Anglo-Saxon Medicine:

Herbal Treasures from 10th and 11th Century Manuscripts

Notes to accompany the lecture at the NIMH Conference 2017

Val Thomas

The Anglo-Saxons

The Anglo-Saxon period stretches from the fifth century to the eleventh. Although this has been considered the "Dark Ages", the people of this period produced exquisite jewellery, wonderful poetry, elaborately decorated manuscripts like the *Lindisfarne Gospels,* the basis of English law, churches, carvings, and of course, a wealth of medical writings, not only in Latin but also written in the vernacular.

A quick glimpse at some of the plant remedies

These are extracts (not literal translations) from the recipes. There is a need for caution with interpretation on various levels. For example, plant names are fairly fluid over time. While there is general agreement about many of the herbs mentioned in the texts, numerous translators have sometimes given radically different translations of some of the herbs. It should also be remembered that just because a herb appears in the text, doesn't necessarily mean that the Anglo-Saxons actually used it. (We don't use all the herbs or recipes in our books.) It isn't always easy to be sure of the diseases the herbs are being used to treat. Bearing all that in mind, there is still plenty of interest.

Leechbook I

i.8. For a headache, take dill flowers, cook them in oil and apply to the temples.

ii.12 For an old man whose eyes are not sharp, rubbing the eyes, walking and riding are recommended. He should be careful about food and drink wormwood before eating.

iii.3 For earache, pour warm henbane juice into the ear.

xix. For nausea, loathing or lack of appetite, centuary and pepper in warm water.

xxvii.3. For pain in the foot, pound together elder, plantain and mugwort leaves and bind them on.

lxxxi. To treat extreme cold, cook nettles in oil and rub the body with it.

lxxxii. For insomnia, mix poppy in oil and rub it onto the forehead.

Leechbook II

xi. For flatulence and bloating, fennel and celery root in old, clear wine. Two bowlfuls to be taken after a night's fasting. Or take a decoction of rue, dill, mint and celery.

xxxiii. For "late" (slow?) digestion, drink yarrow in vinegar. This is also good for all diseases of the bladder.

Leechbook III

iii.5 Leaves of a plum tree boiled in wine, as a mouth wash for damage to the mouth.

x1. For flowing/exuding gall (reflux?), eat a radish and pepper having fasted overnight, and drink linseed boiled in milk.

iii. l. For a sore knee, pound henbane and hemlock, bathe with it then lay it on.

xliv. For lice, eat boiled cabbage, having fasted overnight.

(All the above are taken from Cockayne's text, using his numbering.)

Old English Herbarium

2. 5. If blood runs out of a person's anus, give them plantain ("wægbræde") juice to drink. It will soon stop.

86. 1. For pain or swelling of the bladder take asparagus root, simmer it in water until it reduced by three-quarters then drink for seven days.

(From Van Arsdell's (2002) text, using her numbering.)

Lacnunga

xix. Take slices of sweet Cicely with honey for haemorrhoids

xxi. For a heart attack ("cardiacus"), make a poultice of rue and barley meal with sweetened vinegar. Place on a thick cloth and bind on for three nights and three days. Also give the person blackberry juice ("bræmel berian gewrungene").

(From Pettit's (2001) text, using his numbering.)

The texts

There are three major surviving medical texts compiled by the Anglo-Saxons in Old English (O.E.), found in manuscripts. Now known as *The Leechbook of Bald, The Lacnunga* and the *Old English Herbarium*, they were collected by Oswald Cockayne in *Leechdoms, Wortcunning and Starcraft in Early England*, published in three volumes between 1864 and 1866. This work is comprised of over 1000 pages of parallel text. The O.E. is reproduced in the script known as Insular Hand, in which most A.S. records were written, accurately and meticulously transcribed from the original manuscripts by Cockayne himself (Singer, 1961).

The list of prescribed drugs in these texts covers a large number of mostly plant-based materials, although some animal and mineral substances are used. An accurate assessment of the number of herbs used is problematic since some herbs have a number of different names and some names may apply to more than one herb (Pollington, 2000). However, some 400 plants may have been used.

The oldest of these three texts, found in a manuscript dating from about 950 CE (MS London, British Library, Royal 12.D.xvii), is the group of three recipe collections known as *The Leechbook of Bald* (although the third part is sometimes considered separately). *The Leechbook* is probably a copy of a lost manuscript written in Winchester about fifty years earlier, during the reign of Alfred the Great (Cameron, 1993).

