

Now mark (61) also further: if the artery is small and from day to day and from beat to beat gets bigger (62) and increases in size, that means an improving constitution. However, if it shrinks and the sick man weakens (63) from day to day and has fever, the man is fatally ill beyond a (64) doubt. But if the man improves so that he sleeps well and (65) gets stronger, and the fever lessens and the artery beats softly and slowly, (66) that is a good sign. It means that the battle of the disease against (67) nature is over and life has won.

You should note that when (68) the artery gets so weak that you can scarcely feel it and it beats very rapidly (col. 2, line 1) and quivers, sickness is nigh. You should also know (2) that under excessive heat or sickness the artery wastes away so that one cannot (3) determine whether it means life or death; I will (4) tell you how. If the man's urine is clear (5) and not black up in the neck (of the flask) but rather having been red or black later (6) becomes clear, and the clouds in the urine are white and they sink (7) together, then you may be sure that the man will get well. In the (8) same way if you cannot feel the artery of a man who is hot and sick (9) and his urine is dirty—black, pale, or green—this man will (10) die. If a man's nature is fat and (11) his face is flushed and yet not so fat as to be swollen, (12) and neither too thin nor too pale around the mouth, and when the pulse beats (13) neither too fast nor too slow and the urine is neither too white nor too red (14) nor too thin, that indicates a well man.

## THE INVENTORY OF JOHN HEXHAM, A FIFTEENTH-CENTURY APOTHECARY

*by*

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THE inventory transcribed below is believed to be the earliest one relating to an English apothecary and is of importance for the light it throws on English pharmacy at the beginning of the fifteenth century.

### *Origin and Nature of Document*

The existence of the inventory was suspected when an abbreviated transcription was noted in the British Museum.<sup>1</sup> This formed part of a collection of medical abstracts and transcriptions made by Joseph Hunter (1783–1861), when he was a member of the staff of the Public Record Office. On his death these manuscripts were purchased by the British Museum. Following this clue, and with the kind assistance of Mr. R. E. Latham on the present staff of the Public Record Office, the original inventory was located in the Escheator's Files.<sup>2</sup>

It consists of a single sheet about 28 by 25 cm., containing twenty-nine unbroken lines of abbreviated Latin and English. As reproduced below it has been extended, punctuated, the abbreviations *li.*, *quatr'*, and *unc'* rendered as *lb.*, *qr.* and *oz.*, Roman numerals have been converted into Arabic ones and, except for the first item, the word or abbreviation meaning 'price' (*pretii*) has been omitted. To facilitate discussion each item of the inventory has been given a number.

The inventory was compiled for an inquisition held at London before William Crowmer,<sup>3</sup> mayor and escheator, on 30 April 1415, and relates to the goods and chattels of John Exham or Hexham (the document has both spellings), late apothecary of London, who had been hanged for coining false money.

It lists the names of the twelve-man jury who swore to the contents of the inventory and several of these are mentioned in the London Letter Books. John Boner was a

sprier, John de Lenne a cutler, John Meryn a cooper and both Hugh Crispe and Richard Panter cordwainers. Since the inventory was obviously compiled by someone having pharmaceutical knowledge it is presumed that at least one of the unidentified jurors must have been an apothecary.

*Value of Stock and Furniture*

The total value of the inventory of £5 3s. 7d. can be divided into £4 4s. 7d. for the contents of the shop and 19s. for household furniture. The latter, forming items 80 to 91, seem to be bare necessities for a single person since they include little more than a single drinking tankard, a mustard pot, candles and lanterns, a fire with accessories, a frying-pan, and a bed cover and bed-canopy.

