

DISSERTATION
FROM SCOURBUCH TO THE SCURVY: THE ARRIVAL OF A NEW
DISEASE IN ENGLAND IN THE SIXTEENTH AND SEVENTEENTH
CENTURIES

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SUMMARY

My argument is that scurvy in the early modern period, as it affected people on land, has been neglected in favour of sea scurvy in the late seventeenth century and later. This neglect is unjustified, firstly because the disease was common and serious at the time, secondly because it can be used to illuminate wider aspects of changes in attitudes to health.

I pose three questions. What, exactly, was the scurvy? How was it treated in practice? Why do we have a disease called scurvy today? To answer these I have used mainly medical texts from the Early English Books Online database between 1568 and 1657. I also looked at treatments for the scurvy in popular collections of recipes, and at the case notes of one physician, John Hall. These were published in 1657 and it is the published version that has mostly been studied. I show that there are aspects of the case notes which are not adequately reflected in the published version.

My conclusions are that scurvy changed from a simple disease (scorbute) in the sixteenth century, to a more complex one (the scurvy) overlapping with other diagnoses by 1650. There was less change to treatment, which continued to rely on long-standing herb-based remedies. There was increased use of antiscorbutics in other diseases, to treat supposedly hidden disease. Why we have a disease called scurvy today, instead of scorbute, required a comparison of usage in medical and non-medical texts. I suggest that a pre-existing popular and derogatory meaning of scurvy absorbed some elements of the new disease, and proved strong enough to be re-absorbed into medical language.

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**FROM SCOURBUCH TO THE SCURVY:
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PART ONE: BACKGROUND

1. INTRODUCTION

This dissertation is about scurvy, less informative a statement than might appear. It is neither about scurvy as currently understood (a disease of vitamin C deficiency), nor about early explorers and voyages round the world, nor about the heroic efforts of a small number of men to overturn entrenched prejudice in the Royal Navy. It was not in fact 'scurvy' at all when it first appeared, but scourbuch, scorbute, scorbie, or a variant on one of these.

I shall explore this disease from its first appearance in printed English texts in the sixteenth century, to its firm establishment in the medical and non-medical discourses of the mid-seventeenth century: to be precise, from its first mention as a named disease in an English text in 1568, to 1657. Most of the original publications on the scurvy came from Germany and the Low Countries, so my texts include translations of, and references to, several of these, though I shall touch on the original texts only briefly.

My literature review will show that the scurvy at this period is a neglected topic, both among professional historians of medicine and medical practitioners with an interest in history. It has tended to be treated cursorily as an introduction to the period which has attracted

most attention, the scurvy's emergence as a major problem for the Royal Navy, and its eventual control with the aid of lime juice. By contrast, my interest is in what practitioners (at least those who wrote books) made of it in England – predominantly land scurvy rather than sea scurvy, though the distinction is not rigid.

The relative neglect of the scurvy might have two justifications: firstly that it can tell us nothing about wider questions of medical ideas at that time; secondly, that it was of so little interest to practitioners then as to be unimportant now. The first reason I hope to show is incorrect. The second is demonstrably wrong. Woodall called it 'this most lamentable disease' and devoted twenty six pages to it¹. Cooke regarded it as the second most important systemic disease which surgeons might encounter, after the plague². Pomarius wrote six pages on the pestilence, eight on the pox, and seven on scorbutus, or, the scorbie³.

¹ J.Woodall, *The surgions mate, or A treatise discovering faithfully and plainely the due contents of the surgions chest the vses of the instruments, the vertues and operations of the medicines, the cures of the most frequent diseases at sea: namely ... the cure of the scuruie, the fluxes of the belly, of the collica and illiaca passio, tenasmus, and exitus ani, the callenture; with a briefe explanation of sal, sulphur, and mercury; with certaine characters, and tearmes of arte. Published chiefly for the benefit of young sea-surgions, employed in the East-India Companies affaire*, (London,1617), pp177-202, consulted at http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99855423, (1 September 2010).

² J.Cooke, *Mellificium chirurgie, or, The marrow of many good authours wherein is briefly handled the art of chyrurgery in its foure parts, with all the severall diseases unto them belonging, their definitions, causes, signes, prognosticks, and cures, both generall and particular : as also an appendix wherein is methodically set down the cure of th[o]se affects usually happening at sea and in campe, ... gathered first for private use and now put forth for publique benefit*, (London,1648), pp398-407, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:9673944, (1 September 2010).

³ P.Pomarius, *Enchiridion medicum containing an epitome of the whole course of physicke: ... With a treatise contaning a definition of all those diseases that do chiefly affect the body of a man, and an antidotary of many excellent and approved remedies for all diseases*, (London,1609), pp118-125, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99837122, (1 September 2010).

As a new disease, but one with its roots definitely in Europe rather than imported from elsewhere, it raised questions of classification and relationship with other diseases for those encountering it.

I cannot cover all aspects of this topic here, so shall concentrate on an essential, central one:

- What, exactly, was the scurvy?

I recognize that this is neither the only possible approach nor a complete one in itself. There must be a working definition of the scurvy though, before we can explore its wider ramifications. We shall see that the definition was not fixed but changed over time, and that both medical and non-medical discourses contributed to its development. The answers to two other questions will help to round out the answer to the main one:

- How was the scurvy treated in practice? and,
- Why do we have a disease called scurvy today?

1.1. Some notes on nomenclature

Scurvy is a disease still encountered today, and also one which can be diagnosed a very long time post mortem⁴. I am working in between the extremes, starting and finishing well before the discovery of Vitamin C, which I hope will help to keep any tendency to teleological determinism to a minimum. Without entirely accepting Harley's dictum that 'medical reality is inherently relative' I shall try to operate within the terminology

⁴ M.Eastwood. 'Vitamins and trace elements', in D.A.Warrell, T.M.Cox, J.D.Firth, E.J.Benz (eds), *Oxford Textbook of Medicine*, (vol.1,4th Ed., Oxford, 2003), pp1044-1045; S.Mays, 'A Likely Case of Scurvy from Early Bronze Age Britain', *Int. J. Osteoarchaeology*, v18 (2008), pp178-187.

and understanding of the early modern period⁵. In Cunningham's words, 'In all these periods the people died of what their doctor ... said they died of'⁶. It is useful to have alternative labels when working with similar concepts at different times, and terminology was important to the early writers of English medical texts who had a similar problem with diseases described in multiple languages⁷. I shall use 'scurvy' as a generic term for a disease recognized over several centuries and since the early twentieth century specifically associated with low Vitamin C intake. 'The scurvy' refers to the disease falling within this pattern and commonly so referred to in English texts of the early modern period, but not, at that time, associated with dietary deficiency.

Sixteenth century writers were troubled by the distinction between different herbs, and their identity or otherwise with ones described by earlier authors. To pursue this debate would entirely alter the nature of my dissertation, and I shall simply accept that an herb was whatever the person describing it said it was. Three herbs in time became the mainstay of treatments for the scurvy: scurvy-grass or spoonwort (*Cochlearia officinalis*), water-cress (*Nasturtium officinale*) and brooklime (*Veronica beccabunga*). These three are often mentioned together so I shall refer to them jointly as the antiscorbutic herbs when they occur as

⁵ D.Harley, 'Rhetoric and the Social Construction of Sickness and Healing', *Social History of Medicine*, v.12 no.3 (1999), p.434.

⁶ A.Cunningham, 'Identifying Disease in the Past: Cutting the Gordian Knot', *Asclepio*, v.LIV No.1 (2002), p.34.

⁷ C.Stein, *Negotiating the French Pox in Early Modern Germany*, (Farnham,2009) pp3-21;

R.W.McConchie, *Lexicography and Physicke: the Record of Sixteenth Century English Medical Terminology*, (Oxford, 1997), pp22-23.

a group, for conciseness. They also occur on their own, and other herbs and remedies were of course also used for their antiscorbutic properties.

When quoting from original texts I have modernised most spelling (e.g. w for vv, -ness for -enese, -y for -ie) but have retained original spellings for the many variants on the scurvy, as they are part of the story.

Author's names may come in several varieties, for instance a German original, and both latinised and anglicized equivalents, not necessarily with standard spellings. I have used the name given in the Early English Books Online record when it appears there, as that has been my sampling frame⁸. For other authors I shall use what seems to be commonest practice among writers of the time, adding an alternate spelling in brackets where there may be confusion.

And finally: when I use the word 'discourse' I mean it Pocock's sense, not Foucault's.

2. LITERATURE REVIEW

A review of recent writing on scurvy in the early modern period is both complicated and simplified by the lack of material. The main focus of interest has tended to be on James Lind and his trial of lemon juice and other therapies for scurvy, stimulated in part by his bicentenary celebrations in Edinburgh in 1953. Most of the references are in medical rather than history journals. They tended, at least initially, to the

⁸ Early English Books Online, (EEBO), last consulted at http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:screen:basic_search, (5 September 2010).

adulatory, associated with attacks on the antiquated prejudices of the medical and naval authorities⁹. A more balanced stance is apparent among recent medical writers, who tend to emphasise the problem which faced Lind and others in interpreting his data, and the difficulties at that time of knowing which remedies worked¹⁰. Hughes analysed the pharmacodynamics of Lind's therapies in 1975, concluding that, 'the majority ... were either completely lacking in Vitamin C or ... at concentrations below those estimated to provide an adequate protection'¹¹.

Scurvy is one of the new diseases, along with rickets, *plica polonica*, smallpox and others listed by Stevenson. New did not necessarily mean unknown to the ancient authorities, nor that they had appeared out of nowhere. A disease might be labelled new by the general public but not by physicians, and a disease might go on being referred to as new for over a century¹².

Several of the articles are in medical journals, and display a desire to trace the roots of the disease into the past which would have appealed to their early modern predecessors. Bourne (1944) raised the possibility

⁹ A.P.Meiklejohn, 'The Curious Obscurity of Dr. James Lind', *J.Hist.Med.& Allied Sciences*, v.IX no.3 (1954), pp304-310;
C.C.Lloyd, 'The Conquest of Scurvy', *British Journal for the History of Science*, v.1 no.4 (1963), pp357-363.

¹⁰ M.Bartholemew, 'James Lind's *Treatise of the Scurvy* (1753)', *Postgrad.Med.J.*, v.78 (2002), pp695-696;

I.Milne and I.Chalmers, 'Documenting the evidence: the case of scurvy', *Bull.World Health Organisation*, v.82 no.10 (2004), pp791-792;

S.Glouberman, 'Knowledge transfer and the complex story of scurvy', *J.Evaluation in Clinical Practice*, v.15 (2009), pp553-557.

¹¹ R.E.Hughes, 'James Lind and the Cure of Scurvy: an Experimental Approach', *Med.Hist.*, v.19 (1975), p.348.

¹² L.G.Stevenson, ' "New Diseases" in the Seventeenth Century', *Bull.Hist.Med.*, v.39 no.1 (1965), pp1-8.

that scurvy was mentioned in the Ebers papyrus three thousand years ago, and that Joinville (1250) had described a disease with some clinical features of scurvy¹³.

Ronsseus, Echt, and Weyer are generally agreed to be the earliest writers to describe what became the scurvy we have today¹⁴. Echt was the first, writing a short letter to colleagues in 1541, and Carpenter discusses his contribution in some detail¹⁵. All these writers use Lind as a source for material on the sixteenth and seventeenth centuries. Other writers followed, mainly from the Low Countries and Germany. Knaut gives a good overview of them, mainly from secondary sources. She provides little analysis, but does give a thorough map of how the various writers relate to each other. From Echt onwards, and particularly for Eugalenus and Sennert, she summarises their writings in some detail, with extracts¹⁶.

The first English writer credited with a text specifically on the scurvy (excluding references to hardships on long voyages) is John Woodall, the writers emphasizing that he recommenced citrus juice as a preventative or cure on long voyages¹⁷. Hughes refers to William Turner's *Herbal*

¹³ G.H.Bourne, 'Records in the Older Literature of Tissue Changes in Scurvy', *Proc.R.Soc.Med* v.37(1944), p.513.

¹⁴ *Ibid.*, p513;

M.S.Smith, 'The diagnosis and treatment of scurvy: an historical perspective', *J.Roy.Nav.med.Serv*, v.72 (1986), pp104-105.

R.E.Hughes, 'The rise and fall of the "antiscorbutics": some notes on the traditional cures for the "land scurvy"', *Medical History*, v.34 (1990), pp52-64.

A.J.Lorenz, 'Some Pre-Lind Writers on Scurvy', *Proc.Nutrition Society*, v.12 no.30 (1953), pp307-311

¹⁵ K.J.Carpenter, *The History of Scurvy and Vitamin C*, (Paperback edition, Cambridge, 1988), pp29-34.

¹⁶ I.Knaut, 'Geschichte der Krankheitsbezeichnung Skorbut', (Dissertation zur Erlangung der Zahnmedizinischen Doktorwuerde, Freie Universitaet, Berlin, 1984), pp19-37.

¹⁷ Lorenz, 'Some Pre-Lind Writers', pp311-312;

Smith, 'The diagnosis and treatment of scurvy', p105;

(1568) as having one of the earliest references in English to scurvy ('Scourbuch' as it was called in Friesland), and mentions Henry Lyte's reference to 'Scuerbuyck', in his translation of Dodoens. He gave two references, both in the mid-eighteenth century, for the distinction between land and sea scurvy. He also referred to an 'apparently sudden and puzzling increase in a condition described as scurvy amongst the non-seafaring population of Britain in the first half of the seventeenth century'. This he thought was unlikely to be due to an increase in vitamin C deficiency, and put it down either to 'improved diagnosis of an already existing condition' or a convenient nosological safety net¹⁸.

Only one standard reference book on scurvy has appeared in recent years, Carpenter's *The History of Scurvy and Vitamin C* (1988).

Carpenter covers the subject from the earliest references to the late twentieth century. His first two chapters cover scurvy amongst explorers and in European writings up to 1700. He mentions the authors referred to already, and saying that 'from 1560 to 1600, at least nine Dutch or German physicians ... wrote Latin treatises on scorbutus', adding Foreest as an important name. Among early English authors he mentions William Clowes, as well as Woodall. He finishes with some quotes from John Hall's *Select Observations* as examples of practice at the time¹⁹.

Carpenter's book seems to have been so authoritative that no subsequent large review of the subject has appeared in English. His work has been the basis for such references as have appeared since. Land

Hughes, 'The Rise and Fall of the "Antiscorbutics"', pp52-53.

¹⁸ Ibid., pp55,53-54,56-57.

¹⁹ K.J.Carpenter, *The History of Scurvy and Vitamin C*, pp1-42.

scurvy in the early modern period, one might say, has become a disease of the footnote rather than the chapter²⁰. Such books as have appeared have been for the popular market and revert again to the Royal Navy and a story of eventual individual triumph over ignorance and inertia²¹.

Scurvy has been treated a little more fully in general histories of medicine, though all tending to be based on Carpenter (or written by him), and concentrate again on Lind and lime juice. Carpenter summarized his book concisely in *The Companion Encyclopedia of the History of Medicine*²². *The Cambridge Illustrated History of Medicine* mentions the background very briefly, but gives a page to Lind, the Navy, and lime juice²³. Wear, in *The Western Medical Tradition*, covers a wider time span but almost entirely on sea scurvy, as does Harrison²⁴. Possible a surprising omission is the absence of scurvy from a chapter on smell and odours. Palmer refers to leprosy and syphilis as diseases believed in the early modern period to be spread by the breath of a sufferer, but not to the notoriously stinking breath caused by scurvy²⁵.

²⁰ For example: A.Wear, *Knowledge and Practice in English Medicine, 1550-1680*, (Cambridge, 2000): Two chapters on the plague, four footnotes on scurvy; and L.Brockliss, C.Jones, *The Medical World of Early Modern France*, (Oxford,1997): one chapter on the plague, one footnote on scurvy (a reference to Carpenter).

²¹ S.R.Bown, *Scurvy: How a Surgeon, a Mariner and a Gentleman Solved the Greatest Medical Mystery of the Age of Sail*, (paperback edition, Chichester,2003); D.I.Harvie, *Limeys: the Conquest of Scurvy*, (paperback edition, Stroud,2005).

²² K.J.Carpenter, 'Nutritional Diseases', in W.F.Bynum and R.Porter, *The Companion Encyclopedia of the History of Medicine*, (London and New York,1993), pp467-476.

²³ K.F.Kiple, 'The History of Disease', and M.Weatherall, 'Drug Treatment and the rise of Pharmacology', in R.Porter, *The Cambridge Illustrated History of Medicine*, (Cambridge, 1996), p.46 and p.256.

²⁴ A.Wear, 'Medicine in Early Modern Europe 1500-1700', in L.I.Conrad, M.Neve, V.Nutton, R.Porter and A.Wear (eds), *The Western Medical Tradition: 800BC to AD 1800*, (Cambridge, 1995), pp227-229;

M.Harrison, *Disease and the Modern World: 1500 to the present day*, (Cambridge, 2004), pp66-68.

²⁵ R.Palmer, '“In bad odour”: smell and its significance in medicine from antiquity to the early seventeenth century', in W.F.Bynum & R.Porter (eds), *Medicine and the Five Senses*, (Cambridge, 1993), p.65.

When Clowes treated two sailors, 'the savor was so odious, that I was scarce able to stay and abide it'²⁶.

One final reference worth examination is James Lind²⁷. This might seem strange for a book published in 1753, but recent authors, while being less excited by his contribution to experimental methods, have been impressed by his tenacity and thoroughness in searching and reviewing the literature. According to Lorenz, 'he reviewed more than 200 authors, abstracting sixty-one'²⁸. This is more than in any of the other articles mentioned here. Only fourteen of his references were to English authors, the earliest being Thomas Willis in 1667. Nonetheless, as Milne and Chalmers say, 'his thoroughness is particularly noteworthy' given that he had no computerised databases to help him²⁹.

Lind credits Ronsseus, Echt, and Weyer as the first authors on scurvy. The first two he says wrote separately and did not know of each other's work, while Weyer based his text on Echt³⁰. Weyer 'described the various and extraordinary symptoms ... in so accurate a manner, that the succeeding authors for a long time did nothing more than copy him'³¹. Lind also emphasised that Weyer was a great traveller, so his view that

²⁶ W.Clowes, *A profitable and necessarie booke of obseruations, for all those that are burned with the flame of gun powder, &c. and also for curing of wounds made with musket and caliuer shot, and other weapons of war commonly vsed at this day both by sea and land, as heerafter shall be declared: ... last of all is adioined a short treatise, for the cure of lues venerea, by vnctions and other approued waies of curing, heertofore by me collected: and now againe newly corrected and augmented in the yeere of our Lorde 1596*, (London, 1596), p.40, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99843785 (25 August 2010).

