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The Diagnosis and Treatment of Wounds in the Old English Medical Collections: Anglo-Saxon Surgery?

Debby Banham and Christine Voth

medicus Cynifrid qui et morienti illi, et eleuatae de tumulo adfuit ... referre erat solitus, quod illa infirmata habuerit tumorem maximum sub maxilla; “Iusserunt me,” inquit, “incidere tumorem illum, ut efflueret noxius umor, qui inerat ... monstrauerunt mihi etiam uulnus incisurae, quod feceram, curatam; ita ut mirum in modum pro aperto et hiante uulnere, cum quo sepulta erat, tenuissima tunc cicatricis uestigia parerent.”

[the physician Cynefrith, who was present both when she [St. Æthelthryth] was dying, and when she was raised from the tomb ... used to recount that, when she was ill, she had a very large swelling under her jaw; “They told me,” he said, “to cut into that swelling, so that the harmful fluid inside would flow out ... [and at her translation in 695 or 6] they showed me too the wound of the incision that I had made, healed up, so that, wonderfully, instead of the open and gaping wound with which she had been buried, the slightest traces of a scar were then visible”] (Bede, *Historia ecclesiastica* IV.19).¹



Bede’s story of the *medicus* Cynefrith cutting open (*incidere*) St. Æthelthryth’s swelling in order to aid its healing provides a rare glimpse into the treatment of illness or injury by surgical means in the Anglo-Saxon period. Whether one follows The *Oxford English Dictionary*’s definition as “the treatment of injuries, deformities or other disorders by manual operation or instrumental appliances,”² or that given by Charlotte Roberts in the most recent published survey of the discipline in Anglo-Saxon England: “the branch of medicine concerned with treating diseases or injuries by means of manual or operative

¹ Charles Plummer, ed., *Venerabilis Baedae Opera Historica* (Oxford: Clarendon, 1896), 245–6.

² *Oxford English Dictionary* <<http://www.oed.com/view/Entry/194929>> (accessed 15 March 2014).

procedures, especially by incision into the body;³ we do not find much evidence for surgical treatments in Anglo-Saxon written sources.

Early medieval England was a dangerous environment with a high risk of physical harm, which could result from warfare, day-to-day lawlessness, or accidents in the home or the workplace.⁴ Anglo-Saxon physicians must have encountered many instances of wounds that called for surgical attention, and one might thus expect to find numerous references to procedures like that undertaken by Cynefrith in the extant medical texts. But medical collections in Old English are dominated by potions and salves of one kind or another, to the almost complete exclusion of techniques involving “the knife.” “There are very few references in Anglo-Saxon sources to surgical operations apart from blood-letting,” wrote M.L. Cameron at the beginning of his chapter on surgery, which is less than five pages long, including extensive translations.⁵ Cameron is right to point out the rarity of surgical techniques in medical texts compiled in early medieval England: manual and instrumental operations (even generously defined) total only eight in the 155 chapters of *Bald's Leechbook*, London, British Library, Royal MS 12 D. xvii (s.xⁱ) (*BLB*)⁶ and two in *Leechbook III* (73 chapters, in the same manuscript).⁷ Even bloodletting itself is found only eighteen times in *BLB* and once in *Leechbook III*.⁸ The *Lacnunga*, London, British Library, Harley MS 585 (s.x^{ex}-xi¹),⁹ features only two instances of scarification, one set

3 Charlotte Roberts, “Surgery,” in *The Wiley Blackwell Encyclopedia of Anglo-Saxon England*, ed. Michael Lapidge, John Blair, Simon Keynes, and Donald Scragg, 2nd ed. (Oxford: Wiley Blackwell, 2014), 445–7. This article deals almost entirely with archaeological evidence.

4 For further discussion of this, with some literary examples, see: Anne Russcher and Rolf H. Bremmer Jr., “For a broken limb’: Fracture Treatment in Anglo-Saxon England,” in *Secular Learning in Anglo-Saxon England: Exploring the Vernacular*, ed. László Sándor Chardonnens and Bryan Carella (Amsterdam: Rodopi), 145–75. esp. 145–7.

5 M.L. Cameron, *Anglo-Saxon Medicine* (Cambridge: Cambridge University Press, 1993), 169. The chapter extends to p. 173, with over a page taken up by translations from the sources.

6 We are still reliant for this text on the edition of T.O. Cockayne, ed., *Leechdoms, Wortcunning and Starcraft of Early England*, 3 vols (London: Rolls Series, 1864–6), 2:2–298.

7 Cockayne, *Leechdoms*, 2:300–60.

8 Cameron’s chapter on “The Humours and Bloodletting” is only nine pages long (159–68) and does not offer any examples of therapeutic bloodletting. Lists of lucky and (mostly) unlucky days for bloodletting are now discussed with other prognostics by L.S. Chardonnens, *Anglo-Saxon Prognostics, 900–1100: Study and Texts* (Leiden: Brill, 2007), and Roy Liuzza, *Anglo-Saxon Prognostics: An Edition and Translation of Texts from London, British Library, MS Cotton Tiberius A. iii* (Cambridge: D.S. Brewer, 2011).

9 Edward Pettit, ed., *Anglo-Saxon Remedies, Charms and Prayers from British Library MS Harley 585: The Lacnunga*, 2 vols (Lewiston: The Edwin Mellen Press, 2001).

of rules of for bloodletting (the “Egyptian days”), and no surgical procedures. The Old English *Herbarium* consists entirely of pharmaceutical prescriptions with only the occasional charm or amulet.¹⁰ It seems implausible that no mechanical treatments were being carried out in England at this time,¹¹ so some other explanation is needed for this apparent defect in the medical collections. An exploration of non-medical evidence for surgical practice in early medieval England is called for to set the texts against a background of contemporary practice and attitudes, as far as this can be discerned, as well as an analysis of the way the texts themselves work, which might suggest other reasons for the compilers’ lack of attention to surgical techniques. The Anglo-Saxon texts also need to be seen in the context of the developing place of surgery in European medical literature. Only then will it be possible to decide whether there was such an entity as “Anglo-Saxon surgery.”

Surgical Treatments in the Old English Medical Corpus

Even strictly interpreted, as mechanical treatments using the practitioner’s hands or equipment of some kind, surgical procedures are not entirely absent from the Old English medical texts. In fact, there is quite a large range including amputation, cautery, lancing, ligatures, sutures, and some less familiar techniques. One instance to which Cameron draws attention is the “syringe” used in *BLB* to treat a liver condition.¹² Although the *pipa* used to bathe the wound here is probably not a syringe,¹³ the treatment is clearly surgical, involving the lancing of what would probably called an abscess in the present day, recalling Cynefrth’s *incisura*, followed by the controlled draining of fluid.¹⁴ The whole procedure is described in considerable detail, with elucidation of unfamiliar terms. Corresponding passages are found in the *Passionarius Galieni*, the

10 Hubert Jan de Vriend, ed., *The Old English Herbarium and Medicina de quadrupedibus*, EETS o.s. 286 (Oxford: Oxford University Press, 1984).

