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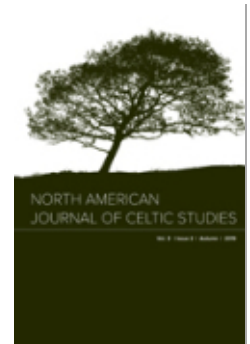
A short tract on medicinal uses for animal dung

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North American journal of Celtic studies, Volume 3, Number 2, 2019,  
pp. 111-136 (Article)

Published by The Ohio State University Press

DOI: <https://doi.org/10.26818/nortamerceltstud.3.2.0111>



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# A short tract on medicinal uses for animal dung

RANKE DE VRIES

**ABSTRACT:** This article contains a semi-diplomatic edition of a short, hitherto unedited, Early Modern Irish text which can be found in the fifteenth-century manuscript TCD 1343, pp. 113–114. The text in question provides recipes for simple medicines containing the dung of a variety of animals: goats, sheep, dogs, cows, bulls, mice, ducks, swallows, doves, and chickens. It is found roughly seven pages after Tadhg Ó Cuinn’s *An Irish materia medica*, edited by Micheál P. S. Ó Conchubhair, and contains references to the second book of Avicenna’s *Canon of medicine*. The two most pertinent capita from (a Latin version of) Avicenna have been transcribed and translated in an appendix.

**KEYWORDS:** Early Modern Irish medical tracts, Avicenna, *Liber aggregatus de medicinis singularibus*, TCD MS 1343, zootherapy, textual edition

## Introduction

Manuscript TCD 1343 is a composite manuscript dated to the fifteenth century, made up of a variety of medical tracts. Part of the medical material in this manuscript has been edited by Micheál P. S. Ó Conchubhair, but at present, a considerable amount of it remains unedited. The text that forms the subject of the present article is a brief tract

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I would like to thank the Board of Trinity College Dublin and Dr. Jane Maxwell of the Manuscripts and Archives Research Library of Trinity College Dublin for granting me permission to edit this text. I am also grateful to the anonymous peer reviewers for their helpful comments, and to Prof. Edward Carty and Dr. Donna Trembinski for their suggestions regarding some of the Latin translation. Any remaining errors are my responsibility.

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*North American journal of Celtic studies* Vol. 3, No. 2 (November 2019)  
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found on pp. 113–114. The manuscript has three scribes; the scribe of our fragment is Uilliam Ó Finnghaine, who wrote pp. 1–46, 111–114, and 145–188.<sup>2</sup>

Our text, which is untitled in the manuscript, concerns itself with simple medicinal recipes. Medieval medicine distinguished between simple and compound medicines. Simple medicines tended to have few ingredients, generally taking one type of plant, mineral, or animal matter, and combining it with other basic raw materials, e.g., lard, wax, or vinegar, required in order to make the medicine into a poultice or to prepare it for consumption. Compound medicines were made up of a variety of simple medicines, and could, in turn, be further compounded. The Irish version of Gualterus de Dosibus, edited in 1938 by Shawn Sheahan, explains that, according to Avicenna, *leighis aenda* ‘simple medicines’ are *na leigis ag a fuilid oibrighiti uilidhi no rannaidhi, no oibrighiti cosmaile re h-oibrighitibh uilidhi. Oibrighiti uilidhi mar teghadh, fuarad, innarbad, tarraing, a cosmaile* ‘those with general or local actions, or actions resembling general actions: general actions such as heating, cooling, evacuating, drawing, and the like’ (GD 46–47). In other words, simple medicines either do one specific thing; cure one specific ailment; or are generally good for the body. Compound medicines, on the other hand, have *breitemneas ag an legeas comsuigighiti o na leigheasaibh aenda, agus breitemneas ona foirm uilidhe* ‘character from the simples and character from the entire form’ (GD 48–49), that is to say, the medicine combines the properties of the individual medicines that make up the compound medicine, and the compound medicine itself has specific properties, as well (the whole being more than merely the sum of its parts).

The simple recipes in the Irish tract edited below all have animal dung as their main component, which falls under the broader topic of zootherapy, i.e., the use of any animal matter in medicine.<sup>3</sup> The use of zootherapy is quite ancient. A famous example is found in the Kahun gynaecological papyrus, dated to ca. 1800 BCE, which contains a reference to the use of crocodile dung, which may have been used as a form of contraception.<sup>4</sup> In classical antiquity, notable works that included various uses of animal matter include the *Historia plantarum* (originally *Περὶ φυτόων ἱστορία*) by Theophrastus (370–287 BCE); *Naturalis historia* by Pliny the Elder (23–79 CE); Book II of Dioscorides’ *De materia medica* (originally *Περὶ ὕλης ἰατρικῆς*, second half of the first century CE, which was very influential on later works, and which contains a section on dung (entry 98)); and *De simplicibus* by Galen (129–210 CE). The various recipes inherited from classical antiquity were then adopted

<sup>1</sup> The edition by Ó Conchubhair can be accessed on the CELT website via the following link: <https://celt.ucc.ie/published/G600006/index.html> (accessed 23 December 2018).

<sup>2</sup> See the description of the manuscript available on the Irish Script on Screen website: <https://www.isos.dias.ie/> (accessed 5 February 2019).

<sup>3</sup> Animal dung occurs in other medicinal recipes in this manuscript, but not as the main ingredient. I am grateful to Beatrix Färber for pointing me to one such reference in Ó Conchubhair’s edition of *An Irish materia medica*. The passage in question can be found on the CELT website <https://celt.ucc.ie/published/G600006/index.html> (accessed 9 November 2018), §91 on the *consolida minor*, the daisy: *Item, adeir Auicenna an luibh so da briseadh & an t-uisce bhís ‘na comnaigi a mbualtrac bo da cur trit & a cur arna faitnib & icaid iat* ‘Item, Avicenna says if this herb be pounded, and the water that lies in a platt of cow-dung be put through it, and this be put on warts, it will cure them’ (text at 138, translation at 516).

<sup>4</sup> For the text and translation, see Quirke 2002.

and adapted into (and supplemented with) Islamic medicine, and from there made their way into the various vernacular collections of medical treatises in Western Europe.

The use of dried dung in medicines did not cease after the Middle Ages; on the contrary, the use of dung in recipes flourished, and many physicians continued to recommend it.<sup>5</sup> In fact, modern medicine still makes use of fecal matter, particularly human fecal matter, in the form of fecal microbiota transplantation. In this procedure, donor fecal material is turned into a solution that is transplanted to the intestinal tract of a patient suffering from potentially fatal afflictions such as infection with *Clostridium difficile* (*C. diff.*), a bacterium that causes life-threatening inflammation of the colon, and which can occur when a patient's normal gut bacteria have been killed or suppressed by antibiotics (Gupta, Allen-Vercoe, & Petrof 2016: 230). Fecal transplants may also have an effect on certain neurological disorders, including Parkinson's disease and multiple sclerosis, although research on this is as of yet limited.<sup>6</sup>

## Sources

I have, at present, been unable to find another copy of this text as a separate tract.<sup>7</sup> While there are certainly recipes on medicinal uses of dung elsewhere in Irish medical texts,<sup>8</sup> I suspect that the majority of these do not occur in individual tracts, but rather as part of larger collections of simple medicines. Our text itself is quite short, and has been based to an extent on information contained in Book II of the *Canon of medicine* by the immensely influential Persian scholar Avicenna (Ibn Sīnā, 980–1037 CE).<sup>9</sup> This second book, sometimes given the title *Liber aggregatus de medicinis singularibus*, contains simple recipes based on herbal, vegetal, mineral, and animal matter. Our text mentions Avicenna's work a number of times, likely referring to a Latin translation of the Arabic original. As one of the most influential translations was produced in the twelfth or thirteenth century in Venice by Gerard of Cremona,<sup>10</sup> it seems reasonable to suppose that (a version of) this Latin translation was used in Ireland, as well.

<sup>5</sup> For instance, Robert Boyle reportedly thought that cataracts could be treated by blowing powdered dried human excrement into the affected eye (Sugg 2011: 152).

<sup>6</sup> See for example Evrensel & Ceylan 2016.

<sup>7</sup> As the manuscript was likely intended for personal use, it is possible that the individual recipes were abstracted from other works and that no other version identical to this one exists.

<sup>8</sup> See, for example, *Rosa Anglica* (RA), which contains some incidental references to animal dung as part of a list of potential cures for specific diseases, including goat dung, peacock dung, dove dung, and cow dung. The only one of these not mentioned in the text edited below is peacock dung, which in RA is used to cure anthrax or 'felon'—described as a poisonous abscess caused by burnt humours (RA 210–211).

<sup>9</sup> The *Canon* consists of five books; Book I focuses on general principles; Book II on *materia medica*; Book III on diseases of the individual organs; Book IV on general diseases; and Book V on remedies. It was one of the main textbooks used to teach medicine in universities. Note that Book II of the *Canon* was also used in the *Irish materia medica*—see Ó Conchubhair 1994 (2018) for a complete overview of external sources used in that text.

