

Casein is that constituent of milk which is most likely to disagree with infants. Dilution with water, lime-water, barley-water, etc., is not unfrequently effective in securing the digestion and absorption of the casein; but some infants are unable to digest it at all. Various expedients are resorted to when the casein fails entirely of digestion. Cream diluted with barley-water sometimes succeeds extremely well. The indigestion of the casein of a given specimen of milk may be due to an insufficient quantity of cream; this defect can be obviated by adding it artificially. When the infant is not nourished sufficiently, and yet does not pass undigested casein, the proportion of cream is probably too low. To assist the digestion of casein, Jacobi recommends that a little well-sweetened oatmeal-gruel be given the infant before taking the bottle, or be mixed with the milk. His method of preparing the food is as follows:

"A teaspoonful of either oatmeal or barley is boiled in from three to six ounces of water, with some salt, for twelve or fifteen minutes, the decoction to be quite thin for very young infants, thicker for later months, and then strained through a linen cloth. Infants of four or six months are to have equal parts of this decoction, which ought to be made fresh for every meal; and boiled and skimmed cow's-milk and sugar are to be added. At an early age, the thin decoction; at a later, the milk ought to prevail in the mixture, which ought to be given at a temperature of 80° to 90°; ought to be neutralized, when acid, with a few grains of bicarbonate or carbonate of potassa or soda, and, until infants are eight or ten months old, thin enough to be taken through a nursing-bottle."

Various substitutes have been proposed for cow's-milk; but they are at best constructed on doubtful principles, and vary greatly in composition. Liebig's preparation has had the greatest celebrity, because of the reputation of its inventor, rather than of its intrinsic merit. It is prepared as follows: An ounce of wheaten flour is mixed with ten ounces of milk; it is then boiled for ten minutes, removed from the fire, and allowed to cool to 90° Fahr. An ounce of malt-powder containing fifteen grains of potassium bicarbonate, and two ounces of water, are then stirred into it, and the vessel, covered, stands for an hour and a half at a temperature of 100° Fahr. It is boiled for a few minutes again, and then strained, when it is ready for use. The object of the malt is to transform the starch into glucose.

Chambers recommends the following when the artificial feeding of the infant begins: "Cow's-milk should at first be mixed with half its bulk of soft, pure, tepid water, in each pint of which has been suspended a drachm of sugar-of-milk, and two grains of phosphate of lime, finely powdered. If the milk has been partially skimmed, as is often the case in cities, then a tablespoonful of cream should be added

to each pint." Smith, whose authority in questions of infant therapeutics is admitted, also advises the addition of cream to ordinary cow's-milk, and carbonate of potassa or lime-water. At the expiration of six months the milk should be given undiluted. An infant's food should always be raised to the temperature of 95° Fahr. Regularity in the time of feeding is of very great importance: for the first six weeks, every two hours, and subsequently, every three hours.

ALIMENTATION IN DISEASES.

ALIMENT IN ACUTE INFLAMMATIONS AND FEVERS.—The febrile state induces serious changes in the constitution of solids and liquids. The interstitial fat disappears from the tissues, which become soft and watery. The muscles become flabby and pale, and decline in contractile energy. Digestion is feeble, or suspended or abnormal, and the food supplied is either rejected or enters the blood in an imperfectly-prepared state. The blood suffers material alterations; the red corpuscles diminish in number; the fibrin increases, and the products of imperfect tissue-metamorphosis accumulate. The urine is usually scanty and high-colored, and loaded with uric acid and urates. The chlorides more or less diminish in or disappear from the urine, but accumulate in the inflamed tissues. The excretion of phosphates is increased. In the tissues, the seat of organic alterations, rapid but imperfect metamorphosis ensues, and on the one side pathological materials crowd the interstices in the anatomical elements, and on the other the products of waste struggle for elimination. Avoiding further speculation as to the fever-process, it will suffice to state that an enormous increase of the urea-discharge takes place, and that the organs and tissues of the body undergo a granular disintegration, which has been designated "parenchymatous degeneration"; or, as it may be stated, the increased temperature of fever represents an enormous consumption of the nitrogenous elements. The higher the range of temperature, as a rule, the more extensive the parenchymatous degeneration.

