essentially an arithmetic technique for manipulating arbitrarily assigned values of hot, cold, wet, and dry, corresponding to the four Aristotelian qualities, and perhaps deriving from the quantitative pharmacology of Galen's De simplicibus medicinis (Kraus, op. cit., II, pp. 189-91). Needless to say, the Latin translator has understood none of this.

The Kitāb al-Mawātīn is mentioned in Berthelot, III, p. 97, but the texts do not correspond closely here.

24 The incomplete text printed by Berthelot breaks off at this point (p. 98).

25 Iafr Ascandar is Jāḥiṣ's master Ja'far ibn Muḥammad al-Sadiq (mentioned earlier in the Arabic text: Berthelot, III, p. 94). For Jāḥiṣ's relationship to Ja'far, see Kraus, I, p. XLI. As far as I know, this is the only occurrence in the Latin literature of Ja'far, at least in his role as Jāḥiṣ's master.

26 Since Berthelot's fragmentary Arabic text does not contain this passage, there is no way to verify or correct the curious Latin expression 'mendicus,' literally 'beggar.' 'Mendicus' may well be a misreading for 'medicus.' However, for the K. al-Sabīn does describe a fabulous sea creature called 'oceanic physician.' See Kraus, op. cit., II, pp. 90-93.

27 This sounds like a distillation process for extracting oil from the mendicus mentioned above.

28 The external red and internal white mentioned here probably refer to Jāḥiṣ's doctrine of jāḥiṣ and bahīn, manifestum and occultum in Latin, according to which a given substance is thought to contain its opposite in potentia (Kraus, II, p. 228, especially n. 6).

29 Despite the fact that Berthelot's text has already broken off by this point, this passage corresponds to an earlier section in the Arabic (Berthelot, III, p. 95, 7-8). This probably represents a point at which either the Latin or the Arabic manuscript tradition has undergone a major transposition.

JOHN HARVEY

CORONARY FLOWERS
AND THEIR 'ARABICK' BACKGROUND

The term 'coronary', derived from the Latin coronarius, means a flower suitable for a wreath or garland. The word came into fashion soon after 1600 to specify plants mainly or exclusively decorative, as distinct from those of commercial, dietetic or medicinal use. Although the word belongs especially to the seventeenth century, it expressed a development with roots going far back into the past, and specifically into the into the Mediaeval 'Arabick' world. In the context of flowering plants, 'Arabick' includes everything belonging to the Islamic civilization, and notably its cultural heritage expressed through the Arabic script, whether the language was Arabic, Persian, or Ottoman Turkish. It is unnecessary to traverse the whole field of Anglo-Arabic relations in the Middle Ages, but it is relevant that numerous Englishmen either lived in Spain or were otherwise associated with the transmission of knowledge from Arabic into Latin. Starting in the eleventh century, one could briefly cite Adelard of Bath, Robert of Ketton (or possibly of Reading), who translated the Qur'ān into Latin in 1140-43 and was back in London soon afterwards; Roger of Hereford; Alfred of Sareshell (Sareshell); and Daniel Morley, who returned to England from Toledo about 1185 with 'a precious multitude of books'.

Because of the realization that Christendom lagged behind Islam in the sciences as well as in medicine and natural history, it was proposed to found chairs of Arabic at the five great universities of Latin Christendom: Rome, Paris, Oxford, Bologna, and Salamanca, a proposal urged by Roger Bacon on Pope Clement IV in 1265. In the next century Richard of Bury, bishop of Durham, was active in the same sense between 1312 and the end of his life in 1345. It was a period also of marked English interest in plants, and it is significant that the first queen of Edward I from 1255 to her death in 1290 was Eleanor of Castile, sister of Alfonso X, patron of 'Moors' learning' and of Latin translations of scientific works from Arabic via Hebrew. At least one English cleric, Geoffrey of Eversley, is known to have been in the service of both the royal brothers-in-law, in 1276-82.
It is perhaps no coincidence that several highly decorative plants are first reported in England in the century between 1250-1350: the Hollyhock, also known as the Rose of Spain (but ultimately from China); Lavender; a cultivated Pink or Carnation; and the Wallflower or Great Violet, specified as being called keryas or keryl by the ‘Saracens’; thanks to the conservations of William Turner and of Linnaeus, it retains the name cheiri to this day. It is not mere speculation that suggests an active part played by Queen Eleanor: she sent abroad for grafts of choice fruit-trees, and employed gardeners from Aragon at King’s Langley. The responsibility of Edward III’s queen, Philippa of Hainault, for the introduction of Rosemary about 1340 is documented. It was from her herbarists that a scented Pink was brought to the Stepney botanical garden of the Dominican Henry Daniel.

