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ARTICLE

Culpeper versus physicians: deficiencies in the *London Pharmacopoeia*, his commentary and their responses

Graeme Tobyn

Abstract

Nicholas Culpeper (1616-1654) achieved notoriety for his translation into English of the pharmacopoeia of the College of Physicians of London during a suspension of censorship after the Civil War, which included many scurrilous comments about the College. In this second article of a comparative textual study, I analyse Culpeper's main lines of critique regarding the book's compound remedies – their cost, the practicality of instructions for making them up and the safety of certain opiated medicines and drastic purgative formulas – and compare this text with a later expurgated version of 1661 aimed at physicians by Culpeper's publisher Peter Cole. This version had been revised by three physicians (the 'medical editors') who deleted Culpeper's most hostile entries, modified others but let some criticisms stand. The aim is to explore in depth for the first time what Culpeper originally wrote during the Interregnum and how these observations were received in Restoration England in this evaluation of mid-seventeenth-century recipes. Culpeper criticised the costly ingredients of some medicines required by the College, questioned the soundness of their instructions for making up others and warned his readers about dangerous preparations; the medical editors brought their experience to bear in comments on the range of compound medicines and countered Culpeper's fear-mongering over their safety.

Figure 1. *Portrait of Nicholas Culpeper (1616-1654) from A Physicall Directory, his translation of the 1618 Pharmacopoeia Londinensis (Source: Wellcome Collection, Attribution 4.0 International, CC BY 4.0)*

Introduction

This is a comparative textual study of two editions of Culpeper's translation of the *Pharmacopoeia Londinensis*: one published in 1653 during the Commonwealth period when Oliver Cromwell (1599-1658) was head of state and the other in 1661 after the restoration of Charles II to the throne of England. Comparing these texts allows not only a measured expression of Culpeper's many criticisms of the Latin originals of 1618 and 1650, which he was free to make in print during the interregnum period when censorship was in abeyance and are 'eminently quotable', but also a retort to those criticisms by physicians, gentlemen friends of the publisher Peter Cole, who helped to edit the 1661 edition for changed times, when the now dead Nicholas Culpeper might appear to have been an undesirable, a religious and political extremist who had practised medicine illegally in London (Figure 1).[1] I have analysed this asynchronous dialogue in print between Culpeper and the physicians on issues of the effectiveness of remedies, their value for money and pharmaceutical preparation, safety concerns and the chymical remedies of the pharmacopoeia, and additionally list apothecary medicines in common use in mid-seventeenth-century London. This level of detail of these pharmacopeial recipes has not been presented before.[2]

In an earlier article, I explored the development and changing content of Culpeper's translations of these first and second editions of the *Pharmacopoeia Londinensis*.[3] The first edition of his translation, *A Physicall Directory* (1649), was also his first appearance in print and it brought him instant fame and notoriety.[4] His criticisms in that text were more muted than in the fourth edition of 1653, a translation of the 1650 Latin text which additionally retained the old catalogue of simples and those recipes from 1618 which the College of Physicians had dropped from this new edition. Culpeper's 1653 text was the last version published in his lifetime. His expanded commentary was much more

acerbic and scurrilous, provoked not only by his frustration at what he considered unnecessary changes made in the 1650 Latin text, since the original 1618 "should have been authentick till dooms day in the afternoon" in accord with the royal proclamation of King James on its publication, but because Culpeper was at the end of his life, increasingly bed-ridden and no nearer seeing the Kingdom of God on Earth, as he had hoped.[5]

Cole started preparing a new edition of Culpeper's translation of the pharmacopoeia after the death of Cromwell in 1658: it was an expensive folio containing a cleaned-up version of the text for selling to the medical fraternity as a key medical work Cole published under the Culpeper brand in his 'Rational Physicians Library'.[6] Cole engaged as medical editors of the book two physicians, Abdiah Cole (fl. 1602-1644) and William Rowland (active in seventeenth century), who had already been involved in translating some of the medical texts published by Cole, together with an unidentified third editor who probably had spent some time studying medicine at the university of Leiden. These medical editors removed Culpeper's anti-monarchist opinions and his insults of the College of physicians, consistently redacted his criticisms of the instructions in the pharmacopoeia for making up the compound medicines, in which Culpeper believed physicians had no skill, and countered his concern over the safety of remedies containing opium, the drastic purgatives scammony, colocynth and black hellebore and the metals lead and mercury. Of course, the medical editors had been given the brief of preparing the work for a readership of physicians, whereas Culpeper had written with the 'humble retailing apothecary' and untrained readers generally in mind.[7]

The arrangement of the compound medicines in the pharmacopoeia followed in principle the arrangement of 'method-based compounds' established by Mesue's text *Grabadin* (Table 1). According to Paula De Vos, historians are now in agreement that Mesue was not a medical figure from the Arab world, but a European writer from the thirteenth century, probably in Bologna in the period 1260-90 when Taddeo Alderotti was professor of medicine at the university there, who nevertheless acted as an important conduit of Arabic pharmaceutical learning to medieval Europe.[8] The classification of medicines in the *Grabadin* was based not on their application, nor on the parts of the body they treated, as in earlier works on materia medica such as Galen's, but on the method of their production. This highlighted the importance of the apothecary in dealing with the more advanced pharmacology and pharmacy of Arabic medicine. As the inclusion of many sugar-based preparations such as syrups, lohochs and electuaries, facilitated by the availability of crystallised cane sugar probably from India, demonstrated advances in Arabic pharmacy beyond Greco-Roman forms, so the presence of spirits, waters and tinctures in the *London Pharmacopoeia* reflected the discovery and development of alcohol (spirit of wine) as solvents for medicines in European medicine over several centuries.[9]

Nevertheless, the number of these preparations in the pharmacopoeia was still limited and greatly outnumbered by sugar-based medicines. George Urdang pointed out in his detailed study of the *Pharmacopoeia Londinensis* of 1618 that the author of the largest number of compound medicines in the book was Mesue with 166, with Galen contributing 27 and the three Nicholai (Nicholaus Salernitanus, Nicholaus Myrepsus and Nicholaus Praepositus) together a further 57, a good way behind. Among the 'more modern authors' Jean Fernel (1497-1558) authored sixteen medicines and Jean de Renou (Renaudaeus, 1568-1620) fifteen.[10] Clearly, Mesue was a powerful influence on both the design and content of the London pharmacopoeia.

Medicines in common use

A useful outcome of reading the texts in detail is the discovery of what Culpeper knew to be commonly bought medicines of the day, many of them ointments. Liquor or oil of tartar (potassium carbonate) was to be found at every apothecary in London and was sold to young women as a remover of sunburn and freckles.[11] *Diaprunum solutive* combined a gentle herbal laxative syrup and so much cathartic scammony in powder that even the College's Latin version advised on a lesser dose than that of the original author. The drug was 'that which is commonly called *Duaprunes*, which simple people take to give themselves a purge, being fitter to do them mischief (poor souls) than good, unless ordered with more discretion than they have'.[12] Also commonly prescribed were the renowned pills of Rudius *(pilulae Rudii)*, the medical editors adding that they were usually "given with *Mercurius dulcis* in the venereal pocks".[13] Surgeons frequently made use of the red-coloured, verdigris-and honey-containing 'Egyptian ointment' to cleanse ulcers and fistulas 'forcibly, and not without pain' in taking away dead and proud flesh and drying the lesion.[14]

Several more ointments listed in the pharmacopoeia were popular purchases in the Commonwealth period. One made from bay berries Culpeper recommended for easing wind and for aches and sprains, but he was at a loss to explain why 'simple people buy it' to treat the itch (syphilis).[15] The white ointment *(unguentum album),* was used to treat the 'chafing of the tender thighs

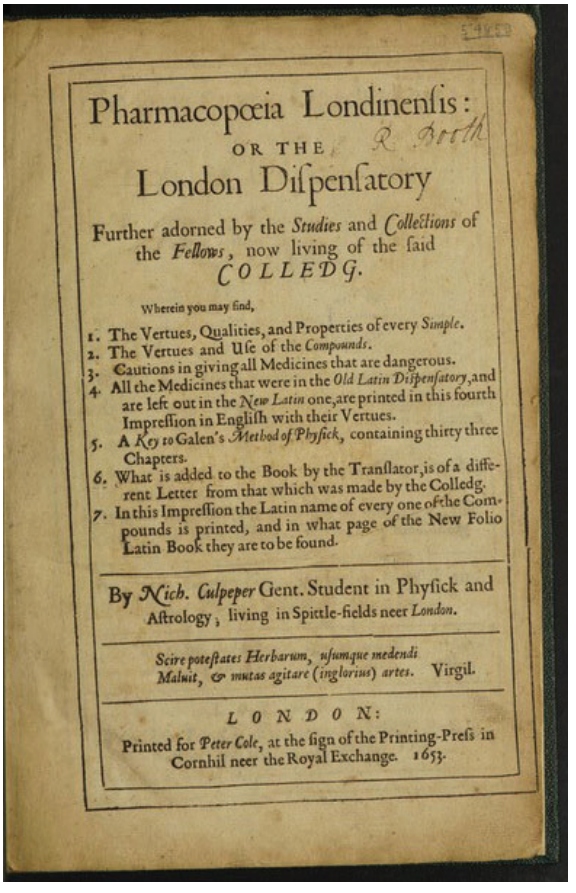
Table 1. *Index of contents in the 1649, 1653 and 1661 translations of the Pharmacopoeia Londinensis*