²⁷ J.Lind, *A Treatise of the Scurvy in three parts, containing an enquiry into the Nature, Causes, and Cure, of that disease. Together with a Critical and Chronological View of what has been published on the subject*, (Edinburgh, 1753).

²⁸ Lorenz, 'Some Pre-Lind Writers', p.307.

²⁹ Milne & Chalmers, 'Documenting the evidence', p.792.

³⁰ Lind, *A Treatise of the Scurvy*, p.1.

³¹ *Ibid.*, p.3.

the disease was confined to 'the inhabitants of the countries upon the north seas' was based on first-hand observations. Less than thirty years later, Solomon Albertus 'observes, that he has met with the scurvy everywhere ... on the borders of Bohemia and Silesia, etc'³². Soon after that, Eugalenus reported that the disease 'had made its progress over almost the whole world'³³.

Rarely do I think a reviewer can have been so out of sympathy with an author as Lind was with Eugalenus. He devoted twenty-seven pages – more than to anyone else - to a detailed critique of every aspect of Eugalenus's writings. This is justified because, he says, he 'is looked upon at this day as the standard author on our subject'³⁴. Since Eugalenus will reappear frequently later, without being one of the texts directly used, it is useful to summarise some of the points Lind makes, while remembering that he is unquestionably a biased witness.

Eugalenus, Lind says, 'differs from all preceeding authors'. He regarded 'equivocal and uncertain signs' as evidence of advanced disease, not a prodrome. Instead of a regular progression of symptoms through different stages, from the general to the specific, it becomes 'the most irregular and deceitful evil'. He also gave different descriptions of recognized symptoms, and added many new ones³⁵. Such changes might be explained either if the disease had changed entirely since the

³² Ibid., p.5.

³³ Ibid., p.8.

³⁴ Ibid.,p.9

³⁵ Ibid., pp10-12.

original writers described it; or 'he may be mistaken' – the conclusion Lind reaches after several pages of detailed discussion³⁶.

Eugalenus 'seems to have been of the opinion ... that all distempers were formerly as at present', with the exception only of the pox and scurvy. The scurvy had travelled from north to south, and the pox the reverse.

Upon their meeting, they communicate and intermingle their poison with each other ... Thus, he imagined, that the scurvy might assume the form of almost all diseases ... incident to the human body: ... that the numerous and various distempers described in his book ... might be produced by this one scorbutic cause.

So,

whether the disease was ... purely scorbutic, or ... was joined or complicated with another malady, no cure could possibly be made in either case, without the common and specific antiscorbutic medicines ... which were to be compounded with others proper for these diseases³⁷.

Lind concluded, 'the vanity and presumption of this author are indeed intolerable'³⁸. Nonetheless he was extremely influential on later authors such as Sennert – though Sennert did offer as an apology, that 'the scurvy was not a disease so frequent or common in his own country'³⁹.

³⁶ Ibid., pp13-20.

³⁷ Ibid., p.22.

³⁸ Ibid., p.27.

³⁹ Ibid., p.30.

3. METHODOLOGIES

3.1 Theoretical approaches

In a previous essay I set out the theoretical approach I intended to follow, based on the ideas of Pocock, particularly as expressed in *Virtue, Commerce and History*⁴⁰. As one might expect, there has proved to be significant difference between theory as theory and theory in practice.

My assessment of the applicability of Pocock's ideas was as follows:

My intention is to study writings about scurvy in English books from around 1570 to around 1660. My interest is more in the connexions and changes between writers over time, than the content of specific books at specific moments. In Pocock's terms, this requires the paralinguage of narrative, driven by changing patterns of language and a variety of dialogues from earlier to later authors ... The speech acts in my case are references to scurvy, and the constellation of ideas associated with it ... It is a given that the word 'scurvy' remains the same throughout, but its associations change. These changes, and the networks which connect them, are my focus.

I raised what I felt was a weakness in applying this approach to health, namely the shift from talking about ideas to talking about practical skills and interventions. This required more concentration on the role of readers than it is given by Pocock. To correct this I turned to Latour, and his translational, as opposed to diffusional, model of the spread of

⁴⁰ L.G.Wells, 'On Applying the Ideas of Pocock and Latour to Medical History' (Essay, University of Warwick, 2010); J.G.A.Pocock, *Virtue, Commerce and History*, (Cambridge, 1985).

ideas⁴¹. This places more emphasis on the power of readers to transmit or reject what they had read, rather than on the power of authors to push their ideas onto readers.

Writing at that time, I made some unverifiable and in the event incorrect statements about how I thought the evidence would unfold. In practice it was less easy to separate content and connexions. I was wrong too, to think that 'scurvy' would remain a constant, and the traceable networks were thinner than I had anticipated. Limitations of space mean that some contexts, such as travel, have been excluded.

Fortunately this has not diminished the usefulness of having Pocock and Latour in mind as I worked, simply that some of their other ideas turned out to be more relevant. They helped me frame the questions, and to make sense of the results.

Latour's ideas led me to another method, that of citation analysis⁴². Documents are a form of social interaction and 'can be conceptualised as actors in networks of action', and can reveal social interactions underlying them⁴³. More technically, Kleinberg has described the design and use of algorithms to analyse networks on the World Wide Web. My networks are several orders of magnitude smaller, and such mathematical analysis would be inappropriate, but Kleinberg provided me with two transferable concepts: hubs and authorities⁴⁴.

⁴¹ B.Latour, 'The Powers of Association', in J.Law, *Power, Action and Belief: a New Sociology of Knowledge?*, (London, Boston, 1986).

⁴² B.Latour, S.Woolgar, *Laboratory Life: The Construction of Scientific Facts*, (Paperback edition, Princeton, 1986).

⁴³ L.Prior, 'Researching Documents: Emergent Methods', in S.N.Hesse-Biber and P.Leavy (eds), *Handbook of Emergent Methods*, (London,2008), pp112-120.

⁴⁴ J.M.Kleinberg, 'Authoritative Sources in a Hyperlinked Environment' , *J.Association for*

An authority is a source of information which is referred to by a large number of subsequent relevant texts. Conversely, a hub is a text that refers to a large proportion of previous relevant texts. They are mutually reinforcing in that 'a good hub is a page that points to many good authorities; a good authority is a page that is pointed to by many good hubs'⁴⁵.

At a late stage I read *Cultures of Plague*, by Cohn, and was encouraged to find his methods of examining word usage chimed with ideas I was tentatively developing⁴⁶.

3.2. Original Literature search

My sources are books about medical topics written in English. These books were not necessarily less learned than those written in Latin. McConchie has argued that an earlier view, that English lacked the resources to express scientific and medical ideas in the sixteenth century, is wrong. Further, that writers were interested in linguistic matters, were not as apologetic about writing in English as had been assumed, and that 'most of the early vernacular works were by physicians rather than by barber-surgeons'.⁴⁷

My texts do include translations of books from other countries, mainly from the Low Countries and Germany, where many of the ideas started and developed. I focus mainly on medical texts, though not

Computing Machinery v.46 no.5 (1999).

⁴⁵ Ibid., pp7-8

⁴⁶ S.K.Cohn, *Cultures of plague : medical thinking at the end of the Renaissance*, (Oxford, New York, 2010).

⁴⁷ McConchie, *Lexicography and Physicke*, pp1,17-18,55.

excluding all others. If we are to identify the ideas people had about the scurvy, then looking at texts in which those ideas were described and developed at some length seems a practical starting point.

My sampling frame was the Early English Books Online (EEBO) database. This contains 'digital facsimile page images of virtually every work printed in England, Ireland, Scotland, Wales and British North America and works in English printed elsewhere from 1473-1700'⁴⁸. A proportion of works are digitised and whole text is searchable by keywords. My impression is that this applies more to non-medical than medical titles, and more to later than earlier texts. My searches online were supplemented by comparing the results with texts mentioned in a variety of other sources (Russell, Slack, Wear, Fissell) which relate to medical and health books published at the time of interest⁴⁹. I consulted original copies of the most relevant books themselves where possible, using the Shakespeare Birthplace Trust and Wellcome Libraries.

I used keyword and subject searches initially for the period 1550 to 1659. I started with a keyword search on 'scurvy', including its variant spellings, such as scuruy, scurvie, and others. This strategy of course produces more hits for documents which have been digitised,

⁴⁸ EEBO, http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:screen:basic_search, last consulted 3 September 2010.

⁴⁹ K.F.Russell, 'A check list of Medical Books published in English before 1600', *Bull.Hist.Medicine*, V.21 (1947), pp922-958;
P.Slack, 'Mirrors of health and treasure of poor men: the uses of the vernacular medical literature of Tudor England', in C.Webster(ed.) *Health, medicine and mortality in the sixteenth century*, (Cambridge, 1979), pp237-273;
A.Wear, *Knowledge and Practice in English Medicine, 1550-1680*, (Cambridge,2000), particularly pp46-153;
M.E.Fissell, 'The Market Place of Print', in M.S.R.Jenner & P.Wallis (eds), *Medicine and the Market in England and Its Colonies, c.1450-c.1850*, (Basingstoke, 2007), pp108-132.

because the whole text rather than just the title was searchable. I supplemented that by a series of subject searches, using the following words and their variants:

- Medicine;
- Physic;
- Surgery;
- Chirurgery;
- Health;
- Diet;
- Regimen;
- Herbal;
- Pharmacopoeia;
- Antidotary;

For texts identified on these searches, and not already identified by the keyword search, I went through chapter headings and indexes to find references to scurvy or related words. In the case of herbals and some collections of remedies which did not index illnesses, I looked up chapter and index references to the common antiscorbutic drugs (scurvy grass, brooklime, and watercress). These searches threw up new words, such as scorbute and its variants, and spellings not previously found, such as sk- and -by combinations (e.g. skuruy, skorby, skyrby). I repeated searches on new words until no new references or searchable terms appeared.

No search strategy can guarantee a perfectly complete result, and this is no exception. Certain biases are built into the search. It was biased towards digitized medical texts for which both title and text were

searched automatically. It was biased away from non-digitised medical texts, which relied on my own searches of contents and index pages. It positively excluded non-medical texts unless they were digitized.

Nonetheless I believe that I retrieved a high proportion of the relevant medical references, and a sufficient proportion of non-medical ones for illustrative purposes.

PART TWO: SCORBUTIC TEXTS

4. RESULTS OF LITERATURE SEARCH

After excluding new editions of previous works, and identical works with differing names, I identified sixty three texts, dealing with health in a broad sense and with some reference to scurvy, published between 1568 and 1567.

Slack and Fissell have published tables showing the frequency of different categories of health texts for periods overlapping with mine . Slack identified 153 medical titles published in English between 1486 and 1605. He categorized them into eight groups, though, he said, the distinctions were not clear-cut and it was sometimes difficult to make final judgements⁵⁰.

Fissell's database was for popular 'medical works intended for non-practitioners published in English'. Her period was 1641 to 1740, so overlapping the opposite end of my period from Slack. She also had

⁵⁰ Slack, 'Mirrors of Health', pp243-245.

difficulties in making judgements for borderline cases. Her information includes only percentages, not the actual number of texts⁵¹.

I have classified my sixty four titles as best I can into Slack's and Fissell's categories, and had the same trouble they had in making decisions. It must be expected that some of the variation is due to our individual choices. Tables 1 and 2 show the percentages in each classification. The proportions of publications are statistically significantly different from those for scurvy in both comparisons (Chi-squared test, $p < 0.05$, excluding midwifery in the Fissell comparison, as not relevant to scurvy) but the patterns and reasons are different.

Table 1. Frequencies of books in Slack's survey and for scurvy			
	Numbers – Slack	% - Slack	% - scurvy
Anatomy and Surgery	23	15	17
Reflections	17	11	13
Herbal	10	7	16
Specific diseases*	39	26	6
Remedies	13	9	9
Explanatory and regimens	33	22	23
Collections	18	12	16
*combined categories for separate diseases			
Source: P.Slack, 'Mirrors of health and treasure of poor men: the uses of the vernacular medical literature of Tudor England', in C.Webster(ed.) <i>Health, medicine and mortality in the sixteenth century</i> , (Cambridge, 1979), p.243			

In the comparison with Slack (Table 1), one category differs marginally – herbals – and one widely - specific diseases. The herbals may be distorted by my classification as I have put all of Culpeper's publications – including his translation of the *Pharmacopoeia Londinensis* - in this

⁵¹ Fissell, 'The Marketplace of Print', pp116-118.

category. Moving those elsewhere might have reduced the differences slightly, but I cannot find a better place for them given the structure of his texts, which are centred on remedies, not illnesses. The commonest sort of specific disease publication was the plague tract, most of which contain no reference to other illnesses. Single topic texts on scurvy are rare.

For Fissell (Table 2), every category (sadly not the same as Slack's) except miscellaneous and regimen differs considerably. Recipe books, general publications, and proprietary medicines are all commoner in Fissell's set, which is understandable as these are general publications for a general audience. Herbals and surgery are commoner among the scurvy publications. Herbals are discussed above. Surgery is a specialized area in which scurvy could be expected to feature, but which would be less appealing to a general audience.

Table 2. Frequencies of books in Fissell's survey and for scurvy		
	% - Fissell	% - scurvy
Recipe Book	22	16
General	13	20
Proprietary Medicine	11	3
Specific diseases *	20	6
Miscellaneous	8	14
Regimen	8	8
Herbal	6	16
Surgery	3	17
Midwifery	9	0
*combined categories of separate diseases		
Source: M.E.Fissell, 'The Market Place of Print', in M.S.R.Jenner & P.Wallis (eds), <i>Medicine and the Market in England and Its Colonies, c.1450-c.1850</i> , (Basingstoke, 2007), p.116.		

An exact match would have been surprising, giving that we were searching for different things, and over different time periods. My search

pattern was closer to Slack than Fissell. I think the match with Slack is reasonably good, and the differences are explicable. This gives some assurance that my search strategy is reasonably representative.

4.1. Citation analysis

Citation analysis is a way of identifying both the most commonly cited texts, and the texts which will be most helpful in finding them. Of the sixty three texts, twenty seven name at least one person to back up their statements. In all there are seventy such named references. They range from the classical authors such as Hippocrates and Galen to the name of a friend, quite often encountered in collections of recipes. I have excluded negative comments, that someone did not write about scurvy, and implied references when there is a close stylistic resemblance but no named connexion.

I have identified as Authorities, those ten names who make up over half the citations. They fall into three groups.

- Classical authors:
 - Hippocrates (460-377BCE) receives 5 references,
 - Pliny the Elder (23/24 BCE – 79 CE) 6
 - Galen (129-199 CE) 3
 - Marcellus (379 -?) 3
- Sixteenth century authors:
 - Weyer (1515-1588) 8
 - Ronsseus (1525-1597) 4
 - Olaus Magnus (1490-1557) 3
 - Foreest (1522-1597) 3

- Seventeenth century authors:
 - Eugalenus (1535-?) 3
 - Sennert (1572-1637) 3.

Echt is not included in the list despite being credited with the first tract on the scurvy, but his contemporaries Weyer, Ronsseus and Foreest are. They were all writing before or in the early part of my period, so have the full time in which to be mentioned. By contrast Eugalenus and Sennert both wrote in the early seventeenth century, so had less time in which to become established. None of the authorities is an English writer.

Hubs of course will all be English texts, but may be by English authors or translations. Using the same criterion as above I identified nine hubs:

- Weyer contains 14 references
- Jonstonus 6
- Gerard 5
- Dodoens 3
- Clowes 3
- Pomarius 3
- Gardiner 3
- Woodall 3
- Cooke 3

Weyer is by far the most productive hub, as well as being the only author to appear in both lists. I used these lists as a starting point to prepare a set of core texts.

4.2. Identifying Core Texts

I used the characteristics of the hub texts to define my core texts. By this I mean texts with some narrative about the scurvy, not simply a reference to it. Most of the hubs are also core texts, the exclusions being Dodoens and Gardiner⁵². Dodoens's Herbal, translated by Henry Lyte, contains one of the earliest scorbutic references in English texts, but gives too little additional detail to be included. Gardiner's text is part of an argument about the value or otherwise of tobacco in therapies, and is therefore overly narrow for my purposes.

I identified a number of additional texts which, though not hubs, shared common features with them. Generally this means an extended narrative under a heading specifying the scurvy. Each text includes most if not all of the following elements:

- A definition;
- References to previous texts;
- Discussion about the name;
- Causes;
- Signs;

⁵² R.Dodoens, *A nievve herball, or historie of plantes wherin is contayned the vvhole discourse and perfect description of all sortes of herbes and plantes: their diuers [and] sundry kindes: First set foorth in the Doutche or Almaine tongue, by that learned D. Rembert Dodoens, physition to the Emperour: and nowe first translated out of French into English, by Henry Lyte Esquyer*, (London [i.e. Antwerp], 1578), p.118, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99843065, 3 September 2010);
E. Gardiner, *The triall of tabacco Wherein, his worth is most worthily expressed: as, in the name, nature, and qualitie of the sayd hearb; his speciall vse in all physicke, with the true and right vse of taking it, aswell for the seasons, and times, as also the complexions, dispositions, and constitutions, of such bodies, & persons, as are fittest: and to whom it is most profitable to take it*, (London, 1610), pp47-48, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99841419, (3 September 2010).

- Treatments.

The texts are mostly written in that order, an exception being in herbals, in which entries are specified under the plant concerned.

Fifteen texts met these criteria, and their analysis will form the bulk of the next section. For convenience, I have included the EEBO website in all references, though in most cases I consulted an original as well. The fifteen are listed here.

