condiment or topping for poultry, fish,

shellfish, and a variety of other foods, such as meat placed atop a bed of rice and beans. Commonly referred to as a Mexican hot sauce or a red chili sauce, a typical Mexican chili sauce often uses jalapeno chili peppers or red chili peppers plus onions and tomatoes as key ingredients.

### Chimichurri Sauce

A spicy herb sauce or marinade that is served with grilled and roasted meats. With origins credited to Argentina, Chimichurri sauce generally consists of water, salt, garlic, parsley, oregano, pepper, red chili peppers, lemon zest, red or white-wine vinegar, and extra-virgin olive oil. There are numerous versions of this sauce that range from tangy and spicy to tart and somewhat sweet. Chimichurri sauce can be used as a basting sauce for fish, shellfish, poultry, beef, and pork, or it can be used as a dipping sauce after the food has been cooked.

### Taco Sauce

A spicy sauce that is used as a topping for the various ingredients that are inserted into a folded tortilla or taco shell. Taco sauce is available as either a red or green (verde) sauce. The red sauce typically consists of red tomatoes, tomato paste, green chilies, jalapeno peppers, and various seasonings. The green sauce often contains green tomatoes, bell peppers, onions, tomatillos, jalapenos, and seasonings.

### Mole Sauce

Mole refers to a group of traditional Mexican pastes that are made into sauces that range in flavor from delicately spicy to very rich and spicy. The sauces are made with a mixture of ingredients that include onions, garlic, chili peppers, ground nuts (almonds, pumpkin seeds, and sesame seeds), toasted bread or crackers, spices, sunflower or soybean oils, sugar, and occasionally a small amount of sweet chocolate (if the sauce is red mole). Mole sauce can be reddish-brown in color with a sharp spicy flavor or it can be green, which is known as green mole or mole verde. Mole verde, which has a milder flavor, is made with green peppers and tomatillos. Mole pastes are typically mixed with water or a chicken broth (1 part mole paste to 3 parts water/broth) before being heated and boiled. It is then added as a seasoning and marinade for seafood, chicken, pork, eggs or egg dishes, enchiladas, rice, refried beans, or tamales.

### Adobo Sauce

A sauce or paste of Mexican origin made with ground chili peppers, sesame seeds, peanuts, bread or crackers (wheat flour, salt, and cornstarch), sugar, vinegar, garlic, pepper, and other spices. The ingredients are generally cut with 4 parts of water or broth before being heated moderately and served over poultry, seafood, pork, or vegetables. It is considered to be one of the traditional mole sauces that can be used as either a condiment to flavor foods or as a marinade to season and improve the taste of meats and vegetables.

### Pipian Sauce

Pipian sauce is one of the traditional Mexican mole sauces that is served as a condiment or as a marinade sauce for poultry, seafood, pork, and vegetable dishes. It is a puréed seed sauce consisting of vegetable or soybean oil, onions, pumpkin seeds (pepitas), peanuts, sesame seeds, chili peppers, garlic cloves, and other seasonings.

Known simply as **Pipian sauce** when it is prepared as a reddish-brown sauce, it is also known as green pipian, pipian verde, or mole verde when prepared as a green sauce. It is not to be confused with the red mole (mole rojo), which is a little spicier and contains red peppers (and sometimes sweet chocolate as well), while the green variety is made with tomatillos and green peppers. The ingredients of pipian sauce recipes may vary, such as substituting almonds for the pumpkin seeds or adding more herbs to enhance the flavor.

### Pepper Sauce

A spicy hot sauce seasoned with cayenne peppers, chili peppers, or peppercorns. It is used as a condiment for many foods, such as meats, chicken, and fish, or it can be added to other foods, such as marinades, beverages, dips, chili, casseroles, or other sauces, when a spicy flavor is desired.

## Picante Sauce

A tomato-based Mexican sauce made of tomatoes, chili peppers, and onions. Picante is a sauce that is very similar to salsa, except that it is thinner and smoother in consistency (not as chunky). Picante sauce is available as a red sauce or as a green (verde) sauce, either of which can be mild to very hot depending on the types of spices that are added.

## Miscellaneous Sauces From Around the World

### England

#### Worcestershire Sauce

A popular condiment that has a savory flavor and is used to season a wide variety of dishes. This thin dark sauce is made with soy sauce, garlic, onion, molasses, vinegar, anchovies, lime, and a variety of other seasonings. The name Worcestershire refers to the town of Worcester, England where the sauce was first produced commercially.

#### Mint Sauce

A green colored herb sauce made from mint leaves, sugar, and vinegar. Mint sauce is often applied as a marinade to poultry, fish, or meat, most notably lamb. Mint sauce and mint jelly have long been traditional accompaniments for a variety of lamb dishes. Mint sauce can also be used as an ingredient for dips in which the sauce is combined with mayonnaise and yogurt, or it can be used as a means to enhance the flavors of potatoes and vegetables. There are numerous types of mint sauces that range in flavor from highly tangy to quite mild and mellow. Generally, the flavor of vinegar and spicy ingredients will be very noticeable in the tangy flavored mint sauces.

### Spain

#### Alioli Sauce

A popular Spanish sauce served most often with grilled meats, fish or vegetables. The traditional version of this sauce includes saffron, an emulsion of garlic and oil, eggs (to stabilize the sauce), mustard, olive oil, lemon juice, tomato paste, and seasonings. Today, it is more common to replace the emulsion sauce with mayonnaise.

#### Romesco Sauce

A sauce that is considered to be a traditional Catalan type of food sauce, which originated in the Catalonia region of Spain. Typically used as an ingredient to enhance the flavor of various foods, Romesco sauce is often served over grilled foods such as fish, poultry, meats, and vegetables. It may also be used as a flavoring for stews and pasta dishes, as well as a spread for breads with meats and cheese. Considered by some to be a garlic sauce, Romesco is most often made with tomatoes, garlic, olive oil, blanched almonds, hazelnuts, vinegar, herbs, red chili peppers, and salt.

### Greece

#### Avgolemono Sauce (Or Soup)

Avgolemono refers to a traditional Greek soup or sauce. Most often, when it is made as a soup, bits of chicken are added to make it similar to a cream of chicken soup but one that has a lemony flavor. The liquid obtained from cooking fish or chicken is added to the soup along with eggs and the featured ingredient, lemon juice. As a sauce for fish or poultry, the egg yolks and lemon juice are whisked separately from the egg whites, which are beaten into a stiff foam. The yolks and lemon juice are added to the stiff whites and the ingredients are then combined with the cooking liquid, which is reheated until fairly thick in consistency.

When made as a soup, avgolemono usually includes a filler, such as rice. The soup is also somewhat thinner in consistency than the sauce. The sauce makes a very tasty lightly textured addition to meals of fish and fowl. This soup may also be referred to as Greek chicken soup or Greek egg lemon soup.

#### Tzatziki Sauce

A creamy Greek garlic sauce often served as a topping, a condiment, or a food dip, commonly served with a variety of Mediterranean dishes. Tzatziki is a white sauce made with yogurt, cream, cucumbers, fresh herbs, and seasonings, such as mint, dill, olive oil, and garlic. Served as a chilled sauce, tzatziki is commonly used on gyros, pita sandwiches, dolmades, roast lamb, roast pork or beef, fish or seafood, rice dishes, grilled vegetables, and many other foods. This cold sauce with its fresh ingredients adds a

refreshing taste to many foods. Tzatziki sauce may also be referred to as tsatziki, sartziki, satsike, or simply as a yogurt and cucumber sauce.

## Other Countries and Regions

### Pinjur Sauce

Common in areas of eastern Europe such as Macedonia, Pinjur is a sauce that is used as a topping or a cooking ingredient to be added to foods. Typically made from eggplant mixed with garlic, olive oil, and seasonings, Pinjur may also contain roasted peppers, chopped nuts such as walnuts, and fresh herbs. Pinjur is often served as a condiment to be used on various foods that are served for a meal or snack. It provides a mild earthy flavor, somewhat similar to sweet and spicy ketchup or various pasta sauces. Additional uses for this flavored sauce include as a spread for breads and sandwiches, a pasta or rice sauce, and as a cooking sauce for cooked vegetables, poultry, stews, and casseroles.

### Dill Sauce

A sauce that may be made with wine or vinegar, dill, salt, garlic, possibly sour cream, mayonnaise, butter, and combinations of other ingredients. Depending on the consistency desired, dill sauce may be rich and creamy in appearance and texture, or mildly flavored with a light texture. The creamy version is a sauce commonly used as a salad dressing or as a topping for meats and fish, such as grilled or roasted salmon. The lighter dill sauce is most often used as a marinade or cooking sauce for meat, seafood, fish, poultry, and vegetables, enhancing the flavor of the food.

### Korma Sauce

Korma is a cooking sauce that is common in India. Basically, it is a type of curry sauce with a mild flavor, seasoned with a variety of ingredients. Some of the ingredients that are most often used to make this sauce are onions, sugar, pureed tomatoes, coconut flour, coconut cream or yogurt, garlic, sunflower oil, lemon juice, citric acid, cilantro, nuts, and various spices. Korma Sauce is often cooked with chicken or lamb and then served over a bed of rice when preparing recipes known as Chicken Korma or Lamb Korma. Korma Sauce may also be referred to as qorma.

### Artichoke Sauce

A sauce made from artichoke hearts that is served over, or stuffed into, vegetables. It is also added to pasta or rice or served as a condiment for a variety of foods and appetizers. Typically, the sauce combines the artichoke hearts with olive oil, vinegar, lemon juice, and other seasonings to create a rich and creamy sauce for pouring or spreading on foods.

### Berberé Sauce

A common Ethiopian sauce that has a hot and spicy taste. Made with the seeds of cumin, cardamom, coriander, and fenugreek that are combined with garlic, ground cloves, turmeric, grated gingerroot, black pepper, salt, paprika, cinnamon, and dried red chilies, this sauce provides a distinctive tangy flavor for ethnic foods.

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## 2.5: Design Principles for Plating Food

### Design Principles for Plating Food

A checklist:

- Flow from left to right
- Splash of color on left
- Height on right side

In the western world, we read from left to right. When a new image is presented to us, we tend to scan it from the left side to the right side. You can use this knowledge to influence the placement of food on the plate. If you have a bit of color on the left side of the plate (sauce, fresh fruit, etc.), the eye will be attracted to that. If you plan to have height on the right side of the plate (garnish, ramekin, etc.), it will draw the eye across the plate (Figure 6).



*Figure 6.*

Your eye should be able to flow across the components. There should be movement on the plate. An upward curve of a tuile or chocolate garnish, a connection between two components with a caramel stick, or the flow of coulis can help direct movement and create a focal point. All these items combined will make a plate more appealing visually and attract the eye of the diner before the dessert is eaten.

The main component of the dessert does not always need to be centered, but can be placed slightly offset. Generally, sauce, ice cream or sorbet, and the main garnishes should radiate from the main component without a lot of separation. This allows the plate to have a balance of white space and not look too busy or confusing. Keeping components away from the outside edge of the plate will also help balance the presentation.

## Placement on the plate



Figure 7a.



Figure 7b.

On the plate in Figure 7a, the two main components are pushed to the outside of the plate, causing the eye to focus on the emptiness (or negative space) in the middle. On the plate in Figure 7b, the components have been brought together, making a connection between all three items. This creates visual harmony.

Using the serving area of the plate well

*Figure 8a.*

*Figure 8b.*

Figure 8a shows the correct design principles (color on the left, and a garnish that is high on the right side), which do cause the eye to move left to right, but the cake is pushed back almost to the very edge of the plate. The sauce is all on the left side. The combination of the two uses only about half of the surface area. This highlights the negative space on the plate.

In Figure 8b, the sauce is piped across the entire surface of the plate, and the cake is brought almost to the center, creating more balance.

*Figure 9a.*

*Figure 9b.*

Figure 9a shows a dessert with a lot of sauce, done in similar shapes. The highest item is placed incorrectly, in the bottom left corner.

In Figure 9b, the presentation is simplified. Movement is controlled, drawing the eye to the tallest component. To help balance the plate, perhaps another component could have been added in the middle. Think about what might make an appropriate addition.

Which Cajun & Creole dishes would be appropriate for this plate design? What is the atmosphere of the restaurant? Whom would consider this design appealing?

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Modern dessert plate by Ken Harper

Plate Placement A by Ken Harper

Plate Placement B by Ken Harper

Unbalanced Plate by Ken Harper

Balanced Plate by Ken Harper

Flow 1 by Ken Harper

Flow 2 by Ken Harper

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## 2.6: Professional Associations

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American Culinary Association (ACF), [www.acfchefs.org](http://www.acfchefs.org)  
American Dietetic Association (ADA), [www.eatright.org](http://www.eatright.org)  
American Hotel and Lodging Association (AHLA), [www.ahla.org](http://www.ahla.org)  
American Institute of Baking (AIB), [www.aibonline.org](http://www.aibonline.org)  
American Institute of Wine and Food (AIWF), [www.aiwf.org](http://www.aiwf.org)  
American Personal Chef Association (APCA), [www.personalchef.com](http://www.personalchef.com)  
American Society for Healthcare Food Service Administrators (ASHFSA), [www.ashfsa.org](http://www.ashfsa.org)  
Black Culinarian Alliance (BCA), [www.blackculinarians.com](http://www.blackculinarians.com)  
Bread Bakers Guild of America, [www.bbga.org](http://www.bbga.org)  
Club Managers Association of America (CMAA), [www.cmaa.org](http://www.cmaa.org)  
Confrerie de la Chaine des Rotisseurs, [www.chaineus.org](http://www.chaineus.org)  
Dietary Managers Association (DMA), [www.dmaonline.org](http://www.dmaonline.org)  
Foodservice Consultants Society International (FCSI), [www.fcsi.org](http://www.fcsi.org)  
Foodservice Educators Network International (FENI), [www.feni.org](http://www.feni.org)  
Food Truck Operation, [Foodtruckoperators.com](http://Foodtruckoperators.com)  
Institute of Food Technologists (IFT), [www.ift.org](http://www.ift.org)  
International Association of Culinary Professionals (IACP), [www.iacp.com](http://www.iacp.com)  
International Caterers Association, [www.icacater.org](http://www.icacater.org)  
International Council of Cruise Lines, [www.iccl.org](http://www.iccl.org)  
International Council on Hotel and Restaurant Institutional Education (ICHRIE), [www.chrie.org](http://www.chrie.org)  
International Food Service Executives Association (IFSEA), [www.ifsea.com](http://www.ifsea.com)  
International Foodservice Manufacturers Association (IFMA), [www.ifmaworld.com](http://www.ifmaworld.com)  
International Inflight Food Service Association (IFSA), [www.ifsanet.com](http://www.ifsanet.com)  
Les Dames d'Escoffier International, [www.ldei.org](http://www.ldei.org)  
National Association of College and University Foodservice (NACUFS), [www.nacufs.org](http://www.nacufs.org)  
National Association of Foodservice Equipment Manufacturers (NAFEM), [www.nafem.org](http://www.nafem.org)  
National Association for the Specialty Food Trade (NASFT), [www.fancyfoodshows.com](http://www.fancyfoodshows.com)  
National Food Processors Association, [www.nfpa-food.org](http://www.nfpa-food.org)  
National Ice Carving Association (NICA), [www.nica.org](http://www.nica.org)  
National Restaurant Association, [www.restaurant.org](http://www.restaurant.org)  
National Society for Healthcare Foodservice Management (HFM), [www.hfm.org](http://www.hfm.org)  
Research Chefs Association (RCA), [www.culinology.com](http://www.culinology.com)  
Retailer's Bakery Association (RBA), [www.rbanet.com](http://www.rbanet.com)  
School Nutrition Association (SNA), [www.schoolnutrition.org](http://www.schoolnutrition.org)  
Societe Culinaire Philanthropique, [www.societeculinaire.com](http://www.societeculinaire.com)  
Society for Foodservice Management (SFM), [www.sfm-online.org](http://www.sfm-online.org)  
United States Personal Chef Association (USPCA), [www.uspca.com](http://www.uspca.com)  
Women's Foodservice Forum (WFF), [www.womensfoodserviceforum.com](http://www.womensfoodserviceforum.com)  
Women Chefs and Restaurateurs, [www.womenfhefs.org](http://www.womenfhefs.org)