It is to Friar Daniel that we owe, not only important translations of Latin medical works, but also our earliest strictly horticultural treatise, on the cultivation of Rosemary, and a major herbal in which he adds a substantial body of original observation to collections from earlier authorities. His authors, moreover, were not all classical: he frequently quotes from Rhazes (865-925), first translated into Latin in 1127; Avicenna (980-1037), translated about 1200; and Averroës (1126-1198), translated c. 1232. Daniel knew some ‘Saracen’ names of plants and recorded plant-lore which he received from recent converts—presumably the Jewish physicians from Spain who were received into the Domus Conversorum in Chancery Lane, and who cultivated the gardens there from 1368 to 1405.

Quite apart from professional interest in herbs as a physician, Daniel was a notable ecologist, recording the many kinds of aspect and types of soil favoured by particular species. He was also keenly interested in the beauty of flowering plants, and the perfumes of aromatic herbs. Such aesthetic interests were typical of the ‘Arabic’ world and notably of Moorish Spain, where Ibn Bassâl, botanist and gardener to the Moorish kings of Toledo and Seville successively, had devoted a section of his pioneering work on horticulture (c. 1080) to flowering and aromatic plants: the Rose, Wallflower and Stock, Violet, Lily, Narcissus, Hollyhock, Camomile; Basil, Marjoram, Balm, Rue and Wormwood.

A century later Ibn al-Awâm of Seville, writing an even larger book on gardening and agriculture, for the first time enunciates principles of landscape design and also lists varieties of flowering plants. Thus in Andalusia before AD 1200 there was artificial improvement and the selection of colour varieties and double forms. Improvement was also in progress in the Eastern lands of the Islamic civilisation, and in 1515 a Persian treatise was produced in Herat by Qasim ibn Yusef, describing doubles and colour varieties of Anemone, five sorts of Carnations, a dozen Hollyhocks, Iris, Lily, Narcissus,
The roll-call of Englishmen who followed Jenkinson and Harborne in furthering an understanding of the 'Arabick' world is long and remarkable. Many of them left detailed accounts of their journeys which also included descriptions of native plants; others sent home plants, wild and cultivated, from Turkey, Syria, Egypt and Iran. Most of them were, to a greater or lesser degree, permeated by Arabic scholarship. For example, George Sandys (1578-1644) went to Turkey, Egypt and Palestine in 1610-15, producing his Relation of a Journey on his return; and Sir Thomas Herbert (1606-1682) travelled through the East as far as Persia in 1627-29, publishing a Description of the Persian Monarchy in 1634 and an account of his journeys in 1638. Sir Peter Wyche (d. 1643) English ambassador in Constantinople (1627-39), in 1630 sent bulbs to John Tradescant, including an eastern cyclamen. It is noteworthy that when Edward Pococke, chaplain to the Turkey Merchants at Aleppo in 1630-36, returned to become the first Laudian professor of Arabic, he brought back plants: his plane-tree and fig-tree still survive at Christ Church. He also introduced the Cedar of Lebanon. The Levant Company managed to survive the twenty years of the Civil War and its aftermath, and we reach a new peak of interest in 'Arabick' matters among the early fellows of the Royal Society at the Restoration of 1660.