The *Leechbook* is thought to be a manual for doctors' use (Payne, 1904) and has generally been considered to be "the most comprehensive and best organised of all medical compilations" (Meaney, 1984). It arranges disease manifestations in a head-to-toe pattern, combining Mediterranean sources with native materials. Each book has a list of contents, giving the purpose of the recipes.

The Lacnunga (meaning remedies, the name given to the collection by Cockayne) is somewhat later than the *Leechbook* and is a collection of 1100 herbal remedies, prayers, blessings and charms for humans and livestock, mostly in O.E. and Latin, and was dismissed by an early editor as "a final pathological disintegration of the great system of Greek medical thought" (Singer, 1917). The main section of the manuscript dates from the late tenth to the mid-eleventh century. Pettit suggests that whoever used the recipes must have been wealthy, as some of the ingredients are exotic and therefore expensive, Christian, but probably not a model of orthodoxy (some of the remedies require the use of a paten outside a church), literate in Old English and Latin, and concerned with the welfare of humans and livestock. It appears to be a haphazard collection rather than a unified medical text. It begins with remedies for the head, as if the plan had been to list the remedies in head-to-toe fashion, as does the *Leechbook,* but the compiler seems to have got fed up with that and abandoned any semblance of organisation.

The *Old English Herbarium,* the only A.S. medical work to survive in more than a single copy, is a translation into Old English of the Latin compendium of texts known as the *Herbarium of Pseudo-Apuleius* and is derived from Graeco-Roman sources. The Latin original appears to have been in circulation in England by the ninth century (Pollington, 2000). It contains 185 sections, each devoted to a particular herb, providing alternative names and one or more uses of the plant.

Smaller fragments and medical recipes also exist, sometimes as marginal additions to non-medical manuscripts.

There is also evidence of much earlier interest in medicine. For example, Cynheard, who was Bishop of Winchester in 754, said, in a letter to the Bishop of Mainz, "We have some medical books, but the foreign ingredients prescribed in them are unknown to us and difficult to obtain" (D'Aronco 2008).

The practitioners: our colleagues from over 1000 years ago

Monastic practitioners

Many who used the texts are likely to have been monks. The texts that we have come from the period of Anglo-Saxon Benedictine reform. One of the duties of the Benedictines was care of the sick. According to D'Aronco (2008, p. 109):

Benedictine monasteries became the most important centres in Europe for the study and practice of medicine. The monasteries endowed themselves with appropriate facilities for the care of the sick and enriched their libraries with texts which reproduced classical knowledge on medicine as well as incorporating the results of observation and the daily practice of medicine.

Cameron (1993) suggests that the inclusion of prayers in some of the remedies would have required a priest, but better evidence of clerics as physicians comes from Bede's account of the visit of St. John of Beverley, who was Bishop John of Hexham, to a convent where he discovered that a young nun, the daughter of the abbess, had been bled on the fourth day of the moon. Her arm was swollen, she was seized with violent pain and seemed likely to die. He said:

You have acted foolishly and unwisely to carry out blood-letting on the fourth day of the moon. I remember Archbishop Theodore of blessed memory, said it was very dangerous to bleed at a time when the light of the moon and the pull of the tides is increasing.

Theodore, originally a Greek monk from Tarsus, with medical training from Constantinople, who became Archbishop of Canterbury in 668, did much to educate the English in Latin and Greek and was probably influential in bringing the medicine of the Mediterranean into this country. Bishop John was one of his pupils (D'Aronco, 2008).

Van Arsdall (2002) notes other influences on English medical practice, through the cultural and educational links between English and continental monasteries. Medical knowledge had also travelled with the physicians of the Roman armies and with slaves, as well as through trading. It was not static but constantly evolving. The Anglo-Saxon texts certainly suggest that English physicians may have been familiar with Galen's humoral approach to medicine. The texts contain no exposition of the doctrine of the humours, but have numerous references to evil, hot or cold humours and conditions.

Named physicians

There is limited textual evidence for named physicians, but in *Leechbook I*, the recipe xlvii begins "Oxa taught this remedy". It is a long, complicated remedy including 16 plants put into foreign ale and drunk for nine days before blood is let. The plants used include butcher's broom, wallwort, white hellebore, red nettle, wormwood, yarrow, horehound, pellitory and

pennyroyal. The other herbs are less easy to identify. A further, similar recipe of Oxa's appears in the same section.