<sup>10</sup> There seem to have been two people who went by the name Gerard of Cremona; the later one, who lived in the thirteenth century, is also referred to as Gerard of Sabloneta, and he is the one identified in

In the textual notes following the edition, I have made extensive use of a digital version of the 1489–1490 edition by Dionysius Bertochus (CMGC 1489) found in the Digital Collections of Yale University Library,<sup>11</sup> which comprises a reworking of Gerard's materials by Arnaldus de Villa Nova (ca. 1240–ca. 1311). This particular edition contains 757 remedies in total. The sections that deal specifically with dung (*stercus*) as the main ingredient are entry 603 (recte 608, but numbered incorrectly in the edited text at 224–225) and entry 609 (recte 614 at 226). These two capita were abstracted from two sections related to dung in the original Arabic text, which, on occasion, differ from the Latin translation.<sup>12</sup> The first of these can be found in §6, no. 27 under the letter *Bā*, *Baʿr al-ḥay-awān* 'animal dung or droppings' (Hameed 1998: 100–101); the second one is no. 4 under the letter *Zā*, *Zibl* 'excreta' (Hameed 1998: 234–236). My transcription and translation of the Latin text of capita 603 and 609 can be found in the appendix below. I have opted to use this particular source, not just because it was readily accessible, but also because it provides an overview of the recipes on dung that would have been known roughly at the time at which our text was written down; moreover, the sections on dung in this version of the text are more extensive than those found in other versions.<sup>13</sup>

Each entry in Avicenna's *Canon*<sup>14</sup> describes the efficacy of each remedy according to a fixed order that is laid out at the beginning of the second book (AV 129). After the names (*nomina*) and an introduction concerning the nature (*natura*; referred to as *cognitiones essentie ipsarum* 'knowledge of the essence of those same things' in the division at 129), effectiveness (*electiones bonitatis*), and description of the qualities (*qualitates*) of the remedy, there is a section on functions and properties (*operationes 7 proprietates*); afflictions related to appearance (*decoratio* 'cosmetics'<sup>15</sup> followed by *apostemata 7 bothor* 'abscesses and pustules'); wounds and sores (*vulnera et ulcera*), joint and nerve afflictions (*egritudines iuncturarum et nervorum*); afflictions of parts of the head (*membra capitis*), parts of the eye (*membra oculi*); afflictions relating to breathing and the chest (*membra anhelitus 7 pecto[ris]*), afflictions dealing with nutrition and digestion (*membra nutrimenti*), excretion (*membra expulsionis*), fevers (*febres*), uses against poisons (*venena*), and other uses

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the Bertochus edition as the translator of Avicenna's work.

<sup>11</sup> <http://findit.library.yale.edu/catalog/digcoll:187915> (accessed 11 December 2018).

<sup>12</sup> For the English translation, see Hameed 1998. A comparison of the differences between the Latin text and the translation in Hameed is beyond the scope of this article.

<sup>13</sup> British Library MS Harley 3744 was written in the early fourteenth to early fifteenth century, for example, but is less useful for the present discussion, as it contains far fewer recipes relating to dung. For the entries on dung, see f. 103<sup>va</sup> ff. and f. 106<sup>b</sup> (the final section of four lines immediately preceding the beginning of the letter *t*). The first of these fragments is roughly the equivalent of caput 603 in the Bertochus edition, or of the text translated in Hameed 1998: 100–101.

<sup>14</sup> All references to Avicenna's work (hereafter AV) here and below are to the 1489–1490 Bertochus edition of the Latin text. References to AV capita 603 and 609 refer to the text edited in the appendix below.

<sup>15</sup> The word *decoratio*, of course, means 'decoration'. Here it should be taken as something that improves the complexion or cures a skin condition. I have opted for the translation 'cosmetics' here, which is consistent with the translation in Hameed 1998.

(*permutationes*). Not all of these sections are always present, of course—it depends on the properties of the medicine in question.

Our Irish tract is not organized by section of the body, but rather by animal, which means that the focus does not lie on the affliction ('how can one cure X?'), but rather on the utility of specific dungs ('dung of X helps against A, B, and C'). It should be noted, however, that each section on each animal does, for the most part, appear to follow the fixed order found in AV, even though this is not explicitly stated in the tract itself. This is most obvious in the longest section, on goat dung, which has been organized in the sections *decoratio/apostemata 7 bothor* (our text provides remedies for pustules, skin impurities, and alopecia); *vulnera 7 ulcera* (burns); *egritudines iuncturarum et nervorum* (joint pain, abscesses on joints); *egritudines membrorum nutrimenti* (jaundice, edema); *membra expulsio-nis* (menstrual flow); and *venena* (bites of rabid dogs and other venomous animals). The only exception to the pattern is found after the discussion on menstrual blood, as there is a recipe there for the staunching of wounds in general, which should fall under *vulnera*.

While our text clearly contains material taken from Avicenna, it is certainly not a literal copy of Avicenna's work (or at least not of the Bertochus edition).<sup>16</sup> There are differences in the recipes,<sup>17</sup> and information has been omitted. The section on the ability of goat's dung to staunch bloodflow from the womb, for example, mentions that, if it is drunk with pepper, it stops excessive menstrual flow. However, it does not mention cinnamon as another type of spice that has the same effect, nor does it mention the fact that this recipe can provoke an abortion.<sup>18</sup>

This is not surprising, of course, as these documents were intended for use; in the absence of access to certain spices, substitutions would have been necessary; and, depending on who might be prescribing the recipes, certain medical procedures such as abortions might not be included if they were illegal. It is also noteworthy (though unsurprising) that the more exotic animals present in Avicenna (including certain lizards, crocodiles, and camels) are not present in the Irish tract, and references to certain afflictions (e.g., the sting of a scorpion) have been omitted, as these would not have been found in medieval Ireland.<sup>19</sup>

<sup>16</sup> It should also be noted that, on the whole, the Bertochus text follows the text found in Hameed's translation, with minor variations. The only exception to this is the section on the parts of the eye in Bertochus caput 609, which is longer in the Arabic version.

<sup>17</sup> For example, the section on goat dung in our text states that, if you mix it with oil, sugar, and wax, this helps against burns; AV 609.5 states that it should be combined with vinegar, then mixed with wax and rose oil.

<sup>18</sup> The text in AV caput 609.12 reads *stercus caprarum 7 proprie mo[n]tinarum bibitur cum aliquibus speciebus quae sunt ut piper 7 cinamomum 7 prouocat menstrua 7 facit abortum* 'Dung of goats, particularly mountain goats, is drunk with certain spices like pepper and cinnamon and it brings on menstruation and causes abortion'; see also the appendix below.

<sup>19</sup> It is also entirely possible (though impossible to determine at this stage) that whatever text served as the basis for the Irish tract did not contain certain sections found in Avicenna.

## Editorial policy

The text below is a semi-diplomatic edition. I have divided the text into paragraphs, and have added capitals, spaces, and punctuation where necessary. All expanded abbreviations have been indicated in italics. Length-marks and hairstrokes placed to distinguish minims have been rendered with acute accents, and macrons are used to indicate missing length-marks. Square brackets [ ] indicate letters or words that are to be added; round brackets ( ) in the Irish text indicate text that is to be omitted; in the translation, regular brackets are used to provide further explanation.

## Text and translation

§1. Stercus .i. ínglan na ngabar, a tírmugadh 7 pudar do dēnamh dhe 7 a crothadh ar gorānaibh 7 ar salc[h]ra an croicinn 7 ícaidh é. A losga 7 a lūaith do crotha ar an cenn a haitlí a fóilce 7 díbrigh an carraighi 7 togairmigh an folt. An pudar sin do cumasg maille re hola 7 re siúcra 7 re ceír 7 re saill muicí arna leagadh 7 a cur a n-uinnímínt nó a cerín ar gach losgadh 7 ícaidh.

Dung, that is, goat excrement: dry it<sup>20</sup> and make a powder of it, and sprinkle it on pustules and on skin impurities, and it heals it. Burn it and sprinkle its ashes on the head after washing it, and it destroys alopecia and causes the hair [to grow back]. Mix that powder together with olive oil, sugar, wax, and with pig fat after it has been rendered, and place it in an ointment or in a poultice on any burn and it heals.

§2. Inglan gabar do cumasg re blonaic muicce 7 dēnam amal cerín 7 ícaidh artetik[a] 7 galar na n-alt a coitcínne. Pudar an inglain sin do cumasg re fínhégra 7 re min eórna 7 ícaidh nescóidi crūaidhi da mbet(h) ar na ballaibh fēitheacha.<sup>21</sup>

Mix goat dung with pig lard and make it like a poultice and it heals gout and joint pain in general. The powder of that excrement, mix it with vinegar and with barley-meal and it heals hard abscesses if they are located on the sinewy members.

§3. An pudar sin d'ól ar meadg gabar maille re pudar pibir 7 ícaidh an buigechair 7 an y[d] roipsi.<sup>22</sup> A cur mar an cétna<sup>23</sup> mar cerín ar an mbroínn 7 ícaidh an cétna. An pudar sin do cumusg re pudar tūisi 7 coisgi[dh] flux fola na mban; 7 a cur mar cerín ar an mbroínn nó a cur a mǫilín 7 a cur ar an mbandacht 7 do-ní an cétna. An pudar sin do cur isin cneidh 7 coisgi[dh] an teilgiudh fola.

<sup>20</sup> Lit. 'its drying'—the tract uses verbal noun constructions throughout. I have normalized the translation by using the imperative.

<sup>21</sup> Ms. *f̄a*.

<sup>22</sup> It is possible that this is to be read as *yroipis*, as the *s* is placed over the second *i*.

<sup>23</sup> With *na* superscript.

Drink that powder with goat's milk whey together with ground pepper, and it heals jaundice and edema. Place it in the same way as a poultice on the abdomen and it heals the same. Mix that powder with powdered frankincense and it stops excessive menstrual flow; and place it as a poultice on the womb or place it in a little bag and put that on the vulva and it does the same thing. Place that powder into a<sup>24</sup> wound and it staunches the flow of blood.