1. Author: Lemnius, Levinus, 1505-1568⁵³;
 Title: The touchstone of complexions;
 Date: 1576.

2. Author: Weyer, Johann, 1515-1588⁵⁴;
 Title: A profitable treatise of the scorbie;
 Date: 1587.

⁵³ L. Lemnius, *The touchstone of complexions generallye appliable, expedient and profitable for all such, as be desirous & carefull of their bodyehealth : contayning most easie rules & ready tokens, whereby eueryone may perfectly try, and thoroughly know, as well the exacte state, habite, disposition, and constitution, of his owne body outwardly : as also the inclinations, affections, motions, & desires of his myndinwardly / first written in Latine, by Leuine Lemnie ; and nowEnglished by Thomas Newton* (London, 1576), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:20101519 (20 August 2010).

⁵⁴ J. Weyer, 'A profitable treatise of the scorbie', in Guillemeau, Jacques, *A worthy treatise of the eyes contayning the knowledge and cure of one hundred and thirtene diseases, incident vnto them: first gathered & written in French, by Jacques Guillemeau, chyrgion to the French King, and now translated into English, together with a profitable treatise of the scorbie; & another of the cancer by A.H. Also next to the treatise of the eies isadoyned awork touching the preseruacion of the sight, set forth by VV. Bailey. D. of Phisick*, (London, 1587), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99850218 (20 August 2010).

3. Author: William Clowes, ca.1540-1604⁵⁵;
Title: A profitable and necessarie booke of observations;
Date: 1596.
4. Author: Gerard, John, 1545-1612⁵⁶;
Title: The Herball, or Generall History of Plants;
Date: 1597.
5. Author: Wirsung, Christof, 1500?-1571⁵⁷;
Title: Praxis medicinae vuniuersalis;
Date: 1598.

⁵⁵ W.Clowes, *A profitable and necessarie booke of obseruations, for all those that are burned with the flame of gun powder, &c. and also for curing of wounds made with musket and caliuer shot, and other weapons of war commonly vsed at this day both by sea and land, as heerafter shall be declared: ... last of all is adioined a short treatise, for the cure of lues venerea, by vnctions and other approued waies of curing, heertofore by me collected: and now againe newly corrected and augmented in the yeere of our Lorde 1596*, (London, 1596), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99843785 (25 August 2010).

⁵⁶ J.Gerard, *The herball or Generall historie of plantes. Gathered by Iohn Gerarde of London Master in Chirurgerie*, (London, 1597), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99857504 (20 August 2010).

⁵⁷ C.Wirsung, *Praxis medicinae vniuersalis; or A generall practise of physicke Wherein areconteined all inward and outward parts of the body, with all the accidents and infirmities that are incident vnto them, euen from the crowne of the head to the sole of the foote; also by what meanes (vvith the help of God) they may be remedie: ... Compiled and written by the most famous and learned doctour Christopher Wirtzung, in the Germane tongue, and now translated into English, in diuers places corrected, and with many additions illustrated and augmented, by Iacob Mosan Germane, Doctor in the same facultie*, (London, 1598), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99841097 (20 August 2010).

6. Author: Wateson, George, fl. 1598-1607 ⁵⁸;
Title: The cures of the diseased, in remote regions;
Date: 1598.

7. Author: Pomarius, Petrus Valentinus ⁵⁹;
Title: Enchiridion medicum;
Date: 1609.

8. Author: Woodall, John, 1556?-1643 ⁶⁰;
Title: The surgions mate;
Date: 1617.

⁵⁸ G.Wateson, *The cures of the diseased, in remote regions Preventing mortalitie, incident in forraine attempts, of the English nation*, (London, 1598), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99848478, (20 August 2010).

⁵⁹ P.Pomarius, *Enchiridion medicum containing an epitome of the whole course of physicke: with the examination of a chirurgion, by way of dialogue betweene the doctor and the students ... and an antidotary of many excellent and approved remedies for all diseases. Published for the benefit of young students in physicke, chirurgian, and apothecaries*, (London, 1609), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99837122, (20 August 2010).

⁶⁰ J.Woodall, *The surgions mate, or A treatise discovering faithfully and plainly the due contents of the surgions chest the vses of the instruments, the vertues and operations of the medicines, the cures of the most frequent diseases at sea: ... the cure of the scuruie, ... with certaine characters, and tearmes of arte. Published chiefly for the benefit of young sea-surgions, imployed in the East-India Companies affaires. By Iohn Woodall Mr in Chirurgery*, (London, 1617), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99855423 (20 August 2010).

9. Author: Vaughan, William, 1577-1641 ⁶¹;

Title: The Newlanders cure;

Date: 1630

10. Author: Cooke, James, 1614-1694 ⁶²;

Title: Mellificium chirurgie;

Date: 1648.

11. Author: Elkes, Richard, dates unknown⁶³;

Title: Approved Medicines of little cost;

Date: 1651

⁶¹ W. Vaughan, *The Newlanders cure Aswell of those violent sicknesses which distemper most minds in these latter dayes: ... Wherein are inserted generall and speciall remedies against the scuruy. Coughes. Feauers. Goute. Collicke. Sea-sicknesses, and other grieuous infirmities. Published for the weale of Great Brittain, by Sir William Vaughan, Knight*, (London, 1630), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99846833 (20 August 2010).

⁶² J. Cooke, *Mellificium chirurgie, or, The marrow of many good authours wherein is briefly handled the art of chyrurgery in its foure parts, with all the severall diseases unto them belonging, their definitions, causes, signes, prognosticks, and cures, both generall and particular : ... and lastly an addition of severall magistrall receipts approved and heretofore kept secret / gathered first for private use and now put forth for publique benefit by James Cooke*, (London, 1648), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:9673944, (20 August 2010).

⁶³ R. Elkes, *Approved medicines of little cost, to preserve health and also to cure those that are sick provided for the souldiers knap-sack and the country mans closet / written by Richard Elkes, Gent*, (London, 1651), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:12354612, (24 Aug 2010).

12.Author: A.M., dates unknown⁶⁴;
Title: A rich closet of physical secrets;
Date: 1652.

13.Author: Rivière, Lazare, 1589-1655⁶⁵;
Title: The practice of physick;
Date: 1655.

14.Author: Smith, John, ?1630-1679⁶⁶;
Title: A compleat practice of physick;
Date: 1656.

⁶⁴ A.M., *A rich closet of physical secrets, collected by the elaborate paines of four severall students in physick, and digested together; viz. The child-bearers cabinet. A preservative against the plague and small pox. Physicall experiments presented to our late Queen Elizabeths own hands. With certain approved medicines, taken out of a manuscript, found at the dissolution of one of our English abbies, and supplied with some of his own experiments, by a late English doctor*, (London, 1652), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99866109 (20 August 2010).

⁶⁵ L.Rivière, *The practice of physick in seventeen several books wherein is plainly set forth the nature, cause, differences, and several sorts of signs : together with the cure of all diseases in the body of man / by Nicholas Culpeper ... Abdiah Cole ... and William Rowland ; being chiefly a translation of the works of that learned and renowned doctor, Lazarus Riverius*, (London, 1655)
http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:11781600 (20 August 2010).

⁶⁶ J.Smith, *A compleat practice of physick. Wherein is plainly described, the nature, causes, differences, and signs, of all diseases in the body of man. VVith the choicest cures for the same*, (London, 1656), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99867888, (20 August 2010); a ODNB, 'Smith, John, 1630-1679', *ODNB*, (4th ed., Oxford, 2004) , pp201-202 – but the identification is described as doubtful.

15.Author: Jonstonus, Joannes, 1603-1675⁶⁷;
Title: The idea of practical physick;
Date: 1657.

Five of the texts were translations from Latin, the original authors all being physicians. Lemnius, Weyer, and Wirsung from Germany or the Low Countries were all published in English before 1600, whereas Rivière (French) and Jonstonus (Polish) were translated in 1655 and 1657 respectively. Of the original English works, three each were by physicians (Pomarius, Smith), surgeons (Clowes, Woodall and Cooke) Of the others (Wateson, Vaughan and Elkes), Wateson was a sailor, possibly the same as George Whetstone, though this is hard to square with the ODNB entry⁶⁸. Vaughan promoted colonisation in Newfoundland, and his writing relates to health amongst settlers⁶⁹. Elkes describes himself as 'an old soldier in Ireland about forty years since, which became a Physitian there'⁷⁰. I have been unable to identify A.M.

The texts are not evenly distributed over time. Six were published between 1576 and 1598; four between 1609 and 1648; and six between 1651 and 1657. The longest gap is eighteen years, between Vaughan in 1630 and Cooke in 1648.

⁶⁷ J.Jonstonus, *The idea of practical physick in twelve books ... / written in Latin by John Johnston ... ; and Englished by Nich. Culpeper, Gent. ... and W.R* (London, 1657), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:12196294, (20 August 2010).

⁶⁸ Anon., 'Founders of Naval Hygiene', *The British Medical Journal*, (Nov.6,1920) p.720; 'George Whetstone, 1550-1587', *ODNB*, v.58 (Oxford, 2004), pp459-461.

⁶⁹ 'Vaughan, William, c1575-1641', *ODNB*, v.56 (Oxford, 2004), pp207-209.

⁷⁰ Elkes, *Approved medicines*, p.1.

Weyer's status as the only core text which is both hub and authority, and the only text in English on scurvy as a single disease at this time, makes his text a good starting point.

5. WEYER: AUTHORITY AND HUB

'A Profitable Treatise of the Scorbie' was translated by Anthony Hunton, according to EEBO from Weyer's *Medicarum Observationum rararum*. In the preface Hunton explains why he chose Weyer: 'Ronsseus and Langius wade into deep difficulties, fitter for a learned censurer, than a plain physician' while 'Echtius ... affordeth not the pith and marrow of special medicines'⁷¹. It was intended to be useful and evidently was, being quoted by Clowes a year later⁷². The treatise opens with a concise single sentence definition:

The *Scorby* is a stopping of the spleen hindering thereby the course of Melancholy, which mingling with the rest of the blood infecteth all the body with vile wasting corruption, the gross part whereof falling down, staineth the legs with spots like unto pomgranats, and the thin part being carried up defileth the gums with sharpe fretting and loathsome growing out of the flesh⁷³.

A literature review follows, which situates the disease in time and place, and sorts out its nomenclature. Weyer derives the name from the Dutch

⁷¹ Weyer, 'A profitable treatise of the scorbie', pp1-2.

⁷² W.Clowes, *A prooued practise for all young chirurgians, concerning burnings with gunpowder, and woundes made with gunshot, sword, halbard, pyke, launce, or such other Wherein, is deliuered with all faithfulness, not onely the true receipts of such medicines as shall make them bolde, but also sundry familiar examples, such, as may leade them as it twere by the hand, to the doying of the lyke*, (London, 1588), p.91, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99843790, (20 August 2010).

⁷³ Weyer, 'A profitable treatise of the scorbie', p.3.

Scorbuc or *Scormunt* (burst belly or mouth) and tentatively identifies it ('it seemeth to be') with the disease described by Pliny the Elder in book 25, chap. 6. of the *Natural History*, and called by him *Sceletyrbe* (affecting the legs) or *Stomacace* (affecting the mouth). It had affected a Roman army on the sea coast beyond the Rhine, and the local Frisian population⁷⁴. The same words were used by Strabo for a disease suffered by a Roman army in Arabia⁷⁵.

In Weyer's time the disease had been becoming more prevalent in Friesland and neighbouring areas, 'so that it is now known in almost all low Germany: notwithstanding it is unknown in the dominions of high Germany, as in *Italy, France, and Spain*'. If the disease were encountered elsewhere in Africa or Asia it would be due to want of good water, air, and diet. He concludes that the disease is 'proper ... to the inhabitants of the Northern parts, and not familiar to all places in the world, as is the crew of other maladies'⁷⁶.

Weyer was at pains to establish that 'our Scorbie' was not the same *sceletirbe* named 'by the Author of the definitions which bear Galen's name', the latter being a palsy⁷⁷. He 'supposes' that scurvy is the same as the *Oscedo* named by Marcellus, but in general to the question 'whether this pestilence were known and written of by the old ancient Greek and Arabian writers of Phisike', he 'inclines to the contrary'⁷⁸. Avicenna 'describeth not our scorbie'; Hippocrates 'pointeth out certain

⁷⁴ Ibid., p.4.

⁷⁵ Ibid., p.6.

⁷⁶ Ibid., p.5.

⁷⁷ Ibid., p.7.

⁷⁸ Ibid., pp7-8.

marks ... but our scorbie is not laid open⁷⁹. From personal experience Weyer can say that the scurvy is not the same as black jaundice, nor Hippocrates' *Volvulus haematites*, being supported in this by 'Ronsseus, an excellent Physician, and my familiar acquaintance'⁸⁰.

Moving to more recent authors, He quotes Olaus Magnus on a disease of soldiers, 'vexing such as be besieged and shut up' and commonly called *scorbuk*. This disease is increased by exposure to cold exhalations from stone walls, and is less severe 'where their walls are boarded with any kind of wood'⁸¹. It could be cured by drinking wormwood in ale.

Turning to causes, Weyer structures his text from the patient outwards: first humoral, then the non-naturals, and then 'causes going before'. The 'first and nearest' cause, is 'a gross, raw, cold humour contained in the veins', which might 'come only from melancholy, or be mixed with fleame'⁸². The important non-naturals are 'corrupt Aire, evil and unwholesome diet, which is usual in the North parts, chiefly amongst Mariners'. The unwholesome diet included badly smelling and poorly preserved flesh, raw, smoked, or salted, or taken in hunting; also, 'all things soused a long time in Vinegar, Coolewortes, Cabbage, Garlicke, bread twice sodden' with stinking waters and drink 'full of dregs'. The causes going before include 'watchings, untimely labours, immoderate

⁷⁹ Ibid., pp8-9.

⁸⁰ Ibid., p.11.

⁸¹ Ibid., pp11-13.

⁸² Ibid., p.13.

affections of the mind ... cares and studies' and 'Fevers, hinderance, or staying of the usual and due purging'⁸³.

The section on signs is also structured, starting with 'in the beginning', moving on to 'in the increasing' and finally, 'worse and worse'. It finishes with a consideration of fevers, differential diagnosis, and pulse and urine. The disease starts with general symptoms – heaviness, grossness, straitness, weakness in the body, belly and legs, with changes in skin colour of the face to 'itching redness' or 'blewness'⁸⁴.

Signs that are more diagnostic follow. In the mouth are swollen and bleeding gums, stinking breath, loose and falling teeth. Spots, 'almost resembling flea-bitings' but also 'great, coloured like to lead, blue, purple' develop on the legs. These signs 'fore-tell most certainly that the *Scorby* is here'⁸⁵. Signs of advanced disease include coldness in the legs, inability to walk, cramp, and 'straitness of breath, especially when the sick party sitteth, moveth, or is lifted up ... but when he lieth, he doth breathe more easily'. Appetite may be increased or decreased⁸⁶.

The patient may be better or worse on the third, fourth, or fifth day, or every day, and with or without fever. This last is a troublesome issue, for the scurvy may be preceded by 'burning pestilent fevers' or associated with 'a lingering and changing fever'. The scurvy and quartan fever may alternate, especially if treatment is inadequate, 'so those fevers seem not so much to be ended in their separation, as to cause

⁸³ Ibid., pp14-15.

⁸⁴ Ibid., p.15.

⁸⁵ Ibid., pp 15-16.

⁸⁶ Ibid., p.16.

new diseases worse than the former⁸⁷. The pulse is changeable with the course of the disease, 'slender, hard, swift, weak' and the urine is 'red, troubled, thick and like the leas of new red wine'⁸⁸.

Prognostications are associations with the diseases, but neither causes nor signs. It occurs commonly in people living in the same house, either because of common diet or contact with sick people.

Consumption, dropsy, flux and atrophy may accompany it. Ulcers on the legs may lead to gangrene, and sores in the mouth to bleeding from the nose or mouth⁸⁹.

Weyer's therapy starts with attention to the non-naturals. The diet should be easily digested, thin, and cleaning – barley or oats in water and wine, with currants and broth, and egg yolk. Spices will encourage the appetite. Grapes, raisins and capers are good. To drink, use wormwood in ale or wine, cresses and scurvy-grass in milk. The chamber should be 'dry, warm, clean, and light'⁹⁰.

Treatment starts with purging, but with an emphasis on gentleness. One may bleed, but, 'seeing the Physition is seldom called, except the malady had taken deep root ... my counsel is, to abstain from blood-letting'⁹¹. Purges should be gentle, using senna and epithimum; Confectio Hamech should be avoided 'sith this disease cannot receive vehement purging without danger'⁹².

⁸⁷ Ibid., p.17.

⁸⁸ Ibid., p.18.

⁸⁹ Ibid., pp18-19.

⁹⁰ Ibid., pp19-21.

⁹¹ Ibid., p.21.

⁹² Ibid., p.pp21-22.

Specific therapy is based on the three antiscorbutical herbs, scurvy-grass, cresses, and brooklime, preferably using fresh pressed juice. Weyer preferred to use 'a few herbs, in good order' but recognized that others 'delight to have a mixture, or hodge-podge' and listed thirty-four herbs 'and many others' as alternatives. This is a matter of choice: 'All sharp plants which do cutte and make thinne corrupt matter, do help to drive away this malady'⁹³.

Fairly similar remedies follow from variety of anonymous sources - 'a woman famous for curing the scorby', and 'a certain countess'⁹⁴. Weyer does not approve of an 'unpleasant and abhominable drink' used in Friesland. This was made of ox and goose dung steeped in wine, flavoured with herbs. Weyer has no doubts about its effectiveness, but 'other which are more pleasant and less loathsome, maye be more safely used, ... a more delightful way of curing'⁹⁵.

Swollen gums should be treated with antiscorbutic washes mixed with astringents such as aloe, or powders – burnt salt, oyster or mussel shells. In severe cases use *Unguentum Egyptiacum* – a solution of copper acetate with honey. The legs are to be treated with poultices and ointments containing the antiscorbutical herbs mixed with butter or goose-grease.

To emphasise the importance of the non-naturals, Weyer concludes with an extract from Hippocrates *de Aeris, Aquis, Locis*, dealing

⁹³ Ibid., pp22-24.

⁹⁴ Ibid., p.25.

⁹⁵ Ibid., p.26.

particularly with the problems of cold climates, winter, and poor quality water⁹⁶.

Hunton's term throughout is the Scorby or Scorbie. It is a definable disease with a cause, a pathogenesis, and a unique combination of signs. It probably occurred in the past in the area where it was now common (Friesland), but was not described by the old medical authors.