In *Leechbook II,* with regard to a remedy for lung disease, we are told that Dun taught it. It is a salve, containing sage, rue, feverfew and pennyroyal. It gives the proportions of the herbs used but not how to make the salve, assuming that the physician knows how to do this. This is characteristic of much of the information in the medical texts: a certain amount of prior knowledge is necessary to use it effectively, as would be the case of our own herbals today, which may list herbs or actions or a particular kind of preparation in a brief way, without necessarily going into all the detail that a person new to the subject would require.

A further reference to a physician comes at the end of *Leechbook II,* which has the Latin colophon:

Bald owns this book, which he ordered Cild to write; earnestly I pray all in the name of Christ that no treacherous person should take this book from me, neither by force nor by theft nor by any false speech. Why? Because no best treasure is so dear to me as the dear books which the grace of Christ attends.

Bald could have been a layman or a cleric but he must have had a collection of medical texts. Whether Cild was also a physician is unknown (although he must have had a good deal of medical knowledge by the time he had copied and/or compiled both *Leechbooks*.)

Lay practitioners

That there were lay physicians is suggested by the existence of the word "laecfeoh" (Pollington, 2000). Sweet's dictionary also lists "laececraftig" (skilled in medicine), "laececynn" (race of physicians, presumably not clerics) and "laecehus" (hospital).

There are pictures of physicians at work, some in classical attire but others in native dress and untonsured, suggesting that they were from the laity.

Women Practitioners

Pollington (2000) discusses a number of words related to female practitioners, but they imply something more magical than a physician: "bugrune" means one skilled in mysteries; "galdor cræftig" means one skilled in the use of verbal charms; "wiccan" suggest soothsaying and clairvoyance; "wyrtgælstre" means a woman who uses herbs as charms, or a herb singer.

Marijane Osborn (2008) gives sources of evidence for women as medical practitioners in the Anglo-Saxon period. She makes an analogy with other cultures, in which women are herb gatherers, and says that voices of such "cunning women" have been lost or appropriated by male authors. She also points to grave finds, of women buried with little boxes of plant material, and cites recipes 37-38 of *Leechbook III,* which deal with gynaecological issues, as being in a different voice to the other, non-gender-specific remedies, and sees them as having been collected from unnamed female practitioners.

The patients

There is textual evidence of patients of both high and low status within society. According to Bede, St. John of Beverley restored the speech of a scurvy young lad from a village near Hexham, not just by prayer but patiently teaching him through speech therapy. He also restored the lad's skin and hair. In contrast, in 660, the Abbess Ætheldreda of Ely had a tumour lanced in her neck by the physician Cynefrith.

The highest status and most famous patient we know of was, of course, none other than King Alfred. We hear from Alfred himself and from his biographer Asser, that he suffered from some undiagnosed chronic illness (possibly Crohn's). He had from his youth been troubled with piles, but after feasting for a day and a night at his own wedding, he was struck by a severe pain which no physicians could explain (Keynes and Lapidge, 1983). He was clearly interested in medicine. Bald's *Leechbook II,* section lxiv ends:

All this Dominas Helias, patriarch at Jerusalem, ordered to be said to King Alfred.

Unfortunately, the beginning of the section is missing, but the recipe does make reference to "inward tenderness".

Pathologies

It can be difficult to interpret the pathologies listed from a modern perspective. There are remedies for problems in every area of the body: headaches, chest pain, coughs, ulcers, swellings, boils, abdominal pain and dysentery, gynaecological and obstetric issues, bladder pain and urination matters, fleas, worms, dropsy skin problems of all kinds, piles, toothache, nosebleeds, lunacy and witlessness, warts and even foul-smelling armpits (for which artichoke simmered in wine is recommended).

There are numerous remedies for the eyes. *Leechbook I* alone contains a list of twenty-three, the first twelve of which are for "eagna miste", mistiness of the eyes. Ear problems are of great concern, as are the bites of snakes and scorpions for which there are many remedies.