In the absence of other apothecary inventories of the period it is impossible to say whether John Hexham's stock was greater or less than that of the average fifteenth-century apothecary. The amount of £4 4s. 7d. is, however, comparable with the valuations of £5 11s. 6d. for the stock of a jeweller and £3 10s. 7d. for that of a haberdasher taken in 1381 and 1378 respectively.<sup>4</sup>

*The Different Stocks of Apothecary and Spicer*

Perhaps the most interesting feature of John Hexham's inventory is the fact that all the items are pharmaceutical. In the thirteenth and fourteenth centuries the court apothecaries supplied not only drugs and medicines but many other items such as spices, sugar, dried and candied fruits.<sup>5</sup> Whilst one hesitates to rely too much on the evidence of a single inventory, it does appear that by 1415 there was a clear-cut division between the apothecary who sold 'apothecary wares' and the spicer who sold 'grossery'.

During the whole of the Middle Ages there was a close similarity between the pharmaceutical and grocery trades of England and France, and it is therefore interesting to contrast our inventory with that of a French 'épicier' taken somewhat earlier, in 1358, which shows a complete absence of crude drugs (other than the common spices), prepared medicines and apparatus such as mortars, scales and stills.<sup>6</sup> This spicer, Pierre Gilles, had large quantities (e.g. whole bales) of almonds, long pepper, round pepper, cinnamon, mace, ginger, rice, sugar of different qualities, beeswax, cubebs, cloves, grains of paradise and red wax. Most of these are absent from the inventory of John Hexham or represented only in small quantities, and the complete absence of sugar seems remarkable since it had long been a substance supplied by the court apothecaries and has been found in seventeenth-century pharmacy inventories. Syrups were popular pharmaceutical preparations and the absence of sugar suggests that the twelve stocked by Hexham were purchased ready-made. Whilst it is known that some of the more complex pharmaceutical preparations were imported from abroad, one might have expected that at this date the preparation of such simple pharmaceuticals as syrups would have been done in each pharmacy and not by a wholesaler.

It will be convenient to discuss the pharmacy of the inventory under the headings of simples or crude drugs, pharmaceutical preparations and pharmaceutical apparatus.

*Simples*

Disregarding about four items the nature of which is uncertain, the inventory contains about twenty-five vegetable drugs, two or three animal drugs and only one chemical, lead oxide. The small number of drugs of animal origin (hartshorn, lard,

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and possibly kermes) is in marked contrast to the large number of often disgusting animal products found in later pharmacopœias. The vegetable drugs include some which are still in use such as cardamoms, rhubarb, aloes, cassia pulp, and senna. One of the three samples of senna was in powder, the only powdered drug specifically mentioned. Some of the vegetable drugs such as aloes wood have long disappeared from commerce but most of them can be identified.<sup>7</sup>

### Pharmaceutical Preparations

During the Middle Ages pharmaceutical changes were slow but the art of the apothecary was not, as is sometimes believed, entirely static. Some drugs and preparations were, of course, prescribed as frequently in the fifteenth century as in the thirteenth; others dropped into disuse, whilst new ones came to the fore. Some of the names given in our inventory are to be found both in the *Antidotarium Nicolai*,<sup>8</sup> which originated from the School of Salerno, and in the first edition (1564) of the *Pharmacopœia Augustana*.<sup>9</sup> Some of the divergencies in spelling are illustrated below:

<i>A.N. thirteenth to fifteenth centuries</i>	<i>Inventory 1415</i>	<i>P.A. 1564</i>
Trocisci diani	Trussa dyani	Trochisci diaion
Trocisci diarodon	Trussa dyarodion	Trochisci diarhodon
Diasaterion	Dya saturian	Dia satyrii
Trifera sarracenicā	Trifera sarazonica	Triphera saracenicā
Yera pigra galiēni	Yera pigra galiēni	Hiera picra composita galiēni
Diapēnidion magni	Dya ffeniton	Diapēnidion
Unguentum agrippæ	Unguentum agrippa	Unguentum agrippa
Unguentum martiaton	Unguentum marciatum	Unguentum martiaton
Unguentum arragon	Unguentum aragonium	Unguentum arragon
Sirupus rosaceus	Surip rosaceus	Sirupus rosatus

Even when one makes allowance for the fact that the *Pharmacopœia Augustana* contains many more remedies than the *Antidotarium Nicolai*, it is clear that for certain types of preparation our inventory occupies a place intermediate between these two formularies. Thus the number of oils is 4 in the *Antidotarium*, 15 in the inventory and 61 in the *Pharmacopœia Augustana*. Similarly the numbers for syrups are respectively 4, 12 and 67.