In 1657 Sir Thomas Browne, who in the following year was to publish The Garden of Cyrus, had composed for John Evelyn a remarkable list of 'Coronary or Garland - Plants not yet translated from foreign Regions or little known'. This was a compilation from books in print, largely concerned with the Americas or the Far East, but including also plants listed by Prosper Alpinus in his book of 1592 on the plants of Egypt: notably the Sweet Sultan (Centauraea moschata) which he calls 'Amberboi Turcarum'. Evelyn's own list of 'Coronarie Flowers for the country & Bonds', consists of fifty species, of which more than half came from or through Turkey.

Evelyn was also on terms of friendship with such figures as Christopher Wren (1632-1723), who took an interest in 'Arabick affairs'. When Wren surveyed Salisbury Cathedral in 1669, he had made

some Enquiry into the Rise and Progress of this Gothic Mode ... He was of opinion that what we now vulgarly call the Gothic ought properly and truly to be named the Saracenic Architecture, ascribed to the Christians, which first of all began in the East after the Fall of the Greek Empire by the prodigious Success of those People that adhered to Mahomet's Doctrine, who out of Zeal to their Religion, built Mosques, Caravansaras, & Sepulchres, wherever they came ... They then fell into a new Mode of their own Invention, tho' it might have been expected with better Sense, considering the Arabians wanted not Geometricians in that Age, nor the Moors, who translated many of the most useful of old Greek Books ... The Holy War [the Crusades] gave the

Christians, who had been there, an Idea of the Saracens works, which were afterwards by them imitated in the West. . . .

To return briefly to English links with the Near East: Sir Paul Rycaut (1628-1700) was secretary to the embassy at Constantinople in 1661, consul at Smyrna from 1667 to 1678, and published two major books on the Ottoman Empire. John Covel (1638-1722) was chaplain to the embassy in 1670-77, had an intimate knowledge of botany and drugs, and described and drew many plants which he observed in Thrace, Greece and Asia 'the less'. Another clergyman, George Wheler (1650-1724) was in the Levant in 1675-6, bringing home with him the well-known shrubby St John's Wort miscalled 'Rose of Sharon'. He visited Brusa and there saw the Weeping Willow, apparently the first Englishman to comment upon it. It was introduced into England in 1692.

Several surgeons who practised in Turkey at the end of the century sent home plants or dried specimens: Alexander Symson, from Gallipoli; Samuel Daniel, from Iskendarun; and William Clerk, from Smyrna. James Brady'sford, a Turkey merchant, in 1700 gave James Petiver four books of plants which he had gathered in Palestine, Syria and on the banks of the Euphrates. Two more chaplains to the Levant merchants deserve mention: the Revd Robert Huntington (1637-1701), at Aleppo in 1671-81, who sent back plants to Jacob Bobart at the Oxford Botanic Garden; and Henry Maundrell (1665-1701), who went out in 1695, famous for his entertaining narrative of a journey to Jerusalem in 1697.

