

# Roses in the Middle Ages<sup>1</sup>

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Though we now tend to consider roses only as subjects for horticulture and perfumery, there were times when their significance extended far beyond that. Their religious symbolism among the Christian Europeans merits a section to itself; and the section on their practical significance in medicine occupies almost half of the present article. Yet it is not because roses were less important in perfumery and horticulture that the latter two are eclipsed in this way, but only because they were so much more important in areas where they are now forgotten.

## HISTORICAL BACKGROUND

Roses reached the height of European favor in the 1200s and the 1300s after several centuries of increasing popularity. At first, however, the severe asceticism of some early Christians, notably St. Clement of Alexandria, caused the use of flowers and perfumes generally to be denounced as abhorrent. Roses and lilies were considered special culprits (Gordon, 1953). This was a natural reaction to the significance of roses for their near neighbors and mortal enemies, the Romans. Roses and rose water were a major sign of luxury, and as such were indispensable on occasions of conspicuous consumption. Not only were there whole fountains of rose water, and not only would the floors sometimes be carpeted knee-deep with rose petals, but guests at banquets would have rose petals thrown over them. At a banquet given by Nero this rain of rose petals reached such proportions that several of the noble guests suffocated under the mass of flowers (Krüssmann, 1977).

The Romans learned to love the rose after their contact with the Persians and the Middle East, though they expressed their feelings in their own characteristically extravagant way. Similarly, hundreds of years later, the returning Crusaders would bring back to Europe a heightened appreciation of the rose. An understanding of the rose in the Middle East is necessary to understanding the influences which shaped European use of and thoughts about roses. Always favorites, they had been cultivated in western Asia and northeastern Africa 5,000 yr ago (Lehner and Lehner, 1960). There were roses in the gardens of Semiramis, queen of Assyria (Lehner and Lehner, 1960). The Zoroastrian text *Bundehesh* speaks of both a "hundred-petalled" rose and a "dog" rose, and mentions that the rose acquired thorns only when evil appeared in the world (Joret, 1892), an idea which would be repeated in European stories millenia later.

In a legend common among the Turks and the Persians, roses were said to be born of drops of Mohammed's sweat (Joret, 1892), a story which was both a cause and effect of roses' increasing popularity. There are legends that the rose took the place of the lotus as the queen of flowers in the Near East, an indication

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of its importance there after Islam became prevalent (Joret, 1892). In the Near East roses became a symbol of faithfulness and constant affection extending even after death. Numberless poets compared their beloveds to roses. Saadi, a Persian poet, called his famous compilation of moral and religious poems the *Gulistan* or "rose garden," to imply the pleasure and insight they would bring to the reader (Eastwick, 1974). In Moslem countries the flower came to be considered so holy that a mosque desecrated by nonbelievers could only be cleansed by being washed (entirely!) with rose water (Gordon, 1953).

To supply the great demand for roses and their products, an extensive industry developed in Persia which was at its height during the centuries between 900 and 1600 A.D. (Guenther, 1952). Ibn Khaldun, a Persian of the 800s, quotes a tax account showing that Fars had to pay Baghdad 30,000 flasks of rose water (in addition to 27,000,000 dirhams and 20,000 lb of black raisins) to satisfy the taxes (de Slane, 1862). Istakri, his contemporary, reported that the rose water of Fars was the best in the world and was exported as far as Spain and China (Mordmann, 1845).

The rose industry spread from Persia to the surrounding countries, among them Arabia. The Arabs perfected the art of distillation and were therefore able to make new products (Joret, 1892), among them attar of roses, and to produce larger quantities of good quality rose water. Especially the latter (because there was more of it) was extensively traded by the Arabs and was introduced to Christian Europe as early as the second half of the tenth century (Joret, 1892).

The rose products mentioned in various accounts do not always mean the same thing, though they may go by the same name. The rose water of the Romans was made simply by soaking petals in water, but after the invention of distillation it meant the distillate which results when roses are boiled in water. Similarly, early references to rose oil involve oil, usually olive oil, in which rose petals have been soaked a long time (e.g., Hort, 1916). True attar of roses, however, is the essential oil which separates from the distillate; sometimes this too is called rose oil.

