

HERE FLOWERS GET THEIR PERFUME.

Where the rose, and other flowers get their perfume is a very interesting story. The perfume of the rose, as well as of other flowers, is contained in essential oil. The essential oil plants is not always agreeable as some plants have a very disagreeable odor. In some plants this odor is obtained in the leaves and foliage and is particularly noticeable when used. Among these may be mentioned the various species of mints and sages. There are a number of plants in which this essential oil may be extracted from the flowers. That of distilling is best, but in this cannot be done because of the delicacy of the perfume, and the liability to loss and deterioration of the process. The flowers are posed in contact with purified oil or olive oil in suitable frames whereby the fatty substance is taken and impregnated with the essential oil is extracted from the fatty substances by maceration with alcohol. An alcoholic essence is then obtained, and it is from this that the attar of roses is obtained. The attar of roses is chiefly produced in Hindustan and Persia. It is largely adulterated and not one ounce of the pure essence ever reaches the United States and England. This adulteration is done with an essence of the Indian geranium which is shipped to the United States and used chiefly in the manufacture of soap. Bulgaria furnishes ninety per cent. of the world's supply. The price of essence varies with the condition of the crop, but the quotation for 1925 was \$25 for only one troy ounce. Statistics for the year 1924 give the amount of rose petals harvested in Bulgaria as 11,000,000, which roughly speaking represents two billion blossoms. This produced 2,750 pounds of the liquid and 220 pounds of the solid essence.

The beauty of the scene where these roses are grown can well be imagined. From Koprivko to Kazanlik, a distance of about thirty miles in the southern foothills of the Balkans, is located the famous Valley of Roses. White and pink Dardanus roses are here grown alternating with fields of waving corn and wheat and the delightful fragrance emanating from these fields of roses is carried for miles by the wind. The work of caring for these fields of roses and harvesting the annual crop of blossoms give employment to many peasants, but the remuneration is small. Whole families from smallest to the oldest are employed, cutting the blossoms and putting them in baskets; later they are emptied into sacks to be carried to the distilleries where they are at once subjected to distillation. A delay in the process of conveying them to the distilleries results in a loss of precious perfume, no time is lost, and the distilleries work night and day during the rush season. Four hours are required to convert the blossoms into the essence.

One acre will produce in the neighborhood of 700 kilograms of roses petals which is equivalent to 1,500 lbs. To make a kilogramme of petals a peasant has to harvest approximately 4,000 blossoms. It takes 4,000 kilograms of fresh roses to produce one kilogramme of the liquid essence. A large factory will, at the height of the season, be able to use about 64,000,000 roses every twenty-four hours, producing from these 38 pounds of the attar of roses.

There are two processes used in the extraction of the essential oil of the rose. One is the old steam process, which is a very old one, and which has been little improved upon, and the other is the new process of distillation by gasoline. The farmer produces the emerald-green attar of roses, which crystallizes when it cools, but liquefies at bodily temperature. The latter produces a solid essence which is of a dark orange color, a greasy paste, with a very strong odor. About 500 lbs of roses are needed to produce one pound of solid essence. This pound of liquid essence may be sold for \$300.00 out of which the peasant receives \$125.00 for the work of caring for and harvesting the crop. The solid essence will bring \$70 a pound of which the peasant gets \$15.00. The difference in price is due to the amount of roses required to produce the two kinds of essence, the liquid essence requiring more than the solid.

It is from India that we get the tradition respecting the discovery of the method of preparing the famous attar of roses. It was an accidental discovery and came about in this manner: In an effort to please the voluptuous Jehanghis, his favorite sultana caused the bath in the palace garden to be filled with rose-water caused the oily particles, which were floating on the surface of the water. The action of the sun on the water caused them to concentrate, and the attendant imagining that the water had become corrupt began to skim it for the purpose of taking off the oil. As the globules burst under this process, they emitted such a delightful odor, that the idea of preparing this delightful perfume was at once suggested.

ORDER FOREST TREES NOW.

Despite the fact that next spring is the time to plant forest trees on idle acres right now is when they should be ordered. Do not postpone ordering and then get a reply that the supply is exhausted. Your county agent has order blanks for State department trees and can aid you in selecting the right kind for the land you have to plant.

