

as comprehending in a greater degree most of the cases in question, and affording a more systematic view of the nature of the investigation.

[TO BE CONTINUED.]

On the Manufacture of French Articles of Perfumery.

[From the *Dictionnaire Technologique*, translated for the Technological Repository.]

THE art of the perfumer is derived, according to some historians, from the most remote periods. Diodorus of Sicily pretends, that the Egyptian priests were the only possessors of the necessary recipes for embalming dead bodies.

The number of these articles of perfumery is now-a-days become very considerable.

The business of the perfumer consists in the preparation of the various products which we shall hereafter mention, and which are divided into two classes: namely, the perfumes from Grasse, and those of Paris. The first and most important branch comprehends the fabrication of the prime materials, and which should be done in the localities where they are produced; and the second also merits attention, from the immense consumption of articles in perfumery.

THE PERFUMES FROM GRASSE, IN THE DEPARTMENT OF VAR.

Preparation of the fats of the pommades by infusion, and of those made without infusion; on oils; on distillation; and on the extraction of essential oils or essences.—Grasse, from the mildness of its climate, is one of the finest towns in Provence, the natural soil of the aromatic plants. Numerous and various kinds of flowers grow in such abundance there, as to require but little care in their culture. Amongst those ordinarily grown at Grasse, we may enumerate the following: the jasmine, the rose, the violet, the tube-rose, and the jonquille. It is to be regretted that, amongst the number, we cannot also find the orange, the citron, the hyacinth, the mignonette, the heliotrope, which would double the revenues of the proprietors; but we suppose that there exist causes which oppose their vegetation. Not two leagues from thence, in the small village of Canet, they collect various kinds of flowers, of which the annual product cannot be less, on a moderate estimation, than two hundred thousand francs!

Before describing the processes employed in the fabrication of the perfumeries of Grasse, we must give an idea of the mode of preparing the fatty materials. These take the precedence before all others, as from them are prepared a great part of the perfumeries of Grasse, as well as those of Paris.

The perfumer employs in the whole three kinds of fat: namely that of pork, beef, and mutton. The modes of preparing them differ but little from those in common use; but it is necessary, nevertheless, to make known the changes and improvements which the perfumers have latterly made in their manipulations; and which relate only to the fats of pork and mutton. The first is pounded and beaten

in an iron mortar, after having previously cut it small with a hatchet or cleaver; and the second must be carefully freed from all the fleshy parts before subjecting it to the action of heat.

When thus prepared, the fats are pure, and of a perfect whiteness; but care must be taken that the time employed in preparing them be not too much prolonged, lest they might begin to putrify. This quick alteration may also be owing to their retaining some portion of water (an inconvenience difficult to avoid, as in evaporating them sufficiently to drive off the last portions of water, they risk the decomposition of part of the fatty matter also.) The perfumers have, for several years past, adopted the following process, which appears preferable. They pound the fats without the addition of any water, until all the membranaceous parts are completely separated; they then throw this prepared mass into a boiler, heated by a *balneum-marie*, or water-bath. The fat being perfectly melted, the albumen in the blood coagulates, and entangles all the other foreign or extraneous matters; the scum which forms must be carefully removed, and the whole remainder be afterwards passed through a canvass strainer.

ON THE POMMADES MADE BY INFUSION.

Rose, orange-flowers, and cassia.—They take 334 pounds of prepared hog's lard, and 166 of beef suet. (The third part of beef suet which is here added, is intended to give more consistence to the pommade, and especially when it is to be exported to warm climates.) These 500 pounds of prepared fat are to be put into a vessel, termed a *bugadiers*; they then add 150 pounds of rose leaves, which they throw upon the melted fat, and carefully stir them for several hours. This infusion, thus prepared, must remain at rest for twenty-four hours; at the end of this time, the pommade is again melted, and continually stirred, in order that none of the rose leaves may adhere to the bottom of the vessel; when melted, it is strained through canvass, in which operation the *marc*, or dregs, take the form of rectangular loaves; these loaves are placed under a press, in order to extract all the remains of the fat from the solid parts. The loaves are held in a barrel, pierced full of holes, and bound with iron, so that the pommade may escape on all sides, and fall into a copper vessel placed under the gutter or spout to receive it.