**§4.** *Pudar ínglain gabar do cur ar greím na con confaidh 7 na mbeathadhach<sup>25</sup> neimneach<sup>26</sup> eile 7 ícaidh, óir adeir Auicenna co fuil brígh attairr[ng]teach ann.*

Place powdered goat droppings on the bite of rabid dogs and of other venomous animals and it heals, for Avicenna says that there is an attractive quality in it (i.e., that it draws out the venom).

**§5.** *Stercus .i. inglan na cāerach: a tīrmugadh 7 pudar do dēnamh de 7 a cur isna cneidhibh doimne 7 tīrmaighidh ē iad 7 fa saigh a feōil. A losgadh 7 lūaith do dēnamh de 7 a cumusg re fīnhégra 7 a cur re greim na con confaidh 7 ícaidh. An leiges cētna do cur arna faithneadha mōra 7 ícaidh iad.*

Dung, that is, sheep excrement: dry it and make a powder of it, and place it in deep wounds and it dries them out, and it knits the flesh back together. Burn it and make ashes of it, and mix it with vinegar and place it on the bite of rabid dogs and it heals. Place the same remedy on large warts and it heals them.

**§6.** *Stercus .i. inglan na mbō do tīrmugadh 7 lūaith do dēnamh de 7 an lūaith sin do cumasg<sup>27</sup> re fīnhégra 7 ícaidh etica 7 potagra. Stearcus na mbō do tēgha 7 a cur ar nescōidi na clūas 7 ícaidh.*

Dung, that is, cow dung: dry it and make ashes of it and mix those ashes with vinegar, and it heals hectic fever and gout of the foot. Heat cow dung and place it on abscesses of the ear and it heals.

**§7.** *Stercus tairbh, do tīrmugadh 7 a deathach do lēigin fa na cuilibh 7 ínnarbaid iad 7 gach beathadach neimneach ele.*

<sup>24</sup> Lit. 'the'—the article is used on a number of occasions where the translation works better without one—in those cases, the article has been omitted.

<sup>25</sup> Ms. *b77ac* with *spiritus aspers* on 7, 7, and *c*.

<sup>26</sup> Ms. *n* with a dash through it followed by *n̄*; I take the dash through the first <n> as trying to negate it, giving us *ne(i)m-*.

<sup>27</sup> Ms. *q*, which I have transcribed as *cu*.



Bull dung: dry it and leave its vapour under fleas and it drives them away, and every other venomous animal.

**§8.** *Stercus* .i. *ínglan* na muc, do tabairt da ól ar fín 7 foiridh an sileadh fola 7 tinneas ín tæib.

Dung, that is, pig dung: add it to wine to drink and it staunches blood flow and heals pain of the side.

**§9.** *Stercus muiris(is)* .i. *ínglan* na lochad: [114] pudar do dēnamh dé 7 a tabairt da c[h]ait[h]mi don duine 7 brisi[dh] clocha an lésa a cait[h]mi; nó a cur mar cerīn ar an fordronn 7 do-ní an cétna.

Dung of a mouse, that is, mouse dung: make a powder from it and give it to the patient<sup>28</sup> for consumption, and it breaks up stones of the bladder immediately; or place it as a poultice on the pelvis and it does the same.

**§10.** *Stercus inaitis* .i. *ínglan* lachan: a cur mar cerīn arna nescóidibh fūaraibh 7 aibi[ghidh] iād gan fuireach, oir adeir Avicenna gurob teasaide tirim gach ínglain a coitcínne, gieth is ē ínglan na colum is teō dibh 7 co hairighi na colaim bethaigter co muinterdá. Oir adeir Avicenna etir na leigesuibh tirma, gurob ē ínglan na colum muinterdá is airdi a teasaidecht dibh. A cumusg maille re míl 7 re min ruís lín 7 a cur amal cerīn 7 icaidh tine Dīa 7 bruithidha.<sup>29</sup> An cerīn cétna do cur ar na haltaibh 7 icaidh gach tinneas da ndēntar o fuaaidecht ínttu. An pudar cétna do tabairt a clisteri 7 icaidh coilica passio.

Dung of a duck, that is, duck dung: place it as a poultice on cold abscesses and it brings them to a head without delay, for Avicenna says that each kind of dung in general is hot and dry; however, dove dung is the hottest of them, especially [dung of] doves who are domesticated. For Avicenna says that of the dry medicines, the dung of domestic doves is the hottest. Mix it together with honey and with linseed meal and place it as a poultice, and it heals erysipelas and scabies. Place the same poultice on the joints and it heals any pain if it is caused by coldness in them. Put the same powder in an enema and it heals intestinal suffering.

**§11.** *Stercus con nech* caiteas cnāma, pudar do dēnam de 7 a cumusg le míl 7 a cur isna cneadaibh 7 icaidh iād. Deathach an pudar sin do léigin fon macclach 7 icaidh tinneas 7 att an macclaig. An pudar cétna do tabairt a clistere 7 cneasaigidh creachta na n-ínnedh.

Dung of a dog that consumes bones (i.e., dung that consists of digested bones), make a powder of it and mix it with honey, and place it into wounds and it heals them. Leave

<sup>28</sup> Lit. 'person'.

<sup>29</sup> Ms. *bruith idha*.

the vapour of that powder under the womb and it heals pain and swelling of the womb. Put the same powder in an enema and it heals lesions of the intestines.

§12. *Stercus .i. inglan fanleōigi: pudar do dēnamh de 7 a cur isna sūile 7 dibrih a céo 7 a mbrat 7 a teimil.*

Dung, that is, swallow dung: make a powder of it and place it in the eyes, and it disperses their fogginess, scale, and darkness.

§13. *Item adeir Auicenna gurob triac(h)la cac na cerc don lucht cait[h]es luibí neimneacha marbtacha amail atá an t-āthabha 7 gabfann 7 a cosmaile; 7 a tabairt dōib da ól nó da cait[h]mi. Pudar an inglain sin do tabairt da ól do lucht aga mbid lenna remra na n-ucht 7 innarbait iad maille re cosachtaigh, amal adeir Auicenna.*

Likewise, Avicenna says that chicken excrement can be an antidote for the person who consumes poisonous deadly herbs, such as hemlock, henbane and the like; and give it to them to drink or to consume. Powder of that dung, give it to drink to people who have thick phlegm of the breast and they expel it through coughing, as Avicenna says.

## Textual notes

§1. *salc[h]ra an croicinn*: the term *salchar* means ‘dirt, impurity, filth’ (eDIL s.v.). In a medical sense, it is used of skin diseases such as scurf (flakes of dry skin) and scabies (a contagious skin disease caused by mites). eDIL provides a citation from 23 F 19, a fifteenth-century medical treatise, in which *salchar* clearly means scabies: *de sgabies .i. do salchur an chuirp* ‘on scabies, that is, on skin disease of the body’. It should be noted, however, that there are a number of other diseases or conditions that can be identified as *salchar* in eDIL. *Regimen sanitatis* refers to the removal of *salchur na haighchi* ‘filth of the night’ from the eyes, which probably refers to rheum (eDIL s.v.; see also Gillies 1911: 53). The term is also used once to designate matter coming from a sore on a horse’s nose, as mentioned in the eDIL entry. Finally, the eDIL entry for *salchar* further provides the terms *ictericia*, *morfea*, and *henteria* as examples of *salchuir*, but not all of these are skin diseases. Ictericia (Lat. *icteritia*) is a term used for a type of jaundice (RA 376); *morfia* (*morphea*, *morphew*) is a skin condition—in RA 387 it is translated as a leprous or scurfy eruption; see Demaitre 2013: 107–108 for a brief discussion. The word *henteria* in RA may be a misspelling in the manuscript for *lienteria*, which is found a number of times in the *Irish materia medica*, e.g., in caput 43 on *Athanasia*, *tanasetum* (tansy) (IMM 104 (text) & 484 (translation)); & as *mor fognus an luib so an aigid flux na bronn amail ata diarria & lienteria & disinteria* ‘this herb serves well against flux of the abdomen such as diarrhoea, lienteria and dysentery’. Lientery is a type of diarrhoea in which particles of food pass through

the intestines badly or not at all digested. Since in our text the term *salchra* is used in connection with the word *croicinn*, it must be a form of skin disease.

§1. *a losga 7 a lūaith . . . an folt*: AV 609.4 records a similar use for goat dung and adds that mole dung is also useful against alopecia, localized hair loss that occurs particularly on the scalp. Elsewhere, Avicenna refers to the use of mouse dung for this purpose (AV caput 501, p. 207), which is to be applied on the bald spot, and suggests that it is particularly beneficial if it is burnt and combined with onion: *Et stercus muris super alopitiam confert 7 proprie linitum cum cepe 7 proprie illud quod est adustum* ‘And mouse dung helps [when applied] on alopecia, especially applied together with onion, and particularly that which is burnt’.

§1. *an carraighi*: the term *carraige* is used as a general term for a skin disease. MS 23 K 42 285.12 has *carraighe an chinn = scabies capitis* ‘scabies of the head’, as mentioned on eDIL s.v. *carraige*. In addition to scabies, there may be a number of other afflictions that would qualify. As AV caput 609.4 mentions that goat dung is useful against alopecia (see preceding textual note), I have translated *carraige* as ‘alopecia’ here.

§1. *togairmigh*: in a general sense, the verb *togairmid* means ‘summons, invites’, but in a medical sense it means ‘causes, induces, brings on’ (eDIL s.v. *togairmid*); presumably, we are to take it in the sense that it causes hair, lost as a result of *carraige*, to grow back.