### Pharmaceutical Apparatus

Since it is more than doubtful if John Hexham made any pharmaceutical use of his frying-pan, the only truly pharmaceutical piece of apparatus in the inventory is the still. Distilling may well have formed an important part of his activities since the item of one hundred bottles most of which were filled with 'divers waters' is valued at 10s. or about one-eighth of the total stock.

The absence of mortars and weights and measures is noteworthy. It seems, therefore, that the only powder in his stock, powdered senna, must have been purchased in that form. The absence of sugar, already noted, together with the absence of pans, sieves and filters suggests that his syrups and other galenicals were purchased ready-made. Was this exceptional for an apothecary of this period or was there an embryo pharmaceutical industry already in being in London?

### Alchemy

If Hexham had an interest in alchemy his inventory shows little sign of it. The only chemical is a rather large amount of litharge, which might or might not be related

to the coining activities for which he was hanged. About sixty years later a Nottingham document provides us with a longer list of apparatus suitable for alchemical work.<sup>10</sup>

TEXT OF P.R.O. E.153/1066/1

Inquisicio capta apud London' coram (Willelmo) Crowmer' maiore et escaetore domini Regis in civitate London' virtute officii sui ultimo die Aprilis anno / regni Regis Henrici quinti post conquestum secundo ad inquirendum que bona et catalla terras seu tenementa Johannes Exham nuper apotagarius dicte civitatis qui / proditorie versus dominum Regem florifecit die mercurii proximo ante festum Pasche proximum ante datum [ 'istius inquisitionis' deleted] presentis pro eo quod ipse iudicatus fuit et suspensus / pro cunagio false monete domini Regis per sacramentum Willelmi Brokehirst, Stephani Mene, Johannis Boner, Johannis Benyngton, Johannis de Lenne, Johannis Merlyn, Simonis Lufford, Hugonis Cryspe, Rogeri Cuerdon, Willelmi Pery, Ricardi Pant', Thome Penne iuratorum Qui dicunt super sacramentum suum quod / Johannes Hexham superius nominatus habuit predicto die mercurii bona et catalla subscripta. In primis Agret **1** 2 oz. pretii 1 d.; Azarum **2** 2 oz. 2 d.; Lignum / aloes **3** 1 lb. 20 d.; Cardamome **4** 7 oz. 20 d.; Ireus **5** 2 oz. 1 d.; Gensyan **6** 2 oz. 3 d.; Gomeder **7** 1 qr. 2 d.; Os de cost' cervi **8** 2 pecie 2 d.; Rubarbe **9** 3 oz. 2 d.; Spykenard **10** 2 oz. 5 d.; Aloes citrini **11** 1 oz. 2 d.; Sene **12** 1 qr. 1 d.; / Spica selteca **13** 2 oz. 2 d.; Trussa dyani **14** 3 oz. 3 d.; Trussa dyarodian **15** 2 oz. 2 d.; Trussa mirre **16** 3 oz. 6 d.; Bayes **17** 3 lb. 3 d.; / Spic' cetica **18** ½ lb. 4 d.; Calamus aromaticus **19** ½ lb. 2 d.; Lytarg' aur' **20** 6 lb. 12 d.; Bys **21** 1 oz. 8 d.; Dya saturian **22** / ½ qr. 2 d.; Trifa sarazonica **23** 3 qr. 12 d.; Yera pigra galiene **24** 2 oz. 4 d.; Dya ffenicon' **25** 1 lb. 2 s.; Conserva violate **26** / 1 qr. 4 d.; Pulpa casalophistula **27** 3 d.; Potus antiogie **28** 3 lb. 2 s.; Ciripis sitomor' **29** 6 oz. 5 d.; Surip' spig'enell **30** / 4 oz. 4 d.; Surip' capill' veneris **31** 2 lb. 2 s.; Axsedule **32** ½ lb. 6 d.; Surip' andyne **33** 3 qr. 6 d.; Surip' boragin' **34** ½ lb. / 6 d.; Surip' eupatorie **35** 2 lb. 1 qr. 2 s.; Surip' fum'terre **36** 2 lb. 1 qr.; Sur' ictericie **37** ½ lb. 6 d.; Sur' prassii **38** 1 lb. 16 d.; / Sur' oximeldoratik **39** 2 lb. 1 qr. 16 d.; Sur' ros' **40** 1 lb. 8 d.; Sur' scabiose **41** 2½ lb. 2 s.; Unguentum agrippa **42** 2 lb. 12 d.; / Unguentum geneste **43** 6 lb. 18 d.; Unguentum aur' **44** 8 lb. 2 s. 8 d.; Unguentum marciatum **45** 5 lb. 20 d.; Unguentum Aragonium **46** 3 lb. 12 d.; Oleum / laurium **47** 3 lb. 12 d.; Unguentum nervale **48** 5 lb. 20 d.; Pepilion' vetus **49** 2½ lb. 12 d.; Dialectia **50** 6½ lb. 12 d.; Salie vetus **51** 2 lb. / 8 d.; Oleum mastic' **52** 1 lb. 8 d.; Oleum exetr' **53** 1 lb. 6 d.; Oleum new faris **54** 2 lb. 8 d.; Oleum croci **55** 1 lb. 16 d.; / Oleum costinum **56** ½ lb. 2 d.; Oleum juni' **57** 1 qr. 1 d.; Oleum castorii **58** 1 lb. 8 d.; Oleum vulpinus **59** 3 lb. 2 s.; Oleum benedictum **60** 2½ lb. / 2 s. 6 d.; Oleum absinthii **61** ½ lb. 1 d. Summa **48** s. 7 d. Item Oleum mastic' **62** 3 qr. 6 d.; Oleum castorii **63** ½ lb. 2 d.; Item / Oleum nuniferis **64** 3 qr. 3 d.; Oleum sambuci **65** 1 qr. 1 d.; Item 20 nova viol' et 80 glass' cum diversis aquis **66** 10 s.; Item 1 latyse **67** 4 d.; / Piliaur' et gerepegra **68** ½ lb. 16 d.; Item divers' (? pro) letewar **69** 5 lb. 16 s. 8 d.; Pulvis ceni **70** ½ lb. 2 d.; Emplastrum restrativum **71** 1 lb. 8 d.; / Emplastrum de granis laurei' **72** 6 oz. 4 d.; Dya palma **73** 5 oz. 2 d.; Gra' dei minor **74** 2 oz. 1 d.; Seny **75** 12 lb. 2 s.; Papaveris alb' **76** 2 lb. / 4 d.; Saxifrage **77** 1 lb. 1 d.; Letuse **78** 2 lb. 4 d.; Semen carkamy **79** ½ lb. 2 d.; Item 1 firepanne cum les tonges **80** 3 s. 4 d.; Candelstikkes **81** / 4 pecie 16 d.; Item 1 hamperium cum tribus cooperculis **82** 4 d.; Item 2 lanterne **83** 2 d.; Item candelstikk **84** 3 pecie 6 d.; Item 1 par de gobardes **85** 20 d.; / Item 2 disci picti **86** 2 d.; Item 2 girdyrenes 2 trevetes et 1 fryingpanne **87** 12 d.; Item 1 watertankard **88** 8 d.; Item 1 musterdpot **89** 2 d.; Item / celura cum 4 curtinis **90** 6 s. 4 d.; Item 1 cooperlectulum cum tester de worsted **91** 3 s. 4 d.; Item 1 stillatorium **92** 2 s. 4 d. / Summa 45 (s.). Summa totalis 103 s. 7 d. In cuius rei testimonium huic presenti inquisitioni iurati predicti sigilla sua apposuerunt. / Datum London' die et anno supradictis.