This operation is repeated many times, in order to avoid the loss which results from the small quantity of pommade which the canvass ordinarily retains. This work, simple as it appears, nevertheless demands great care; and the workman who executes it, can only acquire by practice a perfect knowledge of it.

This process is repeated, with the same fat, ten or twelve times; and thus they employ 3000 pounds of rose leaves to make a good pommade.

The orange-flower pommade is made in the same manner, but it requires still greater care to be taken in pressing it, in order to make it clear, as it is liable to form a deposit.

In preparing the orange-flowers, they remove the yellow parts of

them, when they intend to produce a white pommade; but, unfortunately, their high price prevents them from often practising this method. The pommade, thus prepared, costs at least thirty francs the pound; but it is incomparable as a perfume.

We shall not enter into the details relative to the preparation of the pommade of *Cassia*, as it is made in the same manner as the two preceding ones.

ON THE POMMADES MADE WITHOUT INFUSION.

Jasmine, tube-rose, jonquille, narcissus, and violet.—We take a double dish, termed a *tiame*, and pour into it twelve ounces of the prepared fats of pork and beef, the flowers being contained in the other part; next day these are removed, and replaced by fresh flowers; this process is continued for two or three months, or until the pommade has attained the degree of perfume designed to be given to it. This work requires great care and patience, as the jasmine flowers contain other matters prejudicial to the required scent, which require them to be removed every day; and without taking this precaution, the pommade would become defective.

Some perfumers, nevertheless, employ fusion for making this kind of pommade; but we think it ought to be discontinued entirely, as it cannot but injure this delicate pommade. Lately, M. Thias, of Grasse, has contrived to substitute for the *tiames*, frames composed of four pieces of wood perfectly united, into which he puts a glass vessel, containing the pommade, spread over it with a palette-knife. This is an advantageous improvement, as the room which the *tiames* occupied was considerable, and their great weight was also an obstacle to their superposition. Now these frames can replace them, and the perfumers require four thousand of them for their establishments. The frames are placed one above the other, and a cover is placed over the uppermost one, to hinder the access of the external air. This work is sufficiently curious to attract the attention of travellers, who find a pleasure in visiting the laboratories of the principal manufacturing houses of Grasse.

ON PERFUMED OILS.

The oils of roses, orange-flowers, and cassia.—These are made by infusion, like the pommade of the same odours; and it is an indispensable precaution, that we choose oils which are perfectly fresh; for those of *jasmine, tube-rose, jonquille, and violet*, and, in general, of all delicate flowers, the following is the process:—

They place, on an iron frame, a cotton cloth, imbibed with olive oil of the first quality, and which they completely cover with the flowers. This layer must be but of little thickness. They continue this process, changing the flowers until the oil is saturated with the odour which they desire to communicate to it; at the end of this time, which we can easily conceive must be variable, they submit the cloths to the action of a press. This last part of the process usually occupies eight entire days.

ON DISTILLATION.

The essential oils or essences obtained in the south of France, are those of roses, neroli, petit-grain, lavender, wild-thyme, thyme, and rosemary.

These essences are distilled in the usual manner. They obtain, by putting into the body of the still forty pounds of rose leaves, and thirty pints (French) of water, and proceeding to distillation, fifteen pints of rose water. They then continue the operation until they have thus obtained 200 pints of water, termed No. 1. In this first distillation, they obtain an almost imperceptible quantity of the essence of roses; but in the second it becomes more apparent; and, finally, in the fifth it becomes notable.

The house of Langier, senior and junior, annually make 250 ounces of essence of roses.

In the distillation of orange-flowers, they also obtain the essence of neroli, now become of remarkable importance. If they would obtain this essence, they follow the ordinary process, and repress the waters of the first distillations upon new flowers. On the contrary, when it is intended to prepare orange-flower water of a good quality, they draw off a fifth part only of the water placed in the cucurbit.

The essence de petit-grain is obtained by distilling the leaves of the orange-tree; the quantity of essence they afford depends upon their freshness. With respect to those of lavender, wild-thyme, thyme, and rosemary, they present no peculiarities in their extraction.

ON SPIRITUOUS ESSENCES.