§1. *an pudar . . . le hola 7 re siucra . . . gac[h] losgad 7 ícaid*: AV caput 609.5 mentions the mixing of both goat and sheep dung with vinegar, wax, and rose oil to soothe burns. In addition to goat and sheep dung, the use of dove dung as a remedy for burns is also present in AV caput 609.5, where the dung is combined with honey and flaxseed or perhaps flaxseed oil (*cum melle 7 semine lini*).

§2. *inglan gabar . . . a coitcínne*: see AV 609.7, which contains a similar recipe.

§2. *re blonaic muicce*: this is identical to the text in AV 609.7, which has *cum adipe porci* ‘with pig lard’.

§2. *artetik[a]*: the word *artetica* is a Latin loanword referring to gout, in general, or perhaps, more generally, arthritis. Gout is a form of arthritis involving an inflammation of the joints, most commonly the big toe and foot, caused by deposits of monosodium urate crystals. Evidence of gout was found on the remains of a mummy near a temple at Philae and was described in works by Hippocrates (Porter & Rousseau 1998: 13). *Artetica* is given its own section in RA, where it is glossed *.i. teindes cenguil na mball 7 aderit na tuatada idhgha risin eslainti so, oir is amlaid silis si cum cenguil na mball mar toitis in rema, oir is cumúng in tsligi cum a teid in tadbúr cum na mball acht ce ta cinel osguilti [innti]* ‘Arthritica is a grief of the the binding of the limbs, the which sickness the country folk call ‘the

pangs', because it drips to the joints of the members, in the same way that rheum falls, for the passage is narrow through which the matter passes to the members, although there is a kind of rarity therein.' (RA 318–319). *Rosa Anglica* distinguishes between three different types of gout: *Et atait tri gneithi arin eslainti so re nabur artetica fuiti fein .i. sietica 7 potogra 7 sirecra* 'There are three varieties of this sickness called arthritica: sciatica, and podagra, and cheiragra' (RA 318–319). The text further explains that sciatica is a pain in the haunch (*isin leis*), or the sinew of the hip (RA 318–319), podagra is swelling in the joints of the feet (RA 320–321), and cheiragra is a painful swelling in the joints of the hands and fingers (RA 320–321). While there are other names for gout in different parts of the body (e.g., gonagra for gout of the knee; see Porter & Rousseau 1998: 13), RA states explicitly that there are no special terms for such pain in other parts of the body (320–321: *Et da mbia teinnes i mball ele isin corp, no a nalt ina ecmuis sin .i. isin muinel no isin druim, ni fuil ainm dilis aigi acht idhgha in baill sin* 'If there be pain in another member of the body, or in a joint apart from these, such as the back, or the neck, it has no special name, but pang of that member'). Rather than the more general term *artetica*, the entry in AV 609.7 that corresponds to this section in our text mentions podagra and sciatica.

§2. *nescóidi*: the term *nescóit* is used for an abscess or imposthume, that is, a swelling filled with liquid.

§2. *arna ballaibh fêitheacha*: the term *ball* often signifies 'limb', but it can be used to indicate any body part. This remedy can also be found in AV 609.7.

§3. *pibir*: IMM contains a discussion of the uses of black pepper (entry 220, IMM 227–228 (text) & 602–603 (translation)).

§3. *an buigechair*: the term *buidechair* is used for a variety of diseases, but the element *buide* 'yellow' suggests that it involves jaundice. In 23 K 42, it glosses *morbis regius* 'the royal disease' (57.17), a term used for jaundice (eDIL s.v. *buidechair*). In some instances, *buidechair* appears to be equated with *in buide chondaill*, a type of jaundice that has the colour of grain stubble (*condall*) and that appears to have been quite deadly. MacArthur 1949: 174 identifies this disease as relapsing fever, a spirochaetal infection conveyed by lice (for some further discussion, see also de Vries, forthcoming). The effectiveness of goat dung against jaundice also occurs in AV caput 609.11, where it is mixed with spices like pepper and cumin.

§3. *y[d]roipsi*: the word *hydrops* is a term used for the accumulation of watery fluid in any of the body tissues or cavities (an edema, in other words). It is often translated in earlier sources as *dropsy*. Goat dung applied as a cure for edema occurs immediately after the passage from AV 609.11 in the preceding note.

**§3.** *an pudar sin . . . coisgi[dh] flux fola na mban*: The expected verbal form is *coisgidh*. The suspension stroke appears to have been omitted here; further instances of this occur at the end of this section, and in §§9 & 10. AV contains two recipes for this particular affliction. One of these, in caput 609.12, corresponds to ours, containing goat dung and frankincense; the other recipe, in caput 603.7, also contains goat dung, but the frankincense is absent: *Stercus caprarum siccum cum lana prohibet fluxum matricis* ‘Dried goat dung [applied internally] with wool stops discharge from the womb’. RA lists goat dung and dove droppings combined with figs and mustard as a remedy for hot abscesses of the womb (RA 220–221: *Madh abuid hi, brister le figedhuibh 7 le musdard 7 le cac gabuir no coluim 7 glantur an crecht ainnein le huisgi mela* ‘If it (= a hot abscess of the womb) be ripe, break it with figs and mustard, and with droppings of goats or doves, and clean the ulcer then with honey water’).

**§4.** *greím na con confaidh*: *confadh* is one of the terms denoting rabies; see the discussion of *conbadh* in Ó Corráin 2000, and Kelly 1997: 215 on *conach*, *confadh*. AV provides a recipe to cure the bite of a rabid dog in caput 603.8, but the dung used in that particular recipe is that of sheep (*pecus*) rather than goat. In the same recipe, goat dung is mentioned, but it is used to treat snake bites.

**§4.** *Adeir Auicenna co fuil brīgh attairr[ng]teach ann*: The ‘attractive quality’ that goat dung is said to possess can, indeed, be found in AV 609.13, in the final section on poisons (*vena*). This section lists the various ways in which animal dung can be used to counteract various poisons and venoms. Goat dung is mentioned twice in this section. On the first occasion, it is stated that it helps against the bites of venomous snakes when it is boiled down and drunk with vinegar. The second example, in the same paragraph, contains reference to the attractive quality of the dung, and the Latin text states that goat dung is particularly effective against wasp venom: *7 in stercore carprarum est virtus attractiua: attrahit eni[m] venenum vespe* ‘And there is an attractive quality in goat dung: for it draws out wasp venom’. Note that the Irish text and the Latin text differ in the animals mentioned—the Irish text refers to rabid dogs and *greím . . . na mbeathadhach neimneach eile* ‘the bite of other venomous animals’.

**§5.** *Do cur arna faithneadha mōra*: AV 609.4 contains a similar recipe, though it provides more detail on the various types of warts affected: *stercus ouium cum aceto est conueniens verrucis formicalibus 7 quae sunt vt clauī 7 vt mora* ‘Sheep dung with vinegar helps with warts that spread, those that protrude from the skin, and those that are like mulberries’. The word *formicalis* means pincers or tongs (see DMLBS s.v.), but this word seems unlikely here. Based on the other terms, this term should refer to a specific type of wart. RA discusses the various kinds of warts, including a type called *formica*, which is an abscess which ‘travels in the skin’, and which is ‘not broad’: *Et is edh is foirmica and .i. nesoid si-ublus isin lethtur 7 ni bid si co letan* (RA 208–209); this word, combined with the adjectival suffix, may be what is intended here. The term *clavus* means ‘nail’, but is used in a med-

ical sense for a tumour, wart, or sty (DMLBS s.v. 3 *clavus*)—this seems to refer to a type of wart that sits on top of the skin. The word *morum* can mean ‘mulberry’ or ‘blackberry’ (DMLBS s.v.), presumably referring to the appearance of the wart; see also appendix below in note to the Latin text and translation. RA also contains a recipe to cure warts which includes dung; however, it is not sheep dung, but goat dung, that is used (RA 206–207: *Item cac gabuir 7 finecra do cur orro 7 foirid iad, 7 a cur té co minic riu 7 maille finecra 7 foiridh* ‘Item droppings of goats and vinegar applied to them avails; if it is put on hot to them often [with vinegar], it heals’).

§6. *inglan na mbó*: AV lists various uses for cow dung in caput 609. It can be used in a plaster against sciatica; it can be used in medicines against pulmonary tuberculosis; it soothes hot abscesses, and it is used for abscesses located behind the ears (see below, note on *nescōidi na clūas* and for the text, see appendix). RA lists cow dung as one of the components for a poultice that is to be placed on the belly (RA 294–295): *Aindsein cuir cerin arin medon dib so .i. ruihb, pairitair, uolubard, cuimin, cac bó, sligein oisrida: bruitear co maith iad ar aonligi (?), 7 curtur, is iad te, ar lecc breid tanuidi, 7 cuir mon imlican co roich an fordronn: 7 mar fuaras, teigter aris 7 cuirter uime; 7 is ferr sin ar cedlongad na deis bidh* ‘Then apply a poultice of these to the belly: that is rue, parietary, walwort, cumin, cowdung, and oyster shells; seethe them well together (?) and put hot, on a thin piece of woolen cloth (?), and apply round the navel, as far as the share (= pelvis; see eDIL s.v. *fordronn*). When it cools, heat it and put it about him again: this is more efficacious fasting than after food’.

§6. *nescōidi na clūas*: cf. AV 609.8, where it is stated that cow dung helps against abscesses that are located behind the ears. In AV 603.5, there is another reference to cow dung healing abscesses, although not expressly of the ear: *Stercus vaccinum cum acetum super exituras calidas positum sedat eas* ‘Dung of cows mixed with vinegar placed on warm abscesses soothes them’.