Section of pharmacopoeia	**Page numbers in Cole's editions**		
	1649	1653	1661
Dedication & Premonitory epistle, (C's own preface 1649), weights & measures x2 (x1 1649), Directions			
The translator's preface	1-2	1-2	n/a
Catalogue of simples	3-77	3-34	1-22
Catalogue of simples in the new dispensatory	n/a	35-54	22-35
Explanation of certain Nuncupations	78-80	57	35-36
Simple distilled waters	n/a	58-61	36-38
Compound spirits & distilled waters	80-94	62-69	101-109
Tinctures	n/a	70	109-110
wines	94-96	71-72	110-111
vinegars	97-99	72-73	111-112
Decoctions	99-102	73-74	112-113
Syrups: Purging syrups Compound syrups whose simples not in use Syrups made with vinegar & honey	103-116 116-131 131-136	101-109 109-111 111-114	114-122 123-125 125-128
Robs and Juices	136-139	115-116	128-130
Lohochs (linctuses)	139-142	116-118	130-132
preserves	142-143	118	132-133
conserves	144-147	119-120	133-134
powders	148-167	121-127	134-142
Electuaries: Purging electuaries	167-196	128-132 133-139	142-147 147-153
Pills	197-240	139-145	154-164
Troches	241-255	145-151	164-172
Oils: Simple oils by expression Simple oils by infusion/decoction Compound oils by infusion/decoction	n/a 256-257 258-263 263-270	151-158 158-159 159-160 161-164	172-175 175-177 177-180 180-184
Ointments	270-294	164-171	184-195
Cerecloaths	314-316	172	195
Plasters	294-314	173-180	196-205
Chymical oils and liquors: Chymical preparations more frequent in use The way of making extracts & salts Preparations of certain medicines	316-327 328-333 334-336 337-344	181-184 185-186 187 187-189	205-208 208-211 211 212-213
Conclusion	344-345	190	n/a
Key to Hippocrates & Galen their method of physick	n/a	191-215	214-229
Tables			

of yong children who are swathed'. Culpeper considered it a fine cooling and drying ointment which eased pain but reported the views of others that it could not be made up following the College's instructions or only with much inconvenience. He reckoned the College was not to blame for that, since it was so long since any of them had made an ointment but they were guilty 'for commanding in what they have no skill in'.[16]

The formula for *aregon ointment* was long and tedious to Culpeper's mind but the medical editors retorted

that the preparation was called the helpful ointment and was one of the leading four hot ointments with many applications.[17] They pointed out, too, that the very drying and binding plaster of calcitis or calcite (calcium carbonate), used on fresh wounds to stop putrefaction, was the surgeon's salve for all sores. They added to Culpeper's list of uses for it while excising his complaint that the College had not come up with a new name for it, now that their altered recipe no longer contained any calcite.[18] Finally, Culpeper had assessed as rather useless the barber-surgeon's plaster (*emplastrum tonsoris*), while the medical editors explained that it was a name given by common people and it had a reputation for healing the spleen, dropsy and sciatica among barber-surgeons 'and other coblers'. It had been formulated by the Byzantine Greek physician Aetius of Amida.[19]



Pharmacopœia Londinensis:
OR THE
London Dispensatory

Further adorned by the *Studies* and *Collections* of the *Fellows*, now living of the said
COLLEDG.

Wherein you may find,

1. The Vertues, Qualities, and Properties of every *Simple*.
2. The Vertues and Use of the *Compounds*.
3. Cautions in giving all Medicines that are dangerous.
4. All the Medicines that were in the *Old Latin Dispensatory*, and are left out in the *New Latin* one, are printed in this fourth Impression in English with their Vertues.
5. A *Key* to Galen's *Method of Physick*, containing thirty three Chapters.
6. What is added to the Book by the Translator, is of a different Letter from that which was made by the Colledg.
7. In this Impression the Latin name of every one of the Compounds is printed, and in what page of the New Folio Latin Book they are to be found.

By *Nich. Culpeper* Gent. Student in Physick and Astrology, living in Spittle-fields neer *London*.

Scire potestates Herbarum, usumque medendi
Maluit, & mutas agitare (inglorius) artes. Virgil.

LONDON:
Printed for *Peter Cole*, at the sign of the Printing-Press in Cornhil neer the Royal Exchange. 1653.

Figure 2. *Title page of Culpeper's translation of the 1650 Pharmacopoeia Londinensis, London, Peter Cole, 1653 (Source: Wellcome Collection, Attribution 4.0 International, CC BY 4.0)*

The cost of medicines

As he translated the pharmacopoeia Culpeper was concerned not to make the book too long with extended commentary, since the resulting cost would limit its sale to the better-off and "it should be out of the command of a poor man's purse".[20] Likewise, the cost of a medicine which contained expensive ingredients would limit its affordability. Culpeper thus was on the lookout for unnecessary expense, for instance where the purging electuary *Diacassia with manna* included both syrup of violets and sugar of violets. Culpeper originally approved the electuary as a fine, cool purge for such as are bound in body because it was based around nothing more violent than senna, but asked in his 1653 (Figure 2) version why not simply include double the quantity of the cheaper and more commonly made syrup?

> They will do anything to make their receipts dear and difficult, that so they may grow rich. A most unconscionable thing that men should prefer their own greatness before the lives of poor men and women. The stones in the street would cry out against them shortly, if I should hold my peace.[21]

Similarly, The narcotic *Nepenthes opiatum* pills, Culpeper wrote in 1653, had the same effect as the laudanum of the previous entry, but here tincture of opium was augmented with other costly ingredients; 'this is for the gentry that must pay dear for a thing, else 'tis not good'.[22] The medical editors removed the comment for the 1661 text and justified the composition as less hot and more cordial than laudanum.[23] These pills had been placed among the 'chymical preparations more frequently in use' in the 1618 pharmacopoeia, since their making required the use of a water bath which was then considered a chemical apparatus. The entry was moved to the section on pills for the 1650 edition.[24] Pushing up the price again by the addition of costly ingredients was Culpeper's complaint about the College's licking syrup of coltsfoot *Lohoch de farfara*, new to their 1650 edition but of unknown authorship, compared to the simple coltsfoot linctus in the Augsburg Pharmacopoeia, made only with the roots of the herb and honey and without the addition of marshmallow, saffron and spices. If his readers could access the foreign book, Culpeper wrote, it would reveal 'how they are led by the noses by a company of Colledg gulls'.[25] The medical editors removed this slight to the College and defended their version as 'excellently contrived' and thought "Mr Culpeper's faculties were dysjoined when he could not discern the harmonious beauty and pertinency thereof".[26]

Two prescriptions from College members included for the first time in the 1650 Latin pharmacopoeia were suitably expensive for their aristocratic patients. A cordial magistral powder (*pulvis cardiacus magistralis*), al-

though 'too dear for a vulgar purse', was for Culpeper a mighty cordial and great strengthener of the heart and vital spirits in fevers. A second great cordial, the bezoardick powder magisterial (*pulvis bezoardicus magistralis*) containing sapphires, rubies, jacinths, emeralds, pearls and unicorn's horn among 27 ingredients, was fit 'to revive the body, but it will bring the purse into consumption...Surely the College laid ill their heads together to invent a cordial that should be so dear nobody should buy it?', Culpeper asked, admitting 'I am afraid to look upon it'.[27] The physicians speculated that the formula was invented against the plague and "pestilential malignant diseases, in which cases doubtless it is very useful".[28] For another similar, costly but 'gallant' cordial powder (*species confectionis liberantis*) from the 1618 pharmacopoeia Culpeper never provided the dose, writing in 1653 that it was too expensive to buy for most people, while for those could purchase it

> Let the gentry and nobility study physic themselves, so shall they know it. For had they wanted hearts to that study no more than they wanted time and means, it had been far better for this kingdom than now it is. If a gentleman have no skill in physic himself, Dr Dunce, if he have a plush cloak on, will serve his turn.[29]

It seems that the medical editors had some sympathy with Culpeper's view, since there was no censoring of these remarks and no additional comments made. They were not quite in alignment, however, over a relatively moderately priced pill containing only aloes, wormwood and marjoram (*pilulae macri*). It was to be taken often before bed by those with impairment of the limbs for strengthening nerves and muscles, which were the fittest for poor people, Culpeper advised, since their purgative effect would not hinder their following their business at all. The medical editors chose to focus at this point on the profileration of ingredients in other compound medicines, seeming to agree with the Paracelsian critique of Galenic prescriptions about the use of succedaneums – multiplying ingredients in the hope that if one constituent of the remedy did not provoke the desired effect, another might:

> This is a good pil, but wherein the gallentery of the composition thereof consists, which Culpeper talks of I cannot see, save that it receives in its composition two drams (7.78g) of English spice (I mean sweet marjoram) instead of cloves, mace, ginger etc. and in that it is ordered to be made into a body or mass with juice of coleworts rather than any artificial and polydedalous syrup; these indeed are gallant considerations in the competition thereof and to be imitated by those who think no medicament is good but what is crouded with aboundance of simples: a practice like that of women in the composition of their kitchen physick, wherein they wil be sure to put a little of every thing that they count good; whereas two or three things pertinently and musically assembled in diet, proves more acceptable to the tast, than al their injudicious huddles. And so it is in the prescription of physick, wherein the irresolution and small judgment of the physitian in the power of simples and the true indication of the remedies, makes him geeddily multiply the simples, like bad archers that shoot many arrows at the mark that some one may come near; and like bad bowlers that throw many bowles to come near the mistris.[30]

Culpeper would have endorsed this view that the use of simples one at a time or in small combinations was better physic, and more affordable too for his countrymen when medicaments and excipients were produced from native herbs.