The date when this essential oil was first discovered is a subject of debate. In the last century, literary references to attar prior to 1600 had not been found, and therefore it was thought that it had been invented around that time. The reference in question here was Mohammed Achem's account of Sultan Jehangir's wedding, which took place in 1643 (Parry, 1925; Gordon, 1953). The canals in the palace gardens had been filled with rose water for the occasion and his queen noticed a thin, oily and highly aromatic film on the water, which arose "due to the heat of the sun on the roses." She ordered it collected and named it "atr-i-Jehangiri" (Guenther, 1952; Lehner and Lehner, 1960). There is a flaw in this story which indicates that the process of making rose oil by distillation was known to Mohammed Achem and that therefore his account of the queen's "discovery" is more polite than true. The flaw is that heat would not only drive the oil out of the rose petals, but would also keep it in solution in the water; cooling would be necessary to allow the oil to separate out. The oily film could have arisen only at dawn after a cool night preceded by a hot day, but the author does not seem to specify these conditions.

More recent research has unearthed a far older reference to what was probably rose attar in Harib's chronicle of 961 written at Cordova (Guenther, 1952). It

seems likely that the Arabs, who were enthusiastic alchemists—distillation was, to my knowledge, central even to early alchemy—should be the first to discover the oil as a by-product of their researches. That Charlemagne's court received attar from Baghdad (Krüssmann, 1980) is evidence of how quickly the Arabs' discovery became an important article of trade. Avicenna, of the late 900s, is credited by some with being the original discoverer (Thompson, 1927; Gordon, 1953). Other candidates, who also lived somewhat too late to qualify, are Rhazes, who lived between the ninth and tenth century, and Aben-Zohar of Seville (Gordon, 1953). Attar of roses was independently discovered by Geronimo Rossi of Ravenna in 1574. In *De Distillatione Liber*, published in 1582, he reports that he noticed an extremely odorous oil rising to the surface of rose water under the proper conditions (Parry, 1925; Gordon, 1953).

Other rose products which became important in the Middle Ages, though they were usually only used medicinally, were rose honey, rose syrups, and eventually rose sugar. The honey and sugar were prepared simply by mixing in rose petals and allowing them to stand. The syrups would sometimes be boiled with rose petals (Joret, 1892).

It is not always clear, at this distance of time, exactly which roses were being used, either in ancient Rome or in medieval Persia or Europe. According to Parry (1925), Pliny apparently described *Rosa gallica* L., *R. centifolia* L., *R. damascena* Mill., *R. provincialis* [Herrm.] (= *R. gallica* L.), *R. moschata* [Herrm.], and *R. rubiginosa* [L.]. But Krüssman (1977) mentions only *R. gallica* and *R. damascena*, and he furthermore notes that the epithet "hundred-leaved" cannot be assumed to refer to *R. centifolia* L.; he considers it more likely to have been a highly double flowered *R. gallica* (Krüssmann, 1980). Guenther (1952) mentions that *R. damascena* is probably a hybrid between *R. gallica* and *R. canina* L., which would imply that *R. canina* existed in gardens as well in Pliny's time. However, the Caninae are the only section of the rose genus which show heterogamic meiosis; hybridization with one of the Gallicanae is therefore unlikely (Rowley, 1967). Darlington (1963) considers *R. moschata* Herrm. to be the other parent of *R. damascena*.

By the time of Macer Floridus (approximately 1000 A.D.), the species named were reduced to "rosa centifolia" and *R. canina* L. and a "wild rose" (Frisk, 1949). Meyer (1855) records a yet glummer situation in which even the name of the easily identified *R. canina* is misapplied. Quintus Serenus Samonicus mentions a "rosa" and Marcellus Empiricus writes about a "rosa sylvatica" (Meyer, 1855). Around 1100 a popular, so-called gothic, version of Dioscorides' herbal appeared (which was eventually printed at Colle in 1478). In a chapter which is so highly changed from the original that it is difficult to tell which original chapter it refers to, *R. canina* is mentioned (Fischer, 1929). Dioscorides himself apparently mentioned only "rosa lutea" by name (Gunther, 1959). Fischer (1929) reduces the numerous rose names he found in his extensive review of medieval botanical literature to 6 species: *R. canina* L., *R. arvensis* L., *R. rubiginosa* L., *R. centifolia* L., *R. alba* [L.], and *R. villosa* [L.]. The numerous synonyms he gives for the first 4 species are listed below, partly to show just how numerous they are, partly to help other wanderers in the mazes of medieval German botanical literature.