Notes on Text

The abbreviations A.N. and P.A. indicate that a similar or identical preparation is given in the *Antidotarium Nicolai* or *Pharmacopœia Augustana*. Where there seems some doubt about the identification we have used the words 'possibly' and 'probably'.

1. probably agresta or unfermented grape-juice; 2. azarum or asarabacha; 3.

aloes wood; 4. cardamom fruits or seeds; 5. orris root; 6. gentian root; 7. probably a gum; 8. although *costa* (rib) is written instead of *cornu* it seems probable that *os de cornu cervi* is intended. This could be the ordinary horn of the animal or the so-called hart's heart-bone which Renodaeus (English edition, 1657, p. 454) describes as 'that ossicle which adheres to the basis of an old hart's heart' . . . , 'from its figure much resembling a cross hunters call it Hart's cross'. 9. rhubarb; 10. true or Indian spike (compare items 13 and 18); 11. a variety of Socotrine aloes; 12. senna leaves or pods (compare items 70 and 75); 13. Celtic nard or spike root (compare item 10); 14. 15. and 16. contain the word 'Trussa' which if regarded as equivalent to 'Trochisci' then has corresponding preparations in the pharmacopoeias, namely Trocisci Diani A.N., Trocisci Diarodon A.N. and Trochisci de Myrrha P.A.; 17. bay-laurel berries; 18. as item 13; 19. acorus or sweet-flag root; 20. golden litharge or lead oxide; 21. these berries are too expensive to be the same as item 17 and we suggest the mediaeval dyestuff and drug, kermes; 22. Diasaterion A.N.; 23. Triseria Sarracenicca A.N.; 24. Yera Pigra Galieni A.N.; 25. Diapenidion Magna A.N.; 26. conserve of violets; 27. pulp of cassia fistula fruit; 28. unidentified; 29. possibly a syrup of citrus or lemon; 30. possibly syrup of spikenard; 31. syrup of maidenhair, Syrupus Capillorum Veneris P.A.; 32. probably axungia or lard; 33. sedative syrup; 34. syrup of borage; 35. Syrupus de Eupatoria P.A.; 36. Syrupus de Fumoterrae P.A.; 37. hardly legible but *ictericus* means 'against jaundice'; 38. syrup of horehound, Syrupus de Prassio P.A.; 39. a syrup of diuretic oxmel, Oxymel Diureticum P.A.; 40. Siropi Rosacei A.N.; 41. Syrupus de Scabiosa P.A.; 42. Unguentum Agrippe A.N.; 43. ointment of genista or broom; 44. golden ointment, Unguentum Aureum P.A.; 45. Unguentum Marciaton A.N.; 46. Unguentum Arrogon A.N.; 47. oil of laurel berries; 48. doubtful but possibly Unguentum Nihili P.A.; 49. poplar buds used for making Unguentum Popleon A.N.; 50. marshmallow, either root or ointment; 51. possibly *Salvia vitae*, which in Gerard's herbal is given as a synonym for *Ruta muraria*, or Wall rue; 52. an oil containing mastic, Oleum Mastichinum, Mesue P.A.; 53. doubtful, but possibly the Exeter Oil, Oleum Excestrense mentioned by Quincy; 54. presumably similar to Oleum Nenupharinum of the 1618 London Pharmacopoeia; 55. oil of saffron, Oleum ex Croco, Mesue P.A.; 56. Oleum Costinum, Mesue P.A.; 57. Oleum Juniperi P.A.; 58. an oil containing castoreum, Oleum Castorei P.A.; 59. Oleum Vulpinum, Mesue P.A.; 60. Oleum Benedicte was prescribed for Edward I when he was dying and the remedy may be the Oleum Nardinum Benedictum referred to by Arnold of Villanova (see Trease, *op. cit.*, p. 50); 61. Oleum Absinthii P.A.; 62. same as 52; 63. same as 58; 64. same as 54; 65. Oleum Sambucinum P.A.; 66. Twenty new vials and eighty glass bottles with various waters; 67. probably lattice, or screen for window; 68. Pylulae Aurae Nicolai P.A. and Pylulae de Hiera P.A. (formulae attributed to both Galen and Nicolaus); 69. probably, various drugs for making electuaries; 70. powdered senna; 71. probably the Electuarium resumptionem sive ad restaurandum humiditatem of the Dispensarium Nicolai Praepositi, which we have previously noted was supplied to Henry III in 1265 (Trease, *op. cit.*); 72. Emplastrum de Baccis Lauri, Mesue P.A.; 73. a preparation of palma, a drug we have failed to identify; Thorndike in Herbal of Rufinus, p. 292, quotes Synonima 'spaltea, id est palma'; 74. Gratia Dei or Herb Robert; 75. senna; 76. white poppy, presumably capsules; 77. saxifrage herb; 78. lettuce, presumably seeds; 79. bastard-saffron seeds, carthamum; 80. firebasket and tongs; 81. candlesticks; 82. hamper with three covers; 83. two lanterns; 84. candlestick; 85. a pair of cobbarde or cobirons; 86. possibly, 'ditto' and like 85; 87. two gridirons, two trivets (tripod or bracket) and one frying-pan; 88. water-tankard; 89. mustard-pot; 90. ceiling or