11 The physical evidence for setting of fractures is discussed by Russcher and Bremmer, “For a broken limb,” 167–72.

12 *BLB*, 2.22, in Cockayne, *Leechdoms*, 2:208–10, discussed by Cameron, *Anglo-Saxon Medicine*, 171–3.

13 Another *pipa* appears in a treatment for digestive problems at *BLB* 2:28d, Cockayne, *Leechdoms*, 2:224.

14 For a detailed reassessment of this passage, see: Debby Banham and Conan T. Doyle, “An Instrument of Confusion: The Mystery of the Anglo-Saxon Syringe,” in *Recipes for Disaster*, ed. Jennifer Rampling, Debby Banham, and Nick Jardine (Cambridge: Whipple Museum, 2010), 27–38.

Practica Petrocelli, and the pseudo-Galenic *Liber tertius*, from one of which it has presumably been excerpted or translated by *Bald's* compiler.¹⁵ Cameron also discusses another long passage in the *Leechbook* in which gangrenous flesh is cut away and cauterized to prevent the spread of infection, again a description that is clearly related to Latin compilations.¹⁶ There are a few more instances of surgical techniques in *BLB*: gums are lanced to relieve a specific type of toothache,¹⁷ rules are given for amputations,¹⁸ a wound is cauterized,¹⁹ the extremities are ligatured to revive someone fainting with hunger,²⁰ and a medicine is “injected” to relieve digestive problems.²¹ A manual procedure, squeezing the hands and feet, is employed for someone suffering severe intestinal bloating.²² In *Leechbook III*, in a passage relating to the situation in which the gut has come out of the body (it is not clear how), the organs are replaced manually, and a suture is used to keep them in place.²³ There is also a rather alarming procedure for someone whose cranium is twisted(?), involving stakes driven under the armpits and a board across the feet being struck with a sledgehammer.²⁴ Nonetheless, these procedures, although interesting and varied, represent a tiny proportion of the total medical material in Old English.

The business of surgeons has historically been largely with wounds and injuries, and if surgery is defined not solely by its techniques but also by the conditions treated, plenty of wound treatments can be found in Old English medicine. The majority of these are in the two books of *BLB*, which includes approximately 77 prescriptions explicitly or implicitly for treating wounds. Its companion volume or appendix, *Leechbook III*, has a further eight, while the Old English *Herbarium* and the *Lacnunga* have 68 and one, respectively.²⁵ In

15 For discussion of the sources of this passage, see: Cameron, *Anglo-Saxon Medicine*, 171–3; and Banham and Doyle, “An Instrument of Confusion.”

16 *BLB*, 1:35, Cockayne, *Leechdoms*, 2:82–6, discussed by Cameron, *Anglo-Saxon Medicine*, 170–1, and, for the sources, 43.

17 *BLB*, 1:6, 7b, Cockayne, *Leechdoms*, 2:52.

18 *BLB*, 1:35h, Cockayne, *Leechdoms*, 2:84. This is the end of the chapter on the “blackened and deadened body” discussed by Cameron, *Anglo-Saxon Medicine*, 170–1.

19 *BLB*, 1:38, 8c, Cockayne, *Leechdoms*, 2:96, part of a long chapter on the treatment of wounds.

20 *BLB*, 2:16, 2b, Cockayne, *Leechdoms*, 2:196.

21 *BLB*, 2:28d, Cockayne, *Leechdoms*, 2:224. The medicine may, in fact, be forced down the throat.

22 *BLB*, 2:5, Cockayne, *Leechdoms*, 2:182.

23 *Leechbook III*, 73, Cockayne, *Leechdoms*, 2:358.

24 *Leechbook III*, 55, Cockayne, *Leechdoms*, 2:342.

25 Counts can only be approximate as the definition of a wound is hardly unambiguous. Mammal bites are counted here, including those of mad dogs, but not snake or insect bites.

BLB, wound treatments constitute about 15% of the whole collection; the proportion in the *Herbarium* is similar.²⁶ The overwhelming majority of these treatments (in all the texts) are general-purpose wound salves or poultices, most of them quite simply prepared with only one or two ingredients. Dry applications also occur, as well as some medicines that are to be taken internally. *BLB* has a long chapter on wound treatments, of which only one is mechanical, the cautery mentioned above.²⁷ There are also chapters on burns and joint problems, including leaking synovial fluid, said to affect *manegum men* “many people,” and both of these are entirely pharmacological.²⁸

There are a few specific treatments for defined types of injury, ranging from missing nails to serious head-wounds, again nearly all external applications.²⁹ Instrumental treatments for wounds are confined to cautery, suturing, and amputation in *BLB* (see above), and possibly the replacement of the gut and the straightening of the twisted(?) cranium in *Leechbook III*, depending on how the gut and cranium have become displaced. The following four examples represent about half the total number of prescriptions for specific injuries, excluding those for bites by various animals, mostly dogs:³⁰

Gif nægl sie of hande ... nim hwæte corn meng wið hunig lege on þone finger.

[If the nail is off a hand ... take grains of wheat, mix with honey, apply to the finger] (*BLB* 1:34, 1a).³¹

Gif men sie lim of aslegen. finger oððe fot oððe hand gif þæt mearh ute sie. genim sceapes mearh gesoden lege on þæt oþer mearh. awriþ swiðe wel neahterne.

26 This is impossible to calculate with greater precision, as the number of recipes in a chapter varies widely, and even what constitutes a single recipe is not always clear.

27 *BLB*, 1:38, Cockayne, *Leechdoms*, 2:90–8

28 *BLB*, 1:60–1, Cockayne, *Leechdoms*, 2:130–4. The assertion about the prevalence of leaking synovial fluid is in recipe 61e, at 132.

29 For a detailed discussion of the treatment of head-wounds, surgical and non-surgical, see: Patricia Skinner, “Visible Prowess?: Reading Men’s Head and Face Wounds in Early Medieval Europe to 1000 CE,” in this volume, 81–101, and Larissa Tracy, “Into the hede, throw the helme and creste’: Head Wounds and a Question of Kingship in the Stanzaic *Morte Arthur*,” 496–518.

30 The *Medicina de quadrupedibus* has one prescription for a bite by an ape or human (bull’s gall used as a lotion): chapter 12, item 7, in *Herbarium*, 268.