§6. *etica*: hectic fever, that is to say, a recurring fever. RA dedicates multiple chapters to fever (ch. B, pp. 48–67; for a chapter specifically on hectic fever, see chapter C, pp. 68–119). RA also identifies various types of hectic fever: first of all, *ephemera*, which causes a kind of hectic fever, is a term used for a short-term fever (RA distinguishes further between true *ephemera*, which lasts for no more than 24 hours, and false *ephemera*, which reoccurs over three or four days; see pp. 48–49). The chapter on hectic fever in RA explains that there are three degrees of hectic fever which affect different parts of the body (RA 68–69 §2: a ‘light’ (*étrom*) variety, which produces heat ‘in the natural and radical juices’ (*isna fliuchaidechtaibh nadurtha*); one type which affects the moisture contained within the flesh (*isin fliuchaidecht noch bis isin feoil*); and the third and worst type, when the heat enters the ‘close spermatic members’ (*isna ballaib dluithi*). Furthermore, there are two varieties of hectic fever mentioned in RA 70–71. One type occurs in a patient who ‘avoids his work’ (*eitici tic o arrsaighacht*); the other one is accompanied by fever (*eitici tic maille fiabras*).

§6. *potagra*: *podagra*, that is, gout located in the foot (see above, note to *artetika* in §2).

§7. *fa na cuilibh*: the word *cuile* is used to gloss *Cantarides* '(Spanish) flies' in Stokes 1888: 229. The Spanish fly, also known as the blister beetle (see Demaitre 2013: 68 & 97), is a type of insect that secretes a poisonous substance called Cantharidin that blisters the skin; a similar use for dung is found in AV 609.13, where bull dung can be used to drive out venomous worms and bugs.

§8. *Stercus .i. ínglan na muc . . . tinneas ín tæib*: AV 609.10 contains a similar recipe which may have been the ultimate basis for the present recipe, although it mentions water in addition to wine, and it concerns the spitting up of blood rather than more general blood flow. There are two further recipes in AV 609.7 not present in the Irish text that include the use of pig dung in cures for joint, muscle, and nerve issues.

§9. *Stercus muiris(is)*: note the dittography of *-is*. The expected Latin form is *muiris*. Most of the recipes on dung in AV are contained in capita 603 and 609, and not much information on the use of dung is found in the capita on each individual animal. The section on the mouse, however, is the exception. There is one recipe containing mouse dung in AV caput 609, but most of the information on mouse dung is contained in the section on the mouse itself (AV caput 501, p. 207). That said, caput 609.12 does mention that mouse dung can be used to break up (kidney) stones when drunk with frankincense. A variation of this occurs in AV caput 501: *Si bibatur stercus muris cum ture 7 aqua mellis frangit lapidem* 'If mouse dung is drunk with frankincense and with honey-water it breaks up a stone'. In RA, honey water is used with abscesses of the womb, and to clean out wounds or ulcers left after the breaking of the abscesses (220–223).

§10. *stercus inaitis*: The usual Latin word for duck is *anas*, gen. sg. *anatis*. This particular use of duck dung is absent from AV capita 603 & 609. The only reference to duck dung in these capita states that it is used because of its excessive heat (AV 609.1).

§10. *aibi[ghidh]*: the verb is *aipigid* (eDIL s.v. *aipigid*), here with the spelling of the letter *b* to represent the sound /b/, and with omission of the suspension stroke.

§10. *na colaim*: the form is nominative plural, but the translation works better as a genitive plural, which is why [of] has been supplied in brackets.

§10. *ōir adeir Auicenna . . . teasaidecht dībh*: both of the statements attributed to Avicenna occur in AV 609.2. While the statement in Irish says that all dung is hot and dry, AV is not quite as definite and states that dung does not cool and does not moisten (which, of course, could be an example of a literary understatement that is intended exactly like the Irish text).

§10. *ínglan na colum muinterdá*: RA lists some uses for dove droppings: one of them is to disperse and ripen abscesses, and another is to cure hardness and pain (of the womb?) in general (224–225, bold typeface added for emphasis): *Item raod ele do sgailead 7 daipiugad na nescoididh .i. ros lin 7 fine grecum 7 mín eórna 7 min cruitnechta, figida, cac coluim, taos goirt arna berbad ar aonsligi riú; 7 curtur ria mar ceirin. (87) Item dentur pudar do cac coluim, 7 curtur ola trit, 7 innurbuid sin gach uile cruas 7 gach uile teinnes ‘Item another thing for dispersing and ripening imposthumes is flax seed, fenugreek, barley meal, wheaten meal, figs, **droppings of doves**, and oil, and sour dough boiled along with them; and apply it as an emplaister. (87) Item let a powder be made of doves’ droppings, and mix it with oil, and that expels every hardness and every pain’*. It is also used on abscesses of the womb when mixed together with goat dung, mustard, and figs as described in the note on *an pudar sin . . . coisgi flux fola na mban* in §3 above. Finally, it is used in combination with honey to cure lethargy, which is defined as ‘an imposthume (abscess) on the posterior brain’ (*nescoid bis aran incind cuil*; RA 226–227): *Item curtur ceirin do cac colum 7 do mil ar cul an cind, 7 furtachtaigi co mor é ‘Item apply a poultice of pigeon’s droppings, and honey, to the back of the head, which relieves it greatly’* (RA: 232–233).

§10. *is airde a teasaidecht díbh*: lit. ‘which is highest in heat of them’.

§10. *tine díá*: lit. ‘Gods’ fire’, this is a term for erysipelas, sometimes referred to as *ignis sacer* ‘holy fire’. Erysipelas, a bacterial skin infection in which the skin turns a fiery red colour, is sometimes equated with St. Anthony’s Fire (see also de Vries, forthcoming). The term *erysipelas* occurs in AV 603.5, where it is said it can be cured by using sheep dung.

§10. *bruithidha*: eDIL provides the translation ‘itch, scabies’; it is sometimes combined with *carraige* (23 K 42 *don charraige 7 don bruitidhain*; see eDIL s.v. *bruithida*), which appears in §1 of this text. As it is mentioned in conjunction with *tine díá*, it likely here refers to the skin disease scabies (as opposed to *carraige* used above, which affects hair growth).

§10. *colica passio*: *passio* is used here in the sense of ‘suffering’ or ‘pain’; the adjective *colica* (Lat. *colicus*, -a, -um) refers to colic. This recipe also occurs in AV 609.12.

§11. *Stercus con nech caiteas cnāma*: lit. ‘dung of a dog that consumes bones’—that is to say, dog feces that consist of digested bones; cf. AV 609.6, which contains a very similar recipe. The word *nech* is used here as a relative pronoun.

§11. *deathach an pudar sin do léigin fon macclach*: AV 609.12 discusses the use of smoke placed under the uterus, but rather than dog dung, it involves bull dung: *Ex stercore tauri fit suffumigatio eminentie matricis* ‘From bull dung a vapour bath is made for a prolapsed uterus’. This type of cure was often used for afflictions of the womb. In cases of hysteria, sweet-smelling smoke would be placed under the uterus in order to entice it to move



downwards (while foul-smelling smoke would be held under the nose). In cases of a prolapsed uterus, as is the case here, foul-smelling smoke might be placed under the uterus in order to get it to move upwards.

§11. *att*: the word *att* can mean ‘swelling’, ‘protruberance’, or ‘tumour’ (eDIL s.v. 1 *att*). As ‘swelling’ appears to be the most commonly attested meaning, and as the text seems to be dealing with general afflictions of the uterus, I adopt ‘swelling’ in my translation.

§11. *creachta na n-ínnedh*: ‘intestinal wounds’; cf. AV 609.12, which mentions several ways to administer it, including as an enema, drunk in milk boiled with iron, or placed as a suppository with stones.

§12. *isna súile 7 díbrigh a céo 7 a mbrat 7 a teimil*: this probably refers to eye conditions such as cataracts. AV mentions swallow dung as one of various types of dung that can heal such afflictions in caput 609.9, together with newt, lizard, and crocodile dung. AV 603.3 also contains a recipe to cure white spots in the eye (presumably cataracts), but that recipe contains bear dung rather than swallow dung.

§13. *triachla*: eDIL s.v. *triacla* ‘treacle’, ‘theriac’—that is to say, an antidote for poisons.

§13. *luibí neimneacha marbtacha*: The use of chicken dung against poison is present in AV 609 (note that the term for chicken used there is *gallina*). Note the use of the term *tyriaca* in AV 609.13 (*triachla* in the Irish version), but also note that the poisons differ in either case. While AV 609.13 refers to choking (deadly) mushrooms (*fungis strangulantibus*), the Irish version refers to poisonous herbs such as hemlock and henbane.

§13. *an t-āthabha*: this is listed in eDIL s.v. *áth aba*; this term glosses *eliboris niger* ‘black hellebore’ in Stokes 1888: 231.

§13. *gabfann*: this term for henbane (*hyoscyamus niger*), which occurs in the various spellings *gabfann*, *gabfann*, or *gatfann*, can be found in Stokes 1888: 229, where it glosses *Caniculata* ‘henbane’ (DMLBS s.vv. *caniculata*, *calycula*). Stokes connects it with Corn. *gahen*. It can also be found twice in IMM as *gatfann*, entries 237 (*Repercusiua* (IMM 239)) and 259 (*Sompnus* (IMM 252)).

§13. *lenna remra na n-ucht . . . cosachtaigh*: This is present in AV 609.13, as well, immediately following the phrase on choking mushrooms. It should be noted that the word *humor* (earlier *umor*) can signify any liquid, but mucus is the most likely candidate here.