The liver is covered in considerable detail, including, in *Leechbook II,* a section on its anatomy, its function and the six things which cause liver pain. There are various treatments for jaundice ("geolwan adle") and dietary restrictions for liver patients. It has been suggested that some of the references to liver diseases, and the symptoms described, may indicate that people suffered from infection by the sheep liver fluke, *Fasciola hepatica*. Cameron (1993) surmises that they were ignorant about parasites and picked watercress from streams adjacent to sheep pastures.

The emphasis upon the liver is familiar to modern medical herbalists too, but this obviously doesn't imply that lots of our patients have liver fluke.

The frequency of references to the spleen, including a section on its function, and to "lencten adl" and tertian fever, have led to speculation that malaria, caused by *Plasmodium vivax*, was endemic in Anglo-Saxon England. Recent skeletal evidence seems to back up the hypothesis, particularly for the Fen areas around the Wash, where as late as the nineteenth and even twentieth centuries, numerous women did not survive childbearing because of severe anaemia due to loss of iron from malarial infection (MacArthur, 1950).

Anaemia may have been a problem for other reasons too, as at times may other deficiency diseases. From Ælfric's *Colloquy* (Garmonsway, 1991), written around 1000 to teach monastic pupils Latin, we get the impression that the boys had a good, varied diet, including meat. However, from *The Anglo-Saxon Chronicle* (Garmonsway, 1972) we know that there were famines, for example in 1041, after a great mortality of cattle, in 1051 and again in 1054, when wheat became extremely costly.

Skeletal remains show evidence of arthritis and bone disease.

There are pathologies which are expressed in apparently magical terms, the most well-known being "elfshot". The fullest discussion of this concept is given by Alaric Hall (2007).

Food and drink (Banham, 2004; Hagen, 2006)

Toothache appears many times in the texts. If this is an indication of a common problem, the reason for this may be found by considering the Anglo-Saxon diet.

Sources of dietary evidence include archaeology, food rents, funeral feast provisions, medical texts, Ælfric's *Colloquyi* (Garmonsway, 1991), *Monasteriales Indica* (Banham, 1991) and riddles from the *Exeter Book*. Feasting was important, as evidenced from the poetry, but the food is not mentioned, only the drinks. Beer provided a high proportion of the calorific content of the diet, and small beer was preferred to water. Mead and wine were used for feasts. When Cameron (1993) noted the attention paid to the liver, he did not make any connection with the fact that the Anglo-Saxons drank so much alcohol.

Cereals were the staple. In the early A.S. period, the main grain used was barley. Later, wheat was preferred because bread rises better if made from wheat flour. Oats and rye were used to a lesser extent. Mechanical mills were not used until the middle of the period, so producing flour was extremely labour intensive and often carried out by slaves. The millstones were very gritty, and particles of stone found their way into the bread, which meant that people's teeth were ground down. For many less wealthy people, cereals were consumed in stews or pottages, known as a "briw".

Pulses were very important, with beans and peas often being part of the "briw". "Leac" refers to alliums, which appear to have been the most important vegetable. Their importance is underlined by the use of "leactun" for vegetable garden. "Por" or "porleac" are leeks, "ynneleac" onions and "garleac" garlic. "Cawel" appears to be a kind of cabbage, maybe like spring greens. Turnips ("naep") and radishes were also eaten. "More" could include carrots and parsnips. There is also evidence for the use of celery ("merce"), *Chenopodium* spp. ("melde") and other herbs and leaves, including cresses, as mentioned in the medical texts. Apples, pears and plums all have signs in the *Indica*, and there is a word "æppeltun", meaning "place of apples".

Meat from cattle, sheep, pigs, fowl and game were consumed. There is evidence of famine in the A.S. chronicles, as a result of widespread death of cattle. Eggs and milk were used in season, as well as freshwater fish, sea fish and shellfish.

There is evidence of the use of exotic spices, honey and salt.

Preparation of the herbs

A major difference between Anglo-Saxon preparation of herbs and our own is that they did not use tinctures with a high alcohol content, only vinegar, wine or beer. There follow just a few examples of the many different ways in which the texts recommend preparing and administering the herbs.

Direct application of pounded herbs

Lacnunga xxiv. For swelling, take the roots of lily, shoots of elder, and leek. Shred, pound thoroughly, put on a thick cloth and bind on.

Old English Herbarium 32.1. For sore eyes, take agrimony ("garclife"). Pound it fresh on its own. If you don't have fresh, use dried, dip it in water so that you can crush it.