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## 2.7: Industry Resources

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### Meats

Agri Beef [www.agribeef.com/education/](http://www.agribeef.com/education/)  
American Lamb Board [www.americanlamb.com/chefs-corner/curriculamb/](http://www.americanlamb.com/chefs-corner/curriculamb/)  
Butterball Foodservice [www.butterballfoodservice.com](http://www.butterballfoodservice.com)  
Maple Leaf Farms [www.mapleleaffarms.com](http://www.mapleleaffarms.com)  
National Cattlemen's Beef Association  
National Pork Board [www.porkfoodservice.org](http://www.porkfoodservice.org)  
National Turkey Federation [www.eatturkey.org](http://www.eatturkey.org)  
North American Meat Institute [www.meatinstitute.org](http://www.meatinstitute.org)

### Seafood

Alaska Seafood Marketing Institute [www.alaskaseafood.org](http://www.alaskaseafood.org)  
Bureau of Seafood and Aquaculture [www.freshfromflorida.com/Recipes/Seafood](http://www.freshfromflorida.com/Recipes/Seafood)  
National Aquaculture Association [thenaa.net](http://thenaa.net)

### Produce

American Egg Board [www.aeb.org](http://www.aeb.org)  
Apricot Producers of California [www.califapricot.com](http://www.califapricot.com)  
Avocados from Mexico [foodservice.avocadosfrommexico.com](http://foodservice.avocadosfrommexico.com)  
California Cling Peach Board [www.calclingpeach.com](http://www.calclingpeach.com)  
California Cling Peach Board [www.calclingpeach.com](http://www.calclingpeach.com)  
California Avocado Commission [www.californiaavocado.com](http://www.californiaavocado.com)  
California Dried Plum Board [www.californiadriedplums.org](http://www.californiadriedplums.org)  
California Endive [www.endive.com](http://www.endive.com)  
California Fig Advisory Board [www.californiafigs.com](http://www.californiafigs.com)  
California Kiwifruit Commission [www.kiwifruit.org](http://www.kiwifruit.org)  
California Pear Advisory Board [www.calpear.com](http://www.calpear.com)  
California Raisin Marketing Board \* Dietary Tool Kit [www.calraisins.org](http://www.calraisins.org)  
California Strawberry Commission [www.calstrawberry.com](http://www.calstrawberry.com)  
California Table Grape Commission [www.tablegrape.com](http://www.tablegrape.com)  
Cherry Marketing Institute [www.choosecherries.com](http://www.choosecherries.com)  
Concord Grape Association [www.concordgrape.org](http://www.concordgrape.org)  
Cranberry Institute [www.cranberryinstitute.org](http://www.cranberryinstitute.org)  
Cranberry Marketing Committee\*Tool Kit [www.uscranberries.com](http://www.uscranberries.com)  
Dole Packaged Foods \*Cost Savings Calculator [www.dolefoodservice.com](http://www.dolefoodservice.com)  
Florida Dept. of Citrus [www.floridajuice.com](http://www.floridajuice.com)  
Hass Avocado Board \*Tool Kit [www.avocadocentral.com](http://www.avocadocentral.com)  
Idaho Potato Commission \*Cost & Sizing Guides [www.idahopotato.com](http://www.idahopotato.com)  
Leafy Greens Council [www.leafy-greens.org](http://www.leafy-greens.org)  
Leaf Greens Marketing Association [www.lgma.ca.gov/](http://www.lgma.ca.gov/) Louisiana Sweet Potato Commission [www.sweetpotato.org](http://www.sweetpotato.org)  
Mushroom Council [www.mushroomcouncil.org](http://www.mushroomcouncil.org)  
National Honey Board \*Teacher Guide [www.honey.com](http://www.honey.com)  
National Mango Board \*Lesson Plans [www.mango.org](http://www.mango.org)  
National Onion Association\*Lesson Plans [www.onions-usa.org](http://www.onions-usa.org)  
National Processed Raspberry Council [www.redrazz.org](http://www.redrazz.org)  
National Watermelon Promotional Board [www.watermelon.org](http://www.watermelon.org)  
NC Sweet Potato Commission [www.ncsweetpotatoes.com](http://www.ncsweetpotatoes.com)

New York Apple Association [www.nyapplecountry.com](http://www.nyapplecountry.com)  
North American Blueberry Council [www.blueberry.org](http://www.blueberry.org)  
Northwest Cherry Growers [www.nwcherries.com](http://www.nwcherries.com)  
Olives from Spain [olivesfromspain.us/](http://olivesfromspain.us/)  
Oregon Raspberries and Blackberries [www.oregon-berries.com](http://www.oregon-berries.com)  
Pacific Northwest Canned Pear Service [www.eatcannedpears.com/](http://www.eatcannedpears.com/)  
Pear Bureau Northwest [www.usapears.com](http://www.usapears.com)  
Pomegranate Council [www.pomegranates.org](http://www.pomegranates.org)  
Potatoes USA [www.PotatoGoodness.com](http://www.PotatoGoodness.com)  
Produce for Better Health Foundation [www.5aday.com](http://www.5aday.com)  
The Soyfoods Council [www.thesoyfoodscouncil.com](http://www.thesoyfoodscouncil.com)  
U.S. Apple Association [www.usapple.org](http://www.usapple.org)  
USA Rice Federation [www.menurice.com](http://www.menurice.com)  
Washington Red Raspberry Commission [www.red-raspberry.org](http://www.red-raspberry.org)  
Washington State Apple Commission [www.bestapples.com](http://www.bestapples.com)  
Washington State Potato Commission [www.potatoes.com](http://www.potatoes.com)  
Wheat Foods Council \*Tool kits and classroom materials [www.wheatfoods.org](http://www.wheatfoods.org)  
Wild Blueberry Assn. of North America [www.wildblueberries.com](http://www.wildblueberries.com)

## Oil, Spices and Seasonings

North American Olive Oil Association \*Classroom materials [www.aboutoliveoil.org](http://www.aboutoliveoil.org)

## Nuts and Legumes

Almond Board of California\*Tool Kit [www.almonds.com/food-professionals](http://www.almonds.com/food-professionals)  
American Pistachio Growers [www.americanpistachios.org/](http://www.americanpistachios.org/)  
California Walnut Board [www.walnuts.org](http://www.walnuts.org)  
National Peanut Board [www.nationalpeanutboard.org](http://www.nationalpeanutboard.org)

## Dairy Products

Emmi Roth USA \*Pairing information [us.emmi.com/en](http://us.emmi.com/en)  
Real CA Milk [www.realcaliforniamilk.com/foodservice/](http://www.realcaliforniamilk.com/foodservice/)  
Wisconsin Milk Marketing Board Pairing guides [www.wisdairy.com](http://www.wisdairy.com)

## Specialty Foods

New York Wine & Grape Foundation [www.nywine.com](http://www.nywine.com)  
Popcorn Board [www.popcorn.org](http://www.popcorn.org)

## Baking Ingredients

Guittard Chocolate Company [www.guittard.com](http://www.guittard.com)  
Bay State Milling Co. [www.baystatemilling.com](http://www.baystatemilling.com)

## Manufacturing/Distributors

Barilla America [www.barilla.com/en-us](http://www.barilla.com/en-us)  
Bay State Milling Co.  
[www.baystatemilling.com](http://www.baystatemilling.com)  
Dole Packaged Foods \*Cost Savings Calculator [www.dolefoodservice.com](http://www.dolefoodservice.com)  
Knouse Foods [www.knousefoodservice.com](http://www.knousefoodservice.com)  
SYSCO [www.sysco.com](http://www.sysco.com)

Unilever Food Solutions [www.unileverfoodsolutions.us](http://www.unileverfoodsolutions.us)

Verterra Dinnerware [www.verterra.com](http://www.verterra.com)

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## Glossary

**a la** | French for "in the manner or style of"; used in relation to a food , it designates a style of preparation or presentation.

**a la carte** | a menu on which each food and beverage is listed and priced separately; (2) foods cooked to order as opposed to foods cooked in advance and held for later service.

**a la grecque** | a preparation style in which vegetables are marinated in olive oil, lemon juice and herbs, then served cold.

**a point** | French term for cooking to the ideal degree of doneness; (2) when applied to meat , refers to cooking it medium rare.

**absorption** | the ability of flour to absorb moisture when mixed into dough , which varies according to protein content, growing, and storage conditions.

**acid** | a substance that neutralizes a base (alkaline) in a liquid solution; foods such as citrus juice, vinegar and wine that have a sour or sharp flavor (most foods are slightly acidic); acids have a pH of less than 7.

**acidulation** | the browning of cut fruit caused by the reaction of an enzyme (polyphenol oxidase) with the phenolic compounds present in these fruits; this browning is often mistakenly attributed to exposure to oxygen.

**acini di pepe** | from the Italian word for "peppercorn"; a tiny pasta shaped like peppercorns primarily used for soups; orzo can be substituted.

**additives** | substances added to many foods to prevent spoilage or improve appearance, texture, flavor or nutritional value; they may be synthetic materials copied from nature (for example, sugar substitutes) or naturally occurring substances (for example , lecithin). Some food additives may cause allergic reactions in sensitive people.

**adobo seasoning** | a commercial spice blend; although several brands are available, most include dried chilies, Mexican oregano , cumin, black pepper, garlic powder and onion powder.

**aerate** | to incorporate air into a mixture through sifting and mixing.

**aerobic bacteria** | those that thrive on oxygen.

**aging** | (1) the period during which freshly killed meat is allowed to rest so that the effects of rigor mortis dissipate; (2) the period during which freshly milled flour is allowed to rest so that it will whiten and produce less sticky doughs; the aging of flour can be chemically accelerated.

**airline breast** | a boneless chicken breast with the first wing bone attached.

**al dente** | Italian for "to the tooth"; used to describe a food , usually pasta, that is cooked only until it gives a slight resistance when one bites into it.

**albumen** | the principal protein found in egg whites.

**alkali** | also known as a base, any substance with a pH higher than 7; baking soda is one of the few alkaline foods.

**alkaloid** | a number of bitter organic substances with alkaline properties; found most often in plants and sometimes used in drugs.

**allemande** | an intermediary sauce made by adding lemon juice and a liaison to chicken or veal veloute.

**allumette** | a matchstick cut of 1/8 inch X 1/8 inch X 2 inches (3 millimeters X 3 millimeters X 5 centimeters) usually used for potatoes; (2) a strip of puff pastry with a sweet or savory filling.

**American service** | restaurant service in which the waiter takes the orders and brings the food to the table; the food is placed on dishes (plated) in the kitchen, making it a relatively fast method for seated service.

**amino acid** | the basic molecular component of proteins; each of the approximately two dozen amino acids contains oxygen, hydrogen, carbon and nitrogen atoms.

**anadromous** | describes a fish that migrates from a saltwater habitat to spawn in fresh water.

**anaerobic bacteria** | those that are able to live and grow without the presence of oxygen.

**andouille** | a very spicy smoked pork sausage, popular in Cajun cuisine.

**angus beef** | a brand created in 1978 to distinguish the highest-quality beef produced from descendants of the black, hornless Angus cattle of Scotland.

**animal husbandry** | the business, science and practice of raising domesticated animals.

**anterior** | at or toward the front of an object or place; opposite of posterior.

**appetizers** | also known as first courses, usually small portions of hot or cold foods intended to whet the appetite in anticipation of the more substantial courses to follow.

**aquafarming** | also known as aquaculture, the business, science and practice of raising large quantities of fish and shellfish in tanks, ponds or ocean pens.

**aroma** | the sensations, as interpreted by the brain, of what we detect when a substance comes in contact with sense receptors in the nose.

**aromatic** | a food added to enhance the natural aromas of another food; aromatics include most flavorings, such as herbs and spices, as well as some vegetables.

**artesian-well water** | water obtained from an underground source; the water rises to the surface under pressure.

**as purchased (A.P.)** | the condition or cost of an item as it is purchased or received from the supplier

**aspic; aspic jelly** | a clear jelly usually made from a clarified stock thickened with gelatin; used to coat foods, especially charcuterie items, and for garnish.

**au gratin** | foods with a browned or crusted top; often made by browning a food with a bread-crumbs, cheese and/ or sauce topping under a broiler or salamander.

**au jus** | roasted meats, poultry or game served with their natural, un-thickened juices.

**au sec** | cooked until nearly dry.

**bacteria** | single-celled microorganisms, some of which can cause diseases, including food-borne diseases.

**bagel** | a dense, donut-shaped yeast roll; it is cooked in boiling water, then baked, which gives it a shiny glaze and chewy texture.

**bain marie** | a hot-water bath used to gently cook food or keep cooked food hot; (2) a container for holding food in a hot water bath.

**baked Alaska** | ice cream set on a layer of sponge cake and encased in meringue, then baked until the meringue is warm and golden.

**baked blind** | describes a pie shell or tart shell that is baked unfilled, using baking weights or beans to support the crust as it bakes.

**baking** | a dry-heat cooking method in which foods are surrounded by hot, dry air in a closed environment; similar to roasting, the term baking is usually applied to breads, pastries, vegetables and fish.

**baking powder** | a mixture of sodium bicarbonate and one or more acids, generally cream of tartar and/or sodium aluminum sulfate, used to leaven baked goods; it releases carbon dioxide gas if moisture is present in a formula. Single-acting baking powder releases carbon dioxide gas in the presence of moisture only; double -acting baking powder releases some carbon dioxide gas upon contact with moisture, and more gas is released when heat is applied.

**baking soda** | sodium bicarbonate, an alkaline compound that releases carbon dioxide gas when combined with an acid and moisture; used to leaven baked goods.

**ballotine** | similar to a galantine; usually made by sniffing a deboned poultry leg with forcemeat; it is then poached or braised and normally served hot.

**banneton** | a traditional woven basket, often lined with canvas, in which yeast bread is placed to rise before baking.

**barbecue** | to cook foods over dry heat created by the burning of hardwood or hardwood charcoals; (2) a tangy tomato- or vinegar-based sauce used for grilled foods ; (3) foods cooked by this method and/or with this sauce.

**barding** | tying thin slices of fat, such as bacon or pork fatback, over meats or poultry that have little to no natural fat covering in order to protect and moisten them during roasting.

**barista** | Italian for "bartender"; now used to describe someone who has been professionally trained in the art of preparing espresso and espresso-based beverages.

**base** | a substance that neutralizes an acid in a liquid solution; ingredients such as sodium bicarbonate (baking soda) that have an alkaline or bitter flavor; bases have a pH of more than 7.