Rose, orange, jasmine, tube-rose, cassia, violet, and other flowers.—They take three water-baths, furnished with covers, and put into one of them twenty-five pounds of one of the perfumed oils above-mentioned, and twenty-five litres of spirit, marking three-sixths; they stir the whole every three-quarters of an hour during three days; at the end of this time they decant the spirit thus perfumed, and pour it anew into the second water-bath; they again repeat the same operation in the third bath, and the spirit then obtained is perfected. By continuing the process with the same oil, they likewise obtain inferior qualities, and which they indicate under the terms, No. 2, 3, and 4.

Some perfumers pretend that they dispense advantageously with these oils, by employing pomades strongly impregnated with odours; we cannot say to which of the two the preference ought to be given, as they obtain by both processes similar results.

Scented Spirits.

- 7 litres* spirit of jasmine, third operation.
- 7 litres spirit of cassia, third do.
- 3 litres spirit of three-sixths.
- 2 litres spirit of tube-rose, third operation.
- 1½ ounces of essence of cloves.

* The litre is nearly two and one-eighth English wine pints.

- $\frac{1}{2}$ an ounce of fine neroli.
- $1\frac{1}{2}$ ounce of essence of bergamotte.
- 8 ounces of musk, second infusion.
- 3 litres of rose water.

Italian spirit of flowers.

- 2 litres spirit of jasmine, second operation.
- 2 litres spirit of roses, second operation.
- 2 litres spirit of oranges, third operation.
- 2 litres spirit of cassia, second operation.
- $1\frac{1}{2}$ litres of orange-flower water.

Spirit of Cytherea.

- 1 litre of spirit of violets.*
- 1 litre of spirit of jasmine, second operation.
- 1 litre of spirit of tube-rose, second operation.
- 1 litre of spirit of pinks.
- 1 litre of spirit of roses, second operation.
- 1 litre of spirit of Portugal.
- 2 litres of orange-flower water.

PERFUMERIES OF PARIS.

Of Pommades.—We can reckon twenty odours for pommades; from flowers and from compounds. This last kind of pommades is an imitation of those flowers which are not cultivated in France. The essences usually employed in making of pommades are those of *bergamotte*, citron, *cedrat*, *limette*, Portugal, rosemary, thyme, wild-thyme, lavender, marjoram, and cinnamon.

We divide these pommades into three qualities:—

Fine pommade.

Superfine pommade.

Roman pommade.

As these last require particular care, we shall give the preparation of the Roman *pommade à la Vanille*.

12 pounds pommade of roses.

12 pounds oil of roses.

1 pound *Vanille*, first quality, pulverized.

6 ounces of *bergamotte*.

The pommade must be melted in a water-bath; the vanille is then to be thrown in, and stirred continually for an hour; it is then left at rest for two hours; this time is sufficient for the vanille to be completely deposited; the clear part is then to be drawn off, and the pommade thus formed will be of a yellow colour, which is much preferable to that of the ordinary brown colour.

We must here make an observation relative to the odorous extracts and waters. We should always employ in preference the spirits of flowers; which ought to be prepared by first macerating the flowers in the alcohol, and then adding the different essences

* These spirits usually mark 28° of the *alcometre*.

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necessary to give the perfume the required odour. Unfortunately, they often neglect to perform this necessary operation. These spirits of flowers ought always to form the bases of good perfumes.

ODOROUS EXTRACTS.

The alcohometric degree of the spirit employed for these, however variable, should always exceed 28 degrees.

Extrait de Bouquet.

- 2 litres spirit of jasmine, first operation.
- 2 litres extract of violets.
- 1 litre spirit of cassia, first operation.
- 1 litre spirit of roses, first operation.
- 1 litre spirit of oranges, first operation.
- 1 litre extract of pinks.
- 4 gros of benzoin.
- 8 ounces of essence of amber, first infusion.

Extract of Peach Blossoms.

- 6 litres of spirit, at three-sixths.
- 6 pounds bitter almonds.
- 2 litres spirit of orange-flowers, second operation.
- 4 gros essence de laurier amande.
- 4 gros balsam of Peru.
- 4 ounces essence of citron.

COLOGNE WATER.

There are two processes which are equally employed in the preparation of *cologne water*; namely, distillation and infusion.

The first is now generally abandoned; but it is, nevertheless, beyond contradiction, the preferable one.

The only essences which are employed, and which have given to this water its great celebrity, are the following: *bergamotte*, citron, lavender, rosemary, Portugal, and *neroli*. All these should be of the first quality; but their proportions may be varied according to the choice of the consumers.