In *fevers* and *inflammations* not of the digestive tract, the most useful aliments are milk and beef-tea. These should be given at intervals determined by their rate of digestibility, usually about every three hours. Fresh milk only should be used, and, if the stomach be irritable, it may be diluted with one half to one fourth of lime-water. It has been conclusively demonstrated that fresh milk is the most suitable aliment in *typhoid*, and it may be depended on wholly (Johnson). It is equally applicable as the aliment in *scarlatina*, partly as a nutrient, and partly as a diuretic, for in this disease one of the chief dangers is from arrest of the urinary secretion.

The author is convinced that beef-tea and beef-essence are too exclusively used in the treatment of the fevers and inflammatory dis-

eases. As an aliment, beef-tea is much inferior to milk, and it is also more difficult of digestion. It is not unusual to see, in cases of typhoid, the beef-tea floating on the peculiar dejections of this disease. It ought, therefore, never to be used as the exclusive aliment in typhoid cases. Another fallacy of a very dangerous kind is current in domestic practice, viz., the belief that beef-tea, which gelatinizes on cooling, is especially rich in nutritive elements. Such beef-tea consists chiefly of gelatin, which has very little value as a nutrient.

FORMULÆ FOR ANIMAL BROTHS.

Beef-Tea.—A pound of lean beef should be freed from fat, tendon, cartilage, bone, and vessels; it must be chopped up fine, and put in a pint of cold water to digest for two hours. It should simmer on the range or stove for three hours, but the temperature should not exceed 160° Fahr. The water lost by evaporation should be made up by the addition of cold water, so that a pint of beef-tea should represent one pound of beef. It should be strained, the beef being carefully expressed. A wineglassful every three hours is a suitable quantity for administration in ordinary acute cases.

Mutton-Broth.—Lean loin of mutton, one pound, exclusive of bone; water, three pints. Boil very gently till tender, throwing in a little salt and onion according to taste. Pour out the broth into a basin, and, when it is cold, skim off all the fat. It can be warmed up as wanted.

Chicken-Broth.—Skin, and chop up small, a small chicken, or half a large fowl, and boil it, bones and all, with a blade of mace, a sprig of parsley, and a crust of bread, in a quart of water, for an hour, skimming it from time to time. Strain it through a coarse colander."

The digestibility of these animal broths is improved by the addition of pepsin and muriatic or lactic acids. Beef-essence, obtained by pounding finely-divided beef in a mortar until the nutritive elements are separated from the fiber, may be administered instead of the broths above described. Essence of this kind may be mixed with sherry or other wines, whisky, or brandy, provided alcoholic stimulants be also indicated. The meat solution which Leube employs so successfully in the treatment of gastric ulcer and other stomach-diseases, is prepared by digesting meat, with muriatic acid and pepsin, in air-tight vessels, at a high temperature. By this process the meat is converted into peptones, ready for absorption.

FORMULÆ FOR DIET-DRINKS.

Wine-Whey.—Put two pints of new milk in a saucepan, and stir it over a clear fire till it is nearly boiling; then add a gill of sherry, and simmer it for a quarter of an hour, skimming off the curd as it rises. Then add a tablespoonful more sherry, and skim again for a few minutes.

Flaxseed-Tea.—Flaxseed, whole, one ounce; white sugar, one ounce; liquorice-root, half an ounce; lemon-juice, four tablespoonfuls. Pour on these materials two pints of boiling water; let them stand in a hot place four hours, and then strain off the liquor.

Barley-Water.—Wash two ounces of pearl-barley with cold water. Then boil it for five minutes in some fresh water, and throw both waters away. Then pour on two quarts of boiling water, and boil it down to a quart. Flavor with thinly-cut lemon-rind, and sugar to the taste; but do not strain unless at the patient's request."

Other foods frequently prescribed for the inflammatory and febrile states are wine-whey and "eggnog," or "egg-flip." To a pint of boiling milk add four ounces of sherry; strain and sweeten the whey to the taste. This is a grateful subacid drink, but slightly nutritive. Eggnog may be prepared as follows: "Scald some new milk by putting it, contained in a jug, into a saucepan of boiling water, but it must not be allowed to boil. When quite cold, beat up a fresh egg with a fork in a tumbler with some sugar; beat quite to a froth, add a dessert-spoonful of brandy, and fill up the tumbler with scalded milk." This may be used in alternation with beef-tea, or exclusively in acute inflammatory or febrile affections, but its administration should not usually be more often than every three hours. Milk and egg may be served separately with wine or brandy, as follows: "To one tablespoonful of brandy, or one wineglassful of sherry, in a bowl or cup, add powdered sugar and a very little nutmeg to taste. Warm a breakfast-cup full of new milk and pour it into a spouted jug. Pour the contents from a height over the sugar, wine, etc. *The milk must not boil.*"

"Beat up with a fork an egg till it froths; add a lump of sugar and two tablespoonfuls of water; mix well, pour in a wineglass of sherry, and serve before it gets flat. Half the quantity of brandy may be used instead of sherry."