FLOATING ISLANDS FOR AIRPLANES CROSSING OCEAN

The twenty years which have followed Louis Bleriot's daring flight across the English channel in a frail monoplane, on July 25, 1909, have seen the aeroplane grow from a toy to a proven vehicle of commercial transport. Bleriot in an exclusive interview, predicted that long before the next span of 20 years is past, mail planes will hop off almost hourly from Paris for New York flying along a lane of floating islands like stepping stones across the Atlantic.

France and England feted Bleriot in celebration of his historic flight, the forerunner of the daily mail and passenger service which has existed since the war between Paris and London.

"The future of aviation is magnificent," Mr. Bleriot said. "I am convinced that within a few years we will be flying between Europe and America as easily as we fly across the Channel today.

"The formula in which I put my conviction for a successful trans-Atlantic flying service in all kinds of weather calls for floating islands spaced from 300 to 400 miles apart along the Great Circle. They will be linked by a Hertzian system and the planes can be guided even in fog without any danger.

"Eight islands should be sufficient, being several hours apart in flying time. Such a scheme would present all the necessary guarantees of security for passengers and pilots.

"Postal planes could easily follow the natural route by way of the Azores and Bermuda, but they must be multimotored planes capable of great speed and carrying a heavy load of fuel in addition to a heavy load of mail, large enough to pay their way."

Bleriot then announced for the first time that his factories are now completing such a multimotored plane with which he intends to blaze a postal trail along that route.

"I am just finishing a four-motored plane with a force of 1,000 hp., designed to carry more than half a ton of mail or freight. Our motors present an innovation in airplane construction, being six cylinders in line, and they are giving us our only trouble at present," he said.

"I started to build this plane for my son, but even though he died two months ago, I am going to finish it and start it off on the errand for which it was destined.

"It was to have been piloted by Bossoutrot, with a naval lieutenant, Crespy, as navigator and my son as wireless operator. His place will be filled and the plane sent out with mail across the Atlantic just as soon as the motors give satisfaction and prove their merit in trial flights over the Mediterranean."

Bleriot still holds to the monoplane as the ideal type of construction. It was a monoplane which carried him across the Channel, and he was a pioneer in that theory, for most of the planes of that day were biplanes or carried many small plane surfaces.

"When I flew the Channel I was happy, but my greatest happiness came from the fact that I found my theories borne out," Bleriot said. "It was conceived exactly along the formulae which are still applied. It made me confident in Lindbergh when I learned that he intended to try the Atlantic in a monoplane which looked a good deal like mine but bore all the modern perfections.

"My Channel plane was small and carried a tractive propeller and among the planes of 20 years ago that type alone has been carried through the experiments. I believed in the monoplane in 1909 just as much as I believe in it today. I was then associated with Voisin, but we did not have the same theories about the future of aviation.

"Voisin favored the multiplane type capable of flying at very low altitude and really forming a 'flying carriage.' I saw distant horizons and high altitudes, planes which could climb high and fly over mountains and seas.

"To me, the air is comparable to the ocean. On water you need solid ships with as many guarantees of security as possible. It is the same thing in the air. The waves of the air are as dangerous as the waves of the sea, and we have seen many airships broken in the air by wind waves.

"That is why I never believe much in individual aviation, one man planes for tourist purposes. I would be happy to see such planes developed and aerial tourism become a fact, but in that idea I see no progress.

"Aviation will furnish strength to any nation which sees the air as an ocean and builds solid planes, constructing always to defeat bad weather and changes of temperature, and using every feature of safety that modern science can develop, wireless, telephones, radiogoniometry and Hertzian waves."

RULES FOR AVIATORS.

New regulations for airplane pilots, effective Sept. 1, designed to protect the flying public and aid the aeronautic industry, have been completed by the Commerce Department under the direction of Clarence M. Young, assistant secretary of commerce for aeronautics.

The regulations provide that a transport pilot can carry passengers and property only in aircraft specified on his license.

A minimum of 200 hours solo flying experience, knowledge of the government's air traffic rules and rigid physical examinations at regular intervals are stipulated in the new regulations.

The new rules also require a demonstration of various emergency maneuvers such as spins, side slips, recoveries from stalls, and climbing turns.