Herbs in food, especially the "briw"

Lacnunga Li-Liii give four different "briw" recipes for lung disease.

Leechbook III xxii: a "briw" for diarrhoea. The herbs are first cooked in milk, which is strained, and wheat meal added to the milk.

Drinks ("wyrtdrenc")

These are sometimes infusions or decoctions in water, vinegar or ale. The required herbs are usually specified, but not always. Sometimes the instruction is just to give a herbal drink.

Juice ("seaw")

Old English Herbarium 89.1. For earache, pound soft blackberries. Drip the lukewarm juice into the ear. It lessens pain and heals effectively.

Old English Herbarium 21.1. If a person's hair is falling out, put the juice of watercress up the nose. The hair will grow.

Sometimes the juice is applied neat, sometimes in some other liquid, such as wine e.g.:

Old English Herbarium 3.5. If blood runs fast out of someone's nose, give the juice of cinquefoil ("fifleafe"), mixed with wine. Drink three capfuls for three mornings and evenings, on an empty stomach.

Vinegar ("ecede")

Numerous remedies call for the use of vinegar.

Leechbook II recommends, for drawing evil away from the spleen, fresh rue, which has been left for one day, pepper and cumin. These are powdered and mixed with vinegar and honey.

Leechbook I ix. If too much blood is running out of a person's nose, take fresh betony and rue, pound them in vinegar, twist them together so that they are like a sloe and insert into the nose.

Baths

Baths are often recommended alongside other remedies.

In addition to the asparagus drink in 86.1. of the *Old English Herbarium*, baths should be taken for many days, but the patient must not get into or drink cold water.

Leechbook III xlvii. A bath for palsy includes a number of different barks: bramble elm, ash blackthorn, apple, ivy.

Salves

Leechbook I xxviii.2. For wound salve, plantain beaten and mixed with old fat (ealdne rysele). Fresh fat is not useful.

Leechbook I lx.2. Some burn salves: fennel root in old fat, lily and yarrow boiled in butter, ribwort in butter, yarrow in butter or mallow in sheep's fat ("sceapes smerwe") with two other herbs ("attorlathe" and "eosorfearn").

Leechbook III vii: for neck pain. Butter ("buteran"), dripping ("oxan smerwe") as used with nettle root.

Honey

Leechbook III lxx.1. For an ulcer, crush sage into honey, smear with it.

Powders

Powders are found in various contexts. For example, in *Leechbook III* xii.1, for jaundice ("geolwan adle") numerous seeds are ground and mixed together, then a spoonful taken in strong ale on an empty stomach (at night or after a night's fasting).

Purgative drinks ("swithedrenc"/"spiwdrenc")

Leechbook II lii has a long list of different herbal combinations, including elecampane, wormwood, elder bark, caper spurge seeds, gladdon iris, mostly prepared in ale with butter and salt.

Leechbook III xlii. If a purgative drink stays inside and won't come out, take celandine root and caper spurge leaf, boil in ale with butter and salt, and give a warm cupful for the patient to drink.

Vessels

The types of vessels in which the remedies were mixed are often specified, particularly the use of iron (possibly for its nutritional benefits) or copper pots, since copper salts can be anti-infective (Cameron, 1993).

"Superstitious" elements

Some of the prayers, charms and other activities specified in the preparations of the remedies have been viewed as "superstitious" and have been used by commentators to undermine the value of the remedies. However, Cameron (1993) has warned against automatically dismissing some such instructions as of no value. For example, the instruction to say the Lord's Prayer a certain number of times while heating a remedy might just be a matter of timing, whatever your opinion as to the efficacy of the prayer itself.

Focusing on individual herbs

Tracing the recommended uses of individual herbs through the various texts can highlight some similarities with the way we use herbs today, and also suggest potential forgotten applications. This was the approach I took to my article in the *Journal of herbal Medicine* (2011), from which the following points are just a short summary.

White Horehound *Marrubium vulgare*

This herb is frequently mentioned in the texts, often for coughs, as it would be used today. *Leechbook III* ix suggests using the herb as a simple, in a strong infusion, sweetened with honey, and also boiling the herb in honey and eating it in butter. It is possible that preparing the herb in two different ways provides a good balance of phytochemicals. The combination of the herb with barley, in recipe xiv, might provide some useful nutritional input, with the bitterness of the white horehound potentially aiding the digestion.