Experiential knowledge of the effectiveness of medicines

Comments on the effectiveness of the compound remedies from Culpeper and from the medical editors were rooted in personal observation of patients, customers or themselves, which belongs to the widespread tradition of *experimenta* with official recipes and other cures. The recording and sharing of medical experiences contributed to learned interest in natural particulars – specific items of knowledge about nature and natural processes in the early modern period.[31] For his part, although he had never completed his apothecary training, Culpeper had worked in Samuel Leadbetter's shop in Bishopsgate for a period between 1640 and 1643 (his old fellow apprentice was now qualified as an apothecary), while he was establishing his own (illegal) practice as an English physician.[32] Among the medical editors, at least one was familiar with medicine and medical training in the Low countries, although this exposure was probably too early for him to have become conversant with the testing of theoretical and factual claims involving laboratory chymicals, bodily fluids, anatomical structures, surgical techniques and drugs that, at the University of Leiden, students and professors were starting to undertake.[33] All commentators here were drawing predominantly on personal experience.

When Culpeper was unfamiliar with a medicine, he cited other opinions with the words 'authors say'. Some formulations were beyond his experience of ever

seeing made up and dispensed, so then he reverted to examining the basic ingredients for an idea of what the purpose of the whole might be. Readers were helped to do the same by his explanation of the uses of the simples listed in the first sections of the pharmacopoeia. For instance, Culpeper was quite unfamiliar with a recipe newly inserted into the 1650 pharmacopoeia, a *plaster of sparadrap.* The effect of the plaster he determined would be an astringent one and the medical editors did not disagree, advising it for ulcers, to breed new flesh and close up the lesion perfectly with a scar.[34] Sometimes the editors also moved to understand the purpose of an unfamiliar medicine from its composition, but their brief was to defend the College's chosen recipes and they mostly made sure to supply further uses of the prescription, whether they needed to excise Culpeper's comments or not.

From the beginning Culpeper demonstrated his knowledge and familiarity with different pharmacopoeias and dispensatories. His 1649 discussion of the provenance and effects of aromatical pills (*pilulae alephaginae*), a mixture of spices, woods and aloes boiled down then formed into pills with myrrh, mastic and syrup of wormwood, pointed out that the recipe differed from the original one attributed to Mesue through omission of some ingredients and a reduction in the quantities of others. Culpeper wondered if the College's formulation was closer to that of the Parisian physician Jean de Renou and added that some questioned whether either version matched Mesue's original for cleansing and strengthening the brain and stomach. Of his own trial with the pills, Culpeper wrote "I have often made experience of it on my own body and alwaies with good success in such occasions and therefore give me leave to commend it to my countrymen...one drachm [3.89g] taken at night, going to bed will work gently next day". Further experience with the medicine must have led him to add in 1653 that at this dose the recipient had better keep to his home, while a dose of only half a dram would allow him to 'go abroad'.[35] The medical editors accepted Culpeper's advice based on his own experience but removed his discussion of the changes from Mesue's formulation, presumably because it cast doubt on the quality of the recipe which the physicians had included in their pharmacopoeia.[36]

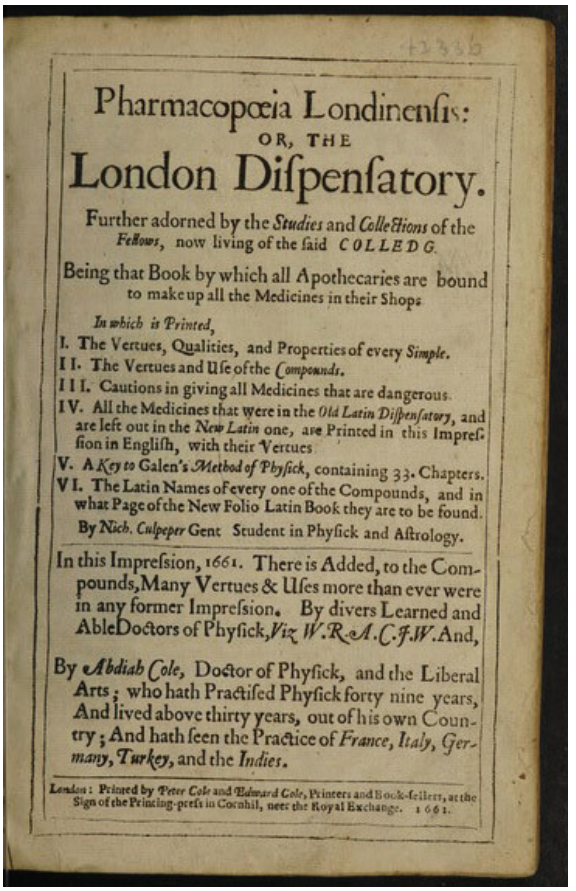
Culpeper had personally also taken Mattioli's bezoar water. After denouncing the author's claim to have cured a thousand victims of rabies at a dose of four drachms [14.4 ml] of the liquid as hyperbole, an 'elegant lye', he admitted:

For my own particular part, thus much I can testifie by experience in the commendations of it: I have known it given in acute, in peracute fevers with gallant success, and also in consumptions, yea, in hecticks and in Galen's supposed incurable *marasmus* [adding against this in the margin 'which had it been so, myself had not been alive to have written this book'], neither hath it missed the desired effects.[37]

Clearly Culpeper had suffered at least one serious health crisis before his translation came out in September 1649, probably an acute exacerbation of an underlying consumption related to the chest wound he received in the Civil War. He complained of a sickly life in the preface to the following year's edition of the pharmacopoeia, then reported himself well in 1651, spent the summer of 1652 away from London for fear of the plague and his inability to survive it, and was in decline towards death in at least the second half of 1653.[38]

Culpeper also had cause to take Galen's *hiera picra*, dubbing it in 1649 an 'excellent remedy' for 'vicious juyces' lying in the stomach which provoke 'idle fancies' and strange visions and sounds 'when they are in bed and between sleeping and waking'. By 1653 he had rejected the College's recipe for this electuary 'so bitter a dog would not take it', instead adding only so much honey to make the mass of herbs into pills, then taking a scruple at night to cause a gentle purge the following afternoon.[39] A cumin plaster (*emplastrum e cymino*) he knew was an excellent remedy for the wind colic: "this I have often proved, and alwaies with good success". He clearly had never made up this plaster himself but bought it over the counter at the apothecary's because, although doubtful that the College's recipe contained enough oil for a successful product, he accepted that "they that make of it know better than I: I judge but by reason, they know by experience".[40]

He further told readers not to disparage the pine resin ointment for sprains, for he had known a Sussex gentlewoman in his childhood do much good with it 'even before their dispensatory was ever hatched, or in the egg'.[41] Another recollection from that time, also recorded in his 1649 translation, was not so happy, however. Red lead ointment, known in the modern world as toxic and harmful, was a common skin application then, as drying a preparation 'as a man shall usually read of' and this and its cooling action indicated it for sores and defluxions of fluids, for which Culpeper believed that it seldom failed. Nevertheless, he continued "I remember once Dr Alexander Read applied it to my mother's breast when she had a cancer, before it brake long time but to as much purpose as though he had applied a rotten apple".[42] The medical editors however found it exceedingly good for 'ill-conditioned ulcers' which had not closed up after a significant length of time.[43]



Pharmacopœia Londinensis:
OR, THE
London Disfpenfatory.

Further adorned by the *Studies* and *Collections* of the *Fellows*, now living of the faid *COLLEDG*.

Being that Book by which all Apothecaries are bound to make up all the Medicines in their Shops

In which is Printed,

I. The Vertues, Qualities, and Properties of every *Simple*.
II. The Vertues and Use of the *Compounds*.
III. Cautions in giving all Medicines that are dangerous.
IV. All the Medicines that were in the *Old Latin Disfpenfatory*, and are left out in the *New Latin* one, are Printed in this Impreſſion in Engliſh, with their Vertues
V. A *Key to* Galen's *Method of Phyſick*, containing 33. Chapters.
VI. The Latin Names of every one of the Compounds, and in what Page of the New Folio Latin Book they are to be found.

By *Nich. Culpeper* Gent Student in Phyſick and Aſtrology.

In this Impreſſion, 1661. There is Added, to the Compounds, Many Vertues & Uſes more than ever were in any former Impreſſion. By divers Learned and Able Doctors of Phyſick, *Viz W.R. A.C. F.W.* And,

By *Abdiah Cole*, Doctor of Phyſick, and the Liberal Arts; who hath Practiſed Phyſick forty nine years, And lived above thirty years, out of his own Country; And hath ſeen the Practice of *France*, *Italy*, *Germany*, *Turkey*, and the *Indies*.

London: Printed by *Peter Cole* and *Edmund Cole*, Printers and Book-ſellers, at the Sign of the Printing-preſs in Cornhil, neer the Royal Exchange. 1661.

Figure 3. *Title page of Culpeper's translation of the 1650 Pharmacopoeia Londinensis, London, Peter Cole, 1661 (Source: Wellcome Collection, Attribution 4.0 International, CC BY 4.0)*

Pharmaceutical preparation of compounds

On the title page of the first three editions of his translation of the pharmacopoeia (1649, 1650 and 1651), Culpeper adjoined to the book's title the words "made by the Colledge of Physitians of London and by them imposed upon all the apothecaries of England to make up their medicines by".[44] He was alert to the difficulties the apothecaries faced in being required to make up any of its compound medicines on receipt of a prescription from a physician. There was, however, opportunity too: Culpeper's English version, he reckoned, would make the public aware of the names and uses of the different compound medicines prescribed by physicians, which they then could purchase at their local apothecary shop. This in turn would financially benefit the apothecaries, but only if the College of Physicians had made clear which formula was to be made up, which ingredients it contained and the quantities of each needed in its preparation.