The foregoing are the most accessible and the most nutritious aliments for the acute stage of fevers and inflammations. They contain the materials necessary to supply the loss taking place in the organism at large, and to repair the damage to tissues in the state of inflammation.

ALIMENTS IN DISEASES OF THE DIGESTIVE ORGANS.—In acute and chronic affections of the digestive organs, especially the latter, the skim-milk treatment, already described, possesses the highest value. When the trouble is localized to the stomach and is of an acute character, only the most easily-digested aliments are borne, as, for example, milk and lime-water, barley-water, tamarind-whey, carbonic-acid water, effervescent lemonade, etc. The following formulæ are useful:

"To a tablespoonful of pearl-barley, washed in cold water, add two or three lumps of sugar, the rind of one lemon, and the juice of half a lemon. On these pour a quart of boiling water and let it stand for seven or eight hours. Strain it."

"Boil an ounce of tamarind-pulp with a pint of milk, and strain."

"Squeeze two large lemons, and add a pint of spring or cistern water to the juice and three or four lumps of white sugar. When required for use, pour half of it into a tumbler, and add half a small teaspoonful of bicarbonate of soda; stir and drink while effervescing."

In the *chronic affections of the stomach*, when digestion is feeble, especially of the nitrogenous elements (deficiency of gastric juice),

such aliments as boiled rice, tapioca, arrow-root, unfermented bread (aërated bread), and the farinaceous vegetables, are indicated, for these foods are digested chiefly in the small intestine. Cases of acidity and heart-burn, dependent on the fermentation of the starchy and fatty elements of the food, require abstinence from the articles containing them. The acid fruits and vegetables (apples, peaches, tomatoes, etc.) are to be preferred under such circumstances to the farinaceous foods. An acid wine (Rhenish or Catawba), taken at the principal meal, will often correct the acidity derived from the fermentation of starch and fat.

In *intestinal indigestion, summer diarrhoea, and cholera infantum*, it is necessary to supply those foods which undergo solution in the stomach, in compliance with the fundamental therapeutical principle of giving a suffering organ (the intestine) rest. Starches and fats should therefore be withheld. Bread, arrow-root, potato, beans, peas, butter, and other fats, increase the disease, because on reaching the affected organ they are not finally digested, but act as irritants. This result is well seen in the summer diarrhoea of infants. Milk, eggs, animal broths, broiled or raw beefsteak, oysters, white-fish, are suitable aliments under these circumstances. Similar rules obtain in the treatment of *jaundice from catarrh of the gall-ducts* and of *biliary concretions*. The starches and fats are especially active in setting up those local disturbances which result in the production of jaundice by extension of the catarrhal process from the duodenum along the hepatic duct. The use of fat and oil has an immediate result in favoring the crystallization of the cholesterin, or in causing inspissation of the bile.

Cases of *chronic diarrhoea* are sometimes remarkably benefited by a diet of grape-juice, peaches, and such succulent vegetables as tomato, celery, and raw cabbage. It is probable that the cases so benefited are really scorbutic in character. The author has known many obstinate cases of summer diarrhoea of infants to be improved by the addition of ripe peaches to the milk-diet.

A proper regulation of the diet is of great importance in the treatment of *habitual constipation*. This usually depends on deficient secretion, or torpor (a paretic state) of the muscular layer of the intestines. Corn-bread, cracked wheat, oatmeal, bread of unbolted flour, fruits, and such vegetables as green corn, tomatoes, and celery, are indicated. Those troubled with habitual constipation, to a moderate extent, may overcome it by the daily use at dessert of a few almonds and raisins, about six of each. Hæmorrhoids due to congestion of the portal vein, or to constipation, are much benefited by the grape-cure, or a diet of fruits and succulent vegetables.