| <i>Rosa canina</i> L. | <i>R. arvensis</i> L. | <i>R. rubiginosa</i> L. | <i>R. centifolia</i> L. |
|-----------------------|-----------------------|-------------------------|-------------------------|
| rosa                  | rosa campestris       | bedegar                 | rosarius                |
| tribulus              |                       | rosa bedegar            | rosa alba               |
| rosa canina           |                       | wichhagenrosen          | wyss rosen              |
| zizisa                |                       | egellentyerrosen        | edel rosen              |
| rosa agrestis         |                       |                         | gefullt rosen           |
| rosa sylvestris       |                       |                         | zam rosen               |
| antera (anthera)      |                       |                         |                         |
| cinobato              |                       |                         |                         |
| iuube                 |                       |                         |                         |
| hyffa                 |                       |                         |                         |
| hagen                 |                       |                         |                         |
| hifaldra              |                       |                         |                         |
| wildirosa             |                       |                         |                         |
| veltrosen             |                       |                         |                         |
| buttenrosen           |                       |                         |                         |
| wichhagenrosen        |                       |                         |                         |

By Parkinson's time, around 1600, the number of rose species had reached and surpassed that of the Romans. Parkinson (1629) describes 24 different "species," many of them separated only on the basis of coloration. Some of the species he mentions are: *rosa damascena*, *rosa cinnamomea*, *rosa moschata*, *rosa semper-virens*, *rosa provincialis*, *rosa sine spinis multiplex*, *rosa holoserica*, *rosa pomifera maior*, and *eglanteria duplex*. As one can see, some of the increase in number is caused by excessive splitting of taxa; but on the other hand, some of the increase may be real, greater gardening skill allowing new hybridizations and the introduction of new species from the East or from the wild. Thus "*rosa cinnamomea*" may be the same as the currently valid species of that name (*R. cinnamomea* L.) yet it is not mentioned in earlier references.

#### ROSES IN EARLY HORTICULTURE

The cultivation of roses, which had been extensive in Roman times, was neglected for a few centuries after the fall of Rome. The only people with the leisure and sensibility to grow roses were monks and nuns, but that was the time of Christian revulsion against roses and all things Roman (Joret, 1892). Pre-Christian Germanic people planted wild roses near graves and as hedges around holy places (Ranke, 1951), but garden roses were unknown.

The Benedictines were the first to take the concept of gardens, as we know them, across the Alps. In the 700s garden roses were growing in southern France, probably in the form of hedges (Fischer, 1929). The future of rose gardening was assured, however, by Charlemagne's edict of the late 700s which prominently included roses in the plans for Crown land gardens (Krüssmann, 1980). The influence of this plan was very great and caused rose cultivation to spread rapidly (Fischer, 1929). In 840, the garden plan of St. Gallen's monastery showed roses bordering the "Herbarius" together with lilies (Fischer, 1929). The preservation and expansion of these garden varieties was carried on by monastery and convent gardens from whence they spread to castle gardens and gradually to other, humbler, secular gardens.

Though all flowering plants were grown for their practical value, often for medicine, roses and lilies were also grown simply for beauty and to decorate the

altar on certain festivals (Joret, 1892). Around 1200, Albertus Magnus included roses in his plan of the ideal pleasure garden. There would be a perfect lawn with shade trees on the south side, a wall to the west to keep out stormy winds, many flowers, among them roses, on the north side, and a beautiful spring or fountain in the middle (Albertus, 1867). By this time, rose cultivation had spread to Danish convents and monasteries (Joret, 1892). Poets, who had probably travelled and seen Italian rose gardens, have left behind some very early references to garden roses in Germany. However, since they are accompanied in these cases by such exotics as fig trees, one must assume that these references are poetic licence rather than botanical fact (Fischer, 1929).

#### RELIGIOUS SYMBOLISM OF ROSES

The religious significance which roses gradually acquired probably accounts for their eventual unparalleled popularity. Though we are now better acquainted with the originally Eastern love symbolism of the rose, the pre-Christian Germans associated it with the soul and with death (Ranke, n.d.). The flower was also sacred to Freya, goddess of love (Joret, 1892). In other words, the foundation for its acceptance as a Christian religious symbol was already present. Perhaps this foundation was an important factor in the evolution of the rose's religious significance, because it is a fact that the Bible does not speak of it that way. Moldenke and Moldenke (1952) show that "roses" in the Bible often refer to other beautiful but nonrosaceous flowers. In any case, whenever they are mentioned, only their beauty and decorative value are stressed; they are not spoken of symbolically (nor are they used medicinally).