**baste** | to moisten foods during cooking (usually grilling, broiling or roasting) with melted fat, pan drippings, a sauce or other liquids to prevent drying and to acid flavor.

**batonnet** | foods cut into matchstick shapes of 1/4 inch X 1/4 inch X 2 inches (6 millimeters X 6 millimeters X 5 centimeters).

**batter** | (1) a semiliquid mixture containing flour or other starch used to make cakes and breads. The gluten development is minimized and the liquid forms the continuous medium in which other ingredients are disbursed; generally contains more fat, sugar and liquids than a dough; (2) a semiliquid mixture of liquid and starch used to coat foods for deep-frying.

**Baume scale** | see hydrometer.

**bavarian cream** | a sweet dessert mixture made by thickening custard sauce with gelatin and then folding in whipped cream; the final product is poured into a mold and chilled until firm.

**beard** | a clump of dark threads found on a mussel.

**bearnaise** | a sauce made of butter and egg yolks and flavored with a reduction of vinegar, shallots, tarragon and peppercorns.

**beating** | a mixing method in which foods are vigorously agitated to incorporate air or develop gluten; a spoon or electric mixer with its paddle attachment is used.

**beefalo** | the product of crossbreeding a bison (American buffalo) and a domestic beef animal.

**beer** | an alcoholic beverage made from water, hops and malted barley, fermented by yeast.

**beignets** | squares or strips of éclair paste deep-fried and dusted with powdered sugar.

**berry** | the kernel of certain grains such as wheat; (2) small, juicy fruits that grow on vines and bushes.

**beurre blanc** | French for "white butter"; an emulsified butter sauce made from shallots, white wine and butter.

**beurre compose** | a compound butter term.

**beurre fondu** | French for "melted butter"; it is often served over steamed vegetables such as asparagus or poached white fish.

**beurre manie** | a combination of equal amounts by weight of flour and soft, whole butter; it is whisked into a simmering sauce at the end of the cooking process for quick thickening and added sheen and flavor.

**beurre noir** | French for "black butter"; used to describe whole butter cooked until dark brown (not black); sometimes flavored with vinegar or lemon juice, capers and parsley and served over fish, eggs and vegetables.

**beurre noisette** | French for "brown butter"; used to describe butter cooked until it is a light brown color; it is flavored and used in much the same manner as beurre noir.

**beurre rouge** | French for "red butter"; an emulsified butter sauce made from shallots, red wine and butter

**biological hazard** | a danger to the safety of food caused by disease-causing microorganisms such as bacteria, molds, yeasts, viruses or fungi.

**biscuit method** | a mixing method used to make biscuits, scones and flaky doughs; it involves cutting cold fat into the flour and other dry ingredients before any liquid is added.

**bisque** | a soup made from shellfish; classic versions are thickened with rice.

**bivalves** | mollusks such as clams, oysters and mussels that have two bilateral shells attached at a central hinge.

**blanching** | very briefly and partially cooking a food in boiling water or hot fat; used to assist preparation (for example, to loosen peels from vegetables), as part of a combination cooking method or to remove undesirable flavors.

**blanquette** | a white stew made of a white sauce and meat or poultry that is simmered without first browning.

**blending** | a mixing method in which two or more ingredients are combined just until they are evenly distributed.

**bloom** | (1) a white, powdery layer that sometimes appears on chocolate if the cocoa butter separates; (2) a measure of gelatin's strength; (3) to soften granulated gelatin in a cold liquid before dissolving and using.

**blue cheese** | (1) a generic term for any cheese containing visible blue-green molds that contribute a characteristic tart, sharp flavor and aroma; also known as a blue-veined cheese or bleu; (2) a group of Roquefort-style cheeses made in the United States and Canada from cow's or goat's milk rather than ewe's milk and injected with molds that form blue-green veins; also known as blue mold cheese or blue-veined cheese.

**boiling** | a moist-heat cooking method that uses convection to transfer heat from a hot (approximately 212°F/ 100°C) liquid to the food submerged in it; the turbulent waters and higher temperatures cook foods more quickly than do poaching or simmering.

**bombe** | two or more flavors of ice cream, or ice cream and sherbet, shaped in a spherical mold; each flavor is a separate layer that forms the shell for the next flavor.

**bordelaise** | a brown sauce flavored with a reduction of red wine, shallots, pepper and herbs and garnished with marrow.

**bottled water** | any water, either still or sparkling, that is bottled and sold.

**bouchees** | small puff pastry shells that can be filled and served as bite-size hors d'oeuvre or petit fours.

**bound salad** | a salad composed of cooked meats, poultry, fish, shellfish, pasta or potatoes combined with a dressing.

**bouquet garni** | fresh herbs and vegetables tied into a bundle with twine and used to flavor stocks, sauces, soups and stews.

**bouquetiere** | a garnish (bouquet) of carefully cut and arranged fresh vegetables.

**boxed beef** | industry terminology for primal and sub-primal cuts of beef that are vacuum sealed and packed into cardboard boxes for shipping from the packing plant to retailers and food service operations.

**braising** | a combination cooking method in which foods are first browned in hot fat, then covered and slowly cooked in a small amount of liquid over low heat; braising uses a combination of simmering and steaming to transfer heat from the liquid (conduction) and the air (convection) to the foods.

**bran** | the tough outer layer of a cereal grain and the part highest in fiber.

**brandy** | an alcoholic beverage made by distilling wine or the fermented mash of grapes or other fruits.

**Brawn** | also called an aspic terrine, made from simmered meats packed into a terrine and covered with aspic.

**brazier; brasier** | a pan designed for braising; usually round with two handles and a tight-fitting lid

**breeding** | a coating of bread or cracker crumbs, commmeal or other dry meal applied to foods that wilt typically be deep-fried or pan-fried; (2) the process of applying this coating.

**brigade** | a system of staffing a kitchen so that each worker is assigned a set of specific tasks; these tasks are often related by cooking method, equipment or the types of foods being produced.

**brine** | a mixture of salt, water and seasonings used to preserve foods.

**brioche** | a rich yeast bread containing large amounts of eggs and butter.

**brochettes** | skewers, either small hors d'oeuvre or large entree size, threaded with meat, poultry, fish, shellfish and/ or vegetables and grilled, broiled or baked; sometimes served with a clipping sauce.

**broiling** | a dry-heat cooking method in which foods are cooked by heat radiating from an overhead source

**broth** | a flavorful liquid obtained from the long simmering of meats and/or vegetables.

**brown sauce** | see espagnole sauce.

**brown stew** | a stew in which the meat is first browned in hot fat.

**brown stock** | a richly colored stock made of chicken, veal, beef or game bones and vegetables, all of which are caramelized before they are simmered in water with seasonings.

**brunch** | a late-morning to early-afternoon meal that takes the place of both breakfast and lunch; a brunch menu often offers breakfast foods as well as almost anything else.

**brunoise** | (1) foods cut into cubes of 1/8 inch X 1/8 inch X 1/8 inch (3 millimeters X 3 millimeters X 3 millimeters); a 1/16-inch (1.5-millimeter) cube is referred to as a fine brunoise; (2) foods garnished with vegetables cut in this manner

**buffet service** | restaurant service in which diners generally serve themselves foods arranged on a counter or table or are served by workers assigned to specific areas of the buffet. Usually 'buffet service style' restaurants charge by the meal; restaurants offering buffet service that charge by the dish are known as cafeterias.

**bun** | any of a variety of small, round yeast rolls; can be sweet or savory.

**butcher** | to slaughter and/or dress or fabricate animals for consumption.

**butler service** | restaurant service in which servers pass foods (typically hors d'oeuvre) or drinks arranged on trays.

**buttercream** | a light, smooth, fluffy frosting of sugar, fat and flavorings; egg yolks or whipped egg whites are sometimes added. There are three principal kinds: simple, Italian and French.

**butterfly** | to slice boneless meat, poultry or fish nearly in half lengthwise so that it spreads open like a book.

**béchamel** | a leading sauce made by thickening milk with a white roux and adding seasonings.

**cafeteria** | see buffet service.

**caffeine** | an alkaloid found in coffee beans, tea leaves and cocoa beans that acts as a stimulant.

**cake** | in American usage, refers to a broad range of pastries, including layer cakes, coffeecakes and gateaux; can refer to almost anything that is baked, tender, sweet and sometimes frosted.

**calf** | (1) a young cow or bull; (2) the meat of calves slaughtered when they are older than five months.

**calorie** | the unit of energy measured by the amount of heat required to raise 1000 grams of water one degree Celsius; it is also written as kilocalorie or kcal.

**canapé** | tiny open-faced sandwich served as an hors d'oeuvre; usually composed of a small piece of bread or toast topped with a savory spread and garnish.

**capon** | the class of surgically castrated male chickens; they have well-flavored meat and soft, smooth skin

**capsaicin** | an alkaloid found in a chili pepper's placental ribs that provides the pepper's heat.

**Carbohydrates** | a group of compounds composed of oxygen, hydrogen and carbon that supply the body with energy (4 calories per gram); carbohydrates are classified as simple (including certain sugars) and complex (including starches and fiber)

**carmelization** | the process of cooking sugars; the browning of sugar enhances the flavor and appearance of foods.

**carotenoid** | a naturally occurring pigment that predominates in red and yellow vegetables such as carrots and red peppers.

**carryover cooking** | the cooking that occurs after a food is removed from a heat source; it is accomplished by the residual heat remaining in the food.

**cartilage** | also known as gristle; a tough, elastic, whitish connective tissue that helps give structure to an animal's body.

**carve** | to cut cooked meat or poultry into portions casings- membranes used to hold forcemeat for sausages; they can be natural animal intestines or manufactured from collagen extracted from cattle hides.

**casserole** | (1) a heavy dish, usually ceramic, for baking foods; (2) foods baked in a casserole dish.

**caul fat** | a fatty membrane from pig or sheep intestines; it resembles fine netting and is used to bard roasts and pates and to encase forcemeat for sausages.

**cellulose** | a complex carbohydrate found in the cell wall of plants; it is edible but indigestible by humans

**cephalopods** | mollusks with a single, thin internal shell called a pen or cuttlebone, well-developed eyes, a number of arms that attach to the head and a saclike fin-bearing mantle; include squid and octopus

**Certified Angus Beef** | a brand created in 1978 to distinguish the highest-quality beef produced from descendants of the black, hornless Angus cattle of Scotland. The meat must meet American Angus Association standards for yield, marbling and age, and be graded as high choice or prime.

**chafing dish** | a metal dish with a heating unit (flame or electric) used to keep foods warm at tableside or during buffet service.

**chalazae cords** | thick, twisted strands of egg white that anchor the yolk in place.

**charcuterie** | the production of pâtés, terrines, galantines, sausages and similar foods.

**cheesecloth** | a light, fine mesh gauze used to strain liquids and make sachets.

**chef de cuisine** | also known simply as chef; the person responsible for all kitchen operations, developing menu items and setting the kitchen's tone and tempo.

**chef de partie** | also known as station chef; produces the menu items under the direct supervision of the chef or sous-chef.

**chefs knife** | an all-purpose knife used for chopping, slicing and mincing; its tapering blade is 8-14 inches (20-35 centimeters) long.

**chemical hazard** | a danger to the safety of food caused by chemical substances, especially cleaning agents, pesticides and toxic metals.

**chevre** | French for "goat"; generally refers to a cheese made from goat's milk.

**chiffonade** | to finely slice or shred leafy vegetables or herbs.

**chili** | a member of the capsicum plant family; may be used fresh or dried or dried and ground into a powder.

**chili** | stew-like dish containing chili- a commercial spice powder containing a blend of seasonings.

**china cap** | a cone-shaped strainer made of perforated metal.

**chine** | the backbone or spine of an animal; a sub-primal cut of beef, veal, lamb, pork or game carcass containing a portion of the backbone with some adjoining flesh.

**chinois** | a conical strainer made of fine mesh, used for straining and pureeing foods.

**chlorophyll** | a naturally occurring pigment that predominates in green vegetables such as cabbage.

**cholesterol** | a fatty substance found in foods derived from animal products and in the human body; it has been linked to heart disease.

**chop** | (1) a cut of meat, including part of the rib; (2) to cut into pieces when uniformity of size and shape is not important.

**chorizo** | a coarse, spicy pork sausage flavored with ground chilies and removed from its casing before cooking; used in Mexican and Spanish cuisines.

**choux pastry** | see Eclair paste.

**Chowder** | a hearty soup made from fish, shellfish and/or vegetables, usually containing milk and potatoes and often thickened with roux.

**churros** | a Spanish and Mexican pastry in which sticks of éclair paste flavored with cinnamon are deep-fried and rolled in sugar while still hot.

**chutney** | a sweet-and-sour condiment made of fruits and/or vegetables cooked in vinegar with sugar and spices; so me chutneys are reduced to a puree, while others retain recognizable pieces of their ingredients.

**cider** | mildly fermented apple juice; non-alcoholic apple juice may also be labeled cider.

**citrus** | fruits characterized by a thick rind, most of which is a bitter white pith with a thin exterior layer of colored skin (zest); their flesh is segmented and juicy and varies from bitter to tart to sweet.

**clarification** | (1) the process of transforming a broth into a clear consommé by trapping impurities with a clearmeat consisting of the egg white protein albumen, ground meat, an acidic product, mirepoix and other ingredients; (2) the clearmeat used to clarify a broth.

**clarified butter** | purified butterfat; the butter is melted and the water and milk solids are removed.

**classic cuisine** | a late 19th - and early 20th-century refinement and simplification of French Grande Cuisine. Classic (or classical) cuisine relies on the thorough exploration of culinary principles and techniques, and emphasizes the refined preparation and presentation of superb ingredients.

**clean** | to remove visible dirt and soil.

**clear soups** | un-thickened soups, including broths, consommés and broth-based soups.

**clearmeat** | see clarification.

**club roll** | a small oval-shaped roll made of crusty French bread.

**coagulation** | the irreversible transformation of proteins from a liquid or semi-liquid state to a drier, solid state; usually accomplished through the application of heat.

**cocoa butter** | the fat found in cocoa beans and used in fine chocolates.

**coconut cream** | (1) a coconutflavored liquid made like coconut milk but with less water; it is creamier and thicker than coconut milk; (2) the thick fatty portion that separates and rises to the top of canned or frozen coconut milk; do not substitute cream of coconut for true coconut cream.

**coconut milk** | a coconut-flavored liquid made by pouring boiling water over shredded coconut; may be sweetened or unsweetened; do not substitute cream of coconut for coconut milk.

**coconut water** | the thin, slightly opaque liquid contained within a fresh coconut.

**cojita** | an aged, hard, salty Mexican cow's-milk cheese; similar to feta, although not soaked in brine.

**colander** | a perforated bowl, with or without a base or legs, used to strain foods.

**collagen** | a protein found in connective tissue; it is converted into gelatin when cooked with moisture.

**combination cooking methods** | cooking methods, principally braising and stewing, that employ both dry-heat and moist-heat procedures.

**composed salad** | a salad prepared by arranging each of the ingredients (the base, body, garnish and dressing) on individual plates in an artistic fashion.

**composition** | a completed plate's structure of colors, shapes and arrangements.

**compound butter** | also known as a beurre composé, a mixture of softened whole butter and flavorings used as a sauce or to flavor and color other sauces.

**compound sauces** | see Small sauces.

**concasse** | peeled, seeded and diced tomato.

**concasser** | to pound or chop coarsely; usually used for tomatoes or parsley.

**concentrate** | also known as a fruit paste or compound; a reduced fruit puree, without a gel structure, used as a flavoring.