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panelling with four curtains; 91. bed cover with a testa or bed-canopy of worsted; 92. a still.

### ACKNOWLEDGEMENTS

Our thanks are due to Mr. R. E. Latham for helping to locate the inventory in the P.R.O. files and to Dr. C. H. Talbot for helpful suggestions regarding its transcription.

### REFERENCES

1. B.M. Add. MS. 24453,162.
2. P.R.O. E.153/1066/1.
3. This is not the notorious William Crowmer, who was beheaded at Mile End in 1450 during Jack Cade's rebellion, but a namesake who was a London draper (*London Letter Book*, I, 68). Our William is mentioned in 1406 in another hanging case printed in Riley, *Memorials of London*, 562 and was elected M.P. for the City in 1407 (*London Letter Book*, I, 57).
4. RILEY, H. T. *Memorials of London*, pp. 422 and 455.
5. TREASE, G. E., *Nottingham Medieval Studies*, 1959, III, 19–52.
6. LUCE, S., *Histoire de la Jackuerie*, Paris, 1894, pp. 249–51.
7. We have particularly used *Le Livre des Simples Medecines*, a French translation of *Circa instans* as edited by P. Dorveaux (Paris, 1913).
8. We have used the first printed edition of *Antidotarium Nicolai* (Strassburg, 1483), the Incunabula No. 395 of the Wellcome Historical Medical Library; also the fourteenth-century abbreviated translation of *Antidotarium Nicolai* (*Bibl. Nat.* MS. 25,327) as published by P. Dorveaux (Paris, 1896) under the title *L'Antidotaire Nicolaus*.
9. Facsimile of the 1564 *Pharmacopœia Augustana* published by the State Historical Society of Wisconsin (1927).
10. *The Nottingham Borough Records*, III, 284, summarize a document of 1494–5 listing the goods of John Plumtre, a potycarye, who was also known as John Fezicion (Physician). This is only a short list of ten items which were in Nottingham Castle and it is probable that he had also a shop near the Week-day Market in the old Saxon part of Nottingham. A man of the same name is referred to in 1503 as a grocer, a term which frequently included apothecaries. This document begins 'Be hit hade in mynde that y left with John'a Dammys in the Castelle' followed by an inventory including two glass stills, a still-head, crucibles (*kressibulles*), a galipot, a furnace with an iron grate, a pair of bellows (*payre belowes*), 4 lb. of copper (*coper*) and two urinals.  
The actual user of the above apparatus would seem to be the John'a Dammys whom we presume to be the same man as the John Damian who in 1501 was physician to James IV of Scotland. Damian, who was of French or Italian origin, had much in common with the Scottish king. Both were keenly interested in alchemy and Comrie (*History of Scottish Medicine*, vol. I, p. 153) describes their efforts to 'multiply' gold, that they 'played cards and dice together' and relates Damian's experimental flight with a primitive glider from the walls of Stirling Castle, which resulted in his breaking a thigh.