Rose symbolism goes back to the earliest Christians. The ones to whom it meant worldliness and sensuality, though originally numerous, finally lost to those who saw the rose differently. St. Cyprian, who was martyred in 258, and St. Jerome, who lived around 400, praised roses and named them as one of the rewards that martyrs would find in Heaven (Joret, 1892; Gordon, 1953). Saint Benedict, scarcely a hundred years after St. Jerome, saw in roses only a means of "mortifying his flesh" whenever he felt "the world" drawing him back: a use of roses, or rather of their thorns, which is also reported for St. Francis of Assisi (Gordon, 1953).

As early as the first century, red roses were said to spring from the blood of martyrs (Gordon, 1953), and in 840, Walahfried Strabo wrote that the death of Jesus gave the rose its color. "Roses for war, for peace the lily," said Walahfried (Payne, 1966). To Saint Bernard (1091-1153), the rose not only symbolized the sufferings of Christ, but also Mary, white roses symbolizing her virginity and red ones her compassion (Joret, 1892). (Eve was a thorn in this scheme of things.) Thus, by a slow process, roses came to mean divine love to the Christians, and through symbolizing Christ's sufferings came to symbolize Christ Himself as well.

The miracles in which roses played a part are uncounted. An oft-repeated class of rose miracles involves food being surreptitiously carried to the poor which is changed into roses when the "culprit" is apprehended by hostile observers. The most famous of these was experienced by St. Elizabeth of Hungary. She was the exceedingly charitable queen of Louis, King of Thuringia, who was her childhood sweetheart. While he was away on a crusade, famine swept the country, and on

returning he heard embittered tales from his relatives how Elizabeth had created shortages at the palace by feeding certain of the poor. Louis believed the tales and forbade his wife to continue her charitable deeds. Nonetheless she continued to do so secretly, until one day he caught her with a basket full of food. On uncovering it, however, it proved to contain only perfect white roses which, since it was wintertime, was rightly construed as a miracle. Even her enemies were converted.

Joret, to whom I am indebted for the above account, also records a miracle explaining the origin of the rosary. A young monk, who was not generally hard-working, was unfailing in his devotions to the Virgin Mary. Once he was in a forest when it came time to say his prayers to Her. Unbeknownst to himself he had been surrounded by robbers. Once he started praying, Mary appeared, which caused the robbers to stop and only look on while she took 150 roses from his praying lips and worked them into a garland. The roses shrank as she worked them, and when they resembled beads she placed the garland on the monk's neck and disappeared (as did the robbers, in a more mundane way).

As a tangible expression of divine love, roses were often included in paintings of saints to show the divine love expressed in their lives (Gordon, 1953). There is an old pentecostal custom in Rome, probably going back to the time of Saint Gregory, who was pope between 590—604, of strewing roses down on the congregation from the top of the church to symbolize the coming of the Holy Ghost (Cornides, 1967). The custom spread to France and Spain as well, so that Pentecost is sometimes called "rose Easter" (Joret, 1892). Paradise, as a place replete with divine love, came to be called a rose garden, a theme which the minnesänger helped to popularize (Joret, 1892). The rose symbolism of Christ was also expanded. While red roses signified His sufferings, as before, the kingly yellow color denoted his majesty after the resurrection, the latter being expressed in the fragrance of the flowers (Cornides, 1967).

A golden rose was also used to show papal approbation, no doubt on the grounds that it was the closest earthly equivalent to divine love. The origins of the golden rose ceremony are obscure, but in its mature form it consisted of the bestowal of a rose of gold on the fourth Sunday after Lent by the pope to a person or group conspicuous for loyalty to the Church (Cornides, 1967). The first record of the ceremony is a papal bull of Leo IX in 1049 who required a golden rose or the equivalent weight in gold from the Heiligenkreuz monastery in Alsace-Lorraine. He refers to earlier ceremonies using the golden rose, so he is not the originator of the custom (Cornides, 1967). The first record of the ceremony as such dates from 1096 when Pope Urban II gave a golden rose to the Count of Anjou (Cornides, 1967). The recipients were usually temporally powerful, and quite mundane considerations would influence the choice of the "loyal" recipient.