**conching** | stirring melted chocolate with large stone or metal rollers to create a smooth texture in the finished chocolate.

**condiment** | traditionally, any item added to a dish for flavor, including herbs, spices and vinegars; now also refers to cooked or prepared flavorings such as prepared mustards, relishes, bottled sauces and pickles.

**conduction** | the transfer of heat from one item to another through direct contact.

**confit** | meat or poultry (often lightly salt-cured) slowly cooked and preserved in its own fat and served hot.

**connective tissue** | tissue found throughout an animal's body that binds together and supports other tissues such as muscles.

**consommé** | a rich stock or broth that has been clarified with clearmeat to remove impurities.

**contaminants** | biological, chemical or physical substances that can be harmful when consumed in sufficient quantities.

**contamination** | the presence, generally unintentional, of harmful organisms or substances.

**convection** | the transfer of heat caused by the natural movement of molecules in a fluid (whether air, water or fat) from a warmer area to a cooler one; mechanical convection is the movement of molecules caused by stirring.

**conversion factor (C.F.)** | the number used to increase or decrease ingredient quantities and recipe yields

**cookery** | the art, practice or work of cooking.

**cookie press** | also known as a cookie gun, a hollow tube fitted with a plunger and an interchangeable decorative tip or plate; soft cookie dough is pressed through the tip to create shapes or patterns.

**cookies** | small, sweet, flat pastries; usually classified by preparation or makeup techniques as drop, icebox, bar, cutout, pressed and wafer.

**cooking** | (1) the transfer of energy from a heat source to a food; this energy alters the food's molecular structure, changing its texture, flavor, aroma and appearance; (2) the preparation of food for consumption

**cooking medium** | the air, fat, water or steam in which a food is cooked.

**coring** | the process of removing the seeds or pit from a fruit or fruitvegetable.

**cost of goods sold** | the total cost of food items sold during a given period; calculated as beginning inventory plus purchases minus ending inventory.

**cost per portion** | the amount of the total recipe cost divided by the number of portions produced from that recipe; the cost of one serving.

**coulibiatic** | a creamy mixture of salmon fillet, rice, hard-cooked eggs, mushrooms, shallots and dill enclosed in a pastry envelope usually made of brioche dough.

**coulis** | a sauce made from a puree of vegetables and/or fruit; may be served hot or cold.

**count** | the number of individual items in a given measure of weight or volume.

**coupe** | another name for an ice cream sundae, especially one served with a fruit topping.

**court bouillon** | water simmered with vegetables, seasonings and an acidic product such as vinegar or wine; used for simmering or poaching fish, shellfish or vegetables.

**cows** | female cattle after their first calving, principally raised for milk and calf production.

**cracking** | a milling process in which grains are broken open.

**cream filling** | a pie filling made of flavored pastry cream thickened with cornstarch.

**cream of coconut** | a canned commercial product consisting of thick, sweetened coconut-flavored liquid; used for baking and in beverages.

**cream puffs** | baked rounds of eclair paste cut in half and filled with pastry cream, whipped cream, fruit or other filling

**cream sauce** | a sauce made by adding cream to a béchamel sauce

**cream soup** | a soup made from vegetables cooked in a liquid that is thickened with a starch and pureed; cream is then incorporated to acid richness and flavor

**creaming** | a mixing method in which softened fat and sugar are vigorously combined to incorporate air

**creams** | also known as crèmes; include light, fluffy or creamy-textured dessert foods made with whipped cream or whipped egg whites, such as Bavarian creams, chiffons, mousses and crème Chantilly

**crepe** | a thin, delicate unleavened griddlecake made with a very thin egg batter cooked in a very hot sauté pan; used in sweet and savory preparations

**critical control point** | a step during the processing of food when a mistake can result in the transmission, growth or survival of pathogenic bacteria

**croffte** | describes a food encased in a bread or pastry crust

**croissant** | a crescent-shaped roll made from a rich, rolled-in yeast dough

**croquebouche** | a pyramid of small puffs, each filled with pastry cream; a French tradition for Christmas and weddings, it is held together with caramelized sugar and decorated with spun sugar or marzipan flowers

**croquette** | a food that has been pureed or bound with a thick sauce (usually béchamel or veloute), made into small shapes and then breaded and deep-fried

**cross-contamination** | the transfer of bacteria or other contaminants from one food, work surface or piece of equipment to another

**crouton** | a bread or pastry garnish, usually toasted or sautéed until crisp

**crudités** | generally refers to raw or blanched vegetables served as an hors d'oeuvre and often accompanied by a dip

**crullers** | a Dutch pastry in which a loop or strip of twisted eclair paste is deep-fried

**crumb** | the interior of bread or cake; may be elastic, aerated, fine grained or coarse grained

**crustaceans** | shellfish characterized by a hard outer skeleton or shell and jointed appendages; include lobsters, crabs and shrimp

**crème anglaise** | also known as crème à l'anglaise; see vanilla custard sauce

**crème Brule** | French for "burnt cream"; used to describe a rich dessert custard topped with a crust of caramelized sugar

**crème caramel** | like crème renversee and flan, a custard baked over a layer of caramelized sugar and inverted for service

**crème Chantilly** | heavy cream whipped to soft peaks and flavored with sugar and vanilla; used to garnish pastries or desserts or folded into cooled custard or pastry cream for fillings

**crème Chiboust** | a vanilla pastry cream lightened by folding in Italian meringue; traditionally used in a gâteau St. Honore

**crème patissiere** | see pastry cream

**cuisine** | the ingredients, seasonings, cooking procedures and styles attributable to a particular group of people; the group can be defined by geography, history, ethnicity, politics, culture or religion

**cuisson** | the liquid used for shallow poaching

**cupping** | testing coffee or tea for taste and quality, often performed by a professional taster trained to identify key coffee or tea characteristics

**curdling** | the separation of milk or egg mixtures into solid and liquid components; caused by overcooking, high heat or the presence of acids

**curing salt** | a mixture of salt and sodium nitrite that inhibits bacterial growth; used as a preservative, often for charcuterie items

**custard** | any liquid thickened by the coagulation of egg proteins; its consistency depends on the ratio of eggs to liquid and the type of liquid used; custards can be baked in the oven or cooked in a bain-marie or on the stove top

**cutlet** | a relatively thick, boneless slice of meat

**cutting** | (1) reducing a food to smaller pieces; (2) a mixing method in which solid fat is incorporated into city ingredients until only lumps of the desired size remain

**cutting loss** | the unavoidable and unrecoverable loss of food during fabrication; the loss is usually the result of food particles sticking to the cutting board or the evaporation of liquids

**cuttlebone** | also known as the pen, the single, thin internal shell of cephalopods

**cycle menu** | a menu that changes every day for a certain period and then repeats the same daily items in the same order (for example, on a seven-day cycle, the same menu is used every Monday)

**dairy products** | include cow's milk and foods produced from cow's milk such as butter, yogurt, sour cream and cheese; sometimes other milks and products made from them are included (e.g., goat's milk cheese)

**decant** | to separate liquid from solids without disturbing the sediment by pouring off the liquid; vintage wines are often decanted to remove sediment

**decline phase** | a period during which bacteria die at an accelerated rate, also known as the negative growth phase

**decoction** | (1) boiling a food until its flavor is removed; (2) a procedure used for brewing coffee

**decorator's icing** | see royal icing

**deep-frying** | a dry-heat cooking method that uses convection to transfer heat to a food submerged in hot fat; foods to be deep-fried are usually first coated in batter or breading

**deglaze** | to swirl or stir a liquid (usually wine or stock) in a pan to dissolve cooked food particles remaining on the bottom; the resulting mixture often becomes the base for a sauce

**degrease** | to remove fat from the surface of a liquid such as a stock or sauce by skimming, scraping or lifting congealed fat

**deionized water** | water that has had the cations and anions removed by passing it over a bed of ion exchange resins

**demi-glaze** | French for "half-glaze"; a mixture of half brown stock and half brown sauce reduced by half

**demineralized water** | water that has had all the minerals and impurities removed by passing it over a bed of ion-exchange resins

**density** | the relationship between the mass and volume of a substance ( $D = m/v$ ). For example, as more and more sugar is dissolved in a liquid, the heavier or denser the liquid will become. Sugar density is measured on the Baume scale using a hydrometer or saccharometer.

**dessert wines** | sweet wines made from grapes left on the vine until they are overly ripe, such as Sauternes or wines labeled "Late Harvest"; during fermentation, some of the sugar is not converted to alcohol, but remains in the wine, giving it its characteristic intense sweet taste

**detrempe** | a paste made with flour and water during the first stage of preparing a pastry dough, especially rolled-in doughs

**deveining** | the process of removing a shrimp's digestive tract

**deviled** | describes meat, poultry or other food seasoned with mustard, vinegar and other spicy seasonings

**diagonals** | oval-shaped slices

**dice** | to cut into cubes with six equal-sized sides

**dip** | a thick, creamy sauce, served hot or cold, to accompany crudités, crackers, chips or other foods, especially as an hors d'oeuvre; dips are often based on sour cream, mayonnaise or cream cheese

**direct contamination** | the contamination of raw foods in their natural setting or habitat

**distillation** | the separation of alcohol from a liquid (or, during the production of alcoholic beverages, from a fermented mash); it is accomplished by heating the liquid or mash to a gas that contains alcohol vapors; this steam is then condensed into the desired alcoholic liquid (beverage)

**distilled water** | water that has had all the minerals and impurities removed through distillation; it is generally used for pharmaceutical purposes

**diver scallops** | scallops that are harvested from the ocean by divers who hand-pick each one; diver scallops tend to be less gritty than those harvested by dragging, and hand-harvesting is more ecologically friendly

**docking** | pricking small holes in an unbaked dough or crust to allow steam to escape and to prevent the dough from rising when baked

**dough** | a mixture of flour and other ingredients used in baking; has a low moisture content, and gluten forms the continuous medium into which other ingredients are embedded; it is often stiff enough to cut into shapes

**drawn** | a market form for fish in which the viscera is removed

**dredging** | mating a food with flour or finely ground crumbs; usually done prior to sautéing or frying or as the first step of the standard breading procedure

**dress** | to trim or otherwise prepare an animal carcass for consumption

**dressed** | a market form for fish in which the viscera, gills, fins and scales are removed

**dressing** | another name for a bread stuffing used with poultry

**drinking water** | water that comes from a government-approved source and has undergone some treatment and filtration; it can be bottled or available on tap and is used for drinking and general culinary purposes

**drupes** | see stone fruits

**dry-heat cooking methods** | cooking methods, principally broiling, grilling, roasting and baking, sautéing, pan-frying and deep-frying, that use air or fat to transfer heat through conduction and convection; dry-heat cooking methods allow surface sugars to caramelize

**drying** | a preservation method in which the food's moisture content is dramatically reduced; drying changes the food's texture, flavor and appearance

**duchesse potatoes** | a puree of cooked potatoes, butter and egg yolks, seasoned with salt, pepper and nutmeg; can be eaten as is or used to prepare several classic potato dishes

**duckling** | duck slaughtered before it is eight weeks old

**dumpling** | any of a variety of small starchy products made from doughs or batters that are simmered or steamed; can be plain or filled

**durum wheat** | a species of very hard wheat with a particularly high amount of protein; it is used to make couscous or milled into semolina, which is used for making pasta

**duxelles** | a coarse paste made of finely chopped mushrooms sautéed with shallots in butter used in sauces and stuffing

**eclair paste** | also known as pate a choux; a soft dough that produces hollow baked products with crisp exteriors; used for making eclairs, cream puffs and savory products

**eclairs** | baked fingers of eclair paste filled with pastry cream; the top is then coated with chocolate glaze or fondant

**edible portion (E.P.)** | the amount of a food item available for consumption or use after trimming or fabrication; a smaller, more convenient portion of a larger or bulk unit

**egg wash** | a mixture of beaten eggs (whole eggs, yolks or whites) and a liquid, usually milk or water, used to coat doughs before baking to acid sheen

**elastin** | a protein found in connective tissues, particularly ligaments and tendons; it often appears as the white or silver covering on meats known as silver skin

**emince** | small, thin, boneless piece of meat

**emulsification** | the process by which generally unmixable liquids, such as oil and water, are forced into a uniform distribution

**emulsion** | a uniform mixture of two unmixable liquids; it is often temporary (for example, oil in water)

**en papillote** | a cooking method in which food is wrapped in paper or foil and then heated so that the food steams in its own moisture

**endosperm** | the largest part of a cereal grain and a source of protein and carbohydrates (starch); the part used primarily in milled products

**entrée** | the main dish of an American meal, usually meat, poultry, fish or shellfish accompanied by a vegetable and starch; in France, the first course, served before the fish and meat courses

**Enzymes** | proteins that aid specific chemical reactions in plants and animals

**escalope** | see scallop

**escargot** | French for "snail"; those used for culinary purposes are land snails (genus *Helix*); the most popular are the large Burgundy snails and the smaller but more flavorful common or garden snail known as petit gris

**espagnole** | also known as brown sauce, a leading sauce made of brown stock, mirepoix and tomatoes thickened with brown roux; often used to produce demi-glace

**essence** | a sauce made from a concentrated vegetable juice

**essential nutrients** | nutrients that must be provided by food because the body cannot or does not produce them in sufficient quantities

**essential oils** | pure oils extracted from the skins, peels and other parts of plants used to give their aroma and taste to flavoring agents in foods, cosmetics and other products

**ethnic cuisine** | the cuisine of a group of people having a common cultural heritage, as opposed to the cuisine of a group of people bound together by geography or political factors

**ethylene gas** | a colorless, odorless hydrocarbon gas naturally emitted from fruits and fruit-vegetables that encourages ripening

**evaporation** | the process by which heated water molecules move faster and faster until the water turns to a gas (steam) and vaporizes; evaporation is responsible for the drying of foods during cooking

**ewe's milk** | milk produced by a female sheep; it has approximately 7.9% milkfat, 11.4% milk solids and 80.7% water

**extracts** | concentrated mixtures of ethyl alcohol and flavoring oils such as vanilla, almond and lemon

**extrusion** | the process of forcing pasta dough through perforated plates to create various shapes; pasta dough that is not extruded must be rolled and cut

**fabricate** | to cut a larger portion of raw meat (for example, a primal or sub primal), poultry or fish into smaller portions

**fabricated cuts** | individual portions cut from a sub-primal

**facultative bacteria** | those that can adapt and will survive with or without oxygen

**fancy** | (1) fish that has been previously frozen; (2) a quality grade for fruits, especially canned or frozen

**fatback** | fresh pork fat from the back of the pig, used primarily for barding

**fats** | (1) a group of compounds composed of oxygen, hydrogen and carbon atoms that supply the body with energy (9 calories per gram); fats are classified as saturated, monounsaturated or polyunsaturated; (2) the general term for butter, lard, shortening, oil and margarine used as cooking media or ingredients

**fermentation** | the process by which yeast converts sugar into alcohol and carbon dioxide; it also refers to the time that yeast dough is left to rise - that is, the time it takes for carbon dioxide gas cells to form and become trapped in the gluten network

**feuilletees** | square, rectangular or diamond-shaped puff pastry boxes; may be filled with a sweet or savory mixture

**fiber** | also known as dietary fiber; indigestible carbohydrates found in grains, fruits and vegetables; fiber aids digestion

**FIFO (first in)** | a system of rotating inventory, particularly perishable and semi-perishable goods, in which items are used in the order in which they are received

**filet** | (1) filet: a boneless tenderloin of meat; (2) fillet: the side of a fish removed intact, boneless or semiboneless, with or without skin; (3) to cut such a piece

**file'** | a seasoning and thickening agent made from dried, ground saffron leaves

**fish veloute** | a veloute sauce made from fish stock

**flambé** | food served flaming; produced by igniting brandy, rum or other liquor

**flan** | a firm savory or sweet egg custard; dessert variety is baked over a layer of caramelized sugar and inverted for service

**flash point** | the temperature at which a fat ignites and small flames appear on the surface of the fat

**flash-frozen** | describes food that has been frozen very rapidly using metal plates, extremely low temperatures or chemical solutions

**flatfish** | fish with asymmetrical, compressed bodies that swim in a horizontal position and have both eyes on the top of the head; include sole, flounder and halibut

**flavonoids** | plant pigments that dissolve readily in water, found in red, purple and white vegetables such as blueberries, red cabbage, onions and tea

**flavor** | an identifiable or distinctive quality of a food, drink or other substance perceived with the combined senses of taste, touch and smell

**flavored tea** | tea to which flavorings such as oils, dried fruit, spices, flowers and herbs have been added

**flavoring** | an item that adds a new taste to a food and alters its natural flavors; flavorings include herbs, spices, vinegars and condiments; the terms seasoning and *flavoring* are often used interchangeably.