—Read the Watchman and get all the news.

Dust Now Recognized as Powerful Explosive

It is more or less generally well known that all dust accumulations represent a menace of no mean proportions. Dust is explosive and many mills were wrecked by this mysterious power before the real cause was understood. In a mine, for instance, the explosion taking place in one chamber was carried to the next and so on until the explosive force swept through the entire mine and the workings were wrecked completely. It is only within a comparatively few years that it was ascertained that this march of destruction was conducted through the subterranean passages by the accumulation of dust on the walls and in the crevices. Now this is avoided by a coating which is sprayed on and which prevents the dust thus treated from exploding. In the case of grain mills the damage done by these mysterious bursts was particularly severe and the government agencies have been giving considerable attention to the study of these mysterious blasts. In the course of some experiments it was found possible to drive an automobile engine by the use of finely powdered corn dust. —Louisville Courier-Journal.

Dire Punishment for Man "Mute of Malice"

"Mute of malice" is a legal term of considerable antiquity, and applies to prisoners who on being arraigned in court refuse to plead. In a recent Dublin case, counsel said that to seek a verdict of this kind nowadays was only an "absurd formality."

But once it was not so. Then penalty was terribly severe. Here is an instance as late as 1740. A highway man, who pretended to be dumb and refused to plead at Kilkenny assizes, was tried as to whether he was "mute and lunatic by the hand of God or willfully so." On being found "mute of malice," he was sentenced to be pressed to death, a decree which was carried out in the market place.

"As the weights were heaping on the wretched man" (says an account) "he earnestly supplicated to be hanged, but it being beyond the power of the sheriff to deviate from the mode of punishment prescribed in the sentence, even this was an indulgence which could be no longer granted to him." —London Mail.

Noted for Severe Winters

The weather bureau says that, generally speaking, the state of North Dakota and the eastern portion of Montana and the western portion of Minnesota have the most severe winter climate, although portions of northern New England and the mountain sections of northern New York have weather conditions nearly approaching those in the sections first named. Likewise, some of the mountain districts have severe weather over somewhat longer periods than in the sections previously mentioned and heavier snows may occur, but usually the temperatures are not so low during periods of intense cold as occur in the lower levels of the states first mentioned.

Afterthought

The polite guest in southern Arabia, says a writer of the National Geographic society, always secretes a few coffee berries in his turban, and thus supplies his own beverage at the house where he is calling.

I call to mind guests in this country who were not so thoughtful. They brought no coffee berries concealed in their hats. They brought no cream and sugar in their hats or elsewhere. They brought no roast chicken, bread and butter, salad, ice cream, or pie. But, when reminded, they were quick to repair the oversight, and took plenty of each away with them.—Exchange.

Safer

The famous man was furious when he found a pile of paving stones outside his front door.

"Here, you!" he said to a navy standing near. "Take these things away at once."

"All right, gov'nor, all right," said the navy. "But where shall I take 'em to?"

"Take 'em to hell for all I care," came the indignant reply.

"Ain't I better take 'em to 'even gov'nor," said the navy, helpfully. "They'd be more out of your way." —London Magazine.

Religious Reminder

The emblem placed on the door post of an orthodox Jewish home, which the guests touch when they enter is called "mezuzah," which literally means "door post." It is placed there in fulfillment of the command in the fifth book of Moses. "And thou shalt write them upon the door posts of thy house and upon thy gates." The emblem contains a small piece of parchment or paper on which is written by hand the above quoted passage and others to remind Jews of duties toward their religion.

Better Take a Taxi

"I never was so mortified!" exclaimed Mrs. Averduois.

"Yeah? What happened?" asked her husband.

"I got on a street car today," said the lady of many pounds, "and a rather thin man got up to give me a seat, but as the man next to him wouldn't get up, too, I had to stand and listen to the rest of the passengers in the car snicker." —Cincinnati Enquirer.