In his very thorough scholarly work on the subject, Cornides lists 2 possible origins for the ceremony. It may have grown out of a custom, whose very existence is uncertain, commemorating Maria Magdalen's use of costly fragrant oil for Jesus's feet. During that ceremony the pope would give alms of fragrant spices. A further circumstance makes this ceremony a possible ancestor: Cornides does not seem to mention it, but Gordon (1953) tells us that in the earlier form of the ceremony the golden branch carried more than one 5-petalled rose, the topmost one being filled with balsam and musk. On the other hand, "rose

Sunday," as it is sometimes called, shows definite similarities to the orthodox mass centered on the cross given on the same Sunday. Both ceremonies are performed to intimate approaching Easter and to remind the faithful to look beyond fasting and penitence. Lent's penitential purple draperies and vestments are changed to rose color for this one Sunday to indicate the coming splendor of the risen Christ. Cornides favors this origin, which only involves a substitution of the rose for the cross as a symbol of Christ, over the rather obscure Magdalen custom.

Dante made probably the best-known use of the rose as a Christian symbol. Though in the thirtieth canto of *Paradise* the eternal rose is golden, and in the thirty-first it is whiter than snow, the image remains one of the whole of Heaven as an infinite eternal rose, whose petals are souls and whose fragrance is the never-ending praise of God (Sayers and Reynolds, 1964). In using this symbol, Dante seems to have given the highest expression to a rose symbol that was current during the 1200s and 1300s.

The rose as Christ went through one final permutation as a symbol for the Rosicrucians and the alchemists. The crucified rose became the sign of the Rosicrucians, while the alchemists took the metaphor even further and spoke of the resurrection of the rose. "[A]ll material being placed in a glass vessel, with a certain quantity of pure dew, forms a blue powder, from which, when heat is applied, there springs a stem, leaves and flowers, and a whole and perfect plant is formed from its own ashes" (Rosenberg fide Gordon, 1953). The alchemists considered the process of transmuting base metals to gold as an allegory of the soul's passage from worldliness to becoming a Son of God, so it is unlikely that the above quotation was ever meant as more than a metaphor.

#### THE ROSE IN LOVE, HERALDRY AND MAGIC

The secular symbolism of the rose is not entirely contained in its association with love and beauty. The Germanic peoples had originally associated it with death, the Christians with religious feelings. It was only after contact with the Orient that the rose came to mean worldly love in Europe (Ranke, n.d.), but the relatively late beginning did not stop it from becoming a widespread meaning in a short time. The major medieval love poem was named the Romance of the Rose, not of the violet or the lily. In Chaucer's rendering of it, he describes a beautiful maiden in the garden of love who

So worthy is beloued to be,  
That well she ought, of prise and right,  
Be cleped Rose of every wight.

(Sutherland, 1967).

The god of love in that garden is, furthermore, crowned with roses (Sutherland, 1967). In ancient Greece, Eros is supposed to have bribed the god of silence with a rose to persuade him to preserve silence on the affairs of the gods. Thus the rose became an emblem of secrecy and would be attached to the ceiling of council chambers to indicate that all present were *sub rosa*, or sworn to secrecy (Lehner and Lehner, 1960). Krüssmann (1977) gives a more mundane origin for this term: Greek army leaders, conferring in a rose bower, planned a surprise attack on

their Persian enemies and the secret plan was concluded "under the rose," which denoted strict confidentiality ever after. The rose as a sculptured ceiling decoration persisted till the last century, though its significance there had been forgotten. Joret (1982) remarks that rose crowns were common at medieval festivities. At marriages, with an intertwining of their religious and secular significance, they denoted both the virginity and the loveliness of the bride. As with the papal golden rose, the rose chaplet will sometimes have been inappropriately bestowed.

The rose had several related meanings in heraldry. When King Edward III founded the Order of the Garter, or the Order of St. George as it is sometimes called, the knights were to wear roses as part of their full regalia on St. George's Day. That day is celebrated even now by wearing roses (Gordon, 1953). After the Wars of the Roses, it became an even more important heraldic flower in England. A rose in full bloom meant mercy and justice. One in full bloom with some of the petals still in bud at the center and surrounded by 5 points to indicate thorns, meant beauty and nobility acquired with difficulty. Of course, the rose's religious meanings secured it a place on the crests and seals of many popes (Gordon, 1953).