Consequently, in his commentary Culpeper was often critical of the instructions provided to apothecaries for making up the recipes. Once or twice he gave credit to the College for their innovations, as for *Diasatyron* or electuary of orchids about which he wrote in 1649 'either the Colledg or the printer left out cicer roots seven drachms which I think are proper to the receipt [of Nicholaus]. They also added the loins of scincus [lizard] and the nettle seeds, and in so doing they did well'.[45] When he translated the 1650 edition, however, he identified many small changes made to the recipes of what he took to be a stable pharmacopoeia, and recognised little of value in them. The medical editors of the 1661 edition seemed set on rejecting all Culpeper's criticisms of the instructions for making up the medicines listed, as if this was an affront to the greater knowledge of the College physicians (and possibly the medical editors also).

From the beginning Culpeper found the physicians failing to live up to the promise in their 1618 Epistle to the Reader "to appoint a certain measure or weight in all compositions which should not be added to, nor taken away from". This was a commendable stance because the same measure in all shops would produce a standard composition with predictable effects in practice so that physicians would know more precisely when its use was indicated.[46] Culpeper supplied missing quantities in recipes when he came across them, for instance, in that for the *Syrupus Champitys*, where the College did not specify what the 'sufficient quantity' of water was in which the herbal ingredients were to be boiled, to what volume it was to be reduced by the decoction, nor the amounts needed in the final syrup to 'perfume it with cinnamon, nutmegs and cubebs, according to art'. Culpeper wrote only half-seriously that he did not want to suggest it was negligence or forgetfulness for fear of offending the College and its physicians.[47] In his translation of the 1650 edition (Figure 3), Culpeper could report "I bid them mend it for shame last time and the truth is, so they hav; before it was a hodge-podge that could not be made and now tis a hodg-podge only not worth the making".[48]

In another clear example of the difficulty of following limited instructions for making up a recipe, in this case Matthias's compound spirit of Lavender new to the 1650 Latin edition, Culpeper asked: was the gallon of lavender flowers to be heaped or struck, pressed down in the menstruum or not and for how long to produce a 'convenient digestion'? How much of the first distillation was to be drawn off? When it came to adding fresh flowers of cowslip, borage and bugloss, how could this be achieved when In England cowslips appeared at the end of April but the others not until the end of June

and into July? More obviously impossible was the requirement for fresh orange leaves, which confirmed for Culpeper that "a Dr Ignoramus followed Matthias and never considered he lived in a different climate". Even if an apothecary could make up the remedy, he mused, would its medicinal virtues be worth even half the cost to them of ingredients of pearls and emeralds.[49] These examples suggest that more than 30 years after the original edition of the pharmacopoeia, the new committee of physicians revising what would be the 1650 text still seemed unable to provide exact pharmaceutical instructions. In the 1661 text, these comments from Culpeper on the preparation of these medicines were expunged and replaced alongside the unchanged recipes with more indications for use from the medical editors. Moreover, they advised the medicine, when used for the convulsive fits of children should be 'well allaied' with the waters of cowslips, black cherries and Lilly-convally and sweetened with the syrup of the juice of black cherries'.[50] Clearly, as physicians themselves, they had no hesitation in piling on cost for their prescriptions.

Lesser problems of compounding were highlighted by Culpeper for the *Electuarium passulatum*, for which the formula was so "mysterious…a man can hardly give directions how to make it" although Culpeper did his best in advising on the order of processing, while in the *dialacca* powder the resins myrrh and bdellium had to be dissolved in wine, not beaten into a powder like the other ingredients which would take a very long time.[51] The composition of electuary of flakes of iron from Rhases gave no dose for the various myrobalans among the ingredients until Culpeper supplied it, citing the author of the recipe himself and questioning the care of the authors and the vigilance of the printer of the 1618 edition. "Why do they meddle with what they have no skill in?" Culpeper asked. "And yet forsooth 'tis two-penny treason to swerve from their ridiculous receipts".[52]

All these critical comments were removed by the medical editors in 1661 although the College had responded to such critical commentary from Culpeper by making changes to recipes in their 1650 pharmacopoeia, for instance, over the correct ingredients for Mesue's aromatic powder of cloves and the quantity of whey needed to make Fernel's electuary *Confectio Hamech*.[53] This electuary contained colocynth and purged violently, so Culpeper also advised the unskilful not to take it internally, but they could use it in an enema, presumably mixed with the usual demulcent herbs in a standard formulation for an injection. For their part, the medical editors omitted Culpeper's joke that the College had no more skill in making up a medicine than "a cow hath in dancing" – typical of the increased level of abuse in his 1653 edition compared with his first edition in 1649 – and added exact advice about how to mix the medicament for different situations, concluding: "experience in thousands hath shawed this medicament to be safe enough, for all Culpeper's panick feares".[54] Similarly, a recipe for spurge pills contained enough gum tragacanth, Culpeper judged, to make six times the intended amount, but on account of the amount of spurge seed in it, the pill "seems more fitting for a horse than a man, I leave it".[55] The medical editors omitted this and explained that it was a recipe of Fernel's for dropsy and should only be used on the strong bodies of ploughmen and other labouring sorts up to a dose of 2 scruples [2.6g].[56]

Culpeper queried the instructions for preparing hellebore which was used to purge black bile from the body. A section on the preparation of simple medicines at the very end of the pharmacopoeia directed that the roots of black hellebore with piths removed be steeped in quince juice over a moderate heat for three days before drying and storing for use.[57] Culpeper therefore questioned the boiling of hellebore in several recipes, such as Mesue's syrup of roses solutive since 'if you do you had as good as put none in'.[58] Similarly, for a honey of white hellebore, which required a whole pound of the roots in 14 gallons boiled to half the volume, before the honey was added, it was in Culpeper's opinion enough boiling to boil an ox and either the medicine would be useless or so strong it would kill. The medical editors agreed it was a violent medicine not to be used but with great caution when gentler medicines would do no good. They had not experimented with this medicine so could not provide a dose but thought that the hellebore was sufficiently corrected by the double boiling to reduce the volume of water so that the spiritual parts, wherein lay the purgative quality, were evaporated.[59] Such reasoning must have only reinforced Culpeper's view that learned physicians knew little about pharmacy.

In these various criticisms over pharmaceutical processes and products Culpeper displayed his knowledge of source texts and variations in the contents and preparation of the standard medicines of his day. In the 1618 pharmacopoeia, for example, an eclegma of squills was wrongly credited to Mesue. Culpeper thought that Mesue was an Arabic doctor and would have used the Arabic term lohoch for such a thick syrup and anyway recognised the College had copied Galen's recipe. For the 1650 pharmacopoeia, as Culpeper was subsequently able to point out, Mesue's recipe for this lohoch was substituted for Galen's disguised by the removal of the names of the authors of the recipes in that edition.[60] The electuary 'Triphera the greater' was wrongly placed

among the purging electuaries (and was variously named 'lesser' in 1618 and 'greater' in 1650) since it contained no purgatives but was, in Culpeper's view, a binding remedy.[61] Culpeper quoted Mesue himself on the uses of the opium-containing electuary *Phylonium persicum*, although he only realised the recipe more closely followed the formula of physician Johann Wecker (1528-1586) in the 1618 edition when the quantities of ingredients were changed in 1650 to match Mesue's formula.[62]

On the overall composition of medicines, Culpeper objected to the mixing of cordials and purgatives as incompatible in compound medicines, as in the *oxymel helleboratum* or the *electuary of citrons solutive*, or of including sesame oil, which Culpeper considered a purging pulse, with binding agents in an oil of nard.[63] The ingredients for the bitter ointment were also so discordant "as a second and a seventh in music which can hardly be reduced to harmony".[64] The medical editors once again removed all these comments, adding their own uses for each medicament, and while they thought the name 'bitter ointment' was childish since ointments were not to be eaten, the ingredients were well matched "though Culpeper wanted intellectual spectacles to see their agreement".[65] Finally, on powders prepared for dispensing in the form of electuaries, Culpeper considered that their strength was better preserved already made up in this way for holding in stock.[66]

Safety concerns: opium, hellebore, quicksilver, scammony

In making accessible to readers the names and ingredients of the College's medicines hidden in its Latin text and to append their indications for use for all to follow, Culpeper faced being challenged over the issue of safety, of putting the health of the public at risk. That medical knowledge in the hands of the untrained was dangerous was a typical argument employed against unlicensed healers, as he well knew. For, in his early days of illegal practice, in December 1642, he had been imprisoned on a charge of witchcraft alleged by one of his patients, Sarah Lynge, who languished until mid-January, but he was acquitted.[67] Culpeper was therefore careful to moderate his explanation of uses of the simples from the very beginning. In his first translation of 1649, Culpeper conceded that "many of the operations I buried in silence for fear knaves should put them in practice to do mischief", and in a conclusion to the work counselled "Once more let me advise the ignorant not to be too busie with what they have no skill in; for as physic...was never ordained for disorderly and disobedient persons, so was the administration of it never ordained for dunces".[68]

