

became a rarity with the little musk deer becoming almost extinct from the age-old traffic in this particular animal native to India and China.

The science of organic chemistry suddenly bloomed into a fragrant bouquet of flower-like odors and flavors. The synthetic odors rivalled the actual extracted essential oils of plants, in that the chemical isolates were duplicates of the natural odors, more lasting and cheaper to create.

The petroleum age, with its ever expanding benzene ring aided by the simplest of organic and basic elements, such as milk, yeast, sugar, and the mother of vinegar, gave us wondrous floral bouquets with their acids, aldehydes, esters, alcohols, ethers and ketones.

The brilliant colors of the spectrum found in the new chemical dyes, the amazing development of plastics and synthetic rubber, not to mention the new wonder drugs and some older drugs like aspirin—all of these are the miraculous discoveries of the petroleum age and the chemists' continued interposing of the atoms in the benzene ring—just plain coal tar, the ABC of organic chemistry.

Having established certain synthetic controls, the perfume chemists continually are analyzing the natural essential oils of widely separated families of plants that have common trace elements or chemical components. Even the nose of the botanist was suspecting such relationship years ago. Nature in her lavish ways puts for example, lemon, a most desirable perfume and food flavor, in a citrus fruit, verbena bush, grass, thyme, geranium, basil, mint and a eucalyptus tree, just to mention a few botanicals. One can do the same for the odors of rose, camphor, peppermint, pineapple, apricot, strawberry, clover, mushroom or nut.

Just so, in organic chemistry these constituents can be isolated or imitated with many fine shadings or nuances of the particular odor or flavor required.

What then is modern perfume? Is it all chemical as would be inferred with all these resemblances of odor ranging from pleasant to most repulsive? Chemically, there are such odors as fatty, sweaty, putrid, fecal, ammoniacal, musty, rose-like, violet-like, lilac-like, camphor-like, resinous, spicy, woody, nutty, fruity, moss-like and medicinal or bitter.

Where is the soul of the flower? Modern perfumes of top grade are not composed entirely of synthetic substances. It has been proven over a period of fifty years that those precious oils as jasmine, muguet, otto of rose, neroli, orris and violet and such animal fixatives as ambergris, civet and musk as well as such plant fixatives as labdanum and benzoin are still needed for a mellowed, lasting and pleasing perfume.

However, modern perfumery, even the most expensive, may contain only about ten percent of natural oils and fixatives. The secret of the diversity and lilt of many popular present day perfumes is due to that surprising result of many atoms of many chemicals embracing the nature oils of many plants. The new creation which emerges from the perfumer's vial is equally a surprise to him. It may be a masterpiece or a dud. How true of the painter and the composer too! Even our Creator makes a few malforms. No art is ever perfect—it is "the indefatigable pursuit of an unattainable perfection." And yet, as Shakespeare wrote: "A strange invisible perfume hits the sense."

The author of the foregoing article is a member of the Southern California Unit of the Herb Society of America and engaged in perfume research and manufacture at her studios, RIVIERA ATELIERS in Santa Barbara.

Using, heretofore, untried western flora, she is distilling essential oils of such common wayside plants as: *Artemisia tridentata*, Sagebrush; *A. vulgaris*, Old Man; and, the Sages: *Salvia mellifera*, Black Sage; *S. apiana*, White sage; *S. clevelandi*, Cleveland sage; *S. leucophylla*, Purple sage; and *Stachys bullata*, Wood mint.

To the casual nose, some of these oils might be unpleasant, but when blended with the hundred or more other components, the result is a new and most pleasing odor.

ARBORICULTURE

Care of Our Native Oaks

HAROLD P. MARTINEZ

THE NATIVE OAK, including *Quercus agrifolia*, *Q. engelmanni*, *Q. lobata*, are a part of the heritage and history of this wonderful state. They are of extreme value, both for beauty and utility, in our public gardens and home grounds. Their life span is long, given the proper care.

Beginning in the recent past, and ignoring the reduction in the amount of annual rainfall, the rush of home site developments and often ill-advised landscaping plans have made the survival of our oaks a question of the "luckiest" rather than of the "fittest". In the following paragraphs, the home owner may find some helpful suggestions to aid him in preserving his favorite garden tree.

PRUNING—Pruning of our oaks should be done during the months from July through August, the hottest part of the summer. Reason—it prevents oak mildew (witches' broom) from attacking new growth. All pruning wounds should be properly painted with an antiseptic asphalt mixture paint. Sealing the wounds prevents development of heart rot. Only dead wood and dangerous limbs should be pruned, since the rule for pruning a tree is concerned with the health and safety of the tree, rather than just making the tree more attractive.

TREE SURGERY—Cavity repair, cabling and bracing may be done at any time and should be done as soon as the need is discovered. Cavity work and bark tracing will be most quickly healed at their edges by the healing callus, if this work is done in the spring or early summer.

TREE BASE PLANTINGS—Do not grow moisture loving plants at or near the base of our oak trees. Such plants as azaleas, camellias, rhododendrons, begonias, ferns and many others often require daily watering, and most of this watering can be considered 'out of season' for the oaks. This treatment invites trouble from the oak root fungus. *Armillaria mellea*.

TREATMENT OF TREE BASE—The soil around the base of the tree should be scraped away and a natural drainage away from the tree provided. It is very important to keep the area immediately around the tree base free of plants, and to divert water from sprinklers away from the base. Placing rocks or gravel next to the trunk is better than allowing soil to reach the bark. A brick or stone walled dry well around the base of a tree is a common practice for keeping the area of the trunks—soil line—root crown dry.

WINTER WATERING FOR NATIVE OAKS—Under natural growing conditions, our oaks usually receive the majority of their moisture during the winter months. The oaks should receive supplemental water, in the winter, when Nature fails; summer watering, as stated before, invites oak root fungus infection. For deep irrigations from December to April, watering can be accomplished by digging holes, using a post-hole earth auger, around the outer edge of the drip line of the tree. A soil soaker or sprinkler can be used to supply water to these holes for a period of eight to ten hours, each month. Another method is to use sub-irrigation attachments which can be pushed into the soil around the tree and allowed to run for six to eight hours once a month. Such a method should be repeated in four or five positions around the drip line.

FERTILIZERS—The best time of year for applying fertilizer is early spring, except in the case of *Quercus agrifolia*. This species should be fertilized in late summer or early fall. However, a tree that shows symptoms of the lack of proper nutrients should



Bear, Marjorie Warvelle. 1959. "Perfumes, yesterday and today." *Lasca leaves* 9(Autumn 1959), 81–82.

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