## Appendix

*Transcription and translation of the 1489–1490 Dionysius Bertochus edition of Arnaldus de Villa Nova's thirteenth-century reworking of Gerard of Cremona's translation of Book ii of Avicenna's Canon of medicine, capita 603 & 609 (Bertochus 1489–1490: 224–226).*

The following is a transcription and translation of Bertochus' edition. All expansions are indicated by italics; where possible, punctuation has been followed as in the edition, although some long sentences have been divided. I have added paragraph numbers for ease of reference. Mistakes in the Latin text itself have been left as they appear in the original text (e.g., use of masculine relative pronoun to refer back to a feminine word; use of accusative case instead of ablative case; use of *ipsum* rather than *ipse*), although some of the more problematic forms have been discussed in the footnotes. In some cases, words in the Latin text occur in the singular, but work better translated in the plural (or vice versa). In those cases, I have opted for the better translation.

### Caput 603

**De stercore animalium** Ca.dciiii.

*Stercus animalium.*

**§1. Decoratio.** *Stercus adib confert lentiginibus magnis 7 panno propter suam abstersionem. Et stercus cameli mundificat 7 destruit verrucas etiam quae magne fiunt.*

**On the dung of animals** Chapter 603

Animal dung.

**Cosmetics.** Dung of a bear<sup>30</sup> is useful against large freckles and against a birthmark<sup>31</sup> because of its cleansing properties. And camel dung eliminates and destroys warts, even those that are becoming large.

**§2. Membra capitis.** *Stercus adib confert [p. 225] furfuribus<sup>32</sup> propter suam abstersionem. Et stercus cameli abscindit fluxum sanguinis ex naribus 7 quando bibitur cum medicinis epilepsie confert.*

<sup>30</sup> The term in the text is *adib* (once *athib*). The Arabic word *dib/dub* means 'bear', which is presumably what is meant here. I am grateful to Dr. Linda Darwish for her assistance in translating this term.

<sup>31</sup> The word *pannus* in a medical sense can mean 'membrane, false membrane/morbid formation'; 'ailment of the eyes, perhaps cataract, and birthmark' (DMLBS s.v. 2 *pannus*, section 5). As this section deals with skin conditions, I have opted for 'birthmark' here. Note that the Arabic text in Hameed 1998: 100 refers to the dung of a monitor lizard (rather than a bear) that helps against freckles and leukoderma.

<sup>32</sup> The text appears to have *fursuribus* here, but the text requires *furfuribus*.

**Parts of the head.** Dung of a bear helps against scabies because of its cleansing properties. And camel dung staunches the flow of blood from the nose and when it is drunk with medicines it is indicated for epilepsy.<sup>33</sup>

**§3. Membra oculi.** *Stercus adib abstergit albuginem oculi.*

**Parts of the eye.** Dung of a bear removes whiteness of the eye (cataracts).

**§4. Uulnera 7 vlcera.** *Stercus cameli resoluit bothor 7 vlcera. Et similiter stercus pecudis super mellinum.*

**Wounds and sores.** Camel dung clears up pimples and sores. And, similarly, sheep dung placed on quince-yellow(?) skin (= *favus?*).<sup>34</sup>

**§5. Apostemata 7 bothor.** *Stercus caprarum resoluit scrofulas fortiter 7 similiter stercus cameli 7 stercus pecudis herisipile.*

**Abscesses and pimples.** Goat dung and camel dung very effectively remove scrofula, and sheep dung clears up erysipelas.

**§6. Instrumenta iuncturarum.** *Stercus cameli sedat dolores iuncturarum 7 apostemata earum.*

**Joints, muscles, and sinews.** Camel dung soothes joint pains and swelling.

**§7. Membra expul[sionis].** *Stercus caprarum siccum cum lana prohibet fluxum matricis.*

**Parts of expulsion.** Dried goat dung [applied internally] with wool stops discharge from the womb.

**§8. Uenena.** *Rectificatur stercus caprarum decoquendo triginta [grammates] ex eo cum quinque asacraiatu vini nigri 7 recens ex eo etiam 7 fit ex eo emplastrum morsui vipere facientis sitim; 7 stercus pecudis adustum praecipue confectum cum aceto linitur super morsum canis rabiosi.*

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<sup>33</sup>It is also possible that *epilepsie* is to be taken with *medicinis* rather than with *confert*, as Hameed's translation of the Arabic reads 'Camel dung stops nose bleeding and when added to the medicines meant for epilepsy, enhances their efficacy' (1998: 100).

<sup>34</sup>This word is problematic. The word *mel(l)inus* typically means 'quince' or materials derived from quinces, but it can also be a word that is connected with 'honey'. The text seems to suggest that *mellinum/mellinus* refers to a type of wound or sore—perhaps either the colour, shape, or size of a quince? Hameed here translates *favus* (Latin for 'honey-comb', a term for a disease that leaves yellowish patches, particularly on the scalp)—perhaps that is intended here, as well? In any case, it appears that we are dealing with a skin disease that is yellow in colour.

**Poisons.** Goat dung is refined by boiling down 30 grams of it with five uskurjah (600 grams)<sup>35</sup> of black wine, particularly fresh wine, and an antidote<sup>36</sup> is made from it for snake bites by inducing thirst;<sup>37</sup> and burnt sheep dung, particularly combined with vinegar, is smeared on the bite of a rabid dog.

### Caput 609:

**De stercore** Ca. dc.ix

**§1. Stercus.** *Stercora diuersificantur secundum diuersitates specierum animalium immo quandoque diuersificantur secundum diuersitatem indiuiduorum speciei vnus 7 proprie hominum.*

*Stercus anatis sic administratur propter superfluitatem caloritatis sue. Et stercus accipitris 7 cristatele 7 basich 7 reliquorum rapacium raro administratur quia superflua sunt valde.*

**On dung** Chapter 609

**Dung.** Different species of animal have different kinds of excrement:<sup>38</sup> indeed, sometimes there are variations in the feces of individuals of the same species—human beings are a case in point. Duck dung is thus applied because of its excessive heat. And dung of the falcon, *cristatele*,<sup>39</sup> sparrow-hawk,<sup>40</sup> and other birds of prey is rarely applied because they are very excessive [in heat].

**§2. Natura.** *Nullum ex stercorebus est infrigidatiuum neque humectatiuum. Et stercus columbarum est calidissimum stercoreum quae administrantur 7 eorum<sup>41</sup> qui in domibus nutriuntur minorantur a stercore earum quae pascunt.*

**Nature.** No kind of dung cools, nor is it moistening. And dove dung is the hottest of dungs that are applied, and [the heat] of [the dung of] doves fed in houses<sup>42</sup> is<sup>43</sup> inferior to the dung of wild doves.<sup>44</sup>

<sup>35</sup> For these measurements, see Hameed 1998: 101.

<sup>36</sup> The usual translation of *emplastrum* is ‘plaster’, but that does not quite work here, as it is meant to induce thirst. It seems likely that this is used in a more general sense here of something that helps against an affliction. Hameed 1998: 101 here has ‘antidote’, which fits contextually, which is why I have adopted it here.

<sup>37</sup> I take *facientis* as an error for *faciens* here.

<sup>38</sup> Or, as a colleague suggests, ‘different species, different feces’.

<sup>39</sup> I been unable to find the specific bird meant here, but presumably it is a bird of prey native to either Europe, Northern Africa, or the Middle East. The word *cristatus* means ‘crested’, and the diminutive suffix *-ele* (for *-ella*) suggests this refers to a relatively small (female) bird. Hameed 1998: 234 here has ‘hawk, falcon, sparrow-hawk’.

<sup>40</sup> The term *basich* likely stands for the Arabic word *bāsiq* or *bāsaq* which can mean ‘sparrow-hawk’; see Bos, Husein, Mensching, & Savelsberg 2011: 254.

<sup>41</sup> As *columba* is a feminine word, the expected form here is *earum*. However, as the word is masculine here, I have expanded the following word as *qui* rather than *quae*.

<sup>42</sup> I.e., hand-fed doves?

<sup>43</sup> The verbal form is plural here.

<sup>44</sup> Lit. ‘of those that graze’. This likely refers to doves that are not hand-fed and/or kept in the house.

**§3. Operationes 7 proprietate[s].** *Stercus caprarum 7 proprie montanarum administratur in cursu sanguinis. Stercus asini adustum 7 non adustum in omni cursu sanguinis. Stercus columbarum est ex rubificantibus 7 cum farina ordeï est resolutiuum. Stercus caprarum adustum sit subtilius 7 non calidus.*<sup>45</sup>

**Functions and properties.** Dung of goats,<sup>46</sup> particularly mountain goats, is applied in cases of bleeding. Burnt and unburnt donkey dung [is used] in all cases of bleeding. Dove dung belongs to the remedies that cause redness, but mixed with barley meal it resolves it (i.e., the redness). Burnt goat dung may be more subtle and not hot.

**§4. Decoratio.** *Stercus ouium cum aceto est conueniens verrucis formicalibus 7 quae sunt vt clauï 7 vt mora. Et stercus locustarum confert panno 7 morphee 7 similiter stercus turdorum comedentium rizi.*

*Et similiter, stercus lacerti 7 stellionis 7 facit colorem bonum. Stercus caprarum 7 proprie montanarum adustum conueniens est alopitie. Et similiter stercus talpe est magni iuuamenti. Stercus columbarum est ex medicinis bonum facientibus colorem. Stercus lacerti abstergit pannum 7 expertum est.*

**Cosmetics.** Sheep dung mixed with vinegar helps with warts that spread, those that protrude from the skin<sup>47</sup> and those that are like mulberries.<sup>48</sup> And locust dung, and, likewise, dung of rice-fed thrushes helps with birthmarks and with morphea.<sup>49</sup> Similarly, lizard and newt dung also produces a good complexion. Burnt dung of goats, particularly mountain goats, helps against alopecia. Likewise, mole dung is of great utility for that. Dove dung belongs to those remedies that produce a good complexion. Lizard dung is well proven as a means to remove birthmarks.