**fleuron** | a crescent-shaped piece of puff pastry used as a garnish

**flour** | a powdery substance of varying degrees of fineness made by milling grains such as wheat, corn or rye

**fluoridated water** | water, either naturally fluoridated or treated with a fluorine-containing compound, intended to promote healthy teeth by preventing tooth decay

**foamed milk** | milk that is heated and frothed with air and steam generated by an espresso machine; it will be slightly cooler than steamed milk

**foie gras** | liver of specially fattened geese

**fold** | a measurement of the strength of vanilla extract

**folding** | incorporating light, airy ingredients into heavier ingredients by gently moving them from the bottom of the bowl up over the top in a circular motion, usually with a rubber spatula

**fond** | (1) French for "stock" or "base"; (2) the concentrated juices, drippings and bits of food left in pans after foods are roasted or sautéed; it is used to flavor sauces made directly in the pans in which foods were cooked

**fond lie** | see jus lie

**fondant** | a sweet, thick opaque sugar paste commonly used for glazing pastries such as napoleons or making candies

**fondue** | a Swiss specialty made with melted cheese, wine and flavorings; eaten by dipping pieces of bread into the hot mixture with long forks

**food cost** | the cost of the materials that go directly into the production of menu items

**food cost percentage** | the ratio of the cost of foods used to the total food sales during a set period, calculated by dividing the cost of food used by the total sales in a restaurant

**Food Guide Pyramid** | a dietary guide that prioritizes and proportions food choices among six general food groups

**Force meat** | a preparation made from uncooked ground meats, poultry, fish or shellfish, seasoned, and emulsified with fat; commonly prepared as country-style, basic and mousseline and used for charcuterie items

**formula** | the standard term used throughout the industry for a bakeshop recipe; formulas rely on weighing to ensure accurate measuring of ingredients

**frangipane** | a sweet almond and egg filling cooked inside pastry

**free-range chickens** | chickens allowed to move freely and forage for food; as opposed to chickens raised in coops

**free-range veal** | the meat of calves that are allowed to roam freely and eat grasses and other natural foods; this meat is pinker and more strongly flavored than that of milk-fed calves

**freezer burn** | the surface dehydration and discoloration of food that results from moisture loss at below-freezing temperatures

**French dressing** | classically, a vinaigrette dressing made from oil, vinegar, salt and pepper; in the United States, the term also refers to a commercially prepared dressing that is creamy, tartly sweet and reolorange in color

**French service** | restaurant service in which one waiter (a captain) takes the order, does the tableside cooking and brings the drinks and food; the secondary or back waiter serves bread and water, clears each course, crumbs the table and serves the coffee

**Frenching** | a method of trimming racks or individual chops of meat, especially lamb, in which the excess fat is cut away, leaving the eye muscle intact; all meat and connective tissue are removed from the rib bone

**fresh-frozen** | describes a food that has been frozen while still fresh

**fricassee** | a white stew in which the meat is cooked in fat without browning before the liquid is added

**frittata** | an open -faced omelet of Spanish-Italian heritage

**frosting** | also known as icing, a sweet decorative coating used as a filling between the layers or as a coating over the top and sides of a cake

**fruit** | the edible organ that develops from the ovary of a flowering plant and contains one or more seeds (pips or pits)

**frying** | a dry-heat cooking method in which foods are cooked in hot fat; includes sautéing and stir-frying, pan -frying and deep-frying

**fumet** | a stock made from fish bones or shellfish shells and vegetables simmered in a liquid with flavorings

**fungi** | a large group of plants ranging from single-celled organisms to giant mushrooms; the most common are molds and yeasts

**fusion cuisine** | the blending or use of ingredients and/or preparation methods from various ethnic, regional or national cuisines in the same dish; also known as transnational cuisine

**galantine** | similar to a ballotine; a charcuterie item made from a forcemeat of poultry, game or suckling pig usually wrapped in the skin of the bird or animal and poached in an appropriate stock; often served cold, usually in aspic game-birds and animals hunted for sport or food; many game birds and animals are now ranch-raised and commercially available

**game hen** | the class of young or immature progeny of Cornish chickens or of a Cornish chicken and White Rock chicken; they are small and very flavorful

**ganache** | a rich blend of chocolate and heavy cream and, optionally, flavorings, used as a pastry or candy filling or frosting

**garde-manger** | (1) also known as the pantry chef, the cook in charge of cold food production, including salads and salad dressings, charcuterie items, cold appetizers and buffet items; (2) the work area where these foods are prepared

**garnish** | (1) food used as a n attractive decoration; (2) a subsidiary food used to acid flavor or character to the main ingredient in a dish (for example, noodles in chicken noodle soup)

**gastrique** | caramelized sugar deglazed with vinegar; used to flavor tomato or savory fruit sauces

**gastronomy** | the art and science of eating well

**gateau** | (1) in American usage, refers to any cake-type dessert; (2) in French usage, refers to various pastry items made with puff pastry, éclair paste, short dough or sweet dough

**gaufrette** | a thin lattice or waffle -textured slice of vegetable cut on a mandolin

**gaufrette potatoes** | thin, fried, lattice-cut slices of potato

**gelatin** | a tasteless and odorless mixture of proteins (especially collagen) extracted from boiling bones, connective tissue and other animal parts; when dissolved in a hot liquid and then cooled, it forms a jellylike substance used as a thickener and stabilizer

**gelatinization** | the process by which starch granules are cooked; they absorb moisture when placed in a liquid and heated; as the moisture is absorbed, the product swells, softens and clarifies slightly

**gelato** | an Italian-style ice cream that is denser than American-style ice cream

**genoise** | (1) a form of whipped-egg cake that uses whole eggs whipped with sugar; (2) a French sponge cake

**germ** | the smallest portion of a cereal grain and the only part that contains fat

**ghee** | a form of clarified butter in which the milk solids remain with the fat and are allowed to brown; originating in India and now used worldwide as an ingredient and cooking medium, it has a long shelf life, a high smoke point and a nutty, caramel-like flavor

**giblets** | the collective term for edible poultry viscera, including gizzards, hearts, livers and necks.

**Gizzard** | a bird's second stomach

**glacage** | browning or glazing a food, usually under a salamander or broiler

**glace de poisson** | a syrupy glaze made by reducing a fish stock

**glace de viande** | a dark, syrupy meat glaze made by reducing a brown stock

**glace de volaille** | a light brown, syrupy glaze made by reducing a chicken stock

**glaze** | (1) any shiny coating applied to food or created by browning; (2) the dramatic reduction and concentration of a stock; (3) a thin, flavored coating poured or dripped onto a cake or pastry

**global cuisine** | foods (often commercially produced items) or preparation methods that have become ubiquitous throughout the world; for example, curries and French-fried potatoes

**glucose** | a thick, sweet syrup made from cornstarch, composed primarily of dextrose; light corn syrup can usually be substituted for it in baked goods or candy making

**gluten** | an elastic network of proteins created when wheat flour is moistened and manipulated

**goat's milk** | milk produced by a female goat; it has approximately 4.1% milkfat, 8.9% milk solids and 87% water

**gougere éclair** | pastry favored with cheese baked and served as a savory hors d'oeuvre

**gourmand** | a connoisseur of fine food and drink, often to excess

**gourmet** | a connoisseur of fine food and drink

**gourmet foods** | foods of the highest quality, perfectly prepared and beautifully presented

**grading** | a series of voluntary programs offered by the U.S. Department of Agriculture to designate a food's overall quality

**grains** | (1) grasses that bear edible seeds, including corn, rice and wheat; (2) the fruit (that is, the seed or kernel) of such grasses

**gram** | the basic unit of weight in the metric system; equal to approximately 1/16 of an ounce

**grande cuisine** | the rich, intricate and elaborate cuisine of the 18th and 19th-century French aristocracy and upper classes. It is based on the rational identification, development and adoption of strict culinary principles. By emphasizing the how and why of cooking, *grande cuisine* was the first to distinguish itself from regional cuisines, which tend to emphasize the tradition of cooking.

**grate** | to cut a food into small, thin shreds by rubbing it against a serrated metal plate known as a grater

**gravy** | a sauce made from meat or liquid and thickening agent; usually made in the pan in which the meat or poultry was cooked

**green meats** | freshly slaughtered meats that have not had sufficient time to age and develop tenderness and flavor

**gremolata** | an aromatic garnish of chopped parsley, garlic and lemon zest used for osso buco

**grilling** | a dry-heat cooking method in which foods are cooked by heat radiating from a source located below the cooking surface; the heat can be generated by electricity or by burning gas, hardwood or hardwood charcoals

**grind** | to pulverize or reduce food to small particles using a mechanical grinder or food processor

**grinding** | a milling process in which grains are reduced to a powder; the powder can be of differing degrees of fineness or coarseness

**gristle** | see cartilage

**grosse piece** | a centerpiece consisting of a large piece of the principal food offered; for example, a large wheel of cheese with slices of the cheese cascading around it

**gum paste** | a smooth dough of sugar and gelatin that can be colored and used to make decorations, especially for pastries

**HACCP** | see Hazard Analysis Critical Control Points

**halal** | describes food prepared in accordance with Muslim dietary laws

**hanging** | the practice of allowing eviscerated (drawn or gutted) game to age in a city, well-ventilated place; hanging helps tenderize the flesh and strengthen its flavor

**hard water** | water with relatively high calcium and magnesium concentrations

**haricot vert** | a French variety of green bean characterized by its long, slender pod with an intense flavor and tender texture

**Hazard Analysis Critical Control Points (HACCP)** | a rigorous system of self-inspection used to manage and maintain sanitary conditions in all types of food service operations; it focuses on the flow of food through the food service facility to identify any point or step in preparation (known as a critical control point) where some action must be taken to prevent or minimize a risk or hazard

**Heimlich maneuver** | the first-aid procedure for choking victims in which sudden upward pressure is applied to the upper abdomen in order to force any foreign object from the windpipe

**herb** | any of a large group of aromatic plants whose leaves, stems or flowers are used as a flavoring; used either dried or fresh

**high-ratio cake** | a form of creamed-fat cake that uses emulsified shortening and a twostage mixing method

**hollandaise** | an emulsified sauce made of butter, egg yolks and flavorings (especially lemon juice)

**homogenization** | the process by which milk fat is prevented from separating out of milk products

**hors d'oeuvre** | very small portions of hot or cold foods served before the meal to stimulate the appetite

**hotel pan** | a rectangular, stainless steel pan with a lip allowing it to rest in a storage shelf or steam table; available in several standard sizes

**hull** | also known as the husk, the outer covering of a fruit, seed or grain

**hulling** | a milling process in which the hull or husk is removed from grains

**hybrid** | the result of cross-breeding different species that are genetically unlike; often a unique product

**hybrid menu** | a menu combining features of a static menu with a cycle menu or a market menu of specials

**hydrogenation** | the process used to harden oils; hydrogen atoms are added to unsaturated fat molecules, making them partially or completely saturated and thus solid at room temperature

**hydrometer** | a device used to measure specific gravity; it shows degrees of concentration on the Baume scale

**hygroscopic** | describes a food that readily absorbs moisture from the air

**icing** | see frosting

**IMPS/NAMP** | see NAMP/TMPS

**incidental food additives** | those inadvertently or unintentionally added to foods during processing, such as pesticide residues on fruits

**induction cooking** | a cooking method that uses a special coil placed below the stove top's surface in combination with specially designed cookware to generate heat rapidly with an alternating magnetic field

**infection** | in the food safety context, a disease caused by the ingestion of live pathogenic bacteria that continue their life processes in the consumer's intestinal tract

**infrared cooking** | a heating method that uses an electric or ceramic element heated to such a high temperature that it gives off waves of radiant heat that cook the food

**infuse** | to flavor a liquid by steeping it with ingredients such as tea, coffee, herbs or spices

**infusion** | (1) the extraction of flavors from a food at a temperature below boiling; (2) a group of coffee brewing techniques, including steeping, filtering and dripping; (3) the liquid resulting from this process

**instant-read thermometer** | a thermometer used to measure the internal temperature of foods; the stem is inserted in the food, producing an instant temperature readout

**intentional food additives** | those added to foods on purpose, such as the chemicals used to ensure longer shelf life or food colorings

**intoxication** | in the food safety context, a disease caused by the toxins that bacteria produce during their life processes

**inventory** | the listing and counting of all foods in the kitchen, storerooms and refrigerators

**IQF (individually quick-frozen)** | describes the technique of rapidly freezing each individual item of food such as slices of fruit, berries or pieces of fish before packaging; IQF foods are not packaged with syrup or sauce

**irradiation** | a preservation method used for certain fruits, vegetables, grains, spices, meat and poultry in which ionizing radiation sterilizes the food, slows ripening and prevents sprouting

**jam** | a fruit gel made from fruit pulp and sugar

**jelly** | a fruit gel made from fruit juice and sugar

**juice** | the liquid extracted from any fruit or vegetable

**julienne** | (1) to cut foods into stick-shaped pieces, approximately 1/8 inch X 1/8 inch X 2 inches (3 millimeters X 3 millimeters X 5 centimeters); a fine julienne has dimensions of 1/16 in c h X 1/16 inch X 2 inches (1.5 millimeters X 1.5 millimeters X 5 centimeters); (2) the stick-shaped pieces of cut food

**jus lie** | also known as fond lie; a sauce made by thickening brown stock with cornstarch or similar starch; often used like a demi-glace, especially to produce small sauces

**Kaiser roll** | a large round yeast roll with a crisp crust and a curved pattern stamped on the top; used primarily for sandwiches

**kneading** | working a dough to develop gluten

**Kobe beef** | an exclusive type of beef traditionally produced in Kobe, Japan. Wagyu cattle are fed a special diet, which includes beer to stimulate the animal's appetite during summer months. The animals are massaged with sake to relieve stress and muscle stiffness in the belief that calm, contented cattle produce better-quality meat. This special treatment produces meat that is extraordinarily tender and full-flavored, and extraordinarily expensive. Kobe Beef America introduced Wagyu cattle to the United States in 1976. KBA's cattle are raised without hormones and the meat is dry-aged for 21 days prior to sale.