Botanically the most important figure came after the end of the century: William Sherard (1659-1728), a pupil of the great French botanist and traveller Tournefort, and founder of the Sherardian Chair of Botany at Oxford. Sherard was British Consul at Smyrna from 1703 to 1716, travelled in the country, and planted a notable garden there. His stay in Turkey corresponded with the famous 'Lale Devri' or Tulip Period, when Sultan Ahmed III (reigned 1703-1730) initiated the second Ottoman tulipomania, growing immense numbers of tulips in the hills near Manisa, some twenty miles from Smyrna. The Revd Richard Pococke travelled extensively in the east in 1737-40, and his book of 1743 printed lists of plants. Finally the two Russells, half-brothers, must be mentioned: Alexander (c. 1715-1768), physician at Aleppo in 1740-53, sent seeds to Peter Collinson in England, and wrote the Natural History of Aleppo and Parts adjacent, published in 1756. Patrick Russell (1727-1805), an outstanding botanist, succeeded his brother at Aleppo in 1753, and revised the Natural History for a second edition in 1794. Dried plants and drawings by him are in the Natural History Museum in London, along with plants collected by Alexander.
What then were the plants derived from or through the Ottoman Empire in the course of two centuries of diplomacy, trade and exploration? To consider first a few trees and shrubs: the Horse Chestnut, in England by 1616; the ‘Turkey Oak’, not until 1735; the Lilac ‘Syria’ or Philadelphus coronarius (Floresta) and the Snowdrop; besides two important roses, the Double Yellow, and the Musk Rose—the latter ultimately from Shiraz in Persia but which may have reached England via North Africa. Then there are the Coronary Flowers in a stricter sense: Anemone coronaria; Crown Imperial; Cyclamen; the Day Lilies; Oriental Hyacinth; several Irises; the Constantinople variety of the Madonna Lily and the Scarlet Turk’s Cap; Muscari, muscatheum, the Musk Hyacinth; Narcissus tazetta; the Oriental Ranunculus. All these, which had arrived by the time of Gerard in the 1590s, were mostly bulbous or tuberous. Between 1600 and 1630 came varieties of Crocus; the Constantinople Snowdrop, Gladiolus bulbatus; and several annual or herbaceous plants such as the Sweet Rocket; cultivated forms of Dianthus; and Tradescant’s Turkey Purple Primrose. Much later, in 1714, came the splendid vermelion perennial Poppy. Though overshadowed in quantity by the later introductions from other quarters of the globe, the quality of these plants is unsurpassable. It was this quality that had been recognised by eastern gardeners; Persians, Arabs and Turks, when they began to cultivate gardens of delight. Thanks to the long English tradition of the ‘Arabick’ interest, we were able to acquire these treasures and to make them our own.

NOTES


2 For Doversley, see E. S. Proctor, Afonos X de Castilla (1951), p. 130.


4 Harvey, Garden History, 1, no. 1 (1973), 14-21.

5 W. A. Oliver, MS. 42, fo. 91v.


7 Harvey, Mediolanum Gardenia, p. 161; Harvey in Garden History, XV no. 2 (1987), 81-93.


9 J. J. Clément-Mullet, Le Livre de l'Agriculture (2 vols., Paris, 1866-7). For the development of gardening in southern Europe under Muslim influence during the Middle Ages, see Harvey, Mediolanum Gardenia, pp. 37-51.


15 S. A. Skillett, William Harborne and the Trade with Turkey 1578-1582 (British Academy, 1977); Dictionary of National Biography (London, 63 vols., 1885-1900). Henceforth it will be cited as D.N.B.

16 D.N.B.


22 S. Wren, ed., Parentalia; or, Memoirs of the Family of the Wrens (1750), pp. 303-6; see pp. 298-8; and J. Harvey, Antiquaries Journal, XLVIII, p. 87.

23 D.N.B.


26 Dandy, Herbarium (1958), pp. 219; 123; 113-4; 95.

27 D.N.B.; Desmond, Dictionary (1977), p. 331 (as ‘Huntingdon’).

28 D.N.B.


31 Desmond, Dictionary, (1977), pp. 498-9; D.N.B.

32 Desmond, Dictionary, (1977), pp. 534, 535; D.N.B.

33 In modern times there has been much confusion regarding the Musk Rose (Rosa moschata Herb.) see G. S. Thomas, Climbing Roses Old and New (London, 1965), pp. 48-57. It is regarded as a native of Shiraz: Habibollah Sabei, Native and Exotic Trees and Shrubs of Iran (Teheran, 1966), no. 715.

34 The purple Primrose is a subspecies of Primula vulgaris Hudson subsp. rhabdorii (Hoffmann) W. W. Sm. & Forrest; Leath-Ross, Tradescantia (1984), p. 191, 28.

35 The Turkish ‘fixation on the garden’ was symbolized at its apogee by standing potted plants each side of the tent-flaps of Ottoman commanders on campaign; see Godfrey Goodwin, ‘Symboic Visions of Byzantine and Ottoman Constantinople’, Transactions of the Oriental Ceramic Society (1983-4), p. 95.