31 Cockayne, *Leechdoms*, 2:80. The same treatment is found in the *Lacnunga*, item 140, in Pettit, *Anglo-Saxon Remedies*, 1:98.

[If a limb is struck off someone, finger or foot or hand, if the marrow is coming out, take boiled sheep's marrow, put it on the other marrow, bind it up well overnight] (*BLB* 1:38, 8a).³²

Gif mon sie ufan on heafod wund 7 sie ban gebrocen nim sigelhweorfan 7 hwit clæfran wisan 7 wudurofan do on god butran aseoh þurh clað 7 lacna siþþan.

[If there is a wound on top of someone's head, and the bone is broken, take marigold and white clover plant and woodruff, put it in good butter, strain through a cloth, and treat at once] (*Leechbook III* 33, 1).³³

Gif sio eaxl upstige nim þa sealfe do hwon wearme mid feþere him bið sona sel.

[If the shoulder is dislocated, take the salve, put some on warm with a feather, he'll soon be better] (*Leechbook III* 33, 2a).³⁴

Why is There so Little Surgery in the Old English Medical Texts?

Even when all these treatments for wounds and injuries are taken into account, there remains a remarkable deficit of surgical procedures among the extant Anglo-Saxon material. It is possible that it really was unusual for wounds to be treated by surgical methods in early medieval England, but the few examples that do exist, coupled with the general paucity of surgery in the medical collections, suggest that the explanation for the absence of surgery is not specific to wound treatments and that evidence for surgical techniques may be found elsewhere.

Looking at the Anglo-Saxon medical corpus as a whole, there are numerous possible reasons for the rarity of surgical techniques. In the first place, such treatments might have been genuinely rare in Anglo-Saxon practice. Alternatively, the medical texts may have been of purely academic interest, bearing little relationship to what was going on around them. Literate physicians may have felt it beneath them to practice the "manual labor" of surgery, they may have been fastidious about getting blood on their hands, or they

32 Cockayne, *Leechdoms*, 2:94–6. This is part of the long chapter of wound treatments.

33 Cockayne, *Leechdoms*, 2:327.

34 Cockayne, *Leechdoms*, 2:327.

might simply have seen mechanical operations as outside their remit. Again, sections might, hypothetically, have been deleted or lost from the extant texts, or they may have been lost in transmission. Or, indeed, it might simply be that the compilers or translators of the Old English collections found no such material in their Latin sources.

Surgical Practice in Anglo-Saxon England

To begin with practice, there is little support for the idea that nothing that would count as surgery in modern terms was taking place in Anglo-Saxon England. Charlotte Roberts lists archaeological evidence for a range of procedures, from trepanation to amputation, and the setting of fractured bones.³⁵ A substantial body of evidence for wounds, their evaluation, and the available treatment in England at this time is also provided by the corpus of Anglo-Saxon royal legislation.³⁶ From the beginning, Anglo-Saxon law prescribed a *wergild*, or “man price,” for members of each social status, as well as a series of compensation payments and fines (*bot*, “remedy,” and *wite*, “punishment”)³⁷ for various injuries to and attacks on another person. These injury tariffs are a feature of “feud-centered” law, which sought to provide compensation as an alternative to retribution by the kin or associates of the injured party. The motivation behind this “compensation culture” was twofold: the king had an interest as ruler in maintaining peace and social stability in his kingdom, and as recipient of the fines he also had a financial interest in the system of payments.³⁸ The legislation concerning injury appears to be based in a good understanding of anatomy, as well as a realistic evaluation of the extent to which an injury might cause physical handicap or disfigurement or prevent a person from fulfilling their daily activities.

The very first Anglo-Saxon law code, that of King Æthelberht of Kent (c. 560 to 616) lists an ascending series of compensations for a wound to the abdomen, based on the degree of the injury and whether attention is required (Table 6.1).

35 Roberts, “Surgery,” 446. Nevertheless, she concludes that, “the practice appeared to be infrequent.”

36 The law codes are edited by F. Liebermann, *Die Gesetze der Angelsachsen*, 3 vols. (Halle: Niemeyer, 1903). The standard work on Anglo-Saxon law is: Patrick Wormald, *The Making of English Law: King Alfred to the Twelfth Century*, vol. I: *Legislation and its Limits* (Oxford: Blackwell, 1999). On the body in early medieval law more widely, see: Lisi Oliver, *The Body Legal in Barbarian Law* (Toronto: Toronto University Press, 2011).

37 Wormald defines *wite* as “a fine [paid] to the king,” *Making of English Law*, 103.

38 Wormald, *Making of English Law*, 105.

TABLE 6.1 *Laws of King Æthelberht*³⁹

Chapter 61	<i>Gif hrifwund weorðeþ, xii scill' gebete.</i>	If the belly is wounded, 12 shillings is to be paid as compensation.
Chapter 61.1	<i>Gif he þurhðirel weorðeþ, xx scill' gebete.</i>	If it is pierced through, 20 shillings is to be paid as compensation.
Chapter 62	<i>Gif man gegemed weorðeþ, xxx scill' gebete.</i>	If someone is cared for [for the injury], 30 shillings is to be paid as compensation.
Chapter 63	<i>Gif man cearwund sie, xxx scill' gebete.</i>	If someone is sorely wounded, 30 shillings is to be paid as compensation.

Chapter 62 states if a person is looked after (*gegemed*) for the wound,⁴⁰ the compensation is to be thirty shillings, equivalent to the sum for a serious wound (*cearwund*). To judge by the previous chapter, this would have been a wound in which the weapon had gone right through the belly (*þurhðirel*), in which case the appropriate care would certainly have included mechanical methods such as suturing, in addition to salves, poultices, or similar applications. The extra compensation in this case might be partly to pay for the treatment and care of the victim.

In the laws of King Alfred of Wessex (871–99), one of the largest sums of compensation, 100 shillings, is levied upon anyone who has so injured a man's neck as to cause loss of control (*geweald*) (possibly some sort of paralysis), and if the man lives, the *witan* could award a more just and greater (*ryhtre 7 mare*) compensation.⁴¹ An earlier chapter of Alfred's law code provides that if an injury to the shoulder is so great that *liðseaw utflowe* (the synovial fluid flows

39 Liebermann, *Die Gesetze*, 1:6.

40 Reading *gegemed*, from *gieman*, “care, correct, notice, observe,” as “look after” *uel sim*. However, at *Leechbook III*, 65, *gegymed* clearly indicates the condition requiring treatment, *lacnian*. Cockayne translates it as “overlooked,” *Leechdoms II*, 353, and the “evil eye” might also be an aggravating factor in law.