Causes are divided into internal humoral upsets, external non-naturals, and contributory factors. A feature is geographical specificity. The scorby occurs in Northern regions, because of the nature of the climate and diet. Mariners are mentioned, but they are northern mariners, not sailors in general and not necessarily engaged in long-distance voyages. Poor food and drink are particular problems.

The scorby is a mixed disease humorally. It may be melancholic only or mixed with phlegm, but in either case it has both gross, heavy parts, which sink into the legs, and a lighter component which rises into the head.

There is a definite course, starting with general symptoms, then the diagnostic signs in the mouth and legs, and possibly progression to a more severe, even fatal, stage. The course is not always clear-cut, the presence or absence of fever will complicate it, and it may vary, with fever and the scorby alternating.

Treatment starts with attention to diet and environment, and with gentle (or no) bleeding and purging. Specific treatment is with the antiscorbutical herbs, but others may be substituted or added.

⁹⁶ Ibid., pp34-38.

6. EARLIER REFERENCES

Though it was important as a future authority, Weyer is not the first writer to mention the scurvy. Among his predecessors was William Turner, and we can know that he encountered it for the first time between 1562 and 1568.

In the second part of his herbal in 1562, Turner described a plant he called Broklyme. This might, he said, be the plant called *Cepea* by Dioscorides and Pliny, though their descriptions did not match. He had seen Pliny's variety growing by the sea in Friesland. Drunk with wine, it helped with strangury and scabs in the bladder. Scurvy is not mentioned at all, under any name or set of signs⁹⁷.

Six years later, though he still had not resolved the plant's identity, he had proved by his own use that 'brooklyme is very good for a disease that reigneth much in Freseland called the Scourbuch'. The disease as such does not seem to interest him, and he includes the comment in order to be comprehensive in his description of the herb. He criticised Matthiolus's description because he 'nether telleth where it groweth, nether what colour it hath, nether what taste nor smell it hath, nether what vertue it hath ... wherefore no man can learn of him how to find it'⁹⁸.

⁹⁷ W.Turner, *The seconde part of Vuilliam Turners herball wherein are conteyned thenames of herbes in Greke, Latin, Duche, Frenche, and in the apothecariesLatin, and somtyme in Italiane, wyth the vertues of the same herbes wythdiuerse confutations of no small errours, that men of no small learning hauecommitted in the intreatinge of herbes of late years ... set furth by William Turner Doctor of Physik*, (London, 1562), F.Aiiij(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99837820 (24 August 2010).

⁹⁸ W.Turner, *The first and seconde partes of the herbal of William Turner Doctor in Phisick, lately ouersene, corrected and enlarged with the thirde parte, latelygathered,*

Rembert Dodoens's *Cruydenboeck*, one of the hubs, was translated into English in 1578 by Henry Lyte. Another herb, spoonwort, grows in the Low Countries and is 'a singular medicine, against the corrupt and rotten ulcers, and stench of the mouth' which comes with a disease 'called of Hipocrates *Voluulus haematites*, of Plinie *stomacace*, and of Marcellus *Oscedo*, and of the Hollanders and Friselanders *Scuerbuyck*', against which evil it hath lately proved to be very good'⁹⁹. Here we have in addition some signs of the disease and some identification with earlier names and authorities. In addition, there is a hint that it is becoming important in Friesland if nowhere else.

Levinus Lemnius is author of one of the core texts, so will be considered in more detail with them. Translated into English in 1576, he described an illness 'of old writers named *stomacace* and *scelotyrbē* ... of the Phryselanders (of whom many in the Sprynge and Autumn be therewith troubled) ... *Schoirbuick*'¹⁰⁰. He gave more detail than previous authors of causes and signs, but no therapies, because these have been 'exactly discoursed and learnedly handled ... by D Guil. Lemnie' whom I take to be Levinus's son, also a physician¹⁰¹.

When Stephen Batman updated Bartholomaeus Anglicus in 1582 he added some additions of his own. In the additions to fevers, he refers to

and nowe set oute with the names of the herbes, in Greke Latin, English, Duche, Frenche, and in the apothecaries and herbaries Latin, with the properties, degrees, and naturall places of the same ... set furth by William Turner Doctor in Phisick, (London, 1568), F. Lii(r) consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99852994, (20 August 2010).

⁹⁹ Dodoens, *A nievve herball*, p.118.

¹⁰⁰ Lemnius, *The touchstone of complexions*, p.142-143.

¹⁰¹ C.M. Van Hoorn, 'Levinus Lemnius en Willem Lemnius: Twee Zestiende-Eeuwse Medici', in *Archief: medelingen van het Koninklijk Zeeuwsch Genootschap der Wetenschappen*, (1971) p.37.

'febris liparios ... the leprous feaver or scuruye'. He describes no signs, but ascribes the cause to a mixture of corrupt choleric and phlegmatic humours. The treatment is sweating, and scurvy-grass in white wine¹⁰².

Only the last text uses an English word, *scuruye*, to name the disease. For all the others it is some version of the Dutch *scheurbuik*, and related to the greek *stomacace* and *sceletyrbe*. We explore this further in the core texts.

7. THE CORE TEXTS

7.1. The Names of the disease

Most of the sixteenth century texts - Lemnius, Weyer, Gerard and Wirsung - gave the names in several languages. Lemnius used the Dutch and the old *stomacace* and *scelotyrbe*. In Weyer it is the *scorby*. Gerard quotes Dodoens word for word, adding that the Italian is, *scorbutum*¹⁰³. In English he uses the *scuruie*, *scorbute*, *scurby*, and 'upon the seas, the *skyrby*' or *skirbie*¹⁰⁴. Wirsung's chapter heading is 'Of the *Scuruie*, *Scorbuticus morbus*'¹⁰⁵. Clowes uses the *scorby*, for both seafarers and the children he treated 'when I was Chirurgion ... in Christs Hospitall'¹⁰⁶. Wateson translates the Spanish *tiñoso* as *sceruey* or *scuruie*¹⁰⁷.

¹⁰² S.Batman, *Batman vppon Bartholome his booke De proprietatibus rerum, newlycorrected, enlarged and amended: with such additions as are requisite, vntoevery seuerall booke: taken foorth of the most approued authors, the like heretofore not translated in English. Profitable for all estates, as well for thebenefite of the mind as the bodie*, (London, 1582), p.102, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99842337, (20 August 2010).

¹⁰³ Gerard, *The Herball*, p325.

¹⁰⁴ Ibid., pp189, 195, 201, 325, 427.

¹⁰⁵ Wirsung, *Praxis medicinae*, p.680.

¹⁰⁶ Clowes, *A profitable and necessarie booke*, pp40-42.

¹⁰⁷ Wateson, *The cures of the diseased*, f.C3(o).

The early seventeenth century texts are less prolific with names. Pomarius uses either *scorbutus* or the scorbie (his text is closely based on Weyer)¹⁰⁸. Woodall's chapter heading is 'of the scury called in Latine Scorbutum' and he repeats this double heading elsewhere¹⁰⁹. The scury is Vaughan's spelling, while Cooke reverts to *scorbuto*¹¹⁰.

Texts after 1650 are more standardized. All use the scurvy, scurvey or scurvie, even when reprinting earlier texts, as A.M. does with Wateson¹¹¹. Rivière draws a new distinction, between scurvy as a disease, and 'scorbucal disease' as a wider category¹¹².

7.2 Opening descriptions

Several texts start with a short definition or characterization of the disease, as in Weyer. To Wateson it was 'an infecting Disease, sufficiently knowne unto Seafaring men'¹¹³. Gerard referred to the scurvy as a 'filthy, loathsome, heavie, and dull disease ... very troublesome and of long continuance', which is more expressive of an attitude than a clinical description¹¹⁴.

Woodall's preface to the chapter on starts 'This lamentable disease, which hath so long and so fiercely assailed Saylers and sea-men of all sorts more than Landmen'¹¹⁵. His definition (so labelled) is,

¹⁰⁸ Pomarius, *Enchiridion medicum*, p.118.

¹⁰⁹ Woodall, *The surgion's mate*, pp 177, 281.

¹¹⁰ Vaughan, *The Newlanders Cure*, p67;
Cooke, *Mellificium chirurgie*, p.398.

¹¹¹ A.M., *A rich closet*, p.111.

¹¹² Rivière, *The practice of Physick*, p.357.

¹¹³ Wateson, *The cures of the diseased*, f.C3?

¹¹⁴ Gerard, *The Herball*, p.325.

¹¹⁵ Woodall, *The Surgions Mate*, p.177.

a disease of the spleene, whereby it is sometimes wholly stopped, sometimes only distempered, sometimes appearing with hard scyrros, swellings, beginning and shewing themselves in divers parts of the body, but more particularly on the thighs and legs, causing them to seem of a leady colour, the sharpness of which infectious humour oft offendeth the mouth and gums of the diseased, and causeth the flesh thereof to rot and stink¹¹⁶.

He adds that it is 'a chronical disease, not simple but compounded of many other diseases'¹¹⁷. Pomarius, Cooke, Smith and Jonstonus offer similar clinical definitions, combining short descriptions of signs with a summary of the immediate causes¹¹⁸.

Elkes opens by saying 'there is the sea Scurvie and the land Scurvie', though he makes no distinction between them thereafter. This predates Hughes's earliest identified references to sea and land scurvy by about a century¹¹⁹.

Rivière's starting point is geography. Scurvy is a disease of the North rather than the South, which explains why French writers have not mentioned it. But, 'Experience has taught us, that our Country is not altogether without it'. The symptoms are similar but not identical to

¹¹⁶ Ibid., p.178.

¹¹⁷ Ibid., p179

¹¹⁸ Pomarius, *Enchiridion medicum*, p.118;
Cooke, *Mellificium chirurgie*, p.398;
Jonstonus, *The idea of practical physick*, p.47

¹¹⁹ Elkes, *Approved Medicines*, p18;
Hughes, 'The Rise and Fall of the "Antiscorbutics"', pp53-54.

those seen elsewhere, so 'we would not absolutely call it a Scurvy, but ... better a Scorbutical Disease ... though not a true Scurvy'¹²⁰.

7.3. The causes

Not every text follows Weyer in considering causes so neatly and in order. The interest in different elements of the causes also varies from text to text and can be seen to reflect a writer's preoccupations.

7.3.1 First and nearest causes

Anatomically, there is general agreement that obstruction of the spleen is part of the problem. The earlier texts mostly share a common view, and Lemnius and Wirsung are similar to Weyer (see above, page 37)¹²¹. In their view obstruction of the spleen leads to blockage of the flow of melancholy, which then spills over into the rest of the body. Pomarius is less clear, but in most points follows Weyer so closely, that I think this is an effect of the choice of words, not a difference of opinion. Gerard seems to say that the thickened humours come first, and are absorbed by the spleen, making it swell¹²².

Woodall, Cooke and Elkes all put forward a more complicated pathology, in which an obstructed spleen and thickened or putrified humours each contribute to make the other worse, in a vicious circle¹²³.

¹²⁰ Rivière, *The practice of Physick*, p.357.

¹²¹ Lemnius, *The Touchstone of Complexions*, p.142;
Wirsung, *Praxis Medicinae*, p.680;
Weyer, 'A Profitable Treatise of the Scorbie', p.2.

¹²² Gerard, *The Herball*, p.325.

¹²³ Woodall, *The Surgions Mate*, pp178-179;
Cooke, *Mellificium Chiriurgie*, p.398;

Smith, Rivière, Jonstonus refer to a more complicated anatomy. The overlap of their texts is sometimes so close, even if the wording is not identical, to suggest that they are derived from a single source. Rivière simply says the disease is hypochondriac, meaning the upper abdomen. Smith refers to 'the hollow of Spiegelius, into which the Liver, Spleen and Stomach unload their excrements'. In Jonstonus this is 'the middle places between the stomach, Liver and Spleen'¹²⁴.

The nature of the disturbed humours is treated as important at all times. Scurvy was not due to a simple excess of melancholy humour, but to its changed nature. Lemnius was not specific about the humours involved, referring to 'corrupt baggage, and filthy sink of naughty humours' which move out of the spleen into the stomach and then the rest of the body¹²⁵. For other authors melancholy is the root of the problem, but not a simple excess or imbalance. Gerard says it 'cometh of a gross, cold and tough blood, such as melancholy juice is, not by adustion, but of such a blood as is the feculent or drossy part thereof'¹²⁶.

Weyer (followed by Pomarius) refers to 'Melancholy ... the gross part vvhwhereof falling downe ... the thinne part being carried up'. The melancholy may be plain or 'mixed with fleame'¹²⁷. In Woodall the splenic obstruction comes from 'the thickness of the humour, not the

Elkes, *Approved Medicines*, p.18.

¹²⁴ Rivière, *The Practice of Physick*, p.357;
Smith, *A Compleat Practice*, p.304;

Jonstonus, *The Idea of Practical Physick*, p.47.

¹²⁵ Lemnius, *The Touchstone of Complexions*, p.142.

¹²⁶ Gerard, *The Herball*, p.325.

¹²⁷ Weyer, 'A Profitable Treatise of the Scorbie', p.3.

multitude¹²⁸. Cooke describes the melancholy humour as, 'crude, serous, ichorous, and associated with phlegm ... offending not only in quantity but quality, being peculiarly corrupted'¹²⁹.

Rivière's analysis shows a complex overlap between scurvy and other melancholic diseases. It has 'a peculiar degree of Malignity ... from the putrefaction of melancholy'. Melancholy he says is often corrupted and this leads to a variety of illnesses; 'and because all the degrees of malignity ... are unknown unto us ... therefore is this of the scurvy obscure and hidden ... it is wonderful that so many diseases should arise from the variety of malignity'¹³⁰.

Smith's humour is similar to Cooke's, 'a tartareous humour, bred from concoction hurt ... a watery blood oft mingled with other things ... it is malignant'. Jonstonus gives a lengthy but structured list of factors influencing the melancholy humour, and the parallels with Cooke and Smith are clear. It may be:

1. Crude, affecting melancholy people or derived from diet;
2. Serous and ichorous;
3. Associated with phlegmatic humours;
4. 'After a peculiar manner corrupted', if the humours remain too long in the body¹³¹.

¹²⁸ Woodall, *The Surgions Mate*, p.179.

¹²⁹ Cooke, *Mellificium Chirurgie*, p.398.

¹³⁰ Rivière, *The Practice of Physick*, p.357.

¹³¹ Jonstonus, *The Idea of Practical Physick*, p.48.

7.3.2 Causes far off

Turning to the external non-naturals, we saw that Weyer blamed corrupt air in the North, and poor diet, especially inadequately preserved meats and vegetables, and unwholesome water (page 37 above). Diet was the cause for Clowes's two seamen whose 'bread was musty and mouldie Bisket, their beere sharpe and sower like viniger ... their beef and porke ... of a most loathsome taste ... their fish, butter and cheese wonderfull bad'. They also lacked 'convenient exercise, cleane keeping and shift of apparel'¹³².

Texts relating to causes at sea share common features. Gerard lists: 'ill diet, slothfulnesse to work, laisines (as we terme it) much sleep and rest on shipboorde, not looking to make clean the biscuit ... unclean keeping their bodies'¹³³. Wateson cites sleeping in wet clothes and 'slothful demeanour', and also change of climate, 'returned out of hot Regions into cold Climates'¹³⁴.

Woodall gives a similar list but with a very different tone. The scurvy perplexes him. 'Truly the causes ... are so infinite and unsearchable, as they far pass my capacity to search them all out'. Poor diet is a problem 'which is not to be avoided at sea, I suppose by the wit of man', as is lack of spirits, wine and beer. Want of fresh clothes makes matters worse, especially for careless and lazy sailors. Biscuit he thinks is not a cause. But most troubling, 'they which have all the helps which can be had for money, and take as much care as men can desire, are

¹³² Clowes, *A profitable and necessarie booke*, p.40.

¹³³ Gerard, *The Herball*, p.325.

¹³⁴ Wateson, *The cures of the diseased*, F.C3(o), C4(r).

even by the evil disposition of the air, and the course of nature, strooke with the Scuruie¹³⁵.

References to laziness and slothfulness as causes of scurvy (rather than an early sign, as in Weyer) seemed unlikely to me given conditions at sea at that time. I am grateful to a fellow student for pointing out that ships crossing the Atlantic on a southerly course might well have been becalmed in the doldrums at about the time when scurvy began to show itself¹³⁶. These references do not necessarily refer to indolence from personal choice. Idleness affected people on land too. Wirsung says that scurvy affects 'them that lead an idle life' referring to the general population¹³⁷.

Vaughan's main concern was for the health of new colonies in North America, and to disparage his rivals who failed to follow his advice. He mentions poor food and drink, unlike Woodall taking exception to strong liquor of any sort, but concentrates on the weather. The scurvy affects people who live 'near the Seaside, where the North-East winds rage'. Winds, snows and frosts are dangerous as much in England as in North America, for 'Who will imagine, that we in Wales have less Snow and Frosts than London and Essex? And yet by experience we find it so'¹³⁸.

Rivière does not mention external causes at all, except for the disparity between northerly and southern countries. Smith and Jonstonus both blame a lack of volatile salts in food. Salting, smoking

¹³⁵ Woodall, *The surgions mate*, pp179-180.

¹³⁶ Gareth Millward, personal communication.

¹³⁷ Wirsung, *Praxis medicinae*, p.680.

¹³⁸ Vaughan, *The Newlanders cure*, pp70, 68, 69.

and vinegar all tend to fix salts, and therefore make food more dangerous¹³⁹.

7.3.3. Causes going before

Weyer's preceding causes (page 37, above) included cares of the mind, fevers, and inadequate purging. These do not feature as causes in other texts, but will re-emerge, as signs rather than causes, in the next section.

Worth noting here though is the absence throughout of any divine first cause for the scurvy, as in other diseases and other times¹⁴⁰. This cause did persist in England, into the period covered here, for other diseases. According to Wear, writing of the plague, 'It was not until 1665 that the religious element ... declined¹⁴¹. At least one of the core texts, Pomarius, mentions it among causes of the plague: 'it is the hidden and admirable scourge of the most just God for our sins'¹⁴². The only core text to mention divine intervention is Woodall, and then more in a spirit of surgical incapacity and ignorance than punishment; in many cases, 'the cure ... resteth only in the hands of the Almighty'¹⁴³.