**Kosher** | prepared in accordance with Jewish dietary laws

**Lactose** | a disaccharide that occurs naturally in mammalian milk; milk sugar

**lag phase** | a period, usually following transfer from one place to another, during which bacteria do not experience much growth

**lamb** | the meat of sheep slaughtered under the age of one year

**lard** | the rendered fat of hogs

**larding** | inserting thin slices of fat, such as pork fatback, into low-fat meats in order to add moisture

**lardons** | sliced, blanched, fried bacon

**leading sauces** | also known as mother sauces, the foundation for the entire classic repertoire of hot sauces; the five leading sauces (béchamel, veloute, espagnole [also known as brown], to ma to and hollandaise) are distinguished by the liquids and thickeners used to make them; they can be seasoned and garnished to create a wide variety of small or compound sauces

**leavener** | an ingredient or process that produces or incorporates gases in a baked product in order to increase volume, provide structure and give texture

**lecithin** | a natural emulsifier found in egg yolks

**legumes** | (1) French for "vegetables"; (2) a large group of vegetables with double-seamed seed pods; depending upon the variety, the seeds, pod and seeds together, or the dried seeds are eaten

**liaison** | a mixture of egg yolks and heavy cream used to thicken and enrich sauces

**liqueur** | a strong, sweet, syrupy alcoholic beverage made by mixing or redistilling neutral spirits with fruits, flowers, herbs, spices or other flavorings; also known as a cordial

**liquor** | an alcoholic beverage made by distilling grains, fruits, vegetables or other foods; includes rum, whiskey and vodka

**liter** | the basic unit of volume in the metric system, equal to slightly more than a quart

**log phase** | a period of accelerated growth for bacteria

**lozenges** | diamond-shaped pieces, usually of firm vegetables

**macaroni** | any dried pasta made with wheat flour and water; only in the United States does the term refer to elbow-shaped tubes

**macerate** | to soak foods in a liquid, usually alcoholic, to soften them

**macronutrients** | the nutrients needed in large quantities: carbohydrates, proteins, fats and water

**madeira** | a Portuguese fortified wine heated during aging to give it a distinctive flavor and brown color

**Magret** | a duck breast, traditionally taken from the ducks that produce foie gras; it is usually served boneless but with the skin intact

**makeup** | the cutting, shaping and forming of dough products before baking

**mandolin** | a stainless steel, hand-operated slicing device with adjustable blades

**marbling** | whitish streaks of interand intramuscular fat

**marinade** | the liquid used to marinate foods; it generally contains herbs, spices and other flavoring ingredients as well as an acidic product such as wine, vinegar or lemon juice

**marinate** | to soak a food in a seasoned liquid in order to tenderize the food and add flavor to it

**market menu** | a menu based upon product availability during a specific period ; it is written to use foods when they are in peak season or readily available

**marmalade** | a citrus jelly that also contains unpeeled slices of citrus fruit

**marquise** | a frozen mousse-like dessert, usually chocolate

**marsala** | a flavorful fortified sweet-to-semi dry Sicilian wine

**marzipan** | a paste of ground almonds, sugar and egg whites used to fill and decorate pastries

**matignon** | a standard mirepoix plus diced smoked bacon or smoked ham and, depending on the dish, mushrooms and herbs

**matzo** | thin, crisp unleavened bread made only with flour and water; can be ground into meal that is used for matzo balls and pancakes

**mayonnaise** | a thick, creamy sauce consisting of oil and vinegar emulsified with egg yolks, usually used as a salad dressing

**maitre d'hôtel** | (1) the leader of the dining room brigade, also known as the dining room manager; oversees the dining room or "front of the house" staff; (2) a compound butter flavored with chopped parsley and lemon juice

**meal** | (1) the coarsely ground seeds of any edible grain such as corn or oats; (2) any dried, ground substance (such as bone meal)

**mealy potatoes** | also known as starchy potatoes; those with a high starch content and thick skin; they are best for baking

**medallion** | a small, round, relatively thick slice of meat

**melting** | the process by which certain foods, especially those high in fat, gradually soften and then liquefy when heated

**menu** | a list of foods and beverages available for purchase

**meringue** | a foam made of beaten egg whites and sugar

**metabolism** | all the chemical reactions and physical processes that occur continuously in living cells and organisms

**meter** | the basic unit of length in the metric system, equal to slightly more than 1 yard

**mezzaluna** | a two-handled knife with one or more thick, crescent-shaped blades used to chop and mince herbs and vegetables

**micronutrients** | the nutrients needed only in small amounts; vitamins and minerals

**microorganisms** | single-celled organisms as well as tiny plants and animals that can be seen only through a microscope

**microwave cooking** | a heating method that uses radiation generated by a special oven to penetrate the food; it agitates water molecules , creating friction and heat; this energy then spreads throughout the food by conduction (and by convection in liquids)

**mignonette** | (1) a medallion; (2) a vinegar sauce with shallots

**milk-fed veal** | also known as formula-fed veal; the meat of calves feed only a nutrient-rich liquid and kept tethered in pens; this meat is white r and more mildly flavored than that of free-range calves

**milling** | the process by which grain is ground into flour or meal

**mince** | to cut into very small pieces when uniformity of shape is not important

**mineral water** | drinking water that comes from a protected underground water source and contains at least 250 parts per million of total dissolved solids such as calcium

**minerals** | inorganic micronutrients necessary for regulating body functions and proper bone and tooth structures

**mirepoix** | a mixture of coarsely chopped onions, carrots and celery used to flavor stocks , stews and other foods; generally, a mixture of 50 percent onions, 25 percent carrots and 25 percent celery, by weight, is used

**mirin-'d** | sweet, viscous Japanese wine made from glutinous rice, generally used to flavor and sweeten glazes and sauces

**mise en place** | French for "putting in place"; refers to the preparation and assembly of all necessary ingredients and equipment

**miso** | a thick paste made by salting and fermenting soybeans and rice or barley; generally used as a flavoring

**mix** | to combine ingredients in such a way that they are evenly dispersed throughout the mixture

**moist-heat cooking methods** | cooking methods, principally simmering, poaching, boiling and steaming, that use water or steam to transfer heat through convection; moist-heat cooking methods are used to emphasize the natural flavors of foods

**mojo criollo** | a citrus and herb marinade used in Latino cuisines; bottled brands are available in Hispanic markets

**molding** | the process of shaping foods, particularly grains and vegetables bound by sauces, into attractive, hard -edged shapes by using metal rings, circular cutters or other forms

**molds** | (1) algae-like fungi that form long filaments or strands; for the most part, molds affect only food appearance and flavor; (2) containers used for shaping foods

**mollusks** | shellfish characterized by a soft, unsegmented body, no internal skeleton and a hard outer shell

**monounsaturated fats** | *see* unsaturated fats

**montei - au beurre** | to finish a sauce by swirling or whisking in butter ( raw or compound ) until it is melted; used to give sauces shine, flavor and richness

**mortadella** | an Italian smoked sausage made with ground beef, pork and pork fat, flavored with coriander and white wine; it is air-dried and has a delicate flavor; also a large American bologna-type pork sausage stuffed with pork fat and garlic

**mortar and pestle** | a hard bowl (the mortar) in which foods such as spices are ground or pounded into a powder with a club-shaped tool (the pestle)

**mother sauces** | *see* leading sauces

**mousse** | a soft, creamy food, either sweet or savory, lightened by adding whipped cream, beaten egg whites or both

**mousseline** | a cream or sauce lightened by folding in,whipped cream

**mouthfeel** | the sensation created in the mouth by a combination of a food 's taste, smell, texture and temperature

**muesli** | a breakfast cereal made from raw or toasted cereal grains, dried fruits, nuts and dried milk solids and usually eaten with milk or yogurt; sometimes known as granola

**muffin method** | a mixing method used to make quick-bread batters; it involves combining liquid fat with other liquid ingredients before adding them to the dry ingredients

**muscles** | animal tissues consisting of bundles of cells or fibers that can contract and expand; they are the portions of a carcass usually consumed

**mushrooms** | members of a broad category of plants known as fungi; they are often used and served like vegetables

**mutton** | the meat of sheep slaughtered after they reach the age of one year

**NAMP/IMPS** | the Institutional Meat Purchasing Specifications (IMPS) published by the U.S. Department of Agriculture; the IMPS are illustrated and described in The Meat Buyer's Guide published by the National Association of Meat Purveyors (NAMP)

**nappe** | (1) the consistency of a liquid, usually a sauce , that will coat the back of a spoon; (2) to coat a food with sauce

**national cuisine** | the characteristic cuisine of a nation

**natural water** | bottled drinking water not derived from a municipal water supply; it can be mineral, spring, well or artesian-well water

**navarin** | a brown ragout generally made with turnips, other root vegetables, onions, peas and lamb

**Neapolitan** | a three-layered loaf or cake of ice cream; each layer is a different flavor and a different color, a typical combination being chocolate, vanilla and strawberry

**nectar** | the diluted, sweetened juice of peaches, apricots, guavas, black currants or other fruits, the juice of -which would be too thick or too tart to drink straight

**neutral spirits or grain spirits** | pure alcohol (ethanol or ethyl alcohol); they are odorless , tasteless and a very potent 190 proof (95% alcohol)

**New American cuisine** | late-20th-century movement that began in California but has spread across the United States; it stresses the use of fresh, locally grown, seasonal produce and high -quality ingredients simply prepared in a fashion that preserves and emphasizes natural flavors

**noisette** | a small, usually round, portion of meat cut from the rib

**noodles** | flat strips of pasta-type dough made with eggs; may be fresh or dried

**nouvelle cuisine** | French for "new cooking"; a mid-20th-century movement away from many classic cuisine principles and toward a lighter cuisine based on natural flavors, shortened cooking times and innovative combinations

**nut** | (1) the edible single-seed kernel of a fruit surrounded by a hard shell; (2) generally , any seed or fruit with an edible kernel in a hard shell

**nutrients** | the chemical substances found in food that nourish the body by promoting growth, facilitating body functions and providing energy; there are six categories of nutrients: proteins, carbohydrates, fats, water, minerals and vitamins

**nutrition** | the science that studies nutrients

**oblique cuts** | small pieces with two angle-cut sides

**offal** | also called variety meats; edible entrails (for example, the heart, kidneys, liver, sweetbreads and tongue) and extremities (for example, oxtail and pig's feet) of an animal

**oignon brule** | French for "burnt onion"; made by charring onion halves; used to flavor and color stocks and sauces

**oignon pique** | French for "pricked onion"; a bay leaf tacked with a clove to a peeled onion; used to flavor sauces and soups

**oil** | a type of fat that remains liquid at room temperature

**organic farming** | a method of farming that does not rely on synthetic pesticides, fungicides, herbicides or fertilizers

**orzo** | a rice-shaped pasta

**oven spring** | the rapid rise of yeast goods in a hot oven, resulting from the production and expansion of trapped gases

**over run** | the amount of air churned into an ice cream during freezing

**overhead costs** | expenses related to operating a business, including but not limited to costs for advertising, equipment leasing, insurance, property rent, supplies and utilities

**paillard** | a scallop of meat pounded until thin, usually grilled

**palate** | (1) the complex of smell, taste and touch receptors that contribute to a person's ability to recognize and appreciate flavors; (2) the range of an individual's recognition and appreciation of flavors

**pan gravy** | a sauce made by deglazing pan drippings from roast meat or poultry and combining them with a roux or other starch and stock

**pan-broiling** | a dry-heat cooking method that uses conduction to transfer heat to a food resting directly on a cooking surface; no fat is used and the food remains uncovered

**pan-dressed** | a market form for fish in which the viscera, gills and scales are removed and the fins and tail are trimmed

**pan-frying** | a dry-heat cooking method in which food is placed in a moderate amount of hot fat

**panada; panade** | (1) something other than fat added to a forcemeat to enhance smoothness, aid emulsification or both; it is often béchamel, rice or crust less white bread soaked in milk; (2) a mixture for binding stuffing and dumplings, notably quenelles, often choux pastry, bread crumbs, frangipane, pureed potatoes or rice

**panettone** | sweet Italian yeast bread filled with raisins, candied fruits, anise seeds and nuts; traditionally baked in a rounded cylindrical mold and served as a breakfast bread or dessert during the Christmas holidays

**papain** | an enzyme found in papayas that breaks down proteins; used as the primary ingredient in many commercial meat tenderizers

**papillote** | a cooking method in which food is wrapped in paper or foil and then heated so that the food steams in its own moisture

**par cooking** | partially cooking a food by any cooking method

**par stock (par level)** | the amount of stock necessary to cover operating needs between deliveries

**parboiling** | partially cooking a food in boiling or simmering liquid; similar to blanching but the cooking time is longer

**parchment paper** | heat-resistant paper used throughout the kitchen for tasks such as lining baking pans, wrapping foods to be cooked en papillote and covering foods during shallow poaching

**parfait** | ice cream served in a long, slender glass with alternating layers of topping or sauce; also the name of the mousse-like preparation that forms the basis for some still-frozen desserts

**paring knife** | a short knife used for detail work, especially cutting fruits and vegetables; it has a rigid blade approximately 2-4 inches (5-10 centimeters) long

**Paris-Brest** | rings of baked éclair paste cut in half horizontally and filled with light pastry cream and/or whipped cream; the top is dusted with powdered sugar or drizzled with chocolate glaze

**Parsienne** | spheres of fruits or vegetables cut with a small melon ball cutter

**pasta** | (1) an unleavened paste or dough made from wheat flour (often semolina), water and eggs; the dough can be colored and flavored with a wide variety of herbs, spices or other ingredients and cut or extruded into a wide variety of shapes and sizes; it can be fresh or dried and is boiled for service; (2) general term for any macaroni product or egg noodle

**pasteurization** | the process of beating something to a certain temperature for a specific period in order to destroy pathogenic bacteria

**pastillage** | a paste made of sugar, cornstarch and gelatin; it may be cut or molded into decorative shapes

**pastry cream** | also known as crème patissiere, a stirred custard made with egg yolks, sugar and milk and thickened with starch; used for pastry and pie fillings

**pate** | traditionally, a fine savory meat filling wrapped in pastry, baked and served hot or cold; as opposed to a terrine, which was a coarsely ground and highly seasoned meat mixture baked in an earthenware mold and served cold; today, the words pate and terrine are generally used interchangeably

**pate a choux** | see éclair paste

**pate a glacer** | a specially formulated chocolate coating compound with vegetable oils designed to retain its shine without tempering; it is used as a coating or frosting chocolate

**pate au pate** | a specially formulated pastry dough used for wrapping pate when making pate en croute

**pate brisee** | a dough that produces a very flaky baked product containing little or no sugar; flaky dough is used for prebaked pie shells or crusts; mealy dough is a less flaky product used for custard, cream or fruit pie crusts

**pate en croute** | a pate baked in pastry dough such as pate au pate

**pate feuilletée** | also known as puff pastry; a rolled-in dough used for pastries, cookies and savory products; it produces a rich and buttery but not sweet baked product with hundreds of light, flaky layers

**pate sucrée** | a dough containing sugar that produces a very rich, crisp baked product; also known as sweet dough, it is used for tart shells

**pathogen** | any organism that causes disease; usually refers to bacteria; undetectable by smell, sight or taste

**patissier** | a pastry chef; the person responsible for all baked items, including breads, pastries and desserts

**paupiette** | a thin slice of meat or fish that is rolled around a filling of finely ground meat or vegetables, then fried, baked or braised in wine or stock

**paysanne** | foods cut into flat square, round or triangular items with dimensions of 1/2 inch X 1/2 inch X 1/2 inch (1.2 centimeters X 1.2 centimeters X 3 millimeters)

**pearling** | a milling process in which all or part of the hull, bran and germ are removed from grains

**pectin** | a gelatin-like carbohydrate obtained from certain fruits; used to thicken jams and jellies

**pepperoni** | a hard, thin, air-dried Italian sausage seasoned with red and black pepper

**persillade** | (1) a food served with or containing parsley; (2) a mixture of bread crumbs, parsley and garlic used to coat meats, especially lamb

**pH** | a measurement of the acid or alkali content of a solution, expressed on a scale of 0 to 14.0. A pH of 7.0 is considered neutral or balanced. The lower the pH value, the more acidic the substance. The higher the pH value, the more alkaline the substance.