41 “Gif mon oðrum ða geweald forslea uppe on þam sweoran 7 forwundie to þam swiðe, þæt he nage þære geweald, 7 hwæðre lifie swa gescended, geselle him mon C scill. to bote, buton him witan ryhtre 7 mare gereccan” [If somebody so greatly injures the tendons on another's neck and wounds him so that he has no strength there, and if he lives so wounded, 100 shilling is to be paid to him as compensation; but the witan may extend to him a more just and greater compensation] (Alf. 77, ed. Liebermann, *Die Gesetze*, 1:88).

out) then the injured party will receive 30 shillings as compensation.⁴² This chapter indicates an anatomical and physiological knowledge one might not expect outside a medical context: that loss of synovial fluid, which prevents friction between the articulation surfaces of the bones, could lead to permanent damage to the joint or long-term pain. This situation is the subject of a substantial series of prescriptions in book one of *BLB*.⁴³ The implication is that kings composing their law codes had expert help in determining the extent of compensation, and that the medical texts are more firmly situated in their contemporary social context than is sometimes allowed.

There are further instances of both anatomical knowledge and surgical procedures in the laws of King Alfred, good evidence that this king was interested in the treatment of bodily ills. He suffered from some form of digestive disorder, and is reported to have consulted multiple physicians in his search for relief.⁴⁴ The earliest Anglo-Saxon manuscript of medical treatises, the *BLB* manuscript, has a chapter of remedies sent from Elias III, Patriarch of Jerusalem (879–907), to King Alfred, the inclusion of which has led some scholars to believe the exemplar of the extant text was either compiled or at least present at the West Saxon court in Alfred's reign.⁴⁵ The account of Alfred's medical condition and the attempts at diagnosis and treatment, together with the remedies sent from the East, raise the possibility that the king had an established medical community from which he might have gathered knowledge about the extent of certain injuries. Table 6.2 shows the laws of King Alfred that imply a wound may have required surgery:

Chapters 70 and 70.1 deal with injury to the ribs, where the second part apparently involves a fracture that perforates the skin, risking internal damage. Removal of the broken bone is presumably part of the treatment rather than the original injury. A similar process is described in Chapter 74. In both cases,

42 “Gif mon bið on eaxle wund, þæt þæt liðseaw utflowe, gebete mid xxx scill” [If somebody is wounded in the shoulder, so that the synovial fluid flows out, compensate at 30 shillings] (Alf. 53, ed. Liebermann, *Die Gesetze*, 1:80).

43 Cockayne, *Leechdoms* 2:132–4.

44 “quando vero et aetate erat provecior et incessabilius die noctuque, immo omnibus istius insulae medicis incognitis infirmitatibus ... occupatus, immo etiam perturbatus” [For when he was older and more incessantly preoccupied by day and night with – or rather harassed by – all kinds of illnesses unknown to the physicians of this island] (Asser, *Vita Ælfredi regis*, 25). Asser's *Life of King Alfred Together with the Annals of St Neots Erroneously Ascribed to Asser*, ed. W.H. Stevenson (Oxford: Clarendon, 1959), 21; and *Alfred the Great: Asser's Life of King Alfred and Other Contemporary Sources*, trans. Simon Keynes and Michael Lapidge (London: Penguin, 1983), 76.

45 Keynes and Lapidge, *Alfred the Great*, 34.

TABLE 6.2 *Laws of King Alfred*⁴⁶

Chapter 70	<i>Gif mon oprum rib forslea binnan gehaldre hyde, geselle × scill to bote.</i>	If someone breaks another's rib without breaking the skin, 10 shilling shall be given as compensation.
Chapter 70.1	<i>Gif sio hyd sie tobrocen, 7 mon ban ofado, geselle xv scill to bote.</i>	If the skin is broken and bone is removed, 15 shillings shall be given as compensation.
Chapter 74	<i>Gif hie mon inbeslea 7 mon ban ofado, geselle mon ðæs to bote mid xv scill.</i>	If anyone hacks into it [the shoulder, the subject of Chapter 73], and bone is removed, 15 shillings shall be given as compensation for it [in addition to the 20 shillings for the shoulder damage].
Chapter 75	<i>Gif mon ða greatan sinwa forslea, gif hie mon gelacnian mæge, þæt hio hal sie, geselle xii scill to bote.</i>	If the large sinew is damaged, if it can be treated medically so that it heals, 12 shillings shall be given as compensation.

specialist attention would no doubt be needed; removal of bone is better not undertaken by anyone inexperienced in such procedures. In chapter 75, too, treatment is required before compensation is determined. If this chapter does not also deal with the shoulder, *ða greatan sinwa* might be a tendon in the leg, such as the Achilles tendon or the hamstring, which would require repair to prevent permanent disability. *Leechbook III* has a treatment for such an eventuality, using a poultice (or possibly a dry application) of pounded earthworms.⁴⁷ Sinew repair also appears in a bloodletting context in *BLB*, this time by means of a salve containing wax and pitch.⁴⁸

This evidence suggests that anatomical and surgical knowledge was drawn on in composing the law codes,⁴⁹ and it would certainly be necessary for treating wounds in accordance with their tariffs. This knowledge can be traced as far back as the earliest Anglo-Saxon law codes, written down shortly after the

46 Liebermann, *Die Gesetze*, 1:86.

47 *BLB* Chapter 34b, Cockayne, *Leechdoms*, 2:328.

48 Book 1, chapter 72f, Cockayne, *Leechdoms*, 2:148.

49 There was a similar relationship between medical practice and law in medieval Ireland and Spain. See: Charlene M. Eska, "The Mutilation of Derbforgaill," and Carmel Ferragud, "Wounds, Amputations, and Expert Procedures in the City of Valencia in the Early-Fifteenth Century," in this volume, 252–64 and 233–51, respectively.

arrival of St. Augustine in AD 597 and the conversion of the King Æthelberht. It is likely that penalties for injuries existed even before the codification of the laws in writing,⁵⁰ and this tradition of injury tariffs in Anglo-Saxon legislation can be traced through to the reign of King Alfred. Later Anglo-Saxon kings added no further laws penalizing injuries, but it is unlikely that no such compensation was necessary. The existing legislation may simply have remained in force through the turbulent (and less turbulent) reigns of the tenth and eleventh centuries. Edward the Elder (899–924) decreed that the laws of his father Alfred would still be upheld in his reign, “7 hit on ðære dombec stande” [as it stands in the law book],⁵¹ and subsequent kings may have pursued the same policy.