7.4 The Signs

Signs and symptoms are at the heart of a patient's experience of illness, and of a practitioner's first encounter with a patient. Their importance is

¹³⁹ Smith, *A Complete Practice of Physick*, pp304-305; Jonstonus, *The idea of practical physic*, p.48.

¹⁴⁰ Stein, *Negotiating the French Pox*, pp23- 29.

¹⁴¹ Wear, *Knowledge and Practice*, p.278.

¹⁴² Pomarius, *Enchiridion medicum*, pp60-61.

¹⁴³ Woodall, *The surgions mate*, p.182

reflected in the space the core texts give to them. Present day medical practice makes a distinction (of kind, not importance) between symptoms, described by a patient, and signs, found on physical examination. The writers of my core texts did not make this distinction, and the two words were used as synonyms. As 'signs' is the more common word, I have used it to include both.

This section will consider signs in two ways. Firstly, there are signs which to some practitioners were pathognomonic, that is whose presence positively identified the scurvy and excluded other illnesses. Secondly, there are patterns of signs, not diagnostic in themselves, but which taken together make a diagnosis more likely.

7.4.1. Diagnostic signs

The presence of spots of various sorts on the legs, and swelling of the gums, are the most common signs used in definitions. Jonstonus adds weakness of the thighs, bleeding gums, and loose teeth¹⁴⁴. Large dark spots on the legs were particularly important: 'whensoever these appear, they fore-tell most certainly, that the Scorby is there, albeit other signs are hidden and secret'¹⁴⁵. Rivière goes to the opposite extreme. After listing a number of signs shared by the scurvy and hypochondriac melancholy (and following the section on multiple melancholic diseases, page 48 above) he continues, 'if any symptoms appear besides these ... nor mentioned by Authors, nor belong to another Disease; you may

¹⁴⁴ Weyer, *A Profitable Treatise of the Scorby*, p.2;
Woodall, *The surgions mate*, p.178;
A.M., *A rich closet*, p.113;

Jonstonus, *The idea of practical physick*, p.47.

¹⁴⁵ Weyer, *A profitable treatis of the scorbie*, p.16.

conjecture that it is the scurvy' – a diagnosis more by inclusion than exclusion.

7.4.2. Groups of signs

The number of all signs in all texts is very much larger than the number of diagnostic ones. A.M.'s list, 'out of Sennertus, concerning the Scurvy' runs to forty one items, and is still only an incomplete list of Sennert's sixty two chapters on signs¹⁴⁶. Cooke says 'some reckon up 43, others 23'. Rivière, after listing fourteen groups of signs, concludes with, 'Eugalenus propounds many other signs ... and Sennertus ... which we will conceal, lest they breed confusion'¹⁴⁷. Eugalenus has forty chapters on separate signs¹⁴⁸.

One text, Vaughan's, does not mention signs. From the other fourteen I gathered sixty two potential signs of the scurvy. I grouped these together roughly following Sennert's headings as a guide. This gave three categories:

- signs which are found in almost all texts;
- less common signs, but found so widely that they do not usefully distinguish between groups of texts;
- those mentioned in four or fewer texts; These are most useful in distinguishing between groups.

¹⁴⁶ A.M., *A rich closet*, p.114;

D.Sennert, *de Scorbuto Tractatus*, (Wittenberg,1624), pp65-67.

¹⁴⁷ Rivière, *The practice of physic*, p.359.

¹⁴⁸ S.Eugalenus, *de Scorbuto Morbo Liber*, (Leipzig, 1604), pp unnumbered, heading '*Index Morborum*'.

Starting with those most commonly mentioned, there is widespread agreement that the following signs should be present in the scurvy:

- Swollen, often bleeding gums (fifteen texts);
- loose teeth (twelve);
- stinking breath (nine);
- Spots on legs, either small like fleabites or larger like dark bruises, which may spread elsewhere in severe cases (fourteen, that is all except Wateson);
- Legs (including thighs, feet or knees) swollen and painful (thirteen);
- Difficulty in breathing, usually described as occurring when the patient tries to move or stand, and relieved by lying down (nine);
- Bowels usually constipated, sometimes a flux, which may occur alone or follow the constipation, and may be bloody (eight).

These signs are found in half or more of the texts, and in all periods from the earliest to latest. They make a pattern which does not change with time, and not surprisingly, they resemble the diagnostic signs listed in section 7.4.1.

Associated with these, but less common, are:

- Heaviness, weariness, laziness or fainting (seven);
- Weakness in the legs and joints (seven);
- Appetite often but not always better than usual (seven);
- Urine thick, troubled, red, but variable and occasionally clear (six);

- An inconstant, variable pulse which may be soft or hard, fast or slow, strong or weak (five);
- Pallor of the skin, particularly the face (five);
- Coldness and stiffness, or cramp, in sinews and joints (five);
- Fever variable, intermittent, not following a definite pattern(five);

These signs too may be found in texts from all periods. They are fairly general and would have to occur with other signs to be diagnostic of the scurvy

The signs which are mentioned in between two and four texts follow a different time pattern, being specific to texts published after 1650.

A.M. (meaning his list of Sennert's chapter headings), Rivière, and Jonstonus overlap most often, with Smith occasionally adding a fourth.

All four texts include:

- Swollen painful belly, dropsy;
- Skin changes, St Anthony's fire, erysipelas, wildfire, or gangrene.

A.M., Rivière, and Jonstonus refer to:

- Gout, wandering or moving joint pains;
- Headache (also Elkes);
- Palsy;
- Heart trembling, palpitations.

A.M. and Jonstonus include fear, sadness, grief, madness or despair; spitting (also in Cooke); painful kidneys, shoulders; vomiting and belching. A.M. and Rivière both mention pleurisy and epilepsy, Rivière and Jonstonus add wasting or consumption. Other single signs

were identified by Sennert and are therefore listed by A.M. but by no one else. Some of the signs of the scurvy in this final group could also stand as illnesses in their own right, for instance, dropsy and epilepsy.

7.5. TREATMENT

Therapy is extensively treated in these texts, as that was often their main purpose. It did not change much, and Weyer's approach (page 39 above) remains the mainstay throughout. He recommended a light diet and clean chamber, gentle or no blood-letting and purging, followed by the juice of the antiscorbutic herbs taken straight or mixed in water, wine or ale or milk. Other herbs might be used if they shared the property of cutting and thinning the humours and vapours. Spots and sores were treated with poultices of the same herbs, and the gums with ointments based on them, with added astringents. I shall only comment on texts which differ from or add to the basic pattern.

Clowes's systemic treatments are based on Weyer's ('a reverend learned man who hath written most profoundly'). For the mouth and gums he used goldrefiners' water, a gargarism he put together for *Lues venerea*, one from Banister's *Antidotarie Chirurgicall*, or *Unguentum Egyptiacum*¹⁴⁹. He also used a fume of myrrh and other spices, inhaled through a funnel.

Gerard's herbal is concerned with the treatment of disease as a property of herbs rather than the reverse. Spoonwort he also names *Cochlearia* or scurvy-grass, and that becomes a standard therapy from

¹⁴⁹ Clowes, *A profitable and necessary booke*, p.42.

now on, alongside brooklime and the various cresses – garden, winter and water¹⁵⁰. Wateson suggests no systemic therapy, but recommends as preservatives, cleanliness, exercise (‘such as are exempted from being commanded to do labour, to hang by the arms twice or thrice a day’) and having enough to drink¹⁵¹.

Woodall deals with therapy at greater length than the other texts. He noted that there were many therapies which would not be available on a ship, and concentrated on what could be carried on board. Quoting Echt he says treatments should open obstructions, evacuate offending humors, alter their properties, and comfort and corroborate the affected parts. The best preservative is a good diet, but in his view this is of limited use practically on board. Nonetheless the surgeon ‘must be diligent to call for such comfortable things as are ...provided ... a good proportion both of wine, sugar, spices and other comfortable things ... and complain to the Governors if they be withheld’. Missing men should be sought every day, and cabins inspected¹⁵².

The surgeon must also provide the juice of ‘Oranges, lime or Lemons, and ... tamarinds’ whenever the ship touches land. Fortunately, in his view, ‘where a disease most reigneth, there God hath appointed the best remedies’. Local juices are better than those brought on ship from England, and many remedies that work on land will not last at sea¹⁵³. Lemon juice is a good preservative, but it may be better keep it until needed for treatment: ‘I dare not write how good a sauce it is at

¹⁵⁰ Gerard, *The herball*, pp189, 195, 201, 325, 427.

¹⁵¹ Wateson, *The cures of the diseased*, F.C4(o).

¹⁵² *Ibid.*, p.183.

¹⁵³ *Ibid.*, pp184-185.

meat, least the chief in the ships waste it in the great Cabins to save vinegar'. Oil of Vitriol is an 'especial good medicine'¹⁵⁴.

Constipation must have been a great problem. Woodall give detailed descriptions of procedures for manual removal of faeces, for enemas and suppositories, and for dealing with the aftermath¹⁵⁵.

Woodall was interested in the properties of medicines. He recommends *Ung.Populeon* but remarked that he may be accused of contradicting himself, because this is a cold remedy, and previously he had advised hot ones. But, 'many a medicine hath a seeming shew to be cold, & yet doth contrary effects, witness Quicksilver, Juice of Lemons, Vitriol ... and divers others'. He justifies using them, 'juice of Lemons was ever reputed a cold medicine, prescribed ... in burning and pestilential fevers, ... and good success even to this day, and yet to that notable, and cold, and terrible disease of the scuruy, how excellently hath it been approved'¹⁵⁶. He supported his views with a quote from Crollius: 'the simple and apparent qualities of medicines are not always alone to be respected, but rather their mysteries or hidden virtues'¹⁵⁷.

Vaughan is of interest as the only example of prevention based on Olaus Magnus – not cited, but clearly recognizable if compared to Weyer's summary. Vaughan concern with the climate meant he was concerned that buildings in the North American colonies should be adequate. People should sleep in boarded rooms, wainscoted and as dry as possible, because stone or earthen walls are likely to be damp.

¹⁵⁴ Ibid., p.185.

¹⁵⁵ Ibid., pp189-190.

¹⁵⁶ Ibid., p.194.

¹⁵⁷ Ozwaldus Crollius, *Bazilla Chimica Simplicium*, quoted in Woodall, p.196.

Settlers should clear an acre of land around each dwelling¹⁵⁸. The poorer sort should use 'cheap purges', and 'the tops and leaves of turnips or radish being boiled ... also nettles, honey and wormwood'. Goose dung should be used in poultices for the skin, and to drink 'if their stomach will allow'¹⁵⁹.

Cooke's therapies are based on Woodall, whom he quotes. He also refers to Horst, saying that not all symptoms need separate treatment, for 'the disease being cured, many of them will vanish'¹⁶⁰. Smith takes the opposite view, that 'Symptomatic diseases, as the Jaundies, Dropsy, Feavers, are never rightly cured ... unless the scurvy be cured'¹⁶¹.

Rivière starts by emphasizing that cures are harder than in ordinary melancholy because of the scurvy's malignancy. However, 'it is a general rule in Physick, that we always begin with the weakest medicines, and so proceed to the stronger'. Therapy is as for hypochondriac melancholy, with the addition of antiscorbuticals, 'whose strength chiefly depends upon a volatile or flying Salt, of which they are very full, by which means they make thin and fluid, that thick, earthy and salt humor, and at length discuss it'. The usual plants are listed, and he adds, 'give the least quantity of hot things, and ... always mix with them cold or moderate things ... especially in hot countries'. Fresh juice or conserve are best, 'because the flying salt ... is gone by decoction, as

¹⁵⁸ Vaughan, *The Newlanders Cure*, p71.

¹⁵⁹ *Ibid.*, pp73-74.

¹⁶⁰ Cooke, *Mellificium chirurgie*, pp403-404.

¹⁶¹ Smith, *A compleat practice*, pp 309-310.

also if the plant be dried'. He gives one detailed recipe which is very similar is very close to that for Forest's sceletyrbic syrup¹⁶².

Jonstonus recommends individual therapies for most symptoms individually. As examples, spots on the legs need 'things discussive and mollifying, as baths'; pain in the thighs is mitigated with a 'cataplasm of coagulated milk' with herbs; pain in the feet is cured by a mixture of elderflowers in wine and soap, applied with a cloth. Scorbutic gout requires different herbs, devilsbit, sage, betony, and southernwood¹⁶³. It is he says 'wonderfully to be observed, that if a live worm be laid upon the place that is fullest of pain it skips, winds and bows ... walks away and dies'. It is not clear if the gout benefits from this but it must have been fun to watch. Forest's sceletyrbic syrup and Mynsicht's antiscorbutical syrup are both recommended¹⁶⁴.

On the whole, therapy remained more conservative than diagnostic signs, with a common approach across the whole time-span. The main changes are driven by the addition of new signs or even diseases to the scorbutic pattern, necessitating their own therapies.

7.6. Treatments in Collections

Having seen how the core writers recommended treatment, it is worth comparing recipes in collections. Slack defined these as 'books giving advice on how to combat a great variety of diseases, and claiming to be popular handbooks for the use of the layman'. Collections did no more

¹⁶² Rivière, *The practice of physick*, pp360-361.

¹⁶³ Jonstonus, *The Idea of Practical Physick*, pp49-50.

¹⁶⁴ *Ibid.*, p48.

than list remedies, while textbooks were more discursive on the background¹⁶⁵. This category is similar to Fissell's popular medical books¹⁶⁶. The balance of publishing is towards the latter end of my period. The earliest two are surgical works, both containing ointments, Banister's (1589) for the mouth and Vicary's (1610) for the skin¹⁶⁷. Apart from the inclusion of scurvy-grass in Banister's recipe, neither is particularly specific to scurvy. Vicary is a reissue of an earlier book with additions, and the reference to scurvy does not occur in earlier editions.

Ten of the other fourteen books were published after 1650. Most contain only one recipe. We start in the standard way with purges. Bonham has a fairly mild purge with senna and scurvy-grass, and twenty two other herbs or roots. He also gives a hot gargarism with honey and alum ('these profit in the scorbute'), and an ointment to be soaked into cloths and would round the legs¹⁶⁸. Bonham gives Clowes as the source of the ointment, and the recipe is found in the *Profitable and necesarie*

¹⁶⁵ Slack, 'Mirrors of Health', p.245.

¹⁶⁶ Fissell, 'The Markeplace of Print', p.110.

¹⁶⁷ J.Banister, *An antidotarie chyrgicall containing great varietie and choice of all sorts of medicines that commonly fal into the chyrgions vse: partlie taken out of authors, olde and new, printed or written*, (London, 1589), p.312, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99840198, (30 August 2010);

T.Vicary, *The English mans treasure With the true anatomie of mans bodie: compiled by that excellent chirurgion M. Thomas Vicary Esquier, Sergeant Chirirgion to King Henry the 8. to King Edward the 6. to Queene Marie, and to our late soueraigne ladie Queene Elizabeth. ... by William Bremer, practitioner in physicke and chyurgerie*, (London, 1613), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.882003&res_id=xri:eebo&rft_id=xri:eebo:citation:99854324, (30 August 2010).

¹⁶⁸ T.Bonham, *The chyrugians closet: or, an antidotarie chyrgicall Furnished with varietie and choyce of: apophlegms, balmes, baths, caps, cataplasmes, causticks, cerots, clysters, collieries The greatest part whereof were scatterdly set downe in sundry bookes and papers; by the right worshipfull Mr. Thomas Bonham, Dr. of Physick; and now drawne into method and forme, by Edvvard Poeton of Petworth*, (London, 1630) pp105,133,265, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99842229, (30 August 2010).

book of obseruations, one of the core texts¹⁶⁹. Coelson's purge is simple, with senna, Alexandrum and epithymum infused with raisins and other spices¹⁷⁰.

Beers, wines and waters were the mainstay of systemic treatment. We have six recipes for scorbutic beers, from four texts¹⁷¹. Three of the texts are connected. The *Choice Manual* by Elizabeth Countess of Kent, *Natura Exenterata* by Philiatros (probably Elizabeth's sister Aletheia), and the *Queens's Closet* by W.M., have been published as examples of the work of early modern women¹⁷².

¹⁶⁹ Clowes, *A Profitable and necessarie booke*, p.43.

¹⁷⁰ L.Coelson, *The poor-mans physician and chyrgion, containing above three hundred rare and choice receipts, for the cure of all distempers, both inward and outward: ... All being of great worth, and now published for the publique good: / by Lancelot Coelson student in Physick and Astrolog*,(London, 1656) p.146, consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99867347, (30 August 2010).

¹⁷¹ A.Read, *Most excellent and approved medicines & remedies for most diseases and maladies incident to man's body, lately compiled and extracted out of the originals of the most famous and best experienced physicians both in England and other countries, by A. R. Doctor in Physick decesased*, (London,1651) p.52, consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99867916, (30 August 2010);

E.G.,Countess of Kent, *A choice manual of rare and select secrets in physick and chyrgery collected and practised by the Right Honorable, the Countesse of Kent, late deceased ; as also most exquisite ways of preserving, conserving, candying, &c. ,* (London, 1653), p.30, consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:12254286 (30 August 2010);

Philiatros, *Natura exenterata: or Nature unbowelled by the most exquisite anatomizers of her. Wherein are contained, her choicest secrets digested into receipts, fitted for the cure of all sorts of infirmities, whether internal or external, acute or chronical, that are incident to the body of man ... With an exact alphabetical table referring to the several diseases, and their proper cures*, (London, 1655), pp 135,179,281, consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99863090, (30 August 2010);

W.M., *The Queens closet opened. Incomparable secrets in physick, chirurgery, preserving, candying, and cookery; as they were presented to the Qveen by the most experienced persons of our times ... Transcribed from the true copies of her Majesties own receipt books, by W.M. one of her late servants*, (London, 1655) p.149, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99867509, (30 August 2010).

¹⁷² Spiller, E. (ed.), *The Early Modern Englishwomen: Series III, Vol.3: Seventeenth Century English Recipe Books: Cooking, Physic and Chirurgery in the Works of Elizabeth Talbot Grey and Eletheia Talbot Howard*, (London, 2008), pp xxxi-xli.