It soon transpired that the level of ignorance among his readers about the medicinal products he had revealed in the pharmacopoeia required additions to the second edition of his translation issued in 1650, where he had to point out that neither ointments and waxy mixtures for spreading on plasters nor compound oils mixed with wine and herbs were for eating! He further inserted a large introduction to the expressed oils which explained the different actions an oil-based preparation for external use might have, while the section on spirits and compound distilled waters was now prefaced by a warning that these were hot medicines which were suited only to certain temperaments, qualities of disease, age and season. Culpeper provided a description of the four temperaments for the reader to be able to identify their type and so decide whether such powerful distillates were suitable. Also, Culpeper's decision to forego inserting doses for medicines in the first edition now looked like a mistake needing rectifying, as readers had requested him to do, and he drew on his apothecary training and experience in practice to provide doses for many simples and compounds, to add to those for a small number of the more dangerous preparations he had included in the first edition.[69] The correctness of making such knowledge available in England, however, was not in doubt:

> I hope they will quickly discern, and time will quickly determine whether my book do them (the commonalty of this Nation) good or harm, it being the general outcry among the city self-seekers, that I do harm by instructing people in a way to give themselves physic, because thereby (forsooth) they will take such physic as is preposterous. I call heaven and earth and all the powers therein to witness, that I was as careful as possibly I could in giving admonitions in every medicine, the effects of which is any way dangerous. I would fain know if ignorance be not the cause, the only cause of people's taking preposterous physic, and whether to hide the rules of physic from people be not the way, the only way to make men and women the more ignorant in physick.[70]

Here I explore Culpeper's warning concerning the use of these more dangerous preparations, namely those containing narcotic opium, the powerful purgatives scammony, colocynth and black hellebore, and the toxic metals quicksilver or mercury, and how in their turn the medical editors edited and responded to these.

Laudanum is perhaps the most famous preparation of opium, originally a secret creation of Paracelsus reformulated into a popular tincture in England by Dr Thomas Sydenham, which was still in use in the twen-

tieth century.[71] Culpeper appears to have been quite familiar with the College's formulation of an opium pill, for he was able to specify in 1649 "not above two grains of it at a time to mitigate pain and procure sleep", and if that didn't work "the next night you may make bold with three', always having a care with such opiates 'lest you make a man sleep until dooms-day".[72] The medical editors were happy with these comments and they added further indications that also had to be 'artfully and seasonably administered; otherwise, being empirically used, it is dangerous' – a standard caution of physicians against use by the untrained.[73] However, with the opium-containing pills of hounds-tongue attributed to Jean Fernel, Culpeper "overshoots in assigning the dose of this pill" as a scruple (1.3g) before bed, and the physicians' more detailed advice specified only half a scruple at night every other night for a week for pain or cough that kept the sufferer awake.[74] Culpeper preserved another narcotic remedy, syrup of poppies, in his 1653 edition, although the College had omitted it in 1650, not only keeping his 1649 advice on 'caution and wariness' in use, asking readers to remember 'my former motto: fools are not fit to make physicians', but explaining in 1653 why the dose had not been provided in this case: since "it is an usual fashion for nurses when they have heat in their milk by exercise or strong liquor" to dose the infants in their care with this syrup in order to get them to sleep, the nurses were instead to keep their own bodies 'temperate', then the children would sleep unaided.[75] The medical editors simply added other uses of the syrup but without stated doses, seemingly satisfied with this admonition of wet nurses.[76]

Likewise, the opium-containing electuary *Philonium Romanum* Culpeper judged "a most exquisite thing to ease vehement and deadly pains" in conditions like the stone and strangury when "ordered by the discretion of an able brain, for it conduceth little to the cure" but held back on offering other known uses of the preparation "resting confident that other remedies may be found out for them in this book as effectual, and less dangerous".[77] The medical editors omitted this last point – the 1661 text was precisely for a skilled and experienced medical profession - and replaced 'an able brain' with 'a physician', so re-affirming the propriety of physicians over such deadly medicines.[78] For his part, Culpeper struggled with providing dosages for potentially deadly medicines, confessing in the 1653 entry on Mesue's opium-containing pills of storax that "it was the urgent importunity of friends moved me to set down the doses, they may do wise men very good and therefore I consented. If people will be mad and do themselves mischief, I can but warn them of it, I can do no more".[79] For example, another opium-containing medicine, an electuary of Nicholaus for obtaining sleep ('Requies'), might bring madness or folly instead of rest, if too much were taken and Culpeper advised external use only, applied to the temples and wrists.[80] The medical editors approved it for sleep more than laudanum but noted that it was not in vogue in London where medicaments

> come in fashion and go out again, according to the fancies of some eminent collegiate practitioners, who are imitated by the rest…As to the danger which Mr Culpeper intimates, Mr John Grindal a learned apothecary dwelling in Amsterdam assured me that he had frequently given it to a boy of his when very young and yet the boy proved afterwards a lusty healthy and witty knave. It is frequently used by the discreet practitioners of that renowned city.[81]

If Culpeper saw a real value in opiates to relieve severe pain, he stood with Paracelsian medical reformers in opposing the harsh regimes of purges and vomits practised by Galenic physicians. This is most clearly expressed in his herbal in the entry on asarabacca, a European plant included in a number of recipes in the pharmacopoeia, where he advised 'ignorant people' to avoid use of the leaves, which provoked vomiting more forcibly than the root, in favour, if need be, of a dram (3.89g) of the powdered root in a quart of white wine in the morning. He continued:

> The truth is, I fancy purging and vomiting medicines as little as any man breathing doth, for they weaken nature, nor shal ever advise them to be used unless upon urgent necessity. If a physitian be Natures servant, it is his duty to strengthen his mistris as much as he can and weaken her as little as may be.[82]

Culpeper supported the use of more gentle purges such as pills of eupatorium, imperial pills and of hiera with agarick, which contained the more mildly laxative herbs senna, rhubarb and aloes, still in use today. He admitted that "in truth I was before sparing in relating the doses of most purging physicks": the doses should really be judged according to the strength of the patient, ascertained in consultation with them, for "Physick is not to be presumed upon by dunces, lest they meet with their matches and over-matches too".[83] He consequently gave many cautions in the section on purging electuaries and among the pills: some he warned readers to avoid; others he considered were not sufficiently formulated and 'corrected'. Putting the safety of his readers above his opposition to the College

of Physicians' monopoly of medicine in London, he advised in 1653 against having "the unskilful too busie with purges without the advice of a physician".[84] The College's compound powder of hermodactils, which first appeared in the 1650 Latin edition and was composed of equal parts of four purgatives including scammony and hermodactils *(Colchicum autumnale),* 'men's bones burnt' and sugar, Culpeper called 'a devilish purge' and pleaded "dear souls, avoid this medicine, else the Colledg will have mens bones enough to burn, it may be they appointed it for that end".[85]

This was not simply an angry reaction to the inclusion of human body parts in the formula: the medicine was dangerous without other carminative or demulcent ingredients needed to correct the violent effects of such cathartics on the bowels. The medical editors defended the prescription, claiming it was originally composed by Paracelsus (*pulvis artbreticus*), 'nor is it so dreadful a thing as Mr. Culpeper imagines', being effective against the gout and toothache.[86] Culpeper was also irreconcilable with *benedicta laxative* containing hermodactils, turbith and *diagridium* (a preparation of scammony) for purging phlegm from the joints which cause gout and other inflammations. He withheld the dose for this preparation too, fearing that "foolish women and dunces do themselves and others a mischief" with this violent purge that he reckoned "kills more men than cures".[87] On diagridium, a preparation obtained by baking powdered scammony root in a de-cored quince, Culpeper wrote:

> Scammony or diagridium, call it by which name you please, is a desperate purge, hurtful to the body by reason of its heat, windiness, corroding or gnawing and violence of working, therefore let it be well prepared according to the directions in the latter end of the book and administered by a skilful hand.[88]

The medical editors nevertheless erased this opinion and provided a dose.[89] On another cathartic medicine, *diaprunum solutive*, commonly called 'duaprunes' by 'simple people' in search of a purge, Culpeper entreated them to have a greater care of themselves and not to "meddle with such desperate medicines: let them not object to me they often have taken it and felt no harm: they are not capable of knowing what harm it may do them a long time after". Culpeper recited an old proverb: the pitcher never goes so often to the well, but it comes broke home at last.[90] The medical editors removed this lengthy comment and advised the electuary in all choleric diseases.[91] They also countered Culpeper's criticism of the purgative pills *ex duobus* (from two), composed only of the violent cathartics colocynth and scammony made into pills with some syrup of purging thorn and oil of cloves. The medical editors identified these to be what the people of London "have so much sought and so dearly bought under the name of *De Lawne* his head-pills".[92] Culpeper was alarmed at the poor formulation of these: "surely the Colledg intend to go to hell and to give phisick to the devils" for inventing such a purge without ingredients to correct the corrosive effects of the active constituents, which were "not only too strong, but also of a base gnawing nature"; the doctors should be forced to take it themselves, "that so they may gnaw out their ill condition".[93] The medical editors replaced the whole of this entry with a defence of the prescription on the grounds of convenience, safety and popularity: that it was designed for those who would not take more than one or two pills at a time; that "after strong physick taken in the morning, it is good for the patient to dine timely", whereby such items as thin broth of veal and posset drink might 'wash' such medication from the stomach and continue its beneficial effects; and that the 'chymical oyl of cloves' in the pill mass, "as if a great quantity of spices were added in substance, as the manner is to correct ordinary pills", by its "delicious aromatic flavour corrects the malignancy, and by its oyly body muffles and sheathes the acrimony of the coloquintida [i.e. colocynth] and scammony". The physicians continued:

> For all Culpeper is in such an affright at the contemplation of these terrible pills, yet I have been assured by a learned and expert practitioner in this City of London now living in this present year 1659, that a smal pill thereof has been given to children successfully against the worms, and without any danger.[94]

A different mode of preparation of a strongly purgative remedy, however, met with Culpeper's approval. The *pilulae Rudii*, a consistent seller at the apothecary's shop, was "the dearest, so in my opinion it is most excellent in operation of all the pills in the dispensatory" because the recipe required its purgatives colocynth, scammony, black hellebore, turbith and aloes to be processed as a tincture after which "the terrene part is cast away…whereby …it cannot lie gnawing in the body so long". The medical editors took the opposite view, considering it a good pill for general purging, but because of its way of preparation they may not be "in al cases so effectual as those other pils that are more material and less spiritual".[95] Such escalation of purgative effect often went too far, however, as was the case with the *pilulae arthriticae* of Nicholaus. Culpeper checked in the Salernitan *Antidotarium* the original quantity of one drachm (3.89g) of scammony in the pills and found the Col-

lege's quantity of one ounce eight times larger, warning "made up as the Colledg prescribes, I durst not take them myself" and so wouldn't prescribe them to others. He suspected that the presence of aloes in the formula might have been thought to mitigate the effects of the ounce of scammony, for

> I know well enough it is the opinion of doctors that aloes retards the violent working of scammony, I could never find it, and I am the worst in the world to pin my faith upon another man's sleeve, and I would as willingly trust my life in the hands of a wild bear as in the hands of that monster called TRADITION.[96]

The College left this formula out of their 1650 second edition of the pharmacopoeia but Culpeper retained it in his 1653 translation alongside all such recipes from 1618 abandoned by the College – an editorial decision to preserve the integrity of the pharmacopoeia and reject the perception that the old one was "cast away like an out-of-date almanac" – no matter how unconducive to health he considered them.[97] For their part, the medical editors in 1661 made no attempt to defend this prescription.

Other cathartic remedies contained black hellebore, which was considered effective in diseases of melancholy or 'black choller'. Culpeper deemed the pills of lapis lazuli, containing both scammony and black hellebore, "not fit for vulgar use", adding that here was not the place to debate how or in what instances to use violent purges to treat melancholy. The medical editors listed all conditions that "experience hath shewed" the pills were effective at treating, notably hypochondriacal melancholy, although the treatment was apt to make the person worse "while the humours are in motion", but once the body had 'settled', the patient saw improvement. This was normal, they asserted: in this disease "al medicaments seem to hurt at first, but afterwards their good effect discovers itself". Nevertheless, where the senses were disturbed by a 'black-cholerick humour' as in hypochondriac melancholy, such cathartics must be "warily used, lest in going about to cure a melancholick man, you make him stark mad". Concurrent use of goat's milk whey and stewed prunes aided tolerance of the purge. Where, however, the melancholic disease was more in the body, "affecting the heart with sadness but not much affecting the fancie" and producing pains in the sides and skin eruptions, then the purges could be more safely used. To secure this point against the fact that "Culpeper seems much afraid of these pills and says they work very violently" or that the reader may think the dose of them too large, the medical editors accurately demonstrated a calculation of the quantity of each of the ingredients present in the dosage range they cited.[98]

Culpeper also showed concern over recipes containing another purgative herb easily obtainable in England, the white bryony. In his herbal, he recommended instead using the pharmacopoeia's bryony compound water and for skin problems the *Faecula bryoniae*, a weak precipitate of the pressed juice made into an ointment. This was placed in the section at the end of the book on the preparation of certain simple medicines where instructions on preparing diagridium and black hellebore roots were also to be found. For, ingested, bryony was a "furious martial plant…it purgeth very violently and needs an abler hand to correct it than most country people have, therefor it is a better way for them (in my opinion) to let the simple alone, and take the compound water of it mentioned in my *Dispensatory*".[99] In other words, for such a toxic plant, it was better to drink a prepared extract made skilfully by an apothecary than to resort to a home-made decoction of the dug root. The medical editors let Culpeper's warning stand and added further uses of the ointment.[100]

On preparations which contained metals, Culpeper showed awareness of his status as an irregular practitioner compared with university doctors when rejecting the use of *unguentum catapsoras*, an ointment with ingredients of burned lead and quicksilver for the itch: "they are Collegiates that appoint them and may do what they list, *nemine contradicente* [without contradiction]".[101] His comment was replaced with the medical editors' own cautions around the ointment's uses, including for gonorrhoea, which necessitated its application "upon the back, where the kidneys are quartered, and upon the testicles, and asswage bodily lust and carnal desires. Yet there is some danger therein, in regard of the quick-silver, and therefore it must not be anointed rashly upon the back-bone, whence the nerves are derived".[102] Culpeper dismissed 'sief of lead' (a topical application for the eyes) as a 'scurvy medicine', and one he had no personal experience with, which the medical editors let stand without comment.[103] Similarly, an ointment of lead, used one time or another, Culpeper wrote "'twill go neer to do more harm than good", but for this the medical editors provided uses: filling the cavities of ulcers, removing proud flesh, including haemorrhoids, and creating a scar over old sores.[104] Two recipes for *enulatum*, an ointment of elecampane with or without two ounces of mercury added, Culpeper summed up as "invented for the itch; without quicksilver it will do no good, with quicksilver it may do harm". The medical editors deleted the comment then wrote in reply to it that both ointments were beneficial for the

skin lesions of syphilis but that with quicksilver is more effective "but may bring aches upon the party that use it".[105]

The College's instructions for preparing the mercury-containing ointment of Naples for the treatment of syphilis suggested that the harmful effects of mercury, once 'strained through lether' might be 'killed with spittle four ounces'. Culpeper marvelled at the credulity and judged the product "a learned art to spoyl people: hundreds are bound to curse such oyntments and those that appoint them. 'tis not enough for a man to be plagued with the pocks, but he must be worse plagued with preposterous medicines". The medical editors turned the tables on Culpeper, striking out his entry and supplying their own: that use of the ointment produces an evacuation known as fluxing, which "should be performed only after purging; that, indeed, the true artist will cure the disease 'timely taken' without resort to fluxing, which is a dangerous practice" resorted to by "empericks and empirical surgeons…to make quick work, and by abating the symptomes to perswade the patient that the disease is cured, minding more their own gain then the real good of the poor patient, the remedy many times proving as bad as the disease".[106]

Culpeper seems clearly to be set against medicines containing metals, without any technical argument for doing so. Neither could he be persuaded that the corrosive cinnabar plaster did anything other than 'poison men's wounds'. The medical editors defended it by suggesting it was used "to eat a hole in the skin for an issue in such as feare to have their skin cut with a knife". They believed[107] too that "some mountebanks may use this plaster in the venereal disease". So, even if you reject the cruel treatments of the Galenic physicians, you might receive the same from a quack.

Chymical preparations

The 1618 pharmacopoeia contained 122 chymical remedies and this number increased slightly to 130 in the 1650 edition. These were divided into chymical oils, 'chymical preparations more frequent in use', the way of making salts and extracts and the preparation of certain simple medicines. Their inclusion at the back of the pharmacopoeia reflected the compromise position adopted by English physicians towards chymical medicines since the later sixteenth century: acceptance of alchemically prepared remedies, but not the accompanying Paracelsian occult philosophy. The authors of the remedies were not named to avoid having to mention Paracelsus among them, it being safer to print the formulas than the names of iatrochemists.[108]

When coming to translate these final sections of the pharmacopoeia, starting with the chymical oils distilled from plants, Culpeper baulked at the first entry on oil of wormwood, advising his readers not to follow the College's directions but that

> Your best way to learn to still chymical oyls is to learn of an alchymist: for I rest confident the greatest part of the College had no more skill in chymistry than I have in building houses: but having found out certain models in old rusty authors, tell people SO they must be done.[109]

Nevertheless, committed to rendering a faithful translation, he felt "tied to their method here". Since most of these 'chymical oils' were simple distillations of crude substances – parts of plants, minerals and stones – Culpeper was able to relate with confidence indications for the use of these (what I will term) spagyric preparations.[110] This confidence extended to his note in the margin that an oil could not be obtained from jet in the manner described by the College of placing the stone in a retort in a fire, which he replaced in 1653 with "Hold learned Colledg, do not go about to teach an alchymist thus in your chymical shop you have erected in your Colledge garden, if you do you will break your brains, and so of fooles turn mad men".[111] When, however, he reached the subsection of 'oyl of minerals and stones', he felt the need to point out again his own lack of knowledge, as well as the College's poor method, which could not help the ignorant to be any the wiser about these remedies but about which

> To alchymists (to whose profession the making of them belong), I shall seem like Phormio the philosopher who never having seen battle undertook the read military lectures before Hannibal, who was one of the best souldiers in the world.[112]

Culpeper was able to append some uses to half of the ten oils, including *oleum salis* (hydrochloric acid HCl) and *oleum sulphuris* (sulphurous acid H_2SO_3), presumably on the basis of his experience working in apothecary shops. The medical editors kept these but removed his references to the College's lack of knowledge in alchemy and inserted their own comments where there was now a blank or added theirs to Culpeper's.[113] In one place, publisher Cole was seemingly left to insert an exhortation to read his other Culpeper volumes where the medical editors had failed to provide an entry.