ALIMENT IN CACHECTIC STATES.—To store up fat in the tissues and to increase muscular power, the diet must consist of both nitrogenous

and carbonaceous elements. The fats themselves hold the first place as fat-forming foods. Those most frequently employed for this purpose are the fat of meat, butter, olive-oil, cream, and milk. Sugar and saccharine fruits and vegetables rank next in importance as fat-formers. The organism has the power of transforming starch into fat, whence bread, potato, pastry, rice, arrow-root, etc., belong to this class. The malt liquors undoubtedly possess an extraordinary energy in the same direction, hence the use of beer and ale by nursing women; but it is undoubtedly true that milk is better for increasing the production of milk. Less force is lost in the conversion of cow's milk into human milk than in the complex process needed for transforming the nutritive elements of malt liquor. The same fact is true in regard to the relative facility of the appropriation of fatty aliment and of the conversion of saccharine and farinaceous food into fat. It is also true that, for the increase of muscular power, muscular tissues and juices are more easily applied by the organism.

In the *scrofulous, mercurial, plumbic, syphilitic, and paludal cachexiæ*, and in *phthisis*, a combination of the flesh and fat forming foods is necessary. The hunger or *denutrition* cure, as already explained, may be applied to the treatment of these cachexiæ, the object being to produce such waste and molecular changes as to cause the elimination of the morbid matters. On the other hand, the object sought to be accomplished in these states of disease and in *phthisis*, by improving the body nutrition, is to supplant by fresh material the lesions of the anatomical elements.

In *rickets (mollities ossium)* it is necessary to supply a food rich in phosphate of lime and other phosphate salts. Oatmeal, bread of unbolted flour, cracked wheat, etc., should be added to the dietary.

Gout, rheumatism, and the so-called *uric-acid diathesis*, require a diet composed chiefly of farinaceous vegetables and acid fruits. Animal food and saccharine substances are contraindicated in these disorders.

In no disease is the influence of diet more conspicuous for good or evil than in *diabetes*. I have already alluded to the milk-cure, revived by the Montpellier school and popularized in England by Dr. Donkin. All saccharine substances and fruits and vegetables containing them, and all farinaceous foods the starch of which is easily convertible into dextrine and sugar, are injurious in diabetes. In this prohibition are included bread, potato, beets, beans, peas, sugar, milk, pastry, and sweetmeats of all kinds. Tomatoes, celery, and raw cabbage, are not objectionable. In order to compensate for the loss of bread, the greatest deprivation endured by these diabetics, gluten and almond bread are now prepared. To supply the deficiency in the alimentation of diabetics caused by the withdrawal of the starch elements of the food, fats must be used, as butter, olive and cod-liver oil, fat of meat, cream, etc.

FORMULÆ FOR VARIOUS ARTICLES OF DIET.

Lemonade.—"Put the juice of a lemon to a pint of water, in which an ounce of sugar has been dissolved; then add the white of an egg and froth it up. It may be iced."

Farina-Gruel.—"Stir two tablespoonfuls of farina into a quart of water in a milk saucepan; let this boil until it has grown quite thick; add a pint of milk, a little salt, and let it boil fifteen minutes longer; turn out into a bowl, and sweeten to taste."

Oatmeal-Gruel.—"Put a pint of boiling water into a saucepan; into this stir a couple of tablespoonfuls of oatmeal until quite smooth; let this boil well for ten or fifteen minutes, season with salt, then strain through a strainer, and add a little port wine and sugar, if the patient may have it."

Corn-Meal Milk-Gruel.—"Sweeten a quart of milk, and stir in two tablespoonfuls of corn-meal. This must be carefully cooked, as the meal is apt to scorch, and must be stirred while cooking. A little nutmeg grated on top after it is done makes a pleasant flavor. If the gruel is desired thick, more meal will be needed."

Tapioca Jelly.—"One cup of best tapioca put to soak with a pint of cold water; when soft put in a saucepan with one cup of sugar, the rind and juice of one lemon, a little salt, one pint more water; stir until it boils; turn into a mold; set to cool; add one glass of wine if desired."

Sago.—"Put half an ounce of sago into an enameled saucepan with three quarters of a pint of cold water, and boil gently for an hour and a quarter. Skim when it comes to a boil, and stir frequently. Sweeten with a dessert-spoonful of sifted loaf-sugar. If wine be ordered, two dessert-spoonfuls; and, if brandy, one dessert-spoonful."

Arrow-root.—"Mix two teaspoonfuls of the best arrow-root with half a wineglassful of cold water; add a pint of boiling water; put it into an enameled saucepan, and stir over the fire for three minutes. Sweeten with three teaspoonfuls of sifted loaf-sugar. Add either a wineglassful of white wine, or a tablespoonful of brandy, if permitted."

Arrow-root Milk.—"Mix two teaspoonfuls of arrow-root with a wineglassful of new milk; add half a pint of boiling milk; put it into an enameled saucepan, and stir over the fire for three minutes. Sweeten with a dessert-spoonful of sifted loaf-sugar."