The recipes vary in complexity. Philiatros has one of the simplest. The antiscorbutic herbs, with raisins, are boiled in three quarts of ale until it is reduced by half, strained, then boiled with sugar and turmeric. This could be drunk immediately¹⁷³. On a larger scale is W.M's beer, attributed to the Countess of Arundel. Handfuls of the antiscorbutic herbs and fumitory are hung in three gallons of beer 'until it is stale', and drunk every day for three or four weeks¹⁷⁴.

The Countess of Kent's recipe, is similar, but extracts of guaiacum, sarsaparilla and saxifrage are added after steeping the herbs in beer for seven days¹⁷⁵. Read made a purging ale (four gallons) with about thirty herbs and purgatives, including mechoacan, ivory, yellow sanders wood, and sassafras¹⁷⁶. Wood and Coelson give recipes similar to the simple versions, but boiled in white wine and water¹⁷⁷.

Two authors are of interest as showing the scurvy in chemical writings. French, though his title page mentions 'distillation', 'chymicall authors', and 'spagyricall experiments', offers very traditional remedies. His 'scorbaticall water' and 'water made of horse-dung' could have come from any of the previous authors (though the horse-dung might have offended Weyer). His hydropicall water used traditional ingredients but

¹⁷³ Philiatros, *Natura Exenterata*, p.281.

¹⁷⁴ W.M., *The Queens closet*, p.149.

¹⁷⁵ Kent, *A choice manual*, p.30.

¹⁷⁶ Read, *Most excellent ...medicines*, p.52,

¹⁷⁷ O.Wood, *An alphabetical book of physicall secrets for all those diseases that are most predominant and dangerous (curable by art) in the body of man. Collected for the benefit, most especially of house-holders in the country, who are either farre remote, or else not able to entertaine a learned physician*, (London,1639) P.178, consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99837671, (20 August 2010); Coelson, *The poor-mans physician*, p.147.

required three weeks' preparation, with fermentation, distillation, and digestion, and special vessels to do this in¹⁷⁸.

Glauber's recipes are definitely chemical. He offers liquor of gold for ulcers of the mouth 'arising from the French Pox, leprousie, scorbute, etc'; a variety of antimony preparations including bezoardicum minerale, 'which is the best and safest Diaphoretick in all diseases that require sweat, as in the plague, French pox, feavers, scorbute, etc'; and he recommends sassafras and sarsaparilla as diaphoretics¹⁷⁹.

7.7. A digression on humours and salts

It is traditional at this point to include a diagram showing the humoral system and its relationship to elements, qualities, seasons, ages and so on. I find the simple square diagrams in some history books to confuse rather than aid understanding¹⁸⁰. They make it seem very fixed and formal, with a tidy process of moving sideways round the blocks to produce different patterns. A disease like the scurvy is considerably more complicated. Texts from the sixteenth century, for example Roussat,

¹⁷⁸ J.French, *The art of distillation, or A treatise of the choisest spagyricall preparations performed by way of distillation, being partly taken out of the most select chymicall authors of severall languages, and partly out of the authors manuell experience ... a discourse of divers spagyricall experiments and curiosities, and of the anatomy of gold and silver with the chieftest preparations, and curiosities thereof, and vertues of them all*, (London, 1651), pp51,58,102, consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99862459 (30 August 2010).

¹⁷⁹ J.R.Glauber, *A description of new philosophical furnaces, or A new art of distilling, divided into five parts. Whereunto is added a description of the tincture of gold, or the true aurum potable; also, the first part of the mineral work*,(London, 1651) pp19,24-26,41-43,211, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99862587 (30 August 2010).

¹⁸⁰ Wear, *Knowledge and Practice*, pp36-40;
R.Porter, *The Greatest Benefit to Mankind,: A Medical History of Humanity from Antiquity to the Present*, (London, 1997) pp57-59.

present a much more complex and nuanced system with considerably more room for variation, emphasizing complexions and variability¹⁸¹.

The melancholy humour was particularly complicated, as it occurred in two forms: natural ('like the dregs of blood which is blackish') or unnatural ('choler adusted, and of the dregs of phlegm and of the dregs of blood'), so it take could even take on characteristics of the sanguine humour as well as the phlegmatic and choleric¹⁸². This helps to explain the odd combination of light and heavy humours affecting a patient at the same time.

The framework for handling the scurvy remains solidly humoral throughout the period, both in considering causes and in finding the correct treatments. It is, though, a flexible framework and can absorb unusual practical situations, such as the disease responding to treatments which in theory should not work.

Glauber's treatments are the only definitely chemical ones I came across, but there are references to salts rather than humours in the later core texts. Smith says that, 'meats that breed the Scurvey, abound with fixed salt, to be cured by volatile; vinegar makes for this, and meats hardened by smoke'. Scurvy-grass is full of volatile salts which is why it

¹⁸¹ R.Roussat, *The most excellent, profitable, and pleasant booke of the famous doctour and expert astrologien Arcandain or Aleandrin to fynd the fatal desteny, constellation; complexion, and naturall inclination of euery man and childe by his byrth: with an addition of physiognomie very delectable to read*, (London, 1562), FF N3(o)-N5(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99854115, (01 September 2010).

¹⁸² Boorde, A., *The breuiary of healthe, for all maner of syckenesses and diseases the which may be in man or woman, doth folowe Expressynge the obscure termes of Greke, Araby, Latyn, and Barbary, in English concernyng phisicke and chierurgerie, compyled by Andrewe Boorde, of phisycke doctoure, an Englishe man*, (London, 1557) FF lxxiii (r)-(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99842241, (01 September 2010).

is curative. Fresh juice is best, because storage or boiling drive out the volatile salt¹⁸³. Jonstonus is wordier but essentially gives the same content¹⁸⁴. Rivière does not mention salts as causes, but does refer to them in treatments: 'a volatile or flying salt, of which they are very full, by which means they make thin and fluid, that thick, earthy and salt Humor, and at length discuss it'¹⁸⁵. Neither the causes (salt meats) or cures (antiscorbutic herbs) are new, but their interpretation and explanations have changed.

8. JOHN HALL AND THE SCURVY

I concluded my review of core texts in 1657 because it was the year of publication of *Select Observations*, by John Hall¹⁸⁶. This is a volume of case reports compiled by John Hall, physician, and after his death translated and published by James Cooke, author of *Mellificium Chirurgie*, one of the core texts. Had it been included, *Select Observations* would certainly have qualified as a hub, and have been included in the core. I prefer to treat it differently, as the record of the practice of a single physician in the middle of the period considered. This requires a comparison of Hall's original notes with the book as published by Cooke. The original casebook is now in the British Library¹⁸⁷.

¹⁸³ Smith, *A Compleat Practice*, pp304-305.

¹⁸⁴ Jonstonus, *The Idea of Practical Physick*, p.48.

¹⁸⁵ Rivière, *The Practice of Physick*, p.360.

¹⁸⁶ J.Hall, *Select observations on English bodies, or, Cures both empiricall and historicall performed upon very eminent persons in desperate diseases first written in Latin by Mr John Hall ... now put into English for common benefit by James Cooke*, (1st Ed., London, 1657), consulted at:

http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:11862012, (20 August 2010).

¹⁸⁷ British Library, Egerton MS 2065, *The Casebook of Dr John Hall*, ca.1635.

John Hall has attracted considerable attention, both as a physician and as William Shakespeare's son-in-law. He came to Stratford upon Avon about 1607, married Susanna Shakespeare, and practised there until his death in 1635. Details of Hall's life are covered in a variety of publications dealing with Shakespeare. Pogue has written a concise and up to date account from a non-medical perspective¹⁸⁸.

Two books containing facsimiles of Cooke's second edition have been published. That by Harriet Joseph (first published 1964) contains an introduction on aspects of John Hall's life, and some notes on his cases¹⁸⁹. Joan Lane's later book (1996) is briefer on Hall's life, but adds detailed comments on both the social and pharmacological aspects of each case¹⁹⁰.

Joseph says that Hall's casebook, 'sheds light on the medical practice of a well-respected ... doctor, who combined medieval procedures and herbal decoctions with an enlightened cure for scurvy'. She refers to the 'complicated pharmacy' of the period, but adds, 'in regard to his treatment of scurvy, Hall employed a simple, and as can now be realised, enlightened cure' quoting his use of watercress, brooklime, and scurvy-grass. She notes that William Clowes used the same herbs, and states that Hall 'was in advance of his time, but not alone'. She evidently thought that Hall had discovered the value of

¹⁸⁸ K.E.Pogue, *Shakespeare's Family*, (Westport, 2008), pp84-88.

¹⁸⁹ H.Joseph,*Shakespeare's son-in-law John Hall: Man and Physician*, (Printed in the United States of America, Fourth printing, 1993)

¹⁹⁰ J.Lane (with Medical Commentary by Melvin Earles), *John Hall and his Patients: the Medical Practice of Shakespeare's Son-in-Law*, (Stratford upon Avon, 1996).

antiscorbutic herbs himself: 'Hall does not state ... how he arrived at his scurvy prescription'¹⁹¹.

Lane starts by emphasizing the unique importance of Hall's notes for the early seventeenth century, 'an unrivalled record of social and medical history'¹⁹². Her assessment of his practice is more measured than Joseph's - essentially Galenic, though he used new chemical remedies occasionally, as also preparations from South America and the East Indies. On scurvy, she points out that the way he prepared herbs would have destroyed any vitamin C in them. Her assessment is that the casebook is 'an interesting and valuable source of information on the nature of seventeenth-century therapy in general' but 'cannot be considered an exact representation of his medical practice'¹⁹³.

The existence of facsimile editions has made Hall a well-used source. He was been quoted by Hughes and Carpenter, both using Joseph's edition, on scurvy¹⁹⁴. Wear, using Lane's version, uses Hall as an example of seventeenth century practice, though not referring to scurvy¹⁹⁵.

8.1. The casebook

When Hall is quoted, it usually at third hand, via Joseph and Lane's editions of Cooke's translation. Both Joseph and Lane compared *Select Observations*, in the second edition, with the Casebook. Lane comments

¹⁹¹ Joseph, *Shakespeare's son-in-law*, pp 25-26.

¹⁹² Lane, *John Hall*, p.xii.

¹⁹³ *Ibid.*, pp xxxi-xl.

¹⁹⁴ Hughes, 'The rise and fall of the "antiscorbutics"', pp59-60; Carpenter, *The History of Scurvy*, pp37-39.

¹⁹⁵ Wear, *Knowledge and Practice*, p.130.

that 'in some cases a serious mistranslation or misunderstanding can be found'¹⁹⁶. Lane's interest was more in the patients than the medicine, and the examples she gives are all of misidentifications of sex, identity or social status. This should warn us not to assume that when we read *Select Observations*, we are reading what Hall wrote.

The style of the casebook matches the pattern of *Curationes* and *Observationes* described by Siraisi and Pomata¹⁹⁷. *Observationes*, as opposed to earlier forms of medical writing such as *Consilia* and *Epistolae*, 'began to appear in the second half of the sixteenth century and multiplied in the seventeenth', and referred to narratives of individual cases¹⁹⁸.

Pomata suggests the different writing should be seen as 'epistemic genres'¹⁹⁹. *Observationes* were linked to 'the development of horizontal networks of exchange among European scholars'. They were 'a specific product of humanistic medicine' where it was associated with an almost ritualistic use of empirical observation²⁰⁰. They grew out of collections called *curationes*, which came from 'a more assertive attitude of self-promotion' and 'the emergence of practice as a new source of validation of medical knowledge'²⁰¹. The shift to *observationes* was part of the shift from Galenism to Hippocratism at the same time. *Observationes* were more concerned with observation of how things went than on advertising

¹⁹⁶ Lane, *John Hall*, p.xxix -xxx.

¹⁹⁷ N.S.Siraisi, *History, Medicine, and the Traditions of Renaissance Learning*, (Ann Arbor, 2007), pp65-69;

G.Pomata, 'Sharing Cases: The Observations in Early Modern Medicine', *Early Science and Medicine*, 15 (2010) pp193-236.

¹⁹⁸ Siraisi, *History, Medicine*, p.68.

¹⁹⁹ Pomata, 'Sharing Cases', p.196.

²⁰⁰ *Ibid.*, p.199.

²⁰¹ *Ibid.*, p.215.

success²⁰². Published collections were often extracted from the total of a practitioner's patients, and sometimes included cases reported by colleagues and exchanged by letter²⁰³.

The social profile of the writers was that of practitioners in courts or towns, rather than universities, and they were typically published at 'the peripheries, not the centres of medical learning'. The authors 'often wrote and published their observations after a lifetime of practice in small towns'²⁰⁴. John Hall matches this profile well. He was aware of some of the authors of *observationes* listed by Pomata, including Martin Ruland the elder, Foreest, Eugalenus, and Gregor Horst, and named them in his notes. I have discussed Hall's references to earlier and contemporary writers in a previous essay, and argued for a possible personal connexion with some of them, via continental medical schools²⁰⁵.

8.2. Hall and Cooke

Cooke stressed in his introduction to the 1657 edition that the translation was not easy, the Latin being 'abbreviated or false' and Hall being concise, 'especially in the receipts'²⁰⁶. He added a comment on scurvy which has intrigued readers since:

It seems the Author had the happiness ... to lead the way to that practice almost generally used by the most knowing, of mixing Scorbuticks in most remedies: It was then, and I know for some

²⁰² Ibid., pp216-217.

²⁰³ Ibid., pp221-223.

²⁰⁴ Ibid., pp226-228.

²⁰⁵ L.G.Wells, 'Master John Hall: The Medical Education of a Seventeenth Century Practitioner', (Essay, University of Warwick,2009), pp15-17.

²⁰⁶ Cooke, 'To the Friendly Reader', in Hall, *Select Observations* (First Edition), p.ii.

time after thought so strange, that it was cast as a reproach upon him by those most famous in the profession²⁰⁷.

This has been taken to mean that Hall knew that scurvy was a deficiency disease, that his knowledge of antiscorbutics was unusual, and that he was ahead of his time in using them to prevent, not just to treat, scurvy. This commentary can still be heard today from guides in the Shakespeare Birthplace Trust properties in Stratford upon Avon – and is not far removed from Joseph’s opinion, above.

As well as making some errors in reading, Cooke made several types of editorial change to the manuscript. Hall numbered his cases simply from 1 to 178. Cooke divided the cases into two centuries. The first Century runs from I to C, the second stops at LXXXII. Cooke sometimes combined two of Hall’s cases into a single observation, and sometimes added his own. Observation LIV (first century) is headed ‘Receive two or three brief Observations of *Thonerus*, as to the former disease’ (i.e. Observation LIII). There is nothing in the following two observations, LV and LVI to show that they are not by Hall, until one notices that the patients lived in towns in Germany²⁰⁸. A more minor change, but easier to miss, is in case LXXXI (second century). Cooke adds an attribution for antiscorbutic and splenetic waters to Doncrelius. The therapies, but not the attribution, are in the Casebook²⁰⁹.

Secondly, Cooke leaves out, or shortens, some of Hall’s passages. A relevant example occurs in Observation I (first century) where Hall

²⁰⁷ Ibid., p.iii

²⁰⁸ Hall, *Select Observations*, pp50-52.

²⁰⁹ Ibid., p.178; and Hall, *Casebook*, p.199.

notes of his therapy, '*nam medicamenta scorbutica cu~ ceteris admiscenda semper cu~ sit aliqua scorbuti suspitio*' – which I translate as 'for scorbutic medicines should always be added in the case that anyone suspects scurvy'. Cooke did include a similar statement in Observation XVII (second century)²¹⁰. Neither Joseph nor Lane mention these statements, though are clearly relevant to Cooke's introductory comment. Cooke also did not include all of Hall's references to his sources.

Of most significance is the way Cooke changed the layout of the cases. Hall starts most of them with a brief heading giving his final diagnosis. This is followed by a description of the patient, then the symptoms, and finally the treatment and course. Cooke always starts with the patient, then the symptoms, and presents the illness as a conclusion arising from them. For example, Cooke starts Observation XXIV (second century):

The Lady Jenkenson, faire, pious, chaste, was vexed with a pain of the head, and a light vertigo, pain of the mouth, of the stomach and sides, fainting, watching, heats in the hands and feet, languishing without cause, the flesh of the gums loose and often bleeding, all being a discovery of the Scurvy.

Hall's original note is headed: '*Scorbuti cura*' – cure of the scurvy - followed by the text as above, down to the bleeding gums. In this case the difference is small, but it can have an effect. Cooke was in effect

²¹⁰ Hall, *Select Observations*, p154; and, Hall *Casebook*, p.102.

²¹⁰Ibid., p.178; and, Hall, *Casebook*, p.199

deciding which out of a list of Hall's signs were pointers to the scurvy, and which were more general.

The original headings point to Hall's own classification of the cases, which are lost in Cooke's version. The Table of Diseases in *Select Observations* lists ten cases of scurvy (increased to twelve in the second edition), whereas using Hall's headings I have identified twenty nine. Fortunately Cooke agrees closely with Hall when translating details of signs and therapies, and I could not have deciphered Hall's Latin without his help. I have also used Whitaker's online Latin to English Dictionary to check my own translations²¹¹. For completeness, I give references to both *Select Observations* (First Edition) and the *Casebook* in all cases. A list of Hall's cases of scurvy and their numbering in the *casebook* and *Selected Observations* is shown in Appendix A.

8.3. Hall's scorbutic cases and signs

Hall mentions scurvy in thirty one of his cases. I have excluded two of these, one being a passing comment to the therapy of other practitioners in Hall's own illness²¹². In Mrs Wilson's cases, Hall has the heading *scorbutus*, but I agree with Cooke in finding no mention in the text of either signs or treatment to support this²¹³.

Lane has identified the years of treatment for nineteen of the twenty nine cases. The earliest are in 1611, 1622 and 1623, with the

²¹¹ W. Whitaker, 'Words Latin to English and English to Latin Dictionary', Classics Technology Centre, <http://ablemedia.com/ctcweb/showcase/wordsonline.html>, last accessed 28 August 2010.

²¹² Hall, *Casebook*, p.151; Hall, *Selected Observations*, p.229.