Henpecked Man Calls for World's Sympathy

I often think of the last czar of Russia. He was the ruler of a great country, with royal blood in his veins, and the owner of possibly the world's greatest collection of crowns, jewels, vestments and the like. His subjects pretended to love him, and reverently called him the Little Father. At a frown from him, great hordes of men sprang to arms. . . . Yet one night some men took him into a dirty cellar and beat him to death, together with his wife and children. . . . I didn't know it for years, but I was always better off than the czar. . . . His main trouble was dreadfully commonplace; he was henpecked. So far as I am able to make out, from the records, his wife was one of those good women who, without the slightest evidence, believe in signs, omens, dreams, and find the truth shocking. . . . The rule is to laugh at a henpecked man. We should, instead, go to his rescue. I know henpecked men who are being as cruelly wronged as a man seized by bandits.—E. W. Howe's Monthly.

Airplane Plays Poor Second to the Birds

A group of French scientists have proved to their own complete satisfaction that wonderful as airplanes may be, they still come a long second to bird flights. A single swallow is three times as swift and economical a flyer as the very best pursuit plane in the French army. Three scientists, Huguenard, Magnan and Sainte-Lague, have used a new "machine gun" motion picture camera with a double objective to evolve a method for testing the "finesse" on real airplanes in actual flight and on birds in the air.

The camera gives simultaneously on the same strip of film clear images of a guiding mark on the ground six feet from its lens and of an airplane flying away, as well as a clear image of a man placed 150 feet away. Using it, the scientists discovered that a good pursuit plane gave a "finesse" inferior to 6. The "finesse" of a swallow was found to be at least 10.

Use Common Sense

In the nature of things all ordinary stunts and feats of strength are at the same time wonderful exercises for those physical culturists who are advanced enough to be able to do them. You can combine the spectacular with the practical. The human system, no matter how robust, was never intended to handle packages weighing a couple of tons. Why not leave that to the elephants? Indeed, intended record-breaking lifts of any kind, with bar-bells or other weights, are not to be regarded as exercise in the proper sense, and should only be undertaken by highly developed professionals in this field—or by amateurs who have attained professional standing by way of accomplishment.—Carl Easton Williams in Physical Culture Magazine.

Holland's Independence

An error often made is to attribute Dutch success in the war for independence too much to William and to Dutch pluck and endurance. Both these were inestimable factors in the defeat of Spain. But William died 25 years before Dutch independence was recognized and Maurice of Orange and Oldenbarneveldt must both be given their due for their work after his death.

Nor must Spanish inefficiency and poverty be forgotten. A Spanish captain once said: "If death had to come from Spain we would be sure of a long life," and twice Philip had to repudiate his national debt.—New York Herald Tribune.

Danger From Marchers

The director of the Engineering societies library says that soldiers marching in step across a bridge might cause failure of the bridge due to too great a load or due to vibration. If the type is known, together with certain other details of its construction, it is possible for a bridge engineer to calculate whether or not the bridge will break. It is sometimes possible to produce oscillations in a bridge by men marching in step, and these oscillations may be sufficient cause to break down the bridge. In 1850 a suspension bridge at Angers, France, gave way when 487 soldiers were marching over it and 226 were killed.

Three-Minute Egg

A Detroit woman who put in a long distance telephone call wanted to talk only three minutes. She decided to time herself with a contrivance used for timing eggs being boiled. The device is fashioned on the principle of the hour-glass and by setting it near the telephone where she could see it, she felt she was able to get the full benefit of her conversation over the telephone without any danger of talking longer than she desired.—Detroit News.

The Way It Goes

"That bird is so lucky that no matter when he gets downtown he always arrives at a parking place just as some other fellow is pulling out and he can back right in."

"And I am so unlucky that if I turned into a street, hunting one, I'd get there just in time enough to see a dozen machines backing into open spaces that hadn't been occupied for at least half an hour."

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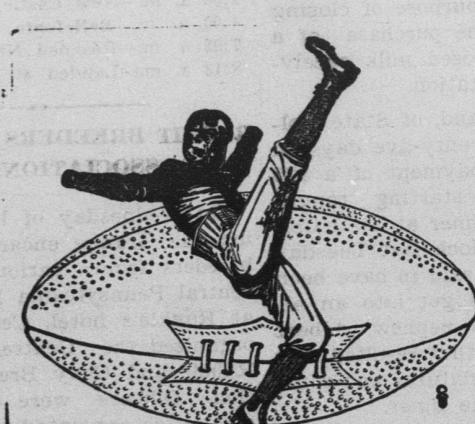
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