Culpeper had absolutely nothing to add to the next section on 'Chymical preparations more frequent in

use', which included what was the first appearance in an official pharmacopoeia of 'mercurius dulcis' or mercurous chloride (Hg_2Cl_2), soon to become very popular as the cathartic calomel and almost certainly caused to be inserted by Theodore de Mayerne (1573-1655), as well as three antimony preparations among the best known of the Paracelsian remedies.[114] The medical editors followed their brief by adding uses for most of these chymical preparations, differentiating those fit for internal consumption and those for external application only. The final sections, on the way of making extracts and salts and the 'preparation of certain medicines very necessary for apothecaries' (which was titled 'preparations of certain simple medicines' in the 1650 Latin edition and differed in a few entries from the 1618 edition) from animal, vegetable and mineral items of the materia medica went entirely without appended uses by both Culpeper and the medical editors.

Urdang affirmed that there was nothing original or innovative about the chymical medicines included in the pharmacopoeias of 1618 and 1650, for most of them were well known and had appeared in the Paymund Munderer's sixth edition of the *Pharmacopoeia Augustana* published five years before the London pharmacopoeia. Urdang concluded that the inclusion of these chymical remedies characterised the English text as "the product of broad minded and well-informed eclectics".[115] From his side, and to ingratiate himself as much as possible with the College of Physicians, in the preface to the 1661 translation 'the printer to the reader', Peter Cole fiercely attacked the followers of van Helmont for their promises to cure all diseases or to turn any base metal into gold, which if it were true, all would have heard the name van Helmont before he died, but instead he is only known in England through his treatises published after his death. His followers along with Paracelsians and 'the Rodomontados of the Utopian Fraternity of the Rosie Crucians', were mere imposters, preying on the rich in search of the philosopher's stone, while 'the chiefest Helmontian who pretends to do such wonders in the cure of fevers and other diseases has been fain to lie in prison some considerable time for a debt of thirty pound at most , contracted with his glass merchant'. All that such adepti promised could be done with more safety and certainty by the medicaments of the *London Pharmacopoeia* in Cole's view.[116]

As for Culpeper, he was familiar with the spagyric distillation of plant extracts but had little knowledge of the alchemical preparation of minerals and metals. A striking example is in his 1649 translation of Fallopius's magistral water: he inserted both quicksilver and sublimate (i.e. mercuric chloride) into the formula, where there was only *sublimatum* in the original, to be boiled with alum in plantain and rose waters. He called the compound a "childish recept, for the quicksilver will most assuredly fly out in boiling". When he came to translate the same formula in the 1650 Latin edition, unchanged except for its new name *Aqua aluminosa magistralis*, he seems to have forgotten the original Latin entry and was moved to claim that "now they have left out the quicksilver as I bid them, I like men will do as they are bid, but I fancy it not. Fallopius invented it but you must tell no body".[117] As revealed in his preface to the 1651 issue of the pharmacopoeia when addressing the spiritual search for happiness lost after the Fall and what the *summum bonum* for any man might be, Culpeper wrote that "the truth is, I could never find it at Amen corner; neither do I beleeve that any such herb grows there in the alchymical garden".[118]

Conclusion

The themes of Culpeper's critical commentary on the first and second editions of the London Pharmacopoeia, namely the effectiveness of medicines, their value for money and pharmaceutical preparation, along with his concerns over the safety of medicines and the chymical remedies of the pharmacopoeia, each met with different treatment by the medical editors by which we might take a contemporary assessment to judge their merit. Culpeper's claims of the effectiveness of some compound remedies were based on individual instances, and usually his experience of dealing with his own failing health. The medical editors had no reason to challenge these experiences. The issue of value for money of some preparations, however, led Culpeper to criticise repeatedly College physicians for seeking financial gain and domination of the medical marketplace through the maintenance of their monopoly over health care in and around London with no provision for those unable to afford their fee. The medical editors removed all such criticism of the College, in accord with the brief given them by publisher Peter Cole. Culpeper's identification of poor instructions for making some recipes drew on his familiarity with historical and recent remedy collections and pharmacopoeias. All such criticisms were systematically redacted, apparently because they might suggest to the reader that College members knew little or nothing about pharmacy.

Perhaps the medical editors did not know how to make up compound medicines themselves? Culpeper was not correcting recipes for his audience of untrained Englishmen and women, but he did need to warn them of the dangers in taking some medicines. The medical editors had in mind an expected audience of physicians and countered most examples of what they considered Culpeper's fear mongering: the medicines were safe

enough when 'artfully and seasonably administered' by physicians and they gave examples of their use in practice. Culpeper's commentary finally gave out in the final sections of the book on truly chymical preparations, and oddly so did the editors' insertions. Peter Cole presumably did not mind the editors' failure to provide comments where Culpeper's were redacted or absent because he was no supporter of such remedies himself.

What the medical editors brought of themselves to the commentary of the 1661 edition of the pharmacopoeia was their experience as practitioners: they could list multiple uses for most medicines, although they were not familiar with every item, were used to changing their dosages to suit the age and strength of the patient and recognised that some formulations were designed for particular patient need, for example those not able to take many pills at once or fearful of the cut of a knife to produce an issue. A preference, too, for material purges of the more drastic kind with little reflection on the cost of some prescriptions suggested that they were in many ways regular Galenic physicians, although they did take the opportunity to criticise overlong recipes and the use of succedaneums where a more judicial formulation of only a few medicinal agents would have sufficed, as Culpeper favoured.

In the end, the 1661 edition of Culpeper's translation of the pharmacopoeia did not continue in print and it was the 1653 version, still redacted but to a lesser extent, which was published by those who bought the rights to Cole's books after his death in 1665.

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Notes and references

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2. Fowler, C. *Pharmacopoeia Londinensis 1618 and its Descendants* (London: Royal College of Physicians, 2018: 41-5) briefly discusses London Treacle, while Woolley, B. *The herbalist: Nicholas Culpeper and the Fight for Medical Freedom* (London: HarperCollins Publishers, 2004: 139-42) describes the ingredients of *Confection Alkermes* and Mithridate, and Walkden, M. 'That they may vomit out their folly': The gut-mind axis and hellebore in early modern England, *Journal of British Studies*, 2022: 61; 535-62 explores the medicines containing hellebore and the comments of Culpeper and of the 'medical editors'. Urdang, G. *Pharmacopoeia Londinensis of 1618* (Madison, WI: State Historical Society of Wisconsin, 1944) examines the categories of simples and compounds in the 1618 Latin text, only discussing individual chemical medicines in some depth.

3. Tobyn, G. Contested medical knowledge: The College of Physicians' *London Pharmacopoeia*, Culpeper's translations and the redacted version of his publisher Peter Cole (article in peer review).

4. Culpeper, N. *A Physicall Directory.* London: Peter Cole, 1649.

5. Culpeper, N. *Pharmacopoeia Londinensis.* London: Peter Cole, 1653: 66.

6. Culpeper, N. *Pharmacopoeia Londinensis*. London: Peter Cole, 1661.

7. Roberts, R.S., The personnel and practice of medicine in Tudor and Stuart England: Part II London. *Medical History.* 1964: 8; 226.

8. De Vos, P. 'The Prince of Medicine: Yuhanna ibn Masawayh and the Foundations of the Western Pharmaceutical Tradition', *Isis*, 2013, 104: 667-712.

9. De Vos, P. (Note 8) 2013: 692-97.

10. Urdang, G. (Note 2) 1944: 71.

11. Culpeper, N. (Note 5) 1653: 184. It apparently also removed rust from iron and kept the metal bright for a long time!

12. Culpeper, N. (Note 5) 1653: 134.

13. Culpeper, N. (Note 5) 1653: 142; Culpeper, N. (Note 6) 1661: 160-61.

14. Culpeper, N. (Note 5) 1653: 164.

15. Culpeper, N. (Note 5) 1653: 165.

16. Culpeper, N. (Note 5) 1653: 164.

17. Culpeper, N. (Note 6) 1661: 190.

18. Culpeper, N. (Note 5) 1653: 168; Culpeper, N. (Note 6) 1661: 198.

19. Culpeper, N. (Note 5) 1653: 179; Culpeper, N. (Note 6): 203.

20. Culpeper, N. (Note 4) 1649: 57. Brevity was no longer so important in the 1653 edition, where the old and new catalogues of simples from the 1618 and 1650 Latin editions sat side by side.

21. Culpeper, N. (Note 4) 1649: 186; Culpeper, N. (Note 5) 1653: 133-34.

22. Culpeper, N. (Note 5) 1653: 143.

23. Culpeper, N. (Note 6) 1661: 162.

24. Urdang, G. (Note 2) 1944: 61.

25. Culpeper, N. (Note 5) 1653: 116; *Pharmacopoeia Augustana iussu et auctoritateamplissimi senatus a Collegio medico rursus recognita, ac elaboratior et auctior, nunc sextum in lucem emissa.* Augusta Vindelicorum, 1613: 6; 119-20. Available at https://babel.hathitrust.org/cgi/pt?id=ucm.5327360644&view=1up&seq=390.

26. Culpeper, N. (Note 6) 1661: 130-31.

27. Culpeper, N. (Note 5) 1653: 124

28. Culpeper, N. (Note 6) 1661: 138.

29. Culpeper, N. (Note 4) 1649: 162; Culpeper, N. (Note 5) 1653: 124. The first gentleman to be admitted to the College who had undertaken his own study of physick was in 1658 (Sir George Clark, *A History of the Royal College of Physicians of London*, 2 volumes (Oxford: Clarendon Press, 1964), I, 278-81.

30. Culpeper, N. (Note 6) 1661: 159.

31. Rankin, A. On anecdote and antidote: poison trials in sixteenth-century Europe. *Bulletin of the History of Medicine.* 2017: 91; 274–302.