Possibly as a remnant of pre-Christian times, possibly because of its association with martyrs, red roses occurred in superstitions as a sign of approaching death, especially sudden death (Joret, 1892). On the other hand, because the blood of Christ was supposed to have touched red roses, witches and devils were thought to fear them (Gordon, 1953).

Roses were not extensively used in magic except as ingredients in love potions. For the latter, Persian women used rose water; colonial United States women made "rose tippie" by marinating rose petals in brandy (Hendrickson, 1974). Tristan and Isolde's love potion is thought to have contained roses (Gordon, 1953). In a work attributed to Albertus Magnus, but probably written by one of his students, the following, less benevolent potion, is recorded: rose seed plus mustard seed plus a weasel's foot, all powdered and put into a bag which was hung in a fruit tree, would stop the tree from bearing fruit (Best and Brightman, 1973). Burying beetles in roses would kill them (Best and Brightman, 1973).

#### PRACTICAL USES OF THE ROSE

Rose cosmetics suffered from the same break in tradition as did the other uses of the rose. Dioscorides left behind a rose pomander recipe consisting of 40 drams of fresh roses beginning to fade and before "they have taken any wet," 10 drams of Indian nard, and 6 drams of myrrh. These were to be "beaten small," made into little balls and dried in the shade. "The use of it is to be put about women's necks instead of necklaces, dulling the unsavoury smell of the sweat" (Gunther, 1959). It may be interesting to note that this process survives to our day. Linsley (1977) described a method of making a necklace which would retain fragrance for many years, by repeatedly grinding rose petals (in a meat grinder in this case) and then forming the mass into little balls and drying it. Galen used a full pound of rose oil in a cosmetic which was the ancestor of modern cold creams (Hendrickson, 1974).

After the fall of Rome, rose cosmetics languished until rose water was introduced by the returning Crusaders. Bathing in rose water became a thing to do,



and rose water finger bowls appeared at the meals of those with any pretensions to gentility (Joret, 1892). The importance of these finger bowls can only be grasped when one considers that forks were not known in England until the reign of James I, and were then considered a "great piece of foppery" (Rimmel, 1865). Even refinements like cleaning the mouth with rose water after meals arose (Joret, 1892).

The greatest practical importance of the rose was in medicine. According to Krüssmann (1980) it was *R. gallica* and *R. canina* that were the medicinal species. Generally speaking, the rose was used to allay fever, inflammation or pain, or to stop any kind of excessive flow, be it lachrymation or diarrhea or a hemorrhage. These effects were deduced from the cool and dry properties ascribed to the rose by the authorities of the Middle Ages, such as Dioscorides, Galen and Avicenna. Dioscorides said that rose flowers cool and bind (i.e., stop flow), but that those which are dried bind more. Sprinkled on the gums, they stopped bleeding; made into a tea, they stopped diarrhea and the spitting of blood. Pounded fresh rose leaves made eye salves, while wine in which rose leaves had been soaked was applied as a wash for headaches and for troubles of the eyes, ears, gums, as well as of the rectum and vulva. Inflammations, including erysipelas and wounds, were treated with rose wine compresses (Gunther, 1959).

Theophrastus (Hort, 1916) gives an interesting clue to the possible reason why roses are considered to help ear pain. The Greeks used salt in the manufacture of rose perfume and by being warm and dry—or as we would say, somewhat antiseptic—it reduced the inflammation. Possibly this was also the source of the unresolved confusion about whether roses were "warm" or "cool." In the *Hortus Sanitatis* (Meydenbach, 1511), for instance, we find both properties listed without any attempt to reconcile the contradiction. The pattern is repeated in many herbals, though the stress is always on the cooling qualities.

Galen's *Littere ad Corisium*, whose substance must have originally been written in Greek, was translated from the Arabic to the Catalanian by Johannes Jacobus c. 1350, and was then translated into Latin by Pansier (1909–1933). Though one can be reasonably certain of the accuracy of the last translation, the first two might leave much to be desired. The *Letters* appears to be a compilation by an unknown Arab(s) of the works Galen wrote on eye disease (Pansier, 1909–1933). Galen includes roses in numerous compounds; in a section on simple general remedies for the eyes, they are included in 5 out of 15 medicines. In case of eye injuries, he advises the sufferer to wash the eyes "patiently" in rose water and to dissolve the medicinal powders in rose water. Ground fresh roses are to treat scabies on the eyelids. In one of the rare exceptions to the rule that roses treat acute conditions, Galen recommends that the stomach be cleansed with rose honey as part of the cure for "hardness and albedo" of the eyes (Pansier, 1909–1933) (a reference to the cataract which results from chronic glaucoma?).