Whipped Cream.—"Beat half a pint of fresh double cream with a whisk, add a dessert-spoonful of very finely powdered loaf-sugar, and twenty drops of essence of vanilla or any other flavoring; when firm it is ready for use, but much improved by being on the ice for an hour or two."

Corn-Starch Pudding.—"One quart of milk, four tablespoonfuls of corn-starch, four eggs, one tablespoonful of butter, six tablespoonfuls of sugar. Dissolve the corn-starch in a little cold milk, and, having heated the rest of the milk to boiling, stir this in and boil three minutes, stirring all the time. Take from the fire, and while still hot put in the butter. Set away until cold. Beat the eggs very light, whites and yolks separately. Stir the sugar and any flavoring desired in the yolks and then add the beaten whites, and stir in the corn-starch, beating thoroughly to a smooth custard. Turn into a buttered dish and bake half an hour. To be eaten cold."

Beef-Juice.—"Broil quickly some pieces of round or sirloin, of a size to fit in the cavity of a lemon-squeezer. Both sides of the beef should be quickly

scorched to prevent the escape of the juices, but the interior should not be fully cooked. As soon as ready, the pieces should be pressed in the lemon-squeezer, previously heated by being dipped in hot water. The juice, as it flows away, should be received into a hot wineglass, and, after being seasoned to the taste with salt and a little Cayenne pepper, eaten while hot. If preferred, the juice may be frozen."

Meat-Tea.—"Put one pound each of beef, mutton, and veal, cut into small pieces, into three pints of cold water. It should simmer for three or four hours, but not boil. When finished, the tea should be carefully strained, and seasoned with salt, and Cayenne pepper if preferred."

Cream-Soup.—"Take one quart of good stock (mutton or veal), cut one onion into quarters, slice three potatoes very thin, and put them into the stock with a small piece of mace; boil gently for an hour; then strain out the onion and mace; the potatoes should, by this time, have dissolved in the stock. Add one pint of milk, mixed with a very little corn-flour to make it about as thick as cream. A little butter improves it. This soup may be made with milk instead of stock, if a little cream is used."

Oatmeal-Soup.—"Put two ounces of oatmeal in a basin, pour over it a pint of cold water, stir it, and let it stand a minute; then pour over it, quickly stirring all the time, a pint of good broth, pour through a fine strainer into a saucepan, taking care that none of the coarse part of the meal goes into the soup. Boil the soup for ten minutes, season and serve."

ARTIFICIAL DIGESTION.

We owe to Dr. Roberts, of Manchester, the introduction of partly digested foods, under the term "peptonized." The formulæ below show the manner in which they are prepared. The liquor pancreaticus mentioned is a solution of the pancreatic juice. This differs from the stomach-juice in that it requires an alkali to give it activity. It can now be obtained of the pharmacutists or druggists.

Peptonized Milk.—"Fresh milk is diluted with water in the proportion of three parts of milk to one part of water. A pint of this mixture is heated to boiling, and then poured into a covered jug. When it has cooled down to about 140° Fahr., one or two teaspoonfuls of the liquor pancreaticus, and a small pinch of bicarbonate of soda (in solution), are mixed therewith. The jug is then placed under a 'cozy' in a warm situation for one hour. At the end of this time the product is again boiled for a couple of minutes. It can then be used like ordinary milk."

Peptonized Milk-Gruel.—"Half a pint of well-boiled gruel is added, while still boiling hot, to half a pint of cold milk in a covered jug. The mixture will have a temperature of about 125° Fahr. The liquor pancreaticus and the bicarbonate of soda are then added in the same proportion as in the preceding process. The jug is placed under a 'cozy' and kept warm for an hour and a half. The contents are then boiled for a couple of minutes, and the product is ready for use. By this second method the use of the thermometer is dispensed with."

NUTRIENT ENEMATA.—It not unfrequently happens that the stomach will not receive and dispose of nutrient materials, when it becomes

necessary to employ nutrient rectal injections. It has been proposed to treat *ulcer of the stomach* by absolute rest of the organ, and the introduction of foods by the rectum. In cases of excessive *irritability of the stomach* the same practice is sometimes necessary. *Œsophagotomy* and *gastrotomy*, as also *wounds of the stomach*, may render the use of nutrient enemata indispensable to save life. It should not be forgotten that the rectum is not an organ of digestion; hence nutrient enemata must contain the materials for artificial digestion. Furthermore, the mucus and fluids of the rectum are alkaline in reaction. To secure rapid osmosis, therefore, the enemata should have an acid reaction. The following formula is suitable for the purpose:

Beef-tea, prepared as before described, four ounces; hydrochloric acid, ten minims; glycerole of pepsin (Scheffer's), two drachms.