The lavender waters are now indeed but little esteemed; nevertheless, for their virtues, they are in daily use; they ought always to be prepared from the fresh flowers, and not by a solution of the essence of lavender in alcohol.

ODOROUS WATERS OF LAVENDER, HONEY, VULNERARY, AND ARQUEBUSADE.

We can reckon, in articles of perfumery, thirty different odours; these are varied according to the choice and skill of the manufacturer. We shall content ourselves with giving the recipes for the three following ones. Amongst these will be found the *English honey-water*, which we now manufacture with great success.

Honey-water.

- 6 litres of spirit of roses, third operation.
- 3 litres of spirit of jasmine.
- 3 litres of natural spirit, of three-sixths.
- 3 ounces of essence of Portugal.
- 4 gros flowers of benzoin.
- 12 ounces essence of vanille, third infusion.
- 12 ounces essence of musk, third infusion.
- 3 litres of orange-flower water, of a good quality.

Eau de Mille Fleurs.

- 18 litres of spirit of three-sixths.
- 4 ounces of balsam of Peru.
- 8 ounces of essence of bergamotte.
- 4 ounces of essence of cloves.
- 1 ounce of essence of ordinary neroli.
- 1 ounce of essence of thyme.
- 8 ounces of essence of musk, third infusion.
- 4½ litres orange-flower water.

Eau de Mousseline.

- 2 litres spirit of roses, third operation.
- 2 litres spirit of jasmine, fourth operation.
- 1 litre spirit of pinks.
- 2 litres spirit of orange-flowers, fourth operation.
- 2 ounces essence of vanille, third infusion.
- 2 ounces essence of musk, third infusion.
- 4 gros essence of sandal-wood.
- 1 litre orange-flower water.

All these three waters should mark twenty-four degrees. As they possess similar properties, they require no further remark.

Lately, MM. Langier have invented two new waters; one of these is named *eau de Langier*, and the other *eau anti-pestilentielle*. This last is principally intended to remove the disagreeable odours which are produced whenever the chlorates are made use of.

Dentifrice Waters.

We shall indicate those of these waters which are most known.

Eaux de Grenouch, balsamique, dentifrice et rose étherée.—Some persons prefer to use powders; but they are always hurtful, on account of the cream of tartar which they contain.

Etherial Balsamic Water.

- 3 litres of spirit of three-sixths.
- 2 gros of spirit of mint.
- 2 gros spirit of neroli, best quality.
- 2 gros spirit of cinnamon.
- 2 gros spirit of amber.
- 1 gros of sulphuric ether.

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Put them into a matras, and infuse them in a water-bath for eight days.

Balsamic Water.

- 18 litres of spirit of three-sixths.
- 1½ litres of spirit of cochlearia.
- 1½ litres of spirit vulnerary.
- 9 pounds of cloves.
- 12 pounds of the roots of *pirette*.
- 12 pounds of fine cinnamon.
- 3 pounds of starry anise-seeds.
- 2 gros of saffron.
- 4 gros of fine spirit of mint.

ESSENCES FOR REMOVING SPOTS.

There are two essences equally employed for this purpose; the one is termed *essence de citron*, and the other *essence nouvelle à détacher*; both of the two have the advantage of not leaving any unpleasant odour.

Essence à Détacher, Parfumée.

- 3 litres of spirit of three-sixths.
- 1 pound of white soap.
- 1 pound of ox-gall.
- 1 ounce of essence of citron.
- 2 ounces of essence of mint.

ALMOND PASTE.

These are divided into three kinds, but are all prepared nearly in a similar way; namely, brown almond paste, white sweet almond paste, and white bitter almond paste.

The first is made of the kernels taken out of apricot stones, as also with almonds; these are formed into loaves, weighing five or six pounds each, and are then subjected to pressure, in order to extract the oil (300 pounds of almonds will yield about 130 of oil.) The press is turned or squeezed closer every two hours, during three days; at the end of this time the loaves are withdrawn from the press, when they are dried, in order to be pounded; and, lastly, are passed through a sieve.

The second kind is obtained by scalding the sweet almonds in boiling water, until their skins become completely detached; they are then put into a basket and cooled, and the skins entirely separated; when they are become dry, they are subjected to the same processes as the preceding.

The third kind is prepared as the second is, only that bitter almonds are made use of.

[TO BE CONTINUED.]