**physical hazard** | a danger to the safety of food caused by particles such as glass chips, metal shavings, bits of wood or other foreign matter

**pickle** | (1) to preserve food in a brine or vinegar solution; (2) food that has been preserved in a seasoned brine or vinegar, especially cucumbers. Pickled cucumbers are available whole, sliced, in wedges, or chopped as a relish, and may be sweet, sour, dill-flavored or hot and spicy.

**pigment** | any substance that gives color to an item

**pilaf** | a cooking method for grains in which the grains are lightly sautéed in hot fat and then a hot liquid is added; the mixture is simmered without stirring until the liquid is absorbed

**poaching** | a moist-heat cooking method that uses convection to transfer heat from a hot (approximately 160°F-180°F [71°C-82°C]) liquid to the food submerged in it

**polyunsaturated fats** | see unsaturated fats

**pomes** | members of the Rosaceae family; tree fruits with a thin skin and firm flesh surrounding a central core containing many small seeds (called pips or carpels); include apples, pears and quince

**ponzu** | a Japanese dipping sauce traditionally made with lemon juice or rice wine vinegar, soy sauce, mirin or sake, seaweed and dried bonito flakes

**pork** | the meat of hogs, usually slaughtered under the age of one year

**posole** | also known as hominy or samp; dried corn that has been soaked in hydrated lime or lye; posole (Sp. pozole) also refers to a stew-like soup made with pork and hominy served in Mexico and Central America

**Posterior** | at or toward the rear of an object or place; opposite of anterior

**potentially hazardous foods** | foods on which bacteria can thrive

**poultry** | the collective term for domesticated birds bred for eating; they include chickens, ducks, geese, guineas, pigeons and turkeys

**preserve** | a fruit gel that contains large pieces or whole fruits

**primal cuts** | the primary divisions of muscle, bone and connective tissue produced by the initial butchering of the carcass

**prix fixe** | French for "fixed price"; refers to a menu offering a complete meal for a set price; also known as table d'hôtel

**professional cooking** | a system of cooking based on a knowledge of and appreciation for ingredients and procedures

**profiteroles** | small baked rounds of éclair paste filled with ice cream and topped with chocolate sauce

**proofing** | the rise given shaped yeast products just prior to baking

**proteins** | a group of compounds composed of oxygen, hydrogen, carbon and nitrogen atoms necessary for manufacturing, maintaining and repairing body tissues and as an alternative source of energy (4 calories per gram); protein chains are constructed of various combinations of amino acids

**pudding** | a thick, spoonable dessert custard, usually made with eggs, milk, sugar and flavorings and thickened with flour or another starch

**puff pastry** | *see* pate feuilletée

**pulled sugar** | a dough-like mixture of sucrose, glucose and tartaric acid that can be colored and shaped by hand into decorative items

**pulses** | dried seeds from a variety of legumes

**pumpnickel** | (1) coarsely ground lye flour; (2) bread made with this flour

**puree** | (1) to process food to achieve a smooth pulp; (2) food that is processed by mashing, straining or fine chopping to achieve a smooth pulp

**puree soup** | a soup usually made from starchy vegetables or legumes; after the main ingredient is simmered in a liquid, the mixture, or a portion of it is pureed

**purified water** | bottled water produced by distillation, reverse osmosis, deionization or suitable processes that meet governmental standards

**putrefactives** | bacteria that spoil food without rendering it unfit for human consumption

**quality grades** | a guide to the eating qualities of meat-its tenderness, juiciness and flavorbased on an animal's age and the meat's color, texture and degree of marbling

**quenelle** | a small, dumpling-shaped portion of a mousseline forcemeat poached in an appropriately flavored stock; it is shaped by using two spoons

**quiche** | a savory tart or pie consisting of a custard baked in a pastry shell with a variety of flavorings and garnishes

**quick bread** | a bread, including loaves and muffins, leavened by chemical leaveners or steam rather than yeast

**radiation cooking** | a heating process that does not require physical contact between the heat source and the food being cooked; instead energy is transferred by waves of heat or light striking the food. Two kinds of radiant heat used in the kitchen are infrared and microwave.

**raft** | a crust formed during the process of clarifying consommé; it is composed of the clearmeat and impurities from the stock, which rise to the top of the simmering stock and release additional flavors

**ragout** | (1) traditionally, a well-seasoned, rich stew containing meat, vegetables and wine; (2) any stewed mixture

**ramekin** | a small, ovenproof dish, usually ceramic

**rancidity** | the decomposition of fats by exposure to oxygen, resulting in oft flavors and destruction of nutritive components

**ratites** | family of flightless birds with small wings and flat breastbones; they include the ostrich, emu and rhea

**recipe** | a set of written instructions for producing a specific food or beverage; also known as a formula

**recovery time** | the length of time it takes a cooking medium such as fat or water to return to the desired cooking temperature after food is submerged in it

**red fish** | a name applied to various species of fish around the world. In the United States, it generally refers to a member of the drum family found in the southern Atlantic and the Gulf of Mexico. It has a reddish-bronze skin and firm, ivory flesh with a mild flavor and a typical market weight of 2 to 8 pounds (0.9 to 3.6 kilograms); it is also known as channel bass, red drum and reel bass.

**red rice** | an un-milled short- or long-grain rice from the Himalayas; it has a russet-colored bran and an earthy, nutty flavor

**reduction** | cooking a liquid such as a sauce until its quantity decreases through evaporation. To reduce by one-half means that one-half of the original amount remains. To reduce by three-fourths means that only one-fourth of the original amount remains. To reduce au sec means that the liquid is cooked until nearly dry.

**refreshing** | submerging a food in cold water to quickly cool it and prevent further cooking, also known as shocking; usually used for vegetables

**regional cuisine** | a set of recipes based on local ingredients, traditions and practices; within a larger geographical, political, cultural or social unit, regional cuisines are often variations of one another that blend together to create a national cuisine

**relish** | a cooked or pickled sauce usually made with vegetables or fruits and often used as a condiment; can be smooth or chunky, sweet or savory and hot or mild

**remouillage** | French for "rewetting"; a stock produced by reusing the bones left from making another stock. After draining the original stock from the stockpot, acid fresh mirepoix, a new sachet and enough water to cover the bones and mirepoix, and a second stock can be made. A remouillage is treated like the original stock; allow it to simmer for four to five hours before straining. A remouillage will not be as clear or as flavorful as the original stock, however. It is often used to make glazes or in place of water when making stocks.

**Render** | (1) to melt and clarify fat; (2) to cook meat in order to remove the fat

**respiration rate** | the speed with which the cells of a fruit use oxygen and produce carbon dioxide during ripening

**restaurateur** | a person who owns or operates an establishment serving food, such as a restaurant

**ribbon** | a term used to describe the consistency of a batter or mixture, especially a mixture of beaten egg and sugar; when the beater or whisk is lifted, the mixture will fall back slowly onto its surface in a ribbon-like pattern

**ricer** | a sieve-like utensil with small holes through which soft food is forced; it produces particles about the size of a grain of rice

**rillettes** | meat or poultry slowly cooked, mashed and preserved in its own fat; served cold and usually spread on toast

**ripe** | fully grown and developed; a ripe fruit's flavor, texture and appearance are at their peak, and the fruit is ready to use as food

**risers** | boxes (including the plastic crates used to store glassware) covered with linens, paper or other decorative items and used on a buffet table as a base for platters, trays or displays

**risotto** | (1) a cooking method for grains in which the grains are lightly sautéed in butter and then a liquid is gradually added; the mixture is simmered with near-constant stirring until the still-firm grains merge with the cooking liquid; (2) a Northern Italian rice dish prepared this way

**roasting** | a dry-heat cooking method that heats food by surrounding it with hot, dry air in a closed environment or on a spit over an open fire; similar to baking, the term roasting is usually applied to meats, poultry, game and vegetables

**roe** | fish eggs

**roll cuts** | *see* oblique cuts

**rolled fondant** | a cooked mixture of sugar, glucose and water formulated to drape over cakes

**rolled-in dough** | a dough in which a fat is incorporated in many layers by using a rolling and folding procedure; it is used for flaky baked goods such as croissants, puff pastry and Danish pastry

**rondeau** | a shallow, wide, straight-sided pot with two loop handles

**ronnelles** | disk-shaped slices

**rotate stock** | to use products in the order in which they were received; all perishable and semi-perishable goods, whether fresh, frozen, canned or dry, should be used according to the first in, first out (FIFO) principle

**rotisserie** | cooking equipment that slowly rotates meat or other foods in front of a heating element

**roulade** | (1) a slice of meat, poultry or fish rolled around a stuffing; (2) a filled and rolled sponge cake

**round fish** | fish with round, oval or compressed bodies that swim in a vertical position and have eyes on both sides of their heads; include salmon, swordfish and cod

**rounding** | the process of shaping dough into smooth, round balls; used to stretch the outside layer of gluten into a smooth coating

**roux** | a cooked mixture of equal parts flour and fat, by weight, used as a thickener for sauces and other dishes; cooking the flour in fat coats the starch granules with the fat and prevents them from lumping together or forming lumps when introduced into a liquid

**royal icing** | also known as decorator's icing, an uncooked mixture of confectioner's sugar and egg whites that becomes hard and brittle when dried; used for making intricate cake decorations

**rub** | a mixture of fresh or dried herbs and spices ground together; it can be used dried, or it can be mixed with a little oil, lemon juice, prepared mustard or ground fresh garlic or ginger to make a wet rub

**Russian service** | restaurant service in which the entree, vegetables, and starches are served from a platter on to the diner's plate by a waiter

**sabayon** | also known as zabaglione; a foamy, stirred custard sauce made by whisking eggs, sugar and wine over low heat

**sachet d'epices; sachet** | French for "bag of spices"; aromatic ingredients tied in a cheesecloth bag and used to flavor stocks and other foods; a standard sachet contains parsley stems, cracked peppercorns, dried thyme, bay leaf, cloves and, optionally, garlic

**salad** | a single food or a mix of different foods accompanied or bound by a dressing

**salad dressing** | a sauce for a salad; most are based on a vinaigrette, mayonnaise or other emulsified product

**salamander** | a small broiler used primarily for browning or glazing the tops of foods

**Salsa** | Spanish for "sauce"; (1) generally, a cold chunky mixture of fresh herbs, spices, fruits and/or vegetables used as a sauce for meat, poultry, fish or shellfish; (2) in Italian usage, a general term for pasta sauces

**salt-curing** | the process of surrounding a food with salt or a mixture of salt, sugar, nitrite-based curing salt, herbs and spices; salt-curing dehydrates the food, inhibits bacterial growth and adds flavor

**sanding sugar** | granulated sugar with a large, coarse crystal structure that prevents it from dissolving easily; used for decorating cookies and pastries

**sanitation** | the creation and maintenance of conditions that will prevent food contamination or food-borne illness

**sanitize** | to reduce pathogenic organisms to safe levels

**sansho** | dried berries of the prickly ash tree, ground into a powder that is also known as Szechuan pepper, fagara and Chinese pepper; generally used in Japanese cooking to season fatty foods

**sashimi** | raw fish eaten without rice; usually served as the first course of a Japanese meal

**saturated fats** | fats found mainly in animal products and tropical oils; usually solid at room temperature; the body has more difficulty breaking down saturated fats than either monounsaturated or polyunsaturated fats

**sauce** | generally, a thickened liquid used to flavor and enhance other foods

**sausage** | a seasoned forcemeat usually stuffed into a casing; a sausage can be fresh, smoked and cooked, dried or hard

**sauteuse** | the basic sauté pan with sloping sides and a single long handle

**sautoir** | a sauté pan with straight sides and a single long handle

**sautéing** | a dry-heat cooking method that uses conduction to transfer heat from a hot pan to food with the aid of a small amount of hot fat; cooking is usually done quickly over high temperatures

**savory** | a food that is not sweet

**scald** | to heat a liquid, usually milk, to just below the boiling point

**scallop** | a thin, boneless slice of meat

**score** | to cut shallow gashes across the surface of a food before cooking

**Scoville Heat Units** | a subjective rating for measuring a chili's heat; the sweet bell pepper usually rates 0 units, the tabasco pepper rates from 30,000 to 50,000 units and the habanero pepper rates from 100,000 to 300,000 units

**Seafood** | an inconsistently used term encompassing some or all of the following: saltwater fish, freshwater fish, saltwater shellfish, freshwater shellfish and other edible marine life

**sear** | to brown food quickly over high heat; usually done as a preparatory step for combination cooking methods

**season** | traditionally, to enhance flavor by adding salt; (2) more commonly, to enhance flavor by adding salt and/or pepper as well as herbs and spices; (3) to mature and bring a food (usually beef or game) to a proper condition by aging or special preparation; (4) to prepare a pot, pan or other cooking surface to prevent sticking

**seasoning** | an item added to enhance the natural flavors of a food without dramatically changing its taste; salt is the most common seasoning

**seitan** | a form of wheat gluten; it has a firm, chewy texture and a bland flavor; traditionally simmered in a broth of soy sauce or tamari with ginger, garlic and kombu (seaweed)

**seltzer water** | a flavorless natural mineral water with carbonation, originally from the German town of Niederselters semi a la carte-describes a menu on which some foods (usually appetizers and desserts) and beverages are priced and ordered separately, while the entree is accompanied by and priced to include other dishes such as a salad, starch or vegetable

**semifreddi** | also known as still-frozen desserts; items made with frozen mousse, custard or cream into which large amounts of whipped cream or meringue are folded in order to incorporate air; layers of sponge cake and/or fruits may be added for flavor and texture; include frozen snuffles, marquise, mousses and Neapolitans

**semolina** | see durum wheat

**sfoglia** | a thin, flat sheet of pasta dough that can be cut into ribbons, circles, squares or other shapes

**shallow poaching** | a moist-heat cooking method that combines poaching and steaming; the food (usually fish) is placed on a vegetable bed and partially covered with a liquid (cuisson) and simmered

**shellfish** | aquatic invertebrates with shells or carapaces

**sherbet** | a frozen mixture of fruit juice or fruit puree that contains milk and/or eggs for creaminess

**shocking** | also called refreshing; the technique of quickly chilling blanched or par-cooked foods in ice water; prevents further cooking and sets colors

**shortening** | (1) a white, flavorless, solid fat formulated for baking or deep-frying; (2) any fat used in baking to tenderize the product by shortening gluten strands