Other uses of white horehound recommended in the *Leechbooks* include "blotch", leprosy, foot ache, nausea and lack of appetite, breast pain, and an "enlarged body" (possibly oedema or ascites). This range of uses reflects the use of the herb in the folk medicine of several countries, from Central and South America to Boznia and Herzogovinia (Redzíc, 2007).

Wood Betony *Stachys betonica*

Wood betony is recommended for use, as a simple and with other herbs, probably in a much wider range of conditions than in today's practice. While the modern herbalist might use betony internally for headaches, many of the Anglo-Saxon remedies suggest external applications, sometimes with the addition of pepper, which would have a warming, counter irritant effect, possibly enhancing absorption. *Leechbook I* iii.2 recommends betony for sore ears or earache, with the addition of rose oil, dripped lukewarm into the ear, with thick wool. It is interesting to note that both betony and rose are considered to be nervines. Betony, which was long considered something of a "cure all" is also suggested in the Anglo-Saxon tests for aches and pains, swellings, fevers, as well as for temptations of the devil and being overlooked.

Black Pepper *Piper nigrum*

Pepper is found extensively throughout the texts, particularly in the form of peppered drinks. One such, for the stomach, includes dill, cumin and vinegar. Pepper occurs frequently, in conjunction with other herbs. It has been shown to improve the bioavailability of other phytochemicals (Srinivasen, 2007). It is currently often combined with turmeric, but might well be useful with other herbs too. Other *in vitro* studies have suggested that pepper is both antioxidant (Saxena et al., 2007) cytoprotective and immunomodulating (Pathak and Khandelwal, 2007). Peppercorns are recommended to be chewed for toothache, and in a number of remedies for infected skin lesions.

Ivy *Hedera helix*

Ivy shoots, boiled in butter, are used in a recipe in *Leechbook III* for sunburn, although the type of butter is unspecified. The saponins in the plant, which would be extracted in the fat, would provide a useful anti-inflammatory action (Bruneton 1995). A similar preparation has long been used for burns in folk medicine (Hatfield 1999). Dried leaf extract of ivy has been shown in clinical trials to be well-tolerated and effective in bronchitis, with the saponins, particularly alpha-hederin being thought to be responsible (Fazio et al., 2009). However, many more of the Anglo-Saxon remedies use the berries. Bruneton (1995) suggests that ingestion of the berries would be dangerous.

Continued use of the Anglo-Saxon texts

The Anglo-Saxon medical texts were part of continuing, developing pan-European healing tradition, dating back many centuries, which was synthesised with well-established local knowledge and traditions (Van Arsdell, 2002). In the centuries following the production of those texts, most medical works used Latin rather than the Anglo-Saxon vernacular. However, the Anglo-Saxon texts continued to be used, as evidenced by additions and corrections to a number of manuscripts, in different handwriting and in English and Latin. As late as the 16th century, one Elysabet Colmore signed her name on the cover page of the manuscript now known as Cotton Vitellius Ciii (D'Aronco, 2008). Interest in the manuscripts' medical potential is growing, as evidenced by the work of Frances Watkins and others, such as the University of Nottingham's team investigating the efficacy of specific remedies. As herbalists now, we can still benefit from the information the Anglo-Saxons left us, for we too are part of that continuing, living tradition.

Bibliography

Banham D. (Editor and Translator), 1991. *Monasteriales Indica,* Anglo-Saxon Books, Hockwold-cum-Wilton.

Banham D., 2004. *Food and Drink in Anglo-Saxon England,* Tempus Books, Stroud.

Bruneton J., 1995. *Pharmacognosy, Phytochemistry, Medicinal Plants,* Lavoisier, London, New York, Paris.

Cameron M.L., 1993. *Anglo-Saxon Medicine*, Cambridge University Press, Cambridge.

Cockayne T.O., 1864-1866. *Leechdoms, Wortcunning and Starcraft of Early England* (1961 edition, Holland Press, London).

D'Aronco M.A., 2008. Gardens on Vellum: Plants and Herbs in Anglo-Saxon Manuscripts. In Dendle and Touwaide, 2008, pp. 101-127.

D'Aronco M.A. and Cameron M.L., 1998. *The Old English Illustrated Pharmacopoeia: British Library Cotton Vitellius C III. Early English Manuscripts in Facsimile 27*. Rosenkilde & Bagger, Copenhagn.