²¹³ Hall, *Casebook*, pp176-177; Hall, *Selected Observations*, pp262-264.

other sixteen cases all occurring between 1628 and 1635²¹⁴. This is similar to the distribution of all Hall's datable cases. Twenty two cases are female and seven male, close to the proportions of all cases (sixty per cent female)²¹⁵. Hall gave ages for twenty three of the patients, ranging from twelve to eighty six. Seventeen of them were aged between twenty two and forty nine years. Most of Hall's cases were higher status members of society, and this is reflected in the scorbutic cases. He called fifteen of the women 'generosa' (mistress), six 'domina' (lady), one was his wife Susannah, and one the Countess of Northampton. Four of the men were 'generosus' (Mister), the other three being the Bishop of Worcester, a clergyman ('theologus') and a child aged twelve years.

I have divided Hall's cases into four groups based on his headings, but do not want to imply that he would have classified them the same way.

- Nine cases diagnosed as scurvy on its own, usually '*scorbuti cura*' or '*scorbutus confirmatus*';
- Six cases of scorbutic disease, such as '*epilepsica scorbutica*' or '*hydrops scorbutica*';
- Five cases with headings including both scurvy and other illnesses, but as separate entities;

²¹⁴ Lane, John Hall, p.251-352.

²¹⁵ Ibid., p.xviii.

- Nine cases in which the heading does not mention scurvy (seven cases), or there is no heading (two) but there is a reference in the text.

I have compared the distribution of signs Hall attributes to the scurvy across these groups in Appendix B. The signs are grouped as in Section 7.4.2 (page 76 above). The major points to be drawn from this comparison are as follows:

- All four groups of patients have signs drawn from all four groups of signs;
- The number of signs per case is greatest for the scurvy alone, and lowest for cases in which it was not mentioned in the heading;
- Weariness, weakness of the body or laziness are the commonest signs mentioned, in sixteen of the twenty nine cases;
- Problems with gums, teeth or stinking breath are only mentioned in the cases of scurvy alone;
- Spots on the limbs only occurred in cases with scurvy in the heading;
- Altered bowel habit is most commonly found in cases of scurvy alone;
- Urine is mentioned in twelve cases, fever in ten, and the pulse only in five;
- Disturbed passions and melancholy occur most often in cases of scurvy alone, though the numbers are small;
- Epilepsy and two cases of dropsy appear in cases which were labeled as scorbutic. The other scorbutic diseases mentioned were

special cases of common signs – *lipothymia* (swooning), arthritis, and fever.

In summary, Hall gave prominence to the traditional signs of scurvy when he wanted to convey a firm diagnosis of that alone, but used the newer, longer lists of later authors to complete the picture and confirm the diagnosis.

8.4 Hall's references

I have used Hall's notes in this section which covers the cases of scurvy only, and only the scorbutic elements of them. In twenty three cases, at least one name is mentioned. The most commonly quoted person is Forest, fifteen times, in thirteen cases for his syrup *scelotyrbē*. This was a syrup of antiscorbutic herbs boiled with sugar. The recipe is in Hughes²¹⁶. It might be used on its own or added to other combinations of herbs. The other two references are for a poultice to reduce swelling. Another five authors, all from the late sixteenth or early seventeenth century, are mentioned once or twice for therapies: Eugalenus, Horst, Doncrelius (not always an interpolation by Cooke), Ronsseus and Quercetanus (du Chesne).

In five cases there are references for the signs or diagnosis of the scurvy, all being to Eugalenus or Sennert.

Mrs Laiton was treated for *epilepsia scorbutica* in 16 Hall refers to both writers for the symptoms of scorbutic epilepsy²¹⁷. His page

²¹⁶ Hughes, 'The rise and fall of the "Antiscorbutics" ', p.61.

²¹⁷ Hall, *Casebook*, p.100; Hall, *Selected Observations*, p.152.

references match entries for this condition in the 1604 edition of Eualenus and, reading f.620 for f.602, Sennert in 1624²¹⁸. Mrs Vernon suffered from complaints affecting women (*'hic sunt symptomata quibus affligit generosa'*) and Hall names Eualenus and Sennert but without giving page numbers. One of Sennert's chapters of signs is on *'menses albi & semen aquosum'*²¹⁹. Cooke shortened this passage considerably and omitted their names²²⁰.

Simon Underhill suffered from extreme vomiting and the scurvy. Hall gave six references for this, three in Eualenus to case reports, the others in Sennert to sections on vomiting²²¹. Cooke omitted these.

Mrs Woodward suffered from both a bastard tertian and a continual fever, a combination Hall said was difficult to cure (*'febris curata difficilionis redduntur'* and I think regarded (the writing is more difficult even than usual here) as unusual. The reference to Eualenus is included by Cooke, and is intended to clarify the relationship between fevers and the scurvy²²². Finally, Mrs Finnes was diagnosed as having scorbutic dropsy after childbirth. Hall's reference to Sennert, omitted by Cooke, deals with the differential diagnosis of hydropic and scorbutic swellings²²³.

²¹⁸ Eualenus, *de Scorbuto*, p.86;
Sennert, *de Scorbuto*, p.620.

²¹⁹ *Ibid.*, p.66.

²²⁰ Hall, *Casebook*, p.148; Hall, *Selected Observations*, p.225.

²²¹ Eualenus, *de Scorbuto*, pp 238,240, 242;
Sennert, *de Scorbuto*, pp115, 612, 721.

²²² Hall, *Casebook*, p.144; Hall, *Selected Observations*, p.219.

²²³ Hall, *Casebook*, p.167; Hall, *Selected Observations*, p.250;
Sennert, *de Scorbuto*, p.623.

Sennert and Eugalenus stand out as Hall's primary sources on the theory and diagnosis of the scurvy, while he used a wider range of authorities for treatments.

Hall's three earliest references to the scurvy, Mrs Boughton (1611), the Countess of Northampton (1622), and Mrs Winter (1623), share similar features. None of them mention scurvy in the heading, all start with another illness, and scurvy becomes present later in the course²²⁴. Neither diagnoses nor treatments point to any definite influence from Eugalenus or Sennert compared to earlier writers. The new approach is implied in Hall's comment (omitted by Cooke) in the Countess's treatment, that scorbutic medicines should be mixed with others. This was in 1622, predating the publication of Sennert's *de Scorbuto*. A similar comment concerned Mrs Layton (undated), in whose case we have seen Hall did refer to Eugalenus and Sennert²²⁵. Lane says that she must have been treated 'in the earlier part of the period 1611 to 1635' but the reference to Sennert makes 1624 the earliest possible date (unless Hall was retrospectively adding to his notes, which is not impossible)²²⁶. The earliest mention of dated reference to Eugalenus is in 1629, Mr Handslop, for a recipe of new worms bruised in wine. Mr Underhill, mentioned above, was also treated in 1629²²⁷.

²²⁴ Hall, *Casebook*, pp62,1,106; Hall, *Selected Observations*, pp92,1,161.

²²⁵ Hall, *Casebook*, p.100; Hall, *Selected Observations*, p.152.

²²⁶ Lane, *John Hall*, p.205.

²²⁷ Hall, *Casebook*, pp87,165; Hall, *Selected Observations*, pp.135,246.

8.5 Hall's Causes

I have relied on Cooke's translation, which appears to be accurate in this respect. Hall suggests causes in only seven cases. Mrs Boughton developed a scorbutic dropsy from 'the spleen, liver, and suppression of the courses'. Mr Trapp developed his scorbutic symptoms by being 'of a melancholic humor and by much study'²²⁸. Mrs Brown's scurvy followed her daughter's death in childbirth. Bishop Thornberry developed his wandering scorbutic gout and other symptoms ('unquiet nights ... if he did sleep it was with terror' and melancholy) after the 'sudden slaughter of one in his family'. Weyer would have recognized all these as being 'causes going before' (page 37 above). Among those he mentioned were 'immoderate affections of the mind', 'cares and studies', and 'staying of the usual and due purging', which included suppression of the flowers (i.e. menstruation or Mrs Boughton's case, the courses). A.M.(quoting Sennert) and Jonstonus both listed passions of the mind as signs²²⁹.

Others developed scurvy from more physical causes. After the birth of Mrs Finnes's third child, the midwife gave her a drink of lemon juice and wood sorrel 'by which her stomach being too much cooled, she fell into a hydropic tumour' that Hall diagnosed as scorbutic. Mr Fortescue fell into his scorbutic dropsy 'by a surfeit' and the young Underhill, aged twelve, first had 'a malign spotted fever', then the measles, and finally scurvy²³⁰.

²²⁸ Hall, *Casebook*, p.62,188; Hall, *Selected Observations*, p.92,277.

²²⁹ Weyer, *A Profitable Treatise of the Scorbie*, p.14;
A.M., *A Rich Closet*, p.113;

Jonstonus, *The Idea of Practical Physick*, p.49.

²³⁰ Hall, *Casebook*, pp 167,170,186; Hall, *Selected Observations*, pp249,254,273.

We have two internal causes, - suppression of the courses, and a melancholy temperament – and five external. Two cases followed unwise eating or drinking, two from emotional upset and one after physical illness. Mr Trapp's internal melancholy was exacerbated by study, another external. There is nothing here to surprise any of the writers of the core texts.

8.6. Hall's Therapies

I shall concentrate on the systemic therapies, mainly using *Select Observations* as my source, Cooke translation appearing to be accurate again. As one might expect, Hall started most courses of treatment with a purge, using the milder ingredients recommended in the core texts. He noted that he omitted this for Bishop Thornberry, because of his weakness. He also bled three patients, despite his post-mortem reputation as moderate in this respect²³¹. In Mrs Wagstaff's case this came at the end of a long and troubled course of therapy, so may have been a final attempt to eliminate the scurvy. No reason is given or apparent for bleeding the Lady Brown at her first consultation (Hall's case number 106). Mr Fortescue, the third patient, is described as 'a great drinker, of a very good habit of body, sanguine, very fat' so the bleeding may have been related to that element of his case rather than the scurvy. The core texts, following Weyer, tend to be against bleeding in

²³¹ Lane, *John Hall*, p.xxxiv.

the scurvy. It was recommended though by Harward, quoting Ronsseus, so Hall had some justification²³².

The mainstay of Hall's therapy was antiscorbutic herbs in beer, water, or wine. Only three patients did not receive one of these. The commonest preparation used was water (fifteen cases), then beer (fourteen), and wine (nine). There was a definite sex bias in the treatments as Table 3 shows. All four patients who received beer and wine were male, while all who received only wine or only water were female. Perhaps some things have not changed much since then.

Beer, wine and water	1	female
Beer and water	5	2 male, 3 female
beer and wine	4	all male
wine and water	1	female
beer only	4	1 male, 3 female
wine only	4	all female
water only	7	all female
None	3	all female

The notes contain six recipes for scorbutic beer, the other references either mentioning recipes used in other cases, or simply noting 'our scorbutic beer'. All of them contain as a minimum the antiscorbutic herbs and wormwood, but none of them could be prepared quickly. The simplest recipe, for Lady Talbot, still required fourteen days preparation

²³² S.Harward, *Harvvard's phlebotomy: or, A treatise of letting of blood fitly seruing, as well for an aduertisement and remembrance to well minded chirurgians, as also to giue a caueat generally to all men to beware of the manifold dangers, which may ensue vpon rash and vnaduised letting of blood*, (London, 1601) p.53, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99839599, (30 August 2010).

before drinking. In the interim she took scurvy-grass and wormwood in broth²³³. The more complicated recipes add herbs, and also more exotic ingredients such as sarsaparilla and sassafras²³⁴.

The antiscorbutic wines also took a long time to prepare. Mrs Peerse's required three days' infusion before boiling and drinking, and included with the herbs, pearl, coral, bezoar stone, and *manus christi*. Hall prepared the most complicated wine for his wife, with thirty ingredients including sanders wood, coral and ivory – all ingredients found in Read's recipe for beer, section 7.5 above²³⁵.

The waters are similar in their ingredients, the main difference being that they could be prepared quickly. Quite often they were used, evidently as a stop-gap, while patients waited for the beer or wine to infuse. The Countess of Northampton's beer took fifteen days to prepare, but 'till it was ready' she drank an antiscorbutic water infused for twelve hours with antiscorbutic herbs, guaiacum, sassafras and sarsaparilla²³⁶.

The three patients who did not receive any of the above are worth noting. Two of the cases do not have scurvy in their headings. Lady Puckering suffered from *Palpitationis cordis* – beating or trembling of the heart – and was treated primarily for that. A conserve of bugloss and scurvy-grass was added to the other medicines 'because she had the scurvy' – no signs are mentioned to support this²³⁷. Mrs Layton was a

²³³ Hall, *Casebook*, p.45, Hall, *Selected Observations*, p.134.

²³⁴ Hall, *Casebook*, pp108,173, Hall, *Selected Observations*, pp164,259.

²³⁵ Hall, *Casebook*, pp111,115, Hall, *Selected Observations*, pp169,178.

²³⁶ Hall, *Casebook*, p.1, Hall, *Selected Observations*, p.1.

²³⁷ Hall, *Casebook*, p.90, Hall, *Selected Observations*, p.139.

complicated case of scorbutic epilepsy, one of those for which Hall referred Eugeleus and Sennert. She was treated with medicines for the epilepsy – peony root and powdered man’s skull²³⁸. To these were added conserve of scurvy-grass ‘which I always used to mix with other medicines in scorbutick affects to infringe the ill of the disease’.

9. WHY IS THERE A DISEASE CALLED SCURVY?

9.1 ‘Scurvy’ in the Medical Texts

It will have been noticed that the words used to describe this disease are varied, including Dutch and German names, and English variants from scorby to scurvy. Hall used *scorbutus* consistently in his Latin casenotes, Cooke translated this consistently as scurvy. But why? In French, German and Italian the common name for this disease is derived from *scorbutus*: *Skorbut* in German, *scorbut* in French, *scorbuto* in Italian. In Netherlands it is still *scheurbuik*, similar to the original Friesian.

We can trace changes in the medical texts used here over the ninety year period studied. Table 4 shows the way the written word changed.

²³⁸ Hall, *Casebook*, p.101, Hall, *Selected Observations*, p.153; and, Lane, *John Hall*, p.209.

Table 4. Occurrences of words referring to the scurvy by decade							
	Scourbuch and variants on Dutch	Skorby and variants with 'k' and/or 'b'	Scorbute and variants on Latin	'scurvy or scorbut' and similar	Scuruy and variants with 'u'	Scurvy and variants with 'v'	'Scorbutic disease'
1570-79	1		1				
1580-89	2	1	1				
1590-99	1	2		1	3		
1600-09	1		1	1	3		
1610-19		1	1	2	3	1	
1620-29			1		1	1	
1630-39			2		1	2	
1640-49			1	1		2	
1650-57			3	2		22	3
Total	5	4	11	7	11	28	3

A need to identify the disease with its Friesian roots is evident in the first forty years, and then vanishes. Variants of English spelling with 'k' and/or 'b' also occur early, and stop before 1620. Gerard distinguished between 'the scuruie, and scurby, and upon the seas the skyrby'²³⁹. There is an early example of this spelling in Dee (1577), on the good effects of eating fish at sea: 'our men being sufficiently skillfull, now ... to prevent or cure the Skyrbuy'²⁴⁰. The distinction made later between sea and land scurvy would not have been needed originally, because they had different though similar names.

²³⁹ Gerard, *The Herball*, p.195

²⁴⁰ J.Deer, *General and rare memorials pertayning to the perfect arte of nauigation annexed to the paradoxal cumpas, in playne: now first published: 24. yeres, after the first inuention thereof*, p.42, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99842389, (6 September 2010).

Scorbute and its variants occur at all periods. This was sometimes used in combination with scurvy, as for instance in Woodall, 'the Scuruy called in Latin Scorbutum', and this double label also persists²⁴¹.

Variant spellings with a 'u', most commonly 'scuruie' appear at the end of the sixteenth century, and are gradually joined and then replaced by spellings with 'v'. This may be a no more than a typographic change but after 1650, in with the great increase in texts between 1650 and 1657, scurvy with a 'v' is definitely the standard spelling. An innovation at this time is 'scorbatic disease', used to signify the larger range of disease presentations being described. Hall was already using this form in his notes in the 1630s.

It seems as though English lost the common European stem sometime between 1620 and 1650, so that the disease we have today is scurvy and not scorbute (except in the use of scorbatic as the related adjective).

The change can be traced in dictionaries of the time. Huloet, in 1572, translated *crusta* as the Latin for 'scurfe of a scabbe' and quoted the phrase, 'scuruy hedded, or pyllled headed' translated as *Alopecus*²⁴². Rider, in 1606, defined scuruie as 'which hath scurfe, or is full of scurfe', e.g. 'that hath his head pilled by reason of scurfe'²⁴³. In both these texts

²⁴¹ Woodall, *The Surgions mate*, p.177.

²⁴² R.Huloet, *Huloets dictionarie newelye corrected, amended, set in order and enlarged, vvith many names of men, tovvnes, beastes, foules, fishes, trees, shrubbes, herbes, fruites, places, instrumentes &c. And in eche place fit phrases, gathered out of the best Latin authors. Also the Frenche therevnto annexed, by vvhich you may finde the Latin or Frenche, of anye English woorde you will*, (London, 1572), p.'S ant C' (unnumbered), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99854453, (31 August 2010).

²⁴³ J.Rider, *Riders dictionarie corrected and augmented wherein Riders index is tranformed into a dictionarie etymologicall, deriuing euey word from his natiue*

scurvy is an adjective related to the noun scurfe. Holyoake in 1627 contains the first definition of scurvy in the new usage. *Scorbutus* is 'a disease called the scurvie', and later dictionary entries are similar²⁴⁴. The anonymous *Physical Dictionary* in 1657 translates scorbut, one of the 'crabbed words ... used in physick' into common English as the scurvy, and includes the adjectival form, 'scorbutick persons, such as are diseased with the scurvy'²⁴⁵. There is no obvious reason for this change in the medical texts, and no similar change occurred in other countries, so we must look elsewhere for an explanation.

9.2. Scurvy in sixteenth century texts

I start with Huloet's definition, and two questions. One is, what would have been wrong with patients who had symptoms which later would have been the new scurvy, before the new scurvy was there for them to have? Secondly, what did scurvy mean, before the new scurvy?

fountaine, with reasons of the deriuations, none yet extant in that kind before : here also the barbarous words are ranged into a dictionarie by themselues, and many words added, neuer yet in any : with a briefe index of proper names, collected out of Stephane, Gesner, and others / by Francis Holyoke, (London,1606) F.Yiiij(r), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:33151116, (31 August 2010).