**§5. Apostemata 7 bothor.** *Stercus vaccinum cum acetum<sup>50</sup> super exituras calidas positum sedat eas. Stercus caprarum 7 stercus ouium cum aceto super adustionem ignis cum cera 7 oleo rosaceo conueniens est.*

*Stercus columbarum cum melle 7 semine lini vtile est escare ignis persic[c]i 7 adustioni ignis. Stercus caprarum valet excoriationi. Stercus columbarum 7 stercus auis turde valet impetigini 7 similiter turdorum comedentium rizi.*

<sup>45</sup> The expected form here is *calidum*, as *stercus* is a neuter word.

<sup>46</sup> The term *capra* refers to female goats in particular.

<sup>47</sup> The basic meaning of *clavus* is that of a nail used in carpentry; but it can also mean a wart in general, or a tumour or sty; presumably, here it refers to a wart that sits on top of the skin, as it differs from 'regular' warts (DMLBS s.v. 3 *clavus*).

<sup>48</sup> The term *morum* can mean 'mulberry' or 'blackberry'. As it is listed here in an enumeration of different types of warts, I suggest it refers to a wart that looks in shape like a mulberry (DMLBS s.v. 1 *mōrum*). Note that Hameed 1998: 235 here has 'herpetic, claval, and thymic warts'.

<sup>49</sup> Morphea (DMLBS s.v.): 'morpheus, a skin disease'.

<sup>50</sup> The expected case here is abl. *aceto*.

**Abscesses and pimples.** Cow dung mixed with vinegar placed on warm abscesses soothes them. Goat and sheep dung mixed with vinegar, wax, and rose oil is helpful on burns. Dove dung mixed with honey and linseed is useful for a cicatrized scar caused by fire<sup>51</sup> and for burns. Goat dung heals abrasions. Dung of doves and of thrushes heals impetigo and, likewise, dung of rice-fed thrushes.

**§6. Uulnera 7 vlcera.** *Stercus canis ab ossibus cum melle confert vlceribus antiquis.*

**Wounds and sores.** Dog dung comprised of [digested] bones mixed with honey helps with chronic sores.<sup>52</sup>

**§7. Instrumenta iuncturarum.** *Ex stercore vaccarum fit emplastrum super sciaticam. Stercus caprarum proprie montanarum cum adipe porci podagre superpositum conueniens est 7 super sciaticam. Stercus porci siccum cum aceto bibitur ad infirmitatem lacertorum 7 cum cerato ponitur super torsionem in neruis 7 super durities omnes. Stercus columbarum super dolores iuncturarum conueniens est. Stercus caprarum est ex eis quae sunt experta duritiebus iuncturarum 7 apostematibus earum proprie cum aceto commixtum 7 est ex experimentis Galeni. 7 similiter cum farina ordeï 7 est ei cuius caro est durior 7 spissior magis conueniens.*

**Joints, muscles, and nerves.**<sup>53</sup> From the dung of cows a plaster is made for (i.e., to place it) on sciatica. Dung of goats, especially mountain goats, mixed with pig lard placed on podagra is also helpful on sciatica. Dried pig dung mixed with vinegar is drunk for muscle weakness, and with a wax salve (ointment) it is placed on twisted nerves<sup>54</sup> and on any<sup>55</sup> hardness (of muscles/nerves). Dung of doves is helpful when placed on joint pain. Goat dung belongs to those remedies that have been shown to work against hardness of the joints and joint swelling, particularly mixed together with vinegar, and this has come out of Galen's experiments. And, likewise, with barley meal, and it is helpful for a person<sup>56</sup> whose skin is fairly hard and dense.

**§8. Membra capitis.** *Stercus asini odoratur ad fluxum sanguinis narium fortem aut exprimitur humiditas eius in narem 7 retine(a)tur.<sup>57</sup> Et stercus columbarum confert sahafati. Inquit Galenus. Quod administratur stercus columbarum nutritarum in domo cum semine*

<sup>51</sup> Lit. 'a scar of very dry fire'—probably a burn that has become a scar. Note that the term *persic[c]i* modifies *ignis* rather than *esc(h)ara* here.

<sup>52</sup> Lit. 'old wounds', but presumably this refers to wounds that do not heal, which is why I have opted for the translation 'chronic sores' here.

<sup>53</sup> Lit. 'instruments of joining'.

<sup>54</sup> Lit. 'a twist in the nerves'.

<sup>55</sup> Lit. 'all hardnesses'.

<sup>56</sup> Lit. 'for him'.

<sup>57</sup> The expected form here is indicative *retinetur* rather than the subjunctive. I have translated it as such here.

eruce in soda *quae nominatur galea est vtile*. Stercus vaccinum apostematibus *quae sunt post aures conuenit*.

**Parts of the head.** Donkey dung is inhaled for a heavy nosebleed or its juice is squeezed out<sup>58</sup> into the nostril and it (= bleeding) is staunched. Dove dung helps against redness of the face.<sup>59</sup> Galen said that dung of domesticated doves that is administered along with seeds of colewort is useful in treating the migraine which is called *galea* ‘helmet [headache]’. Cow dung helps against abscesses that are located behind the ears.

**§9. Membra oculi.** Stercus stellionis 7 lacerti 7 crocodilli valet albugini oculi. Stercus hirundinum mirabile esse in hoc iam expertus sum ipsum.

**Parts of the eye.** Dung of newts, lizards, and crocodiles heals whiteness of the eye. I myself<sup>60</sup> have experienced that swallow dung works wonders in this manner.

**§10. Membra anhe[litus] 7 pecto[ris].** S[t]ercus porcinum cum aqua 7 vino confert sputo sanguinis 7 dolori lateris. Stercus canum ossa comedentium cum digito in palato ponitur ad sonantiam.

7 similiter stercus infantium ita vt quoniam excuset a phlebotomia sed oportet vt infans cibetur pane cum lupinis vt minoretur fetor. Stercus vacci[n]um est ex eis quae dantur pulmoni in p[h]thisi 7 similibus.

**Members of breathing and the chest.** Pig dung mixed with water and wine helps against the spitting up of blood and pain in the side. Dung of bone-fed dogs is placed with a finger onto the palate to ease coughing.<sup>61</sup>

And, likewise, the dung of infants, to save the patient<sup>62</sup> from bloodletting; but it is necessary that an infant be fed bread made with lupines, so that the foulness (= of the taste of the dung) is lessened.

Dung of cows belongs to those remedies that are given for pulmonary tuberculosis and similar conditions.

**§11. Membra nutrimenti.** Stercus caprarum 7 proprie montanarum ad icteritiam bibitur

<sup>58</sup> I.e., the water contained in the dung comes out and is absorbed.

<sup>59</sup> This is undoubtedly Arab. *sa‘afāt*, which is glossed *rubor faciei* ‘redness of the face’ (DMLBS s.v. *sahaffa*)

<sup>60</sup> The expected form here is *ipse*, expressing ‘I myself’. Although *ipsum* could perhaps be taken with *hoc*, it is more likely that we have a scribal error, in which the *-um* in *ipsum* was likely influenced here by the preceding word *sum*.

<sup>61</sup> *Sonantia* lit. ‘sound’—presumably here sound produced by loud coughing. Note that Hameed 1998: 236 here has diphtheria.

<sup>62</sup> This could also refer to an infant rather than the more general patient.

cum quibusdam speciebus<sup>63</sup> quae sunt vt piper 7 cyminum 7 similia, 7 est expertum 7 confert hydropisi more emplastri superpositum 7 bibitur secundum emplastrum ex eo 7 epithima fiat [226<sup>b</sup>] in sole.

**Members of nourishment.** For jaundice, dung of goats, particularly mountain goats, is drunk with certain spices such as pepper and cumin and similar, and it is well-proven to work against dropsy,<sup>64</sup> having been placed upon it in manner of a plaster, and the liquid, having been drained off by the plaster from it, makes a lotion in the sun.

**§12. Membra expul[sionis].** Ex stercore tauri fit suffumigatio eminentie matricis. Stercus caprarum 7 proprie mo[n]tana[r]um bibitur cum aliquibus speciebus quae sunt vt piper 7 cinamomum 7 prouocat menstrua 7 facit abortum 7 resoluit duritiem splenis 7 quod siccum est teritur 7 supponitur fluxui sanguinis ex matrice proprie cum ture 7 est expertum.

Stercus gallinarum valet colice 7 stercus adib conuenit etiam colice quae non est ex apostemate, bibitur in aqua, aut decoctio, aut in decoctione specierum quae sunt vt piper 7 cinamomum 7 reliqua quae assumuntur ex spinis aut ex planta eleuata a terra albula in quo sunt ossa, ita vt suspendatur in pelle athib salita aut in licinio de lana ouis euadentis athib aut cute cameli aut sicut fecit Galenus, qui posuit ipsum in vase argenteo. Et oportet quidem vt apud ilium suspendatur 7 confert colice. 7 quod bibitur 7 administratur in [h] ora<sup>65</sup> quietis eius prohibet ipsum secundum quod testificatus est Galenus. [Galenus<sup>66</sup>] omnino aut gradatim ordinat cum lenitate praehibendo.<sup>67</sup> Stercus arachamati facit abortum suffumigando. Stercus muris cum ture bibitur frangit lapidem 7 supponitur 7 soluit ve[n]trem infantium. Et stercus columbarum confert dolori colice quod administratur in clisteri. Et stercus canis comedentis ossa confert coloni<sup>68</sup> 7 vlceribus intestinorum clisterizatum aut bibitur in lacte decocto cum ferro aut lapidibus suppositum.