Walahfried's words indicate that rose medicines were highly respected in the Dark Ages (though, unless the wild growing *R. canina* was being used, they could not have been widespread): "No man can say / No man remember, how many uses there are / For Oil of Roses as a cure for mankind's ailments" (Payne, 1966).

The influential herbal of Apuleius Barbarus (also known as Pseudo-Apuleius and Apulei Platonicus) written in 500 or 600 A.D. and of uncertain authorship despite the name given to it, listed many uses for a plant called "Rubus" with "cynos-

batos'' given as a synonym. The accompanying illustration is not sufficiently clear to determine whether he meant a relative of the blackberry or *R. canina*. The number of uses listed in the copy I consulted (c. 1483) was unusual for a 7th century work and possibly some of them were interpolated later. ''Rubus'' was to be employed for ear pain, hemorrhoids, leucorrhea, heart trouble, recent wounds, inflammation of the gums and lips, and for condylomata; all of which, except the last, require the cooling and calming qualities attributed to the rose. For the same reason, perhaps, Apuleius recommends the plant for the bite of ''serpent or man'' (Apuleius, ca. 1483).

Avicenna, in the very early 11th century, repeated the dictum that roses are cooling and drying (Opitz, 1939).

Constantinus Africanus had a great impact on European medicine. He was an Arab from Carthage who settled in Italy. There, around 1050, he was the first to make medical texts in Arabic accessible to Europeans by translating them into Latin. In the process he usually endowed these works with his own name. Thus his *Liber de Oculis* seems to actually be a translation of a work by Honein (809–873), who compiled it from Galenic texts (Pansier, 1909–1933). In this work the rose is said to be cooling and to dissolve hardened substances. It is also ''constrictive'' and prohibits the flow of ''humors,'' as occur literally in ophthalmia or eye injuries. For instance, for hordeolum (an inflammation of a sebaceous gland in the eyelid which feels much like a barleycorn) ''bedeguar'' mixed with ammonia dissolved in vinegar is applied. Rose powder or water or oil enter into several compounds for collyrium for sick eyes (Pansier, 1909–1933).

Macer Floridus from the late 1000s repeats the uses mentioned by Dioscorides, stressing that roses are especially good for the womb and for menorrhagia. He adds that the powder is good for mouth sores, as well as bleeding, and makes greater use of rose oil. Rose oil was drunk for uterine troubles, and rubbed on for headaches or itching. Held in the mouth, it alleviated toothache; and together with strong vinegar it was applied to wounds, burns or scalds. Constantinus Africanus is quoted as saying that the wild rose is hot and dry, while the garden rose (*R. centifolia*) is cold and dry in the first degree (Frisk, 1949).

Hildegard von Bingen, who lived at approximately the same time as Constantinus, recommends that roses be gathered at dawn and the petals then laid on the eyes to cure bloodshot eyes and make them clear. Belief in and use of the rose must have been spreading rapidly in the Germanic countries at this time, for she goes on to write that they are very good applied to ulcers and are a useful addition to ''any medicine or salve'' (Riethe, 1959). Fischer (1929) quotes her as saying that roses are also good for lung and liver pains, and that the fruits are good for stomach troubles.

Fischer (1929) has compiled a number of uses from early medieval Danish and German herbal glossaries and other texts. Taken all together, these works also follow Dioscorides, but they add the use of rose seeds for chest troubles and of rose leaves for lung troubles, they introduce the use of rose galls, and they record the use of the rose in cases of dizziness and neuralgia.

The *Circa Instans* was the standard pharmacological work from about 1200 until after the time of Paracelsus. It originated in Salerno, the medical capital of Europe at that time, but its actual authorship is unclear. It is usually attributed to a certain ''Platearius,'' more for the sake of convenience than scholarly pre-

cision (Damm, 1938). In this work the rose is discussed under "anthera" whereas "bedegar" seems to refer to a *Crataegus* (hawthorn) species. The uses, once again, largely follow those given by Dioscorides, though the estimate of its hemostyptic power has increased somewhat. It is said that rose tea will still the flow of blood once a tooth has been pulled out (Damm, 1938). Rufinus, in his herbal written in the late 1200s, says repeatedly that his source is the *Circa Instans*, though it is possible that he was trying to give some of his own statements more authority by that means.