32. Tobyn, G. *Culpeper's Medicine*, Second Edition. London: Singing Dragon Books, 2013: 19-27.

33. Ragland, E. Experimental Clinical Medicine and Drug Action in Mid-Seventeenth-Century Leiden *Bull Hist Med*, 2017, 91: 331–361.

34. Culpeper, N. (Note 5) 1653: 178; Culpeper, N. (Note 6) 1661: 202.

35. Culpeper, N. (Note 5) 1653: 139; Culpeper, N. (Note 4) 1649: 197-98.

36. Culpeper, N. (Note 6) 1661: 155-56.

37. Culpeper, N. (Note 4) 1649: 83. Culpeper's dose for his readers was only half a dram (1.9 ml).

38. Tobyn, G. (Note 32) 2013: 23-24.

39. Culpeper, N. (Note 4) 1649: 194; Culpeper, N. (Note 5) 1653: 136. The medical editors removed the observation on the bitterness of the electuary but kept the remainder of Culpeper's comments. Culpeper, N. (Note 6) 1661: 151.

40. Culpeper, N. (Note 5) 1653: 174-75.

41. Culpeper, N. (Note 5) 1653: 167; Culpeper, N. (Note 4) 1649: 289.

42. Culpeper, N. (Note 4) 1649: 276.

43. Culpeper, N. (Note 6) 1661: 186.

44. Culpeper, N. *A physical directory* (London: Peter Cole, 1650); Culpeper, N. *A physical directory* (London: Peter Cole, 1651). The first edition of 1649 used the phrase 'strictly commanded'.

45. Culpeper, N. (Note 4) 1649: 175.

46. Culpeper, N. (Note 4) 1649: B1r-B2v. This was surely a key aim in producing a pharmacopoeia.

47. Culpeper, N. (Note 4) 1649: 123-24.

48. Culpeper, N. (Note 5) 1653: 105. The medical editors allowed this comment to stand.

49. Culpeper, N. (Note 5) 1653: 63-64.

50. Culpeper, N. (Note 6) 1661: 102.

51. Culpeper, N. (Note 5) 1653: 136, 122.

52. Culpeper, N. (Note 4) 1649: 171-72; Culpeper, N. (Note 5) 1653: 176.

53. Culpeper, N. (Note 4) 1649: 148-49, 191.

54. Culpeper, N. (Note 5) 1653: 135; Culpeper, N. (Note 6) 1661: 150.

55. Culpeper, N. (Note 5) 1653: 144-45.

56. Culpeper, N. (Note 6) 1661: 164.

57. Culpeper, N. (Note 4) 1649: 340.

58. Culpeper, N. (Note 4) 1653: 110.

59. Culpeper, N. (Note 5) 1653: 111; Culpeper, N. (Note 6) 1661: 125.

60. Culpeper, N. (Note 4) 1649: 142; Culpeper, N. (Note 5) 1653: 117-8.

61. Culpeper, N. (Note 4) 1649: 126; Culpeper, N. (Note 5) 1653: 136-37.

62. Culpeper, N. (Note 5) 1653: 131.

63. Culpeper, N. (Note 5) 1653: 112, 163; Culpeper, N. (Note 4) 1649: 120, 256-57.

64. Culpeper, N. (Note 5) 1653: 168.

65. Culpeper, N. (Note 6) 1661: 189.

66. Culpeper, N. (Note 5) 1653: 127. This is contrary to Urdang's opinion that powders 'were not stocked as electuaries because as such they were prone to deteriorate'. Urdang, G. (Note 2) 1944: 57.

67. Tobyn, G. (Note 32) 2013: 45.

68. Culpeper, N. (Note 4) 1649: 77, 344-5.

69. Culpeper, N. (Note 44) 1650: 182, 187, 201.

70. Culpeper (Note 44) 1650: To the impartial reader, B2r.

71. Sigerist, H.E. Laudanum in the works of Paracelsus. *Bulletin of the History of Medicine.* 1941: 9(5); 530-544.

72. Culpeper, N. (Note 4) 1649: 239-40.

73. Culpeper, N. (Note 6) 1661: 162.

74. Culpeper, N. (Note 6) 1661: 156-57.

75. Culpeper, N. (Note 4) 1649: 112-13; Culpeper, N. (Note 5) 1653: 113-14.

76. Culpeper, N. (Note 6) 1661: 119.

77. Culpeper, N. (Note 4) 1649: 181.

78. Culpeper, N. (Note 6) 1661: 146.

79. Culpeper, N. (Note 4) 1649: 240.

80. Culpeper, N. (Note 4) 1649: 182.

81. Culpeper, N. (Note 6) 1661: 153.

82. Culpeper, N. *The English Physitian*. London: Peter Cole, 1652: 9.

83. Culpeper, N. (Note 5) 1653: 140. Although he engaged in urinoscopy as a part of his practice, Culpeper wrote in his *Semeiotica Uranica; Or, an Astrological Judgment of Diseases* (London: N. Brooke, 1651), 182, that "seeing the body, hearing the relation and feeling the pulse of the sick is a better way to judge than gazing at as much pisse as the Thames will hold".

84. Culpeper, N. (Note 5) 1653: 133.

85. Culpeper, N. (Note 5) 1653: 128.

86. Culpeper, N. (Note 6) 1661: 139.

87. Culpeper, N. (Note 4) 1649: 183-4.

88. Culpeper, N. (Note 4) 1649: 66.

89. Culpeper, N. (Note 6) 1661: 147-48.

90. Culpeper, N. (Note 5) 1653: 134-35.

91. Culpeper, N. (Note 6) 1661: 149.

92. Culpeper, N. (Note 6) 1661: 157. The pills were an invention of apothecary Gideon Delaune (1564/5-1659), an eminent apothecary, who contributed to the production of the 1618 *Pharmacopoeia Londinensis* and was twice Master of the Apothecaries. Matthews, L.G. London's immigrant apothecaries. *Medical History.* 1974: 8(3); 263.

93. Culpeper, N. (Note 5) 1653: 140. Colocynth is unsafe for use: it was banned by the US Food and Drug Administration (FDA) in 1991. Taking even very small amounts of colocynth can cause severe irritation of the stomach and intestine lining, bloody diarrhoea, kidney damage, bloody urine, and inability to urinate. Other side effects include convulsions, paralysis, and death. There have been reports of death following ingestion of just 1-1/2 teaspoons of the powder. Available at https://www.rxlist.com/supplements/colocynth.htm.

94. Culpeper, N. (Note 6) 1661: 157.

95. Culpeper, N. (Note 4) 1649: 137; Culpeper, N. (Note 6) 1661: 161.

96. Culpeper, N. (Note 4) 1649: 133; *Pharmacopoeia Londinensis* (London: excudebat Edwardus Griffin, sumptibus Johannis Marriot, 1618) 92. Urdang, G. (Note 2) 1944: 69. We are familiar today with aloe vera products and the soothing, anti-inflammatory effects of the gel, separated from the skin of the succulent where the laxative anthraquinone glycosides are found. This might well help protect the gut from the violent effects of scammony.

97. Culpeper, N. (Note 5) 1653: 66.

98. Culpeper, N. (Note 5) 1653: 141; Culpeper, N. (Note 6) 1661: 158.

99. Culpeper, N. (Note 82) 1652: 20-21.

100. Culpeper, N. (Note 6) 1661: 189.

101. Culpeper, N. (Note 5) 1653: 169.

102. Culpeper, N. (Note 6) 1661: 190.

103. Culpeper, N. (Note 5) 1653: 157; Culpeper, N. (Note 6) 1661: 169.

104. Culpeper, N. (Note 5) 1653: 166; Culpeper, N. (Note 6) 1661: 187.

105. Culpeper, N. (Note 5) 1653: 165; Culpeper, N. (Note 6) 1661: 186.

106. Culpeper, N. (Note 5) 1653: 170; Culpeper, N. (Note 6) 1661: 191.

107. Culpeper, N. (Note 5) 1653: 174; Culpeper, N. (Note 6) 1661: 198.

108. Debus, A.G. *The English Paracelsians.* London: Oldbourne, 1965: 151-56; Urdang (Note 2) 1944: 72-3.

109. Culpeper, N. (Note 4) 1649: 317.

110. If book five 'Composita synopsis: or the chiefest compositions now in use with our physicians, both Chymist and Galenist' of *Culpeper's Last Legacy* (London: N. Brook, 1655: 125-58), and the chapter 'Chymical institutions, describing Nature's choicest secrets in experienced chymical practice' in *Culpeper's School of Physick* (London, R. Bently, 1678: 403-461) are Culpeper's notes on alchemical methods of preparing remedies brought to publication only after his death, it is to be observed that the methods were all spagyric involving the preparation of plants and none involved real chemical reactions of metals.

111. Culpeper, N. (Note 5) 1653: 183.

112. Culpeper, N. (Note 4) 1649: 323. Culpeper was not sure how to translate *coagulum* in the instructions for making oil of antimony (SbCl3) which he rendered 'curd'.

113. Culpeper, N. (Note 6) 1661: 207-8; Debus, A.G. (Note 108) 1965: 153.

114. Urdang, G. (Note 2) 1944: 63.

115. Urdang, G. (Note 2) 1944: 63-64.

116. Culpeper, N. (Note 6) 1661: B2r-B2v.

117. Culpeper, N. (Note 5) 1653: 70. The medical editors deleted this comment in 1661.

118. Culpeper, N. (Note 44) 1651: A1r.