If the rectum is irritable, ten to twenty drops of the tincture of opium may be added to the injection. If stimulants are indicated, brandy may also be added. The rectum soon becomes intolerant of injections; hence, the greatest care should be used in practicing them, to avoid sudden distention of the bowel, and frequent introduction of nutrient materials should be avoided. Five times in the twenty-four hours should be the maximum—for artificial digestion is much slower than normal stomach digestion.

Leube recommends the following as a nutrient injection: "Take about five ounces of finely-scraped meat; chop it still finer, add to it one and a half ounce of finely-chopped pancreas free from fat, then add about three ounces of lukewarm water, and stir to the consistence of a thick pulp."

Or the following peptonized formula may be used: "A nutritive enema should be prepared in the usual way—of milk—or of milk with beef-tea or eggs—or of milk-gruel. To half a pint of the warm enema a tablespoonful of the liquor pancreaticus and thirty grains of bicarbonate of soda should be added. The enema can then be administered at once."

Supplementary Rectal Alimentation.—Under this designation, Dr. A. H. Smith, of New York, describes a method of rectal alimentation with defibrinated blood, which seems in a high degree useful. He ascertained that "three to four ounces of blood administered at night would be so completely absorbed in the course of eight or ten hours that no trace of it could be found in the morning evacuation." To retain the blood fluid, it must be defibrinated at the moment it is drawn, which may be done by stirring it with a bundle of twigs as it flows away. In chronic cases three to six ounces may be thrown into the rectum morning and evening; in acute cases every two to three hours. It may be used cold, but it is better to raise it to the temperature of the rectum. Constipation usually results, and in some instances the body exhales a rather fetid odor, and the stools are offensive. Another

gle objection may be urged against this method: sometimes a foul-smelling and tenacious material coats the surface of the mucous membrane and prevents absorption. For this reason, and to promote a favorable disposition of the blood, the bowel should be irrigated with water once or twice a week to clear away any retained or adherent matters. If the rectum is irritable, a little laudanum may be added to each blood-enema.

BEVERAGES.

Coffee.—*The seed of Coffea Arabica*; *café*, Fr.; *Kaffee*, Ger.

COMPOSITION.—Coffee contains an alkaloid—caffeine—which is nearly, if not quite, identical with theine, a principle found in tea; a volatile oil; a form of tannic acid; sugar, gum, etc. The tannic acid is that variety known as caffeeo-tannic, or caffeeic.

The peculiar odor and flavor of roasted coffee are due to the caffeeic acid, which is, in part, converted into methylamine; to the aromatic oil; doubtless, also, to the sugar, which is changed into caramel.

PREPARATIONS.—Coffee is never used in the raw state as a beverage. After roasting, it is made into an infusion or decoction. An infusion made at a low temperature, which should not exceed 200° Fahr., is better than a decoction. If the heat be too great, those aromatic constituents which impart to coffee its special aroma, are dissipated. Coffee is now usually prepared by the process of percolation. The best product is obtained by steeping the coffee for some time in hot water. Coffee can be "settled," or clarified, by the addition of some white of egg, or isinglass, or by pouring on from a height some cold water.

Tea.—*The dried leaves of Camellia Thea*; *thé*, Fr.; *Thee*, Ger.

COMPOSITION.—The constituents of tea are very much the same as those of coffee: theine; an aromatic oil; sugar and gum, and a peculiar form of tannic acid.

PREPARATIONS.—Tea is only used in the form of infusion. The character and quality of the beverage vary greatly with the kind of tea used in the preparation of the infusion. It will suffice to state that green tea is more astringent than the other varieties, partly because it contains more tannin, and partly because it is sophisticated to adapt it to a peculiar taste.

Cocoa.—*Obtained from the seeds of Theobroma Cacao*; *cocoa*, Fr.; *Kakao*, Ger.

COMPOSITION.—The active principle is theobromine, a substance which resembles the alkaloids of coffee and tea, except that it contains more nitrogen than theine and caffeine. Another important difference between cacao and coffee and tea is the large amount of a peculiar fat (cacao-butter) contained in cocoa. There is also present a minute quantity of a volatile oil, on which depends in part the characteristic aroma.