The idea that surgery was not practiced in Anglo-Saxon England therefore seems increasingly implausible, and the correspondences between the medical literature and legal provisions also make it unlikely that the medical texts were purely intellectual exercises, divorced from the practical reality of their surroundings. Indeed, there is a specific connection between Anglo-Saxon law codes and the medical texts, as both were disseminated in the vernacular, and one code, the Alfred–Ine *domboc*, was copied into a manuscript that also included medical remedies.⁵² It has been suggested that medical texts were translated into Old English because practitioners would not have been trained to read Latin,⁵³ that is, they might have fallen into the group, envisaged by King Alfred, who would be trained to read and write in the vernacular, but not educated in the language of the Church.⁵⁴ Anglo-Saxon law codes were written in the vernacular from the beginning which would have made them more acces-

50 Wormald, *Making of English Law*, 96.

51 I Edward 1, Liebermann, *Die Gesetze*, 2:138–40.

52 London, British Library, Cotton Otho MS B. xi. The remedies were lost at some time before the Ashburnham House fire in 1731, but they survive in an early modern transcript by Lawrence Nowell: London, British Library, Additional MS 43703, 261r–64v.

53 See for instance: Cameron, *Anglo-Saxon Medicine*, 19.

54 King Alfred's preface to his translation of Pope Gregory's *Regula pastoralis* implies a two-tiered system of learning: “ðæt eall sio gioguð ðe nu is on angelcynne friora monna ðara ðe ða speda hæbben ðæt hie ðæm befeolan mægen sien to liornunga oðfædte, ... oð ðone first ðe hie wel cunnen Englisc gewrit arædan: lære mon siððan furður on lædengediode ðe ða mon furðor læran wille 7 to hieran hade don wille” (Oxford, Bodleian Library, Hatton 20) [that all the free-born young men now in England who have the means to apply themselves to it, may be set to learning, ... until the time that they can read English writings properly. Thereafter one may instruct in Latin those whom one wishes to teach further and wishes to advance to holy orders] (Keynes and Lapidge, *Alfred the Great*, 126).

sible if they were read aloud; indeed, reading the law books in order to dispense justice correctly was Alfred's reason for having thegns, reeves, and ealdormen trained to read in English.⁵⁵ This emphasis on the vernacular is justified in the preface to Alfred's law code, in which he associates his own program of translation with the Greeks and Romans who had rendered "divine law" in their own native language.⁵⁶ Whether such lofty explanations apply to the medical texts, however, is less clear. Even a physician *au fait* with Latin would find it easier to navigate and work from a recipe collection in a language familiar from childhood, and the same would also apply to someone using the law codes to dispense justice. It seems likely that both law codes and medical texts originate in a milieu producing texts in English for practical use.

The laws reveal some of the social contexts in which wounds were treated in Anglo-Saxon England and the likelihood that surgical techniques were involved. Alfred's educational campaigns also provide a context for medical texts in the vernacular and link them with the social contexts of treatment. This makes it implausible that the texts lack surgery because they were mere academic exercises, and it is likewise unlikely that surgery has simply been lost from our texts. There are indeed sections missing from *BLB*, but this is obvious from the table of contents; if specific surgical sections were missing, that would

55 "ita ut mirum in modum illiterati ab infantia comites pene omnes, praepositi ac ministri literatoriae arti studerent, malentes insuetam disciplinam quam laboriose discere, quam potestatum ministeria dimittere" (Asser, *VÆR*, 106, ed. Stevenson, *Asser's Life of King Alfred*, 94) [As a result nearly all the ealdormen and reeves and thegns (who were illiterate from childhood) applied themselves in an amazing way to learning how to read, preferring rather to learn this unfamiliar discipline (no matter how laborious) than to relinquish their offices of power] (Keynes and Lapidge, *Alfred the Great*, 110).

56 "Ða gemunde ic hu sio æ wæs ærest on Ebriscgeðiode funden, ond eft, ða ða hie Creacas geliornodon, ða wendon hie hie on heora agen geðiode ealle, ond eac ealle oðre bec. Ond eft Lædenware swæ same, siððan hie hie geliornodon, hie hie wendon ealla ðurh wise wealhstodas on hiora agen geðiode. Ond eac ealla oðræ Cristnæ ðioda sumne dæl hiora on hiora agen geðiode wendon. For ðy me ðyncð betre, gif iow swæ ðyncð, ðæt we eac sumæ bec, ða ðe niedbeðearfosta sien eallum monnum to wiotonne, ðæt we ða on ðæt geðiode wenden ðe we ealle gecnawan mægen, ond gedon, swæ we swiðe eaðe magon mid Godes fultume ..." (Oxford, Bodleian Library, Hatton MS 20) [Then I remembered also how the divine law was first composed in the Hebrew language, and afterwards, when the Greeks learnt it, they turned it all into their own language, and also all other books. And the Romans likewise, when they had learnt them, turned them all through learned interpreters into their own language. Therefore it seems better to me, if it seems so to you, that we also should turn into the language that we can all understand some books, which may be most necessary for all men to know; and bring it to pass, as we can very easily with God's help ...] (Keynes and Lapidge, *Alfred the Great*, 126).

be obvious too.⁵⁷ *Leechbook III* and most of the Old English *Herbarium* manuscripts also have *capitula*, so it is clear that they are (at least on their own terms) complete. The *Lacnunga* does not, but its contents have clearly been assembled in different ways and at different times (and no doubt by different people),⁵⁸ so it is hard to say what *should* be included other than what is. In any case, it is implausible that a particular class of material should have been lost differentially from all the extant collections, unless there had been a concerted campaign to excise it. Leaving aside the possible reasons for such a campaign, it is not clear by what authority it might be conducted.

Nor does it seem likely that the absence of surgical techniques is simply due to the dependence, direct or indirect, of Anglo-Saxon medicine on classical or sub-classical models from outside England, notably the pseudo-Apuleian *Herbarium* complex, which themselves are largely pharmaceutical. The exploration above of the “syringe” passage shows that some surgical content, if not a wide range or a substantial amount, was available to the compilers and translators, possibly from multiple sources. As Linda Voigts showed over forty years ago, the contents of the Old English collections, with the exception of the *Herbarium*, have been selected and adapted, not merely copied, from their sources.⁵⁹ If particular biases are detected in the Old English collections, these can be attributed to their compilers’ own preferences, and, thus, we must conclude that they had their own reasons for largely excluding surgical techniques.

Professional Boundaries

We now need to consider what those reasons might have been, whether Anglo-Saxon physicians considered “manual labor” beneath them or simply outside their remit. If that was the case, it is not clear who is envisaged by the law codes as removing the splintered bone, suturing the wounds, or binding the damaged ligaments. If it was not the same physician whom the written medical sources direct to apply salves or poultices to wounds, perhaps surgical treatment in Anglo-Saxon England was performed by people other than physicians, possibly field surgeons, whose training may have been practical rather than

57 This was noticed by Cockayne, who inserted material from Harley MS 55 to make up some of the losses, *Leechdoms*, 2:280–8.