**shred** | to cut into thin but irregular strips

**shrinkage** | the loss of weight in a food due to evaporation of liquid or melting of fat during cooking

**shuck** | (1) a shell, pod or husk; (2) to remove the edible portion of a food (for example, clam meat, peas or an ear of corn) from its shell, pod, or husk

**side masking** | the technique of coating only the sides of a cake with a garnish such as chopped nuts sifting- shaking one or more dry substances through a sieve or sifter to remove lumps, incorporate air and mix

**silver skin** | the tough connective tissue that surrounds certain muscles; see Elastin

**simmering** | (1) a moist-heat cooking method that uses convection to transfer heat from a hot (approximately 185°F-205°F [85°C-96°C]) liquid to the food submerged in it; (2) maintaining the temperature of a liquid just below the boiling point

**skim** | to remove fat and impurities from the surface of a liquid during cooking

**slice** | to cut an item into relatively broad, thin pieces

**slurry** | a mixture of raw starch and cold liquid used for thickening

**small sauces** | also known as compound sauces; made by adding one or more ingredients to a leading sauce; they are grouped together into families based on their leading sauce; some small sauces have a variety of uses, while others are traditional accompaniments for specific foods

**smoke point** | the temperature at which a fat begins to break down and smoke

**smoking** | any of several methods for preserving and flavoring foods by exposing them to smoke; includes cold smoking (in which the foods are not fully cooked) and hot smoking (in which the foods are cooked)

**smorbrod** | Norwegian cold open-faced sandwiches; similarly, the Swedish term smorgasbord refers to a buffet table of bread and butter, salads, open-faced sandwiches, pickled or marinated fish, sliced meats and cheeses

**soda water** | a flavorless water with induced carbonation, consumed plain or used as a mixer for alcoholic drinks or soda fountain confections; also known as club soda and seltzer

**soft water** | water with a relatively high sodium concentration

**solid pack** | canned fruits or vegetables with little or no water added

**soppressata** | a hard, aged Italian salami, sometimes coated with cracked peppercorns or herbs

**sorbet** | a frozen mixture of fruit juice or fruit puree; similar to sherbet but without milk products

**soufflé** | either a sweet or savory fluffy dish made with a custard base lightened with whipped egg whites and then baked; the whipped egg whites cause the dish to puff when baked

**sous-chef** | a cook who supervises food production and who reports to the executive chef; he or she is second in command of a kitchen

**specifications; specs** | standard requirements to be followed in procuring items from suppliers

**spice** | any of a large group of aromatic plants whose bark, roots, seeds, buds or berries are used as a flavoring; usually used in dried form, either whole or ground

**spring form pan** | a circular baking pan with a separate bottom and a side wall held together with a clamp that is released to free the baked product

**spring lamb** | the meat of sheep slaughtered before they have fed on grass or grains

**spring water** | water obtained from an underground source that flows naturally to the earth's surface

**spun sugar** | a decoration made by flicking dark caramelized sugar rapidly over a dowel to create long, fine, hair-like threads

**squab** | the class of young pigeon used in food service operations

**staling** | also known as starch retro gradation; a change in the distribution and location of water molecules within baked products; stale products are firmer, drier and more crumbly than fresh baked goods

**standard breading procedure** | the procedure for coating foods with crumbs or meal by passing the food through flour, then an egg wash and then the crumbs; it gives foods a relatively thick, crisp coating when deep-fried or panfried

**standardized recipe** | a recipe producing a known quality and quantity of food for a specific operation

**staples** | (1) certain foods regularly used throughout the kitchen; (2) certain foods, usually starches, that help form the basis for a regional or national cuisine and are principal components in the diet

**starch** | (1) complex carbohydrates from plants that are edible and either digestible or indigestible (fiber); (2) a rice, grain, pasta or potato accompaniment to a meal

**starch retro gradation** | the process whereby starch molecules in a batter or dough lose moisture after baking; the result is baked goods that are dry or stale

**starchy potatoes** | *see* mealy potatoes

**static menu** | a menu offering patrons the same foods every day

**station chef** | the cook in charge of a particular department in a kitchen

**steak** | (1) a cross-section slice of a round fish with a small section of the bone attached; (2) a cut of meat, either with or without the bone

**steamed milk** | milk that is heated with steam generated by an espresso machine; it should be approximately 150°F to 170°F (66°C to 77°C)

**steamer** | a set of stacked pots with perforations in the bottom of each pot; they fit over a larger pot filled with boiling or simmering water and are used to steam foods; (2) a perforated insert made of metal or bamboo placed in a pot and used to steam foods; (3) a type of soft-shell clam from the East Coast; (4) a piece of gas or electric equipment in which foods are steamed in a sealed chamber

**steaming** | a moist-heat cooking method in which heat is transferred from steam to the food being cooked by direct contact; the food to be steamed is placed in a basket or rack above a boiling liquid in a covered pan

**steel** | a tool, usually made of steel, used to hone or straighten knife blades

**steep** | to soak food in a hot liquid in order to either extract its flavor or soften its texture

**steers** | male cattle castrated prior to maturity and principally raised for beef

**sterilize** | to destroy all living microorganisms

**stewing** | a combination cooking method similar to braising but generally involving smaller pieces of meat that are first blanched or browned, then cooked in a small amount of liquid that is served as a sauce

**stir-frying** | a dry-heat cooking method similar to sautéing in which foods are cooked over very high heat using little fat while stirring constantly and briskly; often done in a wok

**stirring** | a mixing method in which ingredients are gently mixed by hand until blended, usually with a spoon, whisk or rubber spatula

**stock (French fond)** | a clear, un-thickened liquid flavored by soluble substances extracted from meat, poultry or fish and their bones as well as from a mirepoix, other vegetables and seasonings

**stone fruits** | members of the genus *Prunus*, also known as drupes; tree or shrub fruits with a thin skin, soft flesh and one woody stone or pit; include apricots, cherries, nectarines, peaches and plums

**straight dough method** | a mixing method for yeast breads in which all ingredients are simply combined and mixed

**strain** | to pour foods through a sieve, mesh strainer or cheesecloth to separate or remove the liquid component

**streusel** | a crumbly mixture of fat flour, sugar and sometimes nuts and spices, used to top baked goods

**sub-primal cuts** | the basic cuts produced from each primal

**subcutaneous** | fat-also known as exterior fat; the fat layer between the hide and muscles

**submersion poaching** | a poaching method in which the food is completely covered with the poaching liquid

**sucrose** | the chemical name for common refined sugar; it is a disaccharide, composed of one molecule each of glucose and fructose

**sugar** | a carbohydrate that provides the body with energy and gives a sweet taste to foods

**sugar syrups** | either simple syrups (thin mixtures of sugar and water) or cooked syrups (melted sugar cooked until it reaches a specific temperature)

**sundae** | a great and gooey concoction of ice cream, sauces (hot fudge, marshmallow and caramel, for example), toppings (nuts, candies and fresh fruit to name a few) and whipped cream

**supreme** | an intermediary sauce made by adding cream to chicken veloute

**sushi** | cooked or raw fish or shellfish rolled in or served on seasoned rice

**sweat** | to cook a food in a pan (usually covered), without browning, over low heat until the item softens and releases moisture; sweating allows the food to release its flavor more quickly when cooked with other foods

**sweetbreads** | the thymus glands of a calf or lamb

**syrup** | sugar that is dissolved in liquid, usually water, and often flavored with spices or citrus zest

**syrup pack** | canned fruits with a light, medium or heavy syrup added

**table d'hôte** | *see* Prix fixe

**tahini** | a thick, oily paste made from crushed sesame seeds

**tamale** | a Mexican baked dish consisting of seasoned meats, poultry and or vegetables wrapped in a corn husk spread with masa

**tang** | the portion of a knife's blade that extends inside the handle

**tart** | a sweet or savory filling in a baked crust made in a shallow, straight-sided pan without a top crust

**tartlet** | a small, single-serving tart

**taste** | the sensations, as interpreted by the brain, of what we detect when food, drink or other substances come in contact with our taste buds

**tempeh** | fermented whole soybeans mixed with a grain such as rice or millet; it has a chewy consistency and a yeasty, nutty flavor

**temper** | to heat gently and gradually; refers to the process of slowly adding a hot liquid to eggs or other foods to raise their temperature without causing them to curdle

**temperature danger zone** | the broad range of temperatures between 41°F and 135°F (5°C and 57°C) at which bacteria multiply rapidly

**tempering** | a process for melting chocolate during which the temperature of the cocoa butter is carefully stabilized; this keeps the chocolate smooth and glossy

**terrine** | (1) traditionally, a loaf of coarse forcemeat cooked in a covered earthenware mold and without a crust; today, the word is used interchangeably with pate; (2) the mold used to cook such items, usually a rectangle or oval shape and made of ceramic

**thickening-agents** | ingredients used to thicken sauces; include starches (flour, cornstarch and arrowroot), gelatin and liaisons

**timbale** | (1) a small pail-shaped mold used to shape foods; (2) a preparation made in such a mold

**tisanes** | beverages made from herbal infusions that do not contain any tea

**tofu** | also known as bean curd; it is created from soymilk using a method similar to the way animal milk is separated into curds and whey in the product ion of cheese

**togarishi** | a Japanese spice and sesame seed blend available at Asian markets

**tomato sauce** | a leading sauce made from tomatoes, vegetables, seasonings and white stock; it may or may not be thickened with roux

**toque (toke)** | the tall white hat worn by chefs

**torchon** | French for a cloth or towel, such as a dishcloth. The term is sometimes used to refer to dishes in which the item has been shaped into a cylinder by being wrapped in a cloth or towel.

**torte** | in Central and Eastern European usage, refers to a rich cake in which all or part of the flour is replaced with finely chopped nuts or bread crumbs

**tossed salad** | a salad prepared by placing the greens, garnishes and salad dressing in a large bowl and tossing to combine

**total recipe cost** | the total cost of ingredients for a particular recipe ; it does not reflect overhead, labor, fixed expenses or profit

**turner** | to cut into football-shaped pieces with seven equal sides and blunt ends

**toxins** | by-products of living bacteria that can cause illness if consumed in sufficient quantities

**tranche** | an angled slice cut from fish fillets

**trans fats** | a type of fat created when vegetable oils are solidified through hydrogenation

**tripe** | the edible lining of a cow's stomach

**truffles** | (1) flavorful tubers that grow near the roots of oak or beech trees; (2) rich chocolate candies made with ganache

**truss** | to tie poultry with butcher's twine into a compact shape for cooking

**tube pan** | a deep round baking pan with a hollow tube in the center

**tuber** | the fleshy root, stem or rhizome of a plant from which a new plant will grow; some, such as potatoes, are eaten as vegetables

**tunneling** | large tubular holes in muffins and cakes, a defect caused by improper mixing

**unit cost** | the price paid to acquire one of the specified units

**univalves** | single-shelled mollusks with a single muscular foot, such as abalone

**unsaturated fats** | fats that are normally liquid (oils) at room temperature; they may be monounsaturated (from plants such as olives and avocados) or polyunsaturated (from grains and seeds such as corn, soybeans and safflower as well as from fish)

**vacuum packaging** | a food preservation method in which fresh or cooked food is placed in an airtight container (usually plastic). Virtually all air is removed from the container through a vacuum process, and the container is then sealed.

**vanilla custard sauce** | also known as crème anglaise; a stirred custard made with egg yolks, sugar and milk or half-and-half and flavored with vanilla; served with or used in dessert preparations

**vanillin** | (1) whitish crystals of vanilla flavor that often develop on vanilla beans during storage; (2) synthetic vanilla flavoring

**variety** | the result of breeding plants of the same species that have different qualities or characteristics; the new plant often combines features from both parents

**variety meats** | *see* offal

**veal** | the meat of calves under the age of nine months

**vegan** | a vegetarian who does not eat dairy products, eggs, honey or any other animal product; vegans usually also avoid wearing and using animal products such as fur, leather or wool

**vegetable** | any herbaceous plant (one with little or no woody tissue) that can be partially or wholly eaten; vegetables can be classified as cabbages, fruit-vegetables, gourds and squashes, greens, mushrooms and truffles, onions, pods and seeds, roots and tubers and stalks

**vegetarian** | a person who does not eat any meat, poultry, game, fish, shellfish or animal by-products such as gelatin or animal fats; may also exclude dairy products or eggs from the diet

**veloute** | a leading sauce made by thickening a white stock (fish, veal, or chicken) with roux

**venison** | flesh from any member of the deer family, including antelope, elk, moose, reindeer, redtailed deer, white-tailed deer, mule deer and axis deer

**vent** | (1) to allow the circulation or escape of a liquid or gas; (2) to cool a pot of hot liquid by setting the pot on blocks in a cold water bath and allowing cold water to circulate around it

**vinaigrette** | a temporary emulsion of oil and vinegar seasoned with salt and pepper

**vinegar** | a thin, sour liquid used as a preservative, cooking ingredient and cleaning solution

**viniculture** | the art and science of making wine from grapes

**vintner** | a winemaker

**viruses** | the smallest known form of life; they invade the living cells of a host and take over those cells' genetic material, causing the cells to produce more viruses; some viruses can enter a host through the ingestion of food contaminated with those viruses

**viscera** | internal organs

**vitamins** | compounds present in foods in very small quantities; they do not provide energy but are essential for regulating body functions

**viticulture** | the art and science of growing grapes used to make wines; factors considered include soil, topography (particularly, sunlight and drainage) and microclimate (temperature and rainfall)

**vol-au-vents** | deep, individual portion-sized puff pastry shells, often shaped as a heart, fish or fluted circle; they are filled with a savory mixture and served as an appetizer or main course

**volume** | the space occupied by a substance; volume measurements are commonly expressed as liters, teaspoons, tablespoons, cups, pints and gallons

**wash** | a glaze applied to dough before baking; a commonly used wash is made with whole egg and water

**water bath** | *see* bain marie

**water buffalo's milk** | milk produced by a female water buffalo; it has approximately 7.5% milkfat, 10.3% milk solids and 82.2% water

**water pack** | canned fruits with water or fruit juice added

**waxy potatoes** | those with a low starch content and thin skin; they are best for boiling

**weight** | the mass or heaviness of a substance; weight measurements are commonly expressed as grams, ounces and pounds

**whetstone** | a dense, grained stone used to sharpen or hone a knife blade

**whipping** | a mixing method in which foods are vigorously beaten in order to incorporate air; a whisk or an electric mixer with its whip attachment is used

**white stew** | *see* fricassee and blanquette

**white stock** | a light-colored stock made from chicken, veal, beef or fish bones simmered in water with vegetables and seasonings

**whitewash** | a thin mixture or slurry of flour and cold water used like cornstarch for thickening

**whole butter** | butter that is not clarified, whipped or reduced-fat

**wine** | an alcoholic beverage made from the fermented juice of grapes; may be sparkling (effervescent) or still (non-effervescent) or fortified with additional alcohol

**work section** | *see* work station

**work station** | a work area in the kitchen dedicated to a particular task, such as broiling or salad making; workstations using the same or similar equipment for related tasks are grouped together into work sections

**yeasts** | microscopic fungi whose metabolic processes are responsible for fermentation; they are used for leavening bread and in cheese, beer and wine making

**yield** | the total amount of a product made from a specific recipe; also, the amount of a food item remaining after cleaning or processing

**yield grades** | a grading program for meat that measures the amount of usable meat on a carcass

**zabaglione** | *see* sabayon

**zest** | the colored outer portion of the rind of citrus fruit; contains the oil that provides flavor and aroma

**zushi** | the seasoned rice used for sushi

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