Stercus elephantis secundum quod dicitur prohibet impregnationem.

**Members of expulsion.** From bull dung a vapour bath<sup>69</sup> is made for a prolapsed uterus. Dung of goats, particularly mountain goats, is drunk with certain spices such as pepper and cinnamon and it brings on menstruation and causes abortion, and it loosens hardness of the spleen, and that [dung] which is dry is pulverized and applied internally<sup>70</sup> to stem blood flow from the uterus, particularly with frankincense, and it is well-proven.

<sup>63</sup> For *species* in the sense 'spice', see DMLBS s.v. *species, specia* 13.

<sup>64</sup> I.e., edema—a swelling caused by the accumulation of excessive fluids.

<sup>65</sup> The Latin has *ora*, but this is likely a mistake for *hora* 'hour'.

<sup>66</sup> It may be that a form of Galenus has been omitted here through haplography.

<sup>67</sup> The text appears to have *prohibendo*, which would mean 'by preventing'; as such, it is likely a mistake for *praehibendo* 'by administering'.

<sup>68</sup> The text has problematic *soloni* here. I am grateful to Dr. Klaus Dietrich-Fischer and Prof. Dr. Gerrit Bos for their suggestion to take it as the dat. sg. of *colon*, which can mean not only 'intestine', but also 'colic'.

<sup>69</sup> A *suffumigatio* lit. 'under-fumigation' is typically placed underneath an affected area.

<sup>70</sup> The word *suppositorium* can be used for an enema (or suppository), and presumably this is what is intended here: the medicine is inserted in order to stop blood flow.



Chicken ung heals colic and bear dung also heals colic that is not caused by an abscess, drunk in water or as a decoction, or in a decoction of spices such as pepper and cinnamon and others that are collected from blackthorn trees or from plants grown in whitish ground in which there are bones, so that they are hung [on the patient] in the salted skin of a bear, or in a membrane of wool from sheep who evade bears, or in camel skin, or as Galen did, who placed same (that same mixture) in a silver vessel. And it is proper also to hang it up near the groin and it helps against colic. And that which is drunk and is given [to the patient] at bedtime<sup>71</sup> prevents the same according to Galen's testimony. Galen prescribes it either all at once or gradually, by administering it [to the patient] gently. The dung of a vulture<sup>72</sup> causes an abortion by using it in a vapour bath from below. Mouse dung drunk with frankincense breaks up [kidney] stones and it is applied (as a suppository) and it loosens the bowels of infants. And dove dung administered in an enema helps for colic pain. And dung of a bone-fed dog helps with colic<sup>73</sup> and intestinal wounds either applied in an enema, or drunk in milk boiled with iron, or placed as a suppository with stones.

Elephant dung reportedly prevents pregnancy.

**§13. Uenena.** *Stercus caprarum 7 proprie montanarum decoctum cum aceto 7 bibitum confert puncture vermium venenosorum immo confert teste Galeno morsui vipere. Et stercus asini pascentum<sup>74</sup> siccum cum vino puncture scorpionis est valde bonum. Stercus gallinarum tyriacam esse fungis strangulantibus expertum est 7 facit spuere humorem viscosum grossum. Et in stercore caprarum est virtus attractiua: attrahit eni[m] venenum vespe. Stercus tauri proprie effugat vermes venenosos 7 cimices quando cum eo fit suffumigatio.*

**Poisons.** Goat dung, particularly of mountain goats, boiled down with vinegar and [then] drunk helps against the bite of venomous serpents. Indeed, it helps, based on Galen's testimony, against snake bites. And dried dung of a wild donkey mixed with wine is very good against the sting of a scorpion. Chicken dung has been shown to work as an antidote against choking mushrooms (i.e., poisonous mushrooms), and it makes one bring up thick, viscous mucus. And there is an attractive quality in goat dung: for it draws out wasp venom. Bull dung, in particular, drives out venomous worms and bugs when a vapour bath is made with it that is placed underneath them.<sup>75</sup>

<sup>71</sup> Lit. 'in the hour of his rest'.

<sup>72</sup> *Stercus arachamati* is a Latin(ized) rendering of Arab. *zibl ar-rakhamati* 'vulture excreta'. I am grateful to Dr. Nahyan Fancy for his assistance in identifying this word.

<sup>73</sup> It is unclear which affliction is meant here, but the context suggests it has to do with the intestines.

<sup>74</sup> The expected form is *pascentis*, as it is clearly intended to qualify *asini*.

<sup>75</sup> The text does not indicate whether the *suffumigatio* is placed underneath the patient, or in this case under the animals in question. I have taken it as the latter here.

## ABBREVIATIONS

AV	=	Bertochus 1489–1490
DMLBS	=	Ashdowne, Howlett, & Latham 2018
eDIL	=	Electronic Dictionary of the Irish language <a href="http://www.dil.ie">http://www.dil.ie</a>
GD	=	Sheahan 1938
IMM	=	Ó Conchubhair 1994
RA	=	Wulff 1923

## References

- Ashdowne, Richard, David Howlett, & Ronald Latham (eds.). 2018. *Dictionary of Medieval Latin from British sources*. Oxford: Oxford University Press. Accessible electronically via Logeion <http://logeion.uchicago.edu/lexidium> (accessed 7 February 2019).
- Bertochus, Dionysius (ed.). 1489–1490. *Libellus Avicene de viribus cordis translatus ab Arnaldo de villa nova*. Venice. Accessible electronically at [http://findit.library.yale.edu/catalog/digcoll:187915\\_](http://findit.library.yale.edu/catalog/digcoll:187915_) (accessed 7 February 2019).
- Bos, Gerrit, Martina Hussein, Guido Mensching, & Frank Savelsberg (eds. & trans.). 2011. *Medical synonym lists from medieval Provence. Shem Tov ben Isaac of Tortosa. Sefer ha-Shimmush. Book 29*. Leiden: Brill.
- De Vries, Ranke. Forthcoming. Medical material in the three recensions of the *Dindsenchas Érenn*. In *Dubláidi Dindsenchais. Essays on Dindsenchas Érenn*, ed. by Marie-Luise Theuerkauf. Dublin: School of Celtic Studies, Dublin Institute for Advanced Studies.
- Demaitre, Luke. 2013. *Medieval medicine. The art of healing, from head to toe*. Oxford: Praeger.
- Evrensel, Alper, & Mehmet Emin Ceylan. 2016. Fecal microbiota transplantation and its usage in neuropsychiatric disorders. *Clinical psychopharmacology and neuroscience* 14: 231–237.
- Gillies, H. Cameron (ed. & trans.). 1911. *Regimen sanitatis. The Rule of Health, a Gaelic medical manuscript of the early sixteenth century or perhaps older from the Vade Mecum of the famous Macbeaths, physicians to the Lords of the Isles and the Kings of Scotland for several centuries*. Glasgow. Accessible electronically at <https://celt.ucc.ie/published/G600010.html> (accessed 5 February 2019).
- Gupta, Shaan, Emma Allen-Vercoe, & Elaine O. Petrof. 2016. Fecal microbiota transplantation. In perspective. *Therapeutic advances in gastroenterology* 9: 229–239.
- Hameed, H. A. (trans.). 1998. *Al-Qānūn fi'l-Tibb. Book II*. New Delhi: Department of Islamic Studies, Hamdard University.
- Kelly, Fergus. 1997. *Early Irish farming*. Dublin: Dublin Institute for Advanced Studies.
- MacArthur, William P. 1949. The identification of some pestilences recorded in the Irish Annals. *Irish historical studies* 6 (no. 23): 169–188.
- Ó Conchubhair, Micheál P. S. (ed. & trans.). 1994 (2018). *An Irish materia medica*, interim edition. Cork. Accessible electronically at <https://celt.ucc.ie/published/G600006/index.html> (accessed 7 February 2019).
- Ó Corráin, Donnchadh. 2000. Rabies in Ireland in 776. *Peritia* 14: 254.
- Porter, Roy, & G. S. Rousseau. 1998. *Gout. The Patrician malady*. New Haven: Yale University Press.
- Quirke, Stephen (ed. & trans.). 2002. Manuscript for the health of mother and child. Kahun Medical Papyrus UC 32057. Accessible electronically at <https://www.ucl.ac.uk/museums-static/digitalegypt/med/birthpapyrus.html> (accessed 11 February 2019).

- Sheahan, Shawn (ed. & trans.). 1938. *An Irish version of Gualterus de Dosibus*. Washington, DC: Catholic University of America. Accessible electronically at <http://research.ucc.ie/celt/document/G600021> (accessed 7 February 2019).
- Stokes, Whitley. 1888. On the materia medica of the mediaeval Irish. *Revue celtique* 9: 224–244.
- Sugg, Richard. 2011. *Mummies, cannibals, and vampires. The history of corpse medicine from the Renaissance to the Victorians*. London: Routledge.
- Wulff, Winifred (ed. & trans.). 1923 (1929). *Rosa anglica sev Rosa medicinæ Johannes Anglici; an early modern Irish translation of a section of the mediaeval medical text-book of John of Gaddesden*. London: Irish Texts Society.