58 On compilation, see: Pettit’s “Introduction” to his *Anglo-Saxon Remedies*, 1: esp. li–liv.

59 Linda Ehrsam Voigts, “Anglo-Saxon Plant Remedies and the Anglo-Saxons,” *Isis* 70 (1979): 250–68.

text-based.⁶⁰ There must have been local “informal” practitioners in early medieval England, and such people could have treated the mishaps of their neighbors, with both drugs and mechanical methods, without any claim to specialist status.⁶¹

Wound treatment in the Classical period could be undertaken by a trained physician and there was no separate category for surgeon: indeed, the first *medicus* in Rome is said to have been a wound specialist (*vulnerarius*).⁶² Galen saw surgery as one of three areas of therapeutics, along with pharmacology and dietetics, that fell within the remit of the *iatros*,⁶³ and he himself gained his experience partly by treating injured gladiators.⁶⁴ In early medieval Europe, Valerie Flint’s work has revealed a wider range of healers – physicians, saints, and “enchanters” – but surgeons are still nowhere to be seen.⁶⁵ Surgeons, as a self-conscious and clearly defined body of practitioners, only emerged from a long struggle with university-educated physicians and licensing authorities.⁶⁶ In the later Middle Ages, surgeons did not even have surgery to themselves: barbers might serve as battlefield surgeons as well as undertaking

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- 60 The training of physicians in early medieval England was probably much more like an apprenticeship than the theoretical education provided by the later universities. For what little is known of Anglo-Saxon medical training, see: Anne van Arsdall, “Medical Training in Anglo-Saxon England: An Evaluation of the Evidence,” in *Form and Content of Instruction in Anglo-Saxon England in the Light of Contemporary Manuscript Evidence*, ed. Patrizia Lendinara, Loredana Lazzari, and Maria Amalia D’Aronco (Turnhout: Brepols, 2007), 415–34.
- 61 For a survey of late Anglo-Saxon medical practice, see: Audrey Meaney, “Medical Practice in England about the Year 1000,” *Social History of Medicine* 13.2 (2000): 221–37.
- 62 G. Majno, “The Medicus,” in his *The Healing Hand: Man and Wound in the Ancient World* (Cambridge, MA: Harvard University Press, 1975), 339–94, at 339–40.
- 63 Philip J. van der Eijk, “Therapeutics,” in *The Cambridge Companion to Galen*, ed. R.J. Hankinson (Cambridge: Cambridge University Press, 2008), 283–303, at 284.
- 64 Julius Rocca, “Anatomy,” in *The Cambridge Companion to Galen*, ed. Hankinson, 242–62, at 244–5.
- 65 V.J. Flint, “The Early Medieval Medicus, the Saint – and the Enchanter,” *Social History of Medicine* 2.2 (1989): 127–45.
- 66 For universities, see: Michael McVaugh, *The Rational Surgery of the Middle Ages* (Florence: SISMEL/Edizioni del Galluzzo, 2006). For the late medieval “medical marketplace” in England, see Carole Rawcliffe, *Medicine and Society in Later Medieval England* (Stroud: Alan Sutton, 1995), and, for surgeons, 125–47; and also Robert Ralley, “Medical Economies in Fifteenth-Century England,” in *Medicine and the Market in England and its Colonies, c. 1450–c. 1850*, ed. Mark S.R. Jenner and Patrick Wallis (New York: Palgrave Macmillan, 2007), 24–46.

routine procedures like bleeding and tooth pulling.⁶⁷ The development of surgery as a professional practice between antiquity and the end of the Middle Ages can, thus, be seen as part of a process of increasing fragmentation, from a single unified medical profession (although Galen's formulation may not be free from polemical intent) to an arena of intense competition, with different groups fighting for control of what each saw as their own traditional sphere of activity. Exactly how early medieval England fits into this development is hard to determine; if the medical texts were the property of trained physicians (whatever their training may have comprised), anything omitted may have belonged to other groups. But the multiplicity of pharmaceutical treatments for wounds in the medical compilations shows that wounds could be treated by the people who used these books, and Flint's continental evidence suggests that competitors employed supernatural, rather than mechanical, methods.

There is further evidence from the Anglo-Saxon laws that wound treatment fell within the purview of the *læce*. The preface to Alfred's law code includes a passage from Exodus (21:18–19), which, in both the original Latin of the Vulgate and the translation, requires the offending party to obtain the services of a doctor. The Vulgate law reads:

si rixati fuerint viri et percusserit alter proximum suum lapide vel pugno et ille mortuus non fuerit sed lacuerit in lectulo si surrexerit et ambulaverit foris super baculum suum innocens erit qui percussit ita tamen ut operas eius et inpensas in medicos restituat.

[if men have quarreled and one has struck his neighbor with a stone or with a fist, and he does not die but has lain in bed, if he has got up and walked outside on his staff, the one who struck the blow is not guilty, except that he should reimburse him for his work and the doctors' charges].

The Old English translation is slightly different: "Gif hwa slea his ðone nehstan mid stane oððe mid fyste, 7 he þeah utgongan mæge bi stafe, begite him læce 7 wyrce his weorc ða hwile þe he self ne mæge" [If anyone strikes his neighbor with a stone or with a fist, and he [the neighbor] can still walk out with a staff, let him get a doctor and perform his [neighbor's] work while he himself is unable to].⁶⁸ The translation provides evidence that vernacular translators

67 For the "barber-surgeon," see: Faye Getz, *Medicine in the English Middle Ages* (Princeton: Princeton University Press, 1998), 8–9.

68 Cambridge, Corpus Christi College MS 173, fols. 35v/36r; transcription CBV, translation DB.

used the term *læce* as equivalent to *medicus*. But perhaps more importantly, the translation changes the Vulgate's context of medical care following injury, suggesting that, in Anglo-Saxon England, someone who had hurt a neighbor in a quarrel might be able to call upon a medical professional but that money might not change hands. Even by Alfred's time, this passage suggests, England had only a partly monetized economy, in which the perpetrator would have to do the victim's work himself rather than pay a third party to do it. The *læce* would presumably have to be fed and housed while treatment was in progress, but there is no mention of a fee. What the translator does not change, however, is the assumption that such specialists were normally available, and that the treatment of injuries was part of their job.