²⁴⁴ F.Holyoake, *Dictionarium etymologicum Latinum, antiquissimum & novissimum, nunc demum infinitis penè laboribus & continuis vigiliis compositum & absolutum à Francisco de Sacra Quercu, that is, A dictionarie declaring the originall and derivations, of all words used in any Latine authors, with the reason of their derivations and appellations neuer any in this kinde extant before ... lastly, Rider's Dictionarie I, (London, 1627) F.Hhh2, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:39960662, (31 August 2010).*

²⁴⁵ Anon., *A physical dictionary. Or, An Interpretation of such crabbed words and terms of art, as are deriv'd from the Greek or Latin, and used in physick, anatomy, chirurgery, and chymistry. With a definition of most diseases incident to the body of man: and a description of the marks and characters used by doctors in their receipts. Published for the more perfect understanding of Mr. Tomlinson's translation of Rhaenodaeus dispensatory and whatever other books of physick and surgery are extant in the English tongue, (London, 1657) No page numbers: image 95 of 113 in EEBO, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:124064249, (31 August 2010).*

A patient with signs later identified as due to the scurvy, need not have gone untreated or undiagnosed. As one example, Boorde in 1557 described the different signs which were going to become the scurvy, but as separate illnesses with their own causes. A patient might suffer from 'skurfe in the whole body' caused by a combination of cholera and melancholy, and related to the black jaundice²⁴⁶. As a separate condition, the gums might have 'many impediments, as ... bleeding, excoriation, and superfluous growing of the flesh', caused by excess of rheum²⁴⁷. These were both treated with local ointments. The humoral causes are the same as those which later caused the new scurvy. A patient might also be, rather than have, scurvy. Boorde described 'skurfe in the skin of the head – like bran or oatmeal, which doth penetrate the skin of the head, making little holes'²⁴⁸. It came from an excess of moistness or melancholic humour in the head.

References to scurfe, or scurvy, are commoner on the EEBO database in non-medical than medical texts. A search using 'scurvy' and its variants produced seventy eight hits in fifty two records before 1600. Some of the references are to the scurvy physical illness. Skelton's *Elynour Rummyng* was:

Scuruy and lowsy

Her face all bowsy

Comely crynklyd

Woundersly wrynklyd

²⁴⁶ A. Boorde, *The breuiary of healthe*, F.lxxii.

²⁴⁷ *Ibid.*, 'The extravagantes', F.ix(o).

²⁴⁸ *Ibid.*, F.viii(o).

Lyke a rost pygges eare

Brystled with here²⁴⁹.

The earliest reference is in Erasmus, to 'scabbed and scurvy company'²⁵⁰.

The context this time is not a concern for public (physical) health, but to avoid 'lewde entycementes that prouoke and stere vs to fylthy synne'.

The majority of references are of this second sort, metaphorically referring to moral illness in the head, not physical illness on the outside.

9.3 Scurvy in early seventeenth century non-medical texts

References multiply from 1600 onwards. A one in ten random sample of EEBO keyword references to scurvy between 1600 and 1657 gave thirty eight records, six of which were to medical texts and scurvy in the scorbutic sense (Table 5). The meaning in the majority of other cases is derogatory, either of people or objects. The animals all suffered from scurf rather than the scurvy.

²⁴⁹ J.Skelton, *Here after foloweth certayne bokes, co[m]pyled by mayster Skelton, Poet Laureat whose names here after shall appere. Speke parrot The deth of the noble prince Kyng Edwarde the fourth. A treatyse of the Scottes. Ware the hawke The tunnyng of Elynour Rummynge*, (London, 1545), pages unnumbered, EEBO Image 22, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99846419, (31 August 2010).

²⁵⁰ D.Erasmus, *De co[n]temptu mundi The dispisyng of the worlde / co[m]piled in Latyn by Erasmus Rot. ; and translated in to Englyshe by Thomas Paynell*, (London 1532), F.Giii(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:22918687, (31 August 2010).

Table 5. Usage of 'scurvy' in a random sample of texts 1600-1657		
	Medical	Non-medical
Scorbutic scurvy	6	4
Scurfy scurvy	0	4
Derogatory of people	0	6
Derogatory of objects	0	15
Animals	0	3
Total	6	32

Source: Early English Books Online, consulted at http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:screen:basic_search, (25 August 2010).

There is a new element to the derogatory meaning of the word now: laziness. This sign, or cause, of the scurvy could be embarrassing, as it was for Lord de la Warre. He returned early from his duty as Governor of the Colony in Virginia and had to explain himself to the Privy Council: 'the Gout ... afflicted me in such sort, that making my body through weakenesse unable to stir, drew upon me the disease called the Scuruy; which though in others it be a sicknesse of slothfulnesse, yet it was in me an effect of weaknesse'²⁵¹.

In 1622, Thomas Scott's *Belgicke Pismire* tried to awaken its readers to working out their own salvation. Commenting on Solomon's proverbs he pointed out that the fool 'kills himself with slothfulness ... and breeds the scurvy ... and other diseases, for lack of exercise'²⁵². John Taylor's approach to his wife when she was 'sick and would have a

²⁵¹ T.De la Warre, *The relation of the Right Honourable the Lord De-La-Warre, Lord Governour and Captaine Generall of the colonie, planted in Virginea*, (London, 1611), p.5, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99846957, (31 August 2010).

²⁵² T.Scott, *The Belgicke pismire stinging the slothfull sleeper, and auuaking the diligent to fast, watch, pray, and worke out their owne temporall and eternall salvation with feare and trembling*, (London, 1622), p.18, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:23274297 (31 August 2010).

posset' was unsympathetic: 'Up you lazybones, we shall have you fall into the scurvy, and then there is no cure for you but the Cudgel'²⁵³. In *The Late Lancashire Witches*, a 'well received comedy', a brisk soldier protests to his general: 'Loitering I defy sir, I hate laziness as I do leprosy: it is the next way to breed the scurvy ...your worship shall find that I love nothing less than loitering'²⁵⁴. Slightly outside my period, 'Sloth breeds the Scurvy' appeared in a 1659 collection of English proverbs²⁵⁵.

In other contexts too, the new scurvy was sufficiently well known to be used without explanation. Webster's villain, in *the Devil's Lawcase*, has two surgical accomplices who must be disposed of:

to the East Indies: let them prate,
 When they are beyond the line; the Callenture,
 Or the Scuruy, or the Indian Pox, I hope,
 Will take order for their coming back²⁵⁶.

²⁵³ J.Taylor, *Divers crabtree lectures Expressing the severall languages that shrewes read to their husbands, either at morning, noone, or night. With a pleasant relation of a shrewes Munday, and shrewes Tuesday, and why they were so called. Also a lecture betweene a pedler and his wife in the canting language. With a new tricke to tame a shrew*, (London,1639) p.217, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99848256, (31 August 2010).

²⁵⁴ T.Heywood, and R.Broome, *The late Lancashire vvitches A well received comedy, lately acted at the Globe on the Banke-side, by the Kings Majesties Actors*, (London, 1634), F.D3(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99839820, (31 August 2010).

²⁵⁵ J.Howell, *Paroimiographia Proverbs, or, Old sayed savves & adages in English (or the Saxon tounge), Italian, French, and Spanish, whereunto the British for their great antiquity and weight are added*, (London, 1659) p.3, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:13206410 (31 August 2010).

²⁵⁶ J.Webster, *The deuils law-case. Or, VVhen vvomen goe to law, the Deuill is full of busnesse A new tragedomaedy. The true and perfect copie from the originall. As it was approouedly well acted by her Maiesties Seruants*, (London,1623) unnumbered pages, EEBO Image 44, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99854792, (31 August 2010).

It had a place too in political satire. The Scots Scout reported to the Lords of the Covenant in 1642 that they were to be proclaimed rebels, and their lands confiscated to the King, 'which made some of the courtiers mouths so water (in hope of a Lordship) that they looked as if they had been troubled with the scurvie'²⁵⁷.

Scurvy turned up as a moral lesson in sermons. Jeremy Taylor preached on the miracles of providence and the wisdom of God:

Does not God plant remedies there where the diseases are most popular, and every Country is best provided against its own evils? Is not the Rhubarb found where the Sun most corrupts the liver, and the Scabious by the shore of the sea, that God might cure as soon as he wounds, and the inhabitants feel their remedy against the leprosy, and the scurvy, before they feel their sickness?.

One final example shows that the scurvy had become sufficiently accepted that it could be projected into the past. A 1633 translation of *the History of Polybius, Book 3*, says that Hannibal laboured ... to refresh his men and horses: for both the one and the other were fallen into diseases and the Scurvy'²⁵⁸. The Greek term λιμόψωρος – limopsoros – is translated in a more recent version as 'itch of hunger' and no signs are

²⁵⁷ D.L., *The Scots Scouts discoveries: by their London Intelligencer, and presented to the Lords of the Covenant of Scotland*, (London,1642), p.19. consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99860095 (30 August 2010).

²⁵⁸ Polybius, *The history of Polybius the Megalopolitan The five first bookes entire: with all the parcels of the subsequent bookes vnto the eighteenth, according to the Greeke originall. Also the manner of the Romane encamping, extracted from the discription of Polybius. Translated into English by Edward Grimston, sergeant at armes*, (London, 1633), p.153, consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99851267, (31 August 2010).

mentioned which might support the identification with scurvy²⁵⁹. I have not found this word in any other scorbutic context. I have also not referred to *stomacace* and *scelotyrbē*, Pliny's words, because at no point do they seem to have entered current use. They continued to be used to introduce the scurvy in texts, but almost in an antiquarian sense, not because it was relevant.

PART THREE: DISCUSSION AND CONCLUSION

10. DISCUSSION

I posed three questions in the introduction, and can offer at least partial answers to all of them.

10.1 What, Exactly, was the Scurvy?

The short answer is that it was not, exactly, any one thing. The changes between 1576 and 1657 were more than a natural growth of more knowledge being added to simple beginnings. While there were unifying features, the diseases seen in the late sixteenth century and mid seventeenth had distinct differences.

The first disease, which I shall call scorbute, had a clear identity. It was a disease of the mouth (swollen gums, loose teeth, stinking breath) and limbs (dark spots, swelling or wasting) associated with general weakness. Signs which were helpful for diagnosis and prognostication in

²⁵⁹ S.Lancel, *Hannibal*, (paperback edition, Oxford, 1999), p.97, consulted at: http://books.google.co.uk/books?id=6uVh2FH-LF4C&pg=PA97&lpg=PA97&dq=limopsoros&source=bl&ots=aVMkxVssF&sig=kIBxk_E3jPcusM5AB_NNIm_RJVY&hl=en&ei=Qyx9TLaDBsOHOJijtYIE&sa=X&oi=book_result&ct=result&resnum, (31 August 2010).

other diseases (urine, pulse, fever) were less useful in the scorbute, because they tended to vary.

Scorbute was associated with living in cold, northern climates, being a sailor or living near the sea, and eating a poor diet. It either spread, or was more widely recognised, from its focus in Friesland to the rest of the Low Countries and North Germany, and from there across Europe. Up to date practitioners who saw it could diagnose and treat it as a single disease. Those more old-fashioned could treat the combination of separate illnesses requiring specific local remedies. There is no need to postulate a real increase in the scurvy, apart from changing diagnostic standards.

The cause was a mixture of humoral imbalances. Dark spots on the legs were due to an excess of heavy, melancholic humour, while the signs in the mouth came from either a lighter component of the melancholy, or an admixture of phlegm. Fortunately wormwood, which Weyer reports the Frieslanders traditionally used to treat the scorbute, fitted the humoral pattern. It was hot and dry, and therefore suitable for treating a cold, melancholic-phlegmatic disease²⁶⁰. This helped to justify using other herbs with the same hot dry qualities, such as scurvy-grass, brooklime, and watercress.

In the mid-seventeenth century this fairly straightforward picture had changed. What was now called the scurvy shared scorbute's signs and the approach to treatment. Some of what had been signs, had become causes, as for instance the change of attitude to weakness and

²⁶⁰ Turner, 1562, F.ii(r).

laziness. The focus on causes moved from an emphasis on externals to the corruption of the melancholy humours. This placed the scurvy in a spectrum of related diseases, an extreme form of hypochondriac melancholy. It was more dangerous and more difficult to treat than others, because of the corrupted humours involved.

Taken a step further, the scurvy was starting to lose its individuality as a disease, partly in an effort to make sense of it in countries and climates where it had not traditionally appeared. It was becoming a useful label for a variety of conditions – scorbutic epilepsy, dropsy, fever, lipothymia, and so on. At the extreme lies Rivière's view that any sign not definitely part of another illness, could be regarded as scorbutic. One implication for therapy was that the scurvy might be hidden by other diseases, or they might not be what they seemed, but actually tokens of scurvy. In these situations it would be good practice to treat as if the scurvy were present even if hidden.

It is not clear when the change from scorbute to the scurvy took place, nor how quickly. Partly that is because the driving forces behind scorbutic research, as it were, lay in Germany and are not part of this study. Lind's contention that it was Eugeleus, as organised and popularised by Sennert, whose work led to the change seems to fit what we find. What a study of a single disease cannot do is pick up wider changes in attitudes to illness. Woodall's remarks about the scurvy being compounded of other diseases, its infinite and unsearchable causes, and uncertainty about the course and effects of treatment, may indicate early knowledge of the Eugeleus model (though he does not refer to him, and

does to other authors), or be evidence for an environment of increased uncertainty in which Eugalenus's views could flourish.

10.2. How was the Scurvy Treated in Practice?

The two sources, recipes from popular collections published between 1651 and 1657, and Hall's case notes, mostly dating from between 1628 and 1635, show a high degree of similarity. Both are indirect evidence of what people did, both in different ways being what respected public figures said they should do. However Leong, writing of the early eighteenth century, says, 'Contemporary advice literature ... presented medical knowledge as essential to any early modern housewife ... these views were not only prescribed but also followed'²⁶¹. This was likely true in the seventeenth century as well.

Recipes from both sources used traditional ingredients, the antiscorbutic herbs and others, with spices and occasional exotic additions. Preparation methods were similar, requiring infusion and boiling of the ingredients in beer, wine, or water. The process was lengthy, several days at least, and called for beer by the gallon and wine by the quart. This was the case with other preparations besides the antiscorbutic, and the equipment needed would have been standard kitchen items, in well-to-households at least²⁶².

More complicated and even more time consuming is one recipe from French, which required cold distillation, glass vessels, and heating

²⁶¹ E.Leong, 'Making Medicines in the Early Modern Household', *Bull.Hist.Med.* (2008), 82, p.147.

²⁶² *Ibid.*, p162.

in a *bain marie* (page 64 above). Leong's source, Elizabeth Freke, did own such equipment and produced distilled liquors. A wider survey found that about ten per cent of recipes needed distillation, compared to twenty or thirty per cent which needed boiling, the most common method²⁶³. The distilled versions may have had the advantage of keeping longer, which would outweigh the complexity of production.

Hall's remedies were similar in preparation and ingredients, and give additional information on the patients for whom they were intended. There is evidence of a gender difference, with more men receiving only scorbutic beer, and more women only the wine. Hall's waters were prepared differently. They contained ingredients which might have been ready-made, such as Foreest's or Doncrelius's scorbutic syrups and waters, and could be ready to use in under twenty four hours. Their main use was to bridge the gap until the beer or wine was ready.

Hall's remedies, as in the collections, were directions for drinks to be prepared at the patient's house, not items he or an apothecary would make up. There would have been a lot more room for patients to express preferences. The list of ingredients is not necessarily what the patient did, but what Hall recommended. We cannot know how accurately or completely the recipe was followed, except perhaps in the case of the wine used by his wife. There is no explanation either given or easily inducible from Hall's notes, as to why some patients were prescribed half a dozen ingredients while others used up to thirty. Combined with the sex difference in the vehicle used, I suggest

²⁶³ Ibid., p.161.

tentatively that there may have been a discussion between Hall and the patient before the final list was written. Patients may have asked for, or Hall may have offered, various choices until agreement was reached. The only essential ingredients in all cases were the antiscorbutic herbs and wormwood.

Turning to Hall's diagnosis of the scurvy, we can say that his disease would certainly have been the scurvy, not the scorbute. He was a follower of Eualenus and Sennert from at least 1628 and possibly earlier. They are the authorities he quoted on tricky points of diagnosis, and whose books must have been easily available, allowing him to cite precise page numbers. The pattern of the signs he mentioned in making a diagnosis also bears this out, as he relied on the longer, later lists, not on the shorter ones of Weyer and his contemporaries. He also made diagnoses such as *Hydrops scorbutica* and *arthritis scorbutica* which are hallmarks of the later practice.

It is in this context that we should interpret Cooke's introductory remarks about 'mixing scorbuticks in most remedies'. Hall did this, not because he had an insight into the prevention and treatment denied to his contemporaries, but because he was, in the modern jargon, an 'early adopter' of a new type of therapy. He was mixing antiscorbutics with the treatments for other conditions at least as early as 1622 (The Countess of Northampton). By the time Sennert was published in 1624, references in medical literature to the scurvy were starting to replace ones to scorbute, and references to aspects of the scurvy as a disease, not a description, were turning up in non-medical contexts. Following Eualenus at this date might have been unusual, but hardly a cause for

professional reproach. Whether Hall was already practicing Eugalenic medicine when he came to Stratford upon Avon in 1607 it is impossible to say.

10.3 Why do we have a disease called scurvy today?

The evidence points to a change in the nature of the disease as perceived by practitioners, over the period examined. What had been scorbute in the late sixteenth and early seventeenth centuries had become scurvy by the middle of the seventeenth. The change in clinical perception cannot explain the change of name. Given that the new scurvy was based on translations of Latin texts from other countries referring to *scorbutus*, the reverse might have been expected. Something happened to make the scurvy the natural English translation.

I suggest that the reason lies outside of medicine, and that Pocock's concepts of parallel and discourses is useful here. Using his language one would say scorbute, and the ideas surrounding it, provided a stable 'mode of discourse', in which people with different ideas could discuss a common topic²⁶⁴. This discourse vanished and was replaced – without evident conflict – by a new discourse of the scurvy, which used some of the language and ideas from the previous one, but also changed them.

The lack of evidence for conflict may be an artefact of the relative lack of texts in the first thirty years of the seventeenth century, when the change would have been taking place. Certainly it was not because

²