Rufinus includes all the classical applications of rose medicines and recommends their use to counteract heartburn and vomiting due to "choler." He specifies that rose buds and dry roses are used in medicine, while mature ones are useless. He also says that rose oil made in a glass vessel heated in a water bath "bonum est," but rose oil cooked directly above a flame is not given this epithet. Dry roses strengthen the brain and the heart and restore the spirit. After this, he quotes "Alexander" in making a distinction between red roses, which are more strengthening than astringent, and white roses, which are astringent rather than strengthening (Thorndike, 1946).

*De Vegetabilibus* (c. 1250) is indisputably authored by Albertus Magnus, in strong contrast to the *Book of Secrets* attributed to him. It is largely devoted to strictly botanical information, but he does report the properties of the more important medicinal plants. Referring to Avicenna and Dioscorides and someone abbreviated as Plemp., he lists the following properties for *R. canina* L.: for infants a preparation of the seeds stops diarrhea due to "corruptions" which affect the motion of the muscles; a soup made of the juice calms toothache; the root stops bloody sputum, stops diarrhea due to a debilitated stomach, and opens obstructions; the rose is especially binding in stomachics; it is good against long phlegmatic fevers; chewed and placed on scorpion bites it attracts the venom; drinking a preparation of the seed helps against all bites of reptiles, and "helps for many other things" (p. 359). Speaking of the rose generally, he states that it is opening and sedates the tenesmus of cholera; and he concludes by saying (p. 448), loosely translated, "altogether it comforts the interior organs and does many other things, as determined by the medical men."

The general popularity of the rose eventually pushed it into the class of a wonder drug. Joret (1892) records the uses recommended by a certain Hagendorn who said it was good even for epilepsy, tuberculosis, goiter and gout, as well as all the more usual illnesses.

The very important herbal *Hortus Sanitatis*, originally compiled by Jacob Meydenbach in 1491, devotes 4 pages to the rose, in contrast to the paragraph or so given to most plants. It refers to Avicenna, Rhazes, Dioscorides, Macer, and Joannes Mesue. As always, roses are mainly cool and dry. The white ones are said to be cooler, the red ones drier, on the authority of Mesue. Avicenna is quoted as believing that they "comfort the heart." Liver and stomach diseases, even cholera, are within the rose's field of activity. The *Hortus* notes that it has the ability to penetrate into the most dense and deep parts of the body, which constitutes a major factor in its ability to heal (Meydenbach, 1511).

During epidemics and plagues, rose fragrance or incense was held to purify the air. In public places one created one's own private cloud by carrying or wearing pomanders and perfumes. For the very rich there was better protection in the

form of goa stones. Precious stones were ground up with enough rose water to make a paste and form a pellet. Once dried, this was then carried on one's person (Gordon, 1953).

Roses did not escape from the application of the Doctrine of Signatures, even though they had no lack of obvious uses. Gordon (1953) gives the following quotation from Paracelsus: "Flowers that are of a burning color like the rose are apt to heal inflammations; those which bear the color of a face heated by wine, as the rose does, obviate drunkenness."

Later herbals demonstrate the influence of the major medieval classics. *An Herbal* of 1525 is an almost perfect transcription (except that it is in English) of part of Rufinus' section on roses. Turner, in 1548, says that they are cold and dry in the first degree. Gerard uses both rose water and crushed leaves gently heated with sugar for all that requires a gentle cooling, for eye pain, and to bring sleep (Woodward, 1964). Parkinson remarks that "the Rose is of exceeding great vse with vs." He differentiates among the uses of damask, red, and white roses, but taken together they still exemplify the medieval tradition (Parkinson, 1629).

A final, and seemingly fanciful, use of roses involved the payment of fines and rents with the flowers. However, when the landlord required a rose at Christmas and a snowball at Midsummer, this amounted to a tenancy terminable at will (Gordon, 1953). In 1379, one freshly picked rose per year was the fine levied for a minor building violation. To this day the Lord Mayor of London is presented with one red rose as the yearly installment on the original fine (Gordon, 1953). In a serious vein, the Bishop of Ely in England leased Ely Place in 1576 for 10 loads of hay, 20 bushels of roses, and 1 red rose to be paid yearly at Midsummer (Gordon, 1953).

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