Disciplinary Boundaries

Thus, it was not a question of separate "professions" of physician and surgeon, then, as would be the case in later medieval England.⁶⁹ Nor was it a matter of separate texts: there are no Anglo-Saxon surgical writings, either in Latin or the vernacular, to place alongside the *physica* of *BLB*, *Leechbook III*, the Old English *Herbarium*, and the *Lacnunga*. The *Chirurgia* of Roger Frugard was probably the earliest surgical compilation from medieval Europe (c. 1180), and also, in a French version, the earliest to reach England.⁷⁰ There is no evidence that this new material provoked unease about "manual labor" among early medieval physicians or fear of losing their educated or genteel status. The earliest illustrated manuscript of the French *Chirurgia* was prefaced with scenes of consultation *ex cathedra* and at the bedside, and with the preparation of

69 Rawcliffe, *Medicine & Society*, 105–47.

70 The Latin text is edited by Karl Sudhoff, "Die Chirurgie von Roger Frugardi von Salern," in his *Beiträge zur Geschichte der Chirurgie im Mittelalter*, vol. 2 (Leipzig: Johann Ambrosius Barth, 1918), 148–236, and discussed comprehensively in Helen Valls, "Studies on Roger Frugardi's *Chirurgia*," (D.Phil thesis, University of Toronto, 1995). See: Tony Hunt, *Anglo-Norman Medicine*, vol. 1, *Roger Frugard's Chirurgia and the Practica brevis of Platearius* (Cambridge: D.S. Brewer, 1994), 5–8, for the French. For the reception of surgical texts and ideas in later medieval England, see: Peter Jones, "John of Arderne and the Mediterranean tradition of scholastic surgery," in *Practical Medicine from Salerno to the Black Death*, ed. Lius García-Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham (Cambridge: Cambridge University Press, 1994), 289–321. Cf. Larissa Tracy and Kelly DeVries, introduction to this volume, "Penetrating Medieval Wounds," 1–21, at 11; and Tracy, "Into the hede, throw the helme and creste," 509.

drugs,⁷¹ but this is a way of fitting a new discipline (surgery) into a category (medicine) already familiar to readers. The manual procedures that the text describes are illustrated later in the manuscript, so the prefatory miniatures cannot constitute an attempt to conceal the true nature of the text. There is no reason to suppose that anxieties about loss of status, characteristic of the later medieval “medical marketplace,” were an issue in early medieval England.

Explicit and ‘Tacit’ Knowledge

Thus, none of the suggested explanations for the absence of surgery from the Old English medical texts receives much support from the other evidence. On the contrary, it looks increasingly likely that wounds were, in fact, treated by surgical means in Anglo-Saxon England, and that trained physicians carried out this work and had no qualms about doing so. Nothing appears to have been lost from the texts, and the compilers, who seem to have been in touch with the realities around them, could have included surgical material had they so chosen. The “syringe” passage discussed above represents a rare example in the Old English medical corpus of detailed instructions for any kind of mechanical procedure. Far more typical is a direction to simply “make a drink,” or a salve, the assumption being that the reader or practitioner knows how this is to be done. Occasionally, we are told this explicitly: *swa læcas cunnon* “as physicians know how” (*BLB* II, 20b and 28d),⁷² or even *swa coccas cunnan* “as cooks know how” for a pottage (*BLB* II, 26a).⁷³ What the practitioner needs to be told is what ingredients to use, and what conditions the preparation is good for. Only when a procedure is unfamiliar, as in the case of draining the liver swelling, is it necessary to explain in any detail how to do it. Treatments for wounds, as the laws illustrate, were commonplace, widely available, and no doubt taught by practice. There was no need, therefore, for instructions in books, which are, in any case, unlikely to have been handy in an emergency, or on the battlefield. Most of the time, it must have been abundantly clear what kind of treatment was needed (to stop the bleeding, for example),⁷⁴ and the experienced practitioner would know how to carry it out. Only when a new treatment, such as draining a swelling, was introduced, did it need to be described

71 Cambridge, Trinity College MS O.1.20 (s. xiii^{med}), folio 240r, reproduced by Tony Hunt, *The Medieval Surgery* (Woodbridge: Boydell Press, 1992), frontispiece.

72 Cockayne, *Leechdoms*, 2:202 and 224–6.

73 Cockayne, *Leechdoms*, 2:220.

74 *BLB* 2:72b–e, Cockayne, *Leechdoms*, 2:148.

Anne van Arsdall has argued convincingly that the Old English medical texts, with their emphasis on what the practitioner needs to do, rather than how to do it, must have been used by a group of people who constituted a “thought collective,” in that they shared a body of “tacit knowledge” necessary to fill out the explicit knowledge conveyed by the texts.⁷⁵ In this respect, the Old English texts did not differ significantly from the Latin medical literature upon which they drew: that too required a good deal of tacit knowledge from a reader wanting to use it for practical instruction. It has been argued that the “thought collective,” or textual community, creating and using the Old English medical texts was a fairly small one, a group of people, teachers and pupils, who all knew each other, at least indirectly,⁷⁶ but this cannot have been true of the creators and users of the Latin medical literature, who, to judge by the surviving manuscripts, were spread across western Europe, and even further afield.⁷⁷ The reason such a large and scattered group of people were able to share a body of tacit knowledge must be that they shared a similar training, during which they acquired a technical vocabulary, a set of shared assumptions about what certain words meant in a medical context.⁷⁸ Conan T. Doyle has argued that Old English, too, possessed a technical medical vocabulary,⁷⁹ and the existence of a textual community that shared tacit assumptions about

75 Anne van Arsdall, “The Transmission of Knowledge in Early Medieval Medical Texts: An Exploration,” in *Between Text and Patient: The Medical Enterprise in Medieval and Early Modern Europe*, ed. F. Eliza Glaze and Brian K. Nance, Micrologus Library 39 (Florence: SISMEL/Edizioni del Galluzzo, 2007), 201–15.

76 Debby Banham, “Dun, Oxa, and Pliny the Great Physician: Attribution and Authority in Old English Medical Texts,” *Social History of Medicine* 24 (2011): 57–73.

77 For the manuscripts and their provenance, see: Augusto Beccaria, *I codici di medicina del periodo presalernitano (secoli IX, X e XI)*, Storia e letteratura 53 (Rome: Edizioni di Storia e letteratura, 1956).

78 For training, see: Isabella Andorlini, “Teaching Medicine in Late Antiquity: Method, Texts and Contexts,” in *Form and Content of Instruction in Anglo-Saxon England in the Light of Contemporary Manuscript Evidence*, ed. Patrizia Lendinara, Loredana Lazzari, and Maria Amalia D’Aronco (Turnhout: Brepols, 2007), 401–14; and for technical language, D.R. Langslow, *Medical Latin in the Roman Empire* (Oxford: Oxford University Press, 2000), especially chapter 1.

79 C.T. Doyle, “Anglo-Saxon Medicine and Disease: A Semantic Approach” (Ph.D. dissertation, University of Cambridge, forthcoming). For vernacular textual communities in pre-Conquest England, see: Elaine Treharne, “Textual Communities (Vernacular),” in *A Social History of England 900–1200*, ed. Julia Crick and Elisabeth van Houts (Cambridge: Cambridge University Press, 2011), 341–51, although the definition given by Teresa Webber, “Textual Communities (Latin),” in the same volume, 330–40, at 330, suits our purposes better.

the specialized meanings of Old English words in a medical context would certainly help to explain the absence from our texts of detailed practical instructions.