Dendle P. and Touwaide A., 2008. *Health and Healing from the Medieval Garden*. Boydell, Woodbridge.

Fazio S., Pouso J., Dolinsky D., Fernandez A., Hernandez M., Clavier G., Hecker M, 2009. Tolerance, safety and efficacy of *Hedera helix* extract in inflammatory bronchial diseases under clinical practice conditions: a prospective, open, multicentre postmarketing study in 9657 patients. *Phytomedicine* 16(1): 17-24.

Garmonsway, G.N., 1972. *The Anglo-Saxon Chronicle*. Dent, London.

Garmonsway G.N. (Editor), 1991. *Ælfric's Colluquy.* Exeter Medieval Texts and Studies, Liverpool University Press, Liverpool.

Hagen A., 2006. *Anglo-Saxon Food and Drink. Production, Processing, Distribution and Consumption,* Anglo-Saxon Books, Hockwold-cum-Wilton.

Hall A., 2007. *Elves in Anglo-Saxon England,* The Boydell Press, Woodbridge.

Hatfield G., 1999. *Memory, Wisdom and Healing,* Sutton, Stroud.

Keynes S. and Lapidge M., 1983. *Alfred the Great: Asser's* Life of King Alfred *and Other Contemporary Sources*, Penguin, London.

Meaney A.L., 1984. Variant Versions of Old English Medical Remedies and the Compilation of Bald's Leechbook. *Anglo-Saxon England* 13: 235-68.

Osborne M., 2008. Anglo-Saxon Ethnobotany: Women's Reproductive Medicine in *Leechbook III*. In Dendle and Touwaide, 2008, pp. 145-161.

Pathak N. and Khandelwal S., 2007. Cytoprotective and Immunomodulating Properties of Piperine on Murine Splenocytes, *European Journal of Pharmacology* 576 (1-3): 160-70

Payne J.F., 1904. *English Medicine in Anglo-Saxon Times*, Oxford University Press, Oxford.

Pettit E. (Editor and Translator), 2001. *Anglo-Saxon Remedies, Charms, and Prayers from British Library MS Harley 585: The Lacnunga*. Edwin Mellen Press: Lampeter.

Pollington S., 2000. *Leechcraft: Early English Charms, Plantlore and Healing*, Anglo-Saxon Books, Hockwold, Norfolk.

Redzíc S.S., 2007. The Ecological Aspect of Ethnobotany of Population in Bosnia and Herzogovinia, *Collegium Antropologicum* 31(3): 869-90.

Saxena R., Venkaiah K., Anitha P., Venu L., Raghunath M., 2007. Antioxidant activity of commonly consumed plant foods of India: contribution of their phenolic content. *International Journal of Food Sciences and Nutrition* 58(4): 250-60.

Singer C., 1917. A Review of Medical Literature in the Dark Ages, with a Review of a new Text of about 1110. *Proceedings of the Royal Society of Medicine* 10: 107-60.

Srinivasan K., 2007. Black Pepper and its Pungent Principle – Piperine: A Review of Diverse Physiological Effects, *Critical Reviews in Food Science and Nutrition* 47(8): 735-48.

Sweet H., 1896. *The Student's Dictionary of Anglo-Saxon*, Oxford University Press, Oxford.

Van Arsdall A., 2002. *Medieval Herbal Remedies: The Old English Herbarium and Anglo-Saxon Medicine.* Routledge: Abingdon.

Yorke B., 2002. *The Anglo-Saxons*, Sutton, Stroud.

Manuscripts

The three volumes known as *The Leechbook of Bald* are found in MS London, British Library, Royal 12.D.xvii.

The *Lacnunga* is found in MS London, British Library, Harley 585.

Facsimile copies of both of these manuscripts are to be found in Cockayne (1864-1866).

The *Old English Herbarium* is found in the following manuscripts:

- MS London, British Library, Cotton Vitellius C.iii
- MS London, British Library, Harley 585.
- MS London, British Library, Harley 6258B (N.B. this example is in Middle English.)
- MS Oxford, Bodleian Library, Hatton 76.

The Exeter Book is in Exeter, Cathedral Library MS 3501.

Contact details

herbs.val@gmail.com

01603 – 666 260