At the level of the individual recipe, explicit and “tacit” information can interact in a fairly intricate manner in Old English medical texts. The typical format of remedies in the Anglo-Saxon medical corpus is to first establish the disease or disorder being treated, e.g. *wip fotece* “for foot-ache” (*BLB* 1:37, 3), immediately followed by a list of ingredients, “genim ellenes leaf 7 wegbrædan 7 mucgwyrt” [take elder leaf and plantain and mugwort] and minimal instructions as to the preparation and use of the concoction “gecnuwa. lege on 7 gebind on” [pound, apply, and tie on].⁸⁰ The packaging of this information assumes a high level of knowledge on the part of the intended reader (the medically trained individual), providing very little new information in the way of number, amount, or measurements of ingredients. Preparation instructions are also minimal (“grind”). These linguistic elements present what is known as “old information” or information that is assumed to be known previously to the reader and, thus, “contributes the least to the development of a communication.”⁸¹

In her 1981 study of the basic divisions of information, Eileen Prince developed a scale of information types based on levels of “assumed familiarity”⁸² on the part of the reader. When information is introduced as new, it is assumed to be unfamiliar to the reader and thus codified linguistically so as to guide the reader’s understanding. When information is assumed to be familiar to the reader, it is presented in a way that expects that the reader can draw the extra information needed from something either previously learned (“situationally evoked,” frequently extra-textual) or previously read (“textually evoked”).⁸³ The Anglo-Saxon medical remedies like that presented above would fall under Prince’s category of “most assumed familiarity/situationally evoked” as the information assumes (1) previous diagnosis of the problem to be treated, (2) knowledge of *materia medica*, (3) understanding of appropriate amounts and proportions of the ingredients for a single dose or a drink to be stored for repeated use, (4) detailed experience of preparation techniques, and 5) familiarity with exact means of application.

80 Cockayne, *Leechdoms* 2:68.

81 William Vande Kopple, “Something Old, Something New: Functional Sentence Perspective,” in *Rhetoric and Composition*, ed. Richard Graves (Upper Montclair: Boynton/Cook, 1984), 172–85.

82 This is a technical term in this field; see Table 6.3.

83 Eileen Prince, “Towards a Taxonomy of Given–New Information,” in *Radical Pragmatics*, ed. P. Cole (New York: Academic Press, 1981), 223–55.

TABLE 6.3 *Scale of information types based on levels of assumed familiarity*

No assumed familiarity					Most assumed familiarity	
Brand-new	Brand-new anchored	Inferrable	Containing inferrable	Unused	Textually evoked	Situationally evoked

The following example of wound treatment in *BLB* also falls into the category of “situationally evoked” information: “Æfter þon læcnige mon þa dolh swa þu þone dæl þe þonne git hwilce hwega gefelnesse hæbbe. 7 eallunga deade ne synd” [After that, one should treat the wound as you would that part which still has feeling and is not entirely dead] (*BLB* 2:35.6). This section of the chapter follows instructions to cut away the deadened flesh after an infection; so much of the extra information has already been supplied. Yet it still relies on the reader having the requisite understanding of this type of medical situation: “treat the wound as you would ...”

This is one of the few sections that specify the surgical removal of flesh by cutting (*asniþan*), and it is followed by the instructions for amputation mentioned above:

Gif þu wille lim aceorfan oððe asniðan of lichoman þonne gesceawa þu hwilc sio stow sie. 7 þære stowe mægen. forþonðe þara stowa sum raþe rotaþ gif hire mon gimeaslice tilað. sume lator felað þara læcedoma sume raþor. gif þu scyle aceorfan oððe asniþan unhal lim of halum lice þonne ceorf þu þæt on þam gemære þæs halan lices. ac micle swiþor snið oððe ceorf on þæt hale 7 þæt cwice lic swa þu hit sel 7 raþor gelacnost.

[If you want to cut or amputate a limb from the body, then examine the place, and the strength of the place; because if they are carelessly treated, some places quickly putrefy; some feel the treatment later, some sooner. If you have to cut or amputate an unhealthy limb from a healthy body then you cut at the limit of the healthy body, but cut or amputate much more in the healthy and living body, so that you heal it better and sooner] (*BLB* 1:35h).⁸⁴

84 Cockayne, *Leechdoms*, 1:84.

In this case, the writer has established that the reader is capable of performing an amputation (“textually evoked” information) but is aware that a limb becoming putrid (“situationally evoked”) is a negative result of amputation. The phrase “some feel the treatment later, some sooner” may refer to the perceived pain level of the patient or the response of the limb to healing, but it suggests that the reader knows which it is. Perhaps the only section of this paragraph that does not rely entirely on previously assumed knowledge is the last sentence. While the writer has established a situational familiarity on the reader’s part with the expectation that the physician can perform an amputation, the recommendation to cut into the healthy part of the body is considered “unused” information: it is new to the discourse but deemed to be familiar to the reader. In short, while it is assumed that the reader is familiar with surgical procedures (the cutting of the flesh, the sawing of bone, tying off of vessels, etc.), and the writer relies on the reader’s ability to tell healthy from unhealthy flesh, it is not assumed that s/he already knows where in relation to “the healthy body” the cut should be made.

Conclusions

Most mechanical processes, whether surgical or pharmacological, were excluded from the medical texts because they were too familiar to need writing down, being part of the body of knowledge transmitted by non-textual means. The *læce* called in to evaluate injuries resulting from an assault would know not only what procedures were appropriate for treatment, but also how to carry them out if necessary. The appropriate treatment might very well include surgical techniques, but only if they were very obscure would the practitioner need to consult a book for instructions. A practitioner who could rely on practical experience, without having to refer to a text, would be able to operate more quickly and efficiently and probably inspire confidence in the patient.⁸⁵ If a salve or potion was called for, on the other hand, the ingredients might have to be looked up, even if the method of preparation was familiar. Few practitioners would be able to keep more than a handful of recipes in their head, but mechanical procedures would be fairly few in number, and general experience in their use would be helpful even in unfamiliar situations. The paucity of surgery in the medical texts, even among wound treatments, should not be allowed to create the impression that salves and potions were the only, or even

85 The experience of modern patients is ambivalent on the question of whether the use of reference works increases or undermines confidence in a medical professional.

the main, means of caring for wounds and injuries in Anglo-Saxon England. The evidence shows that surgical techniques were also of major importance, even though they lay outside the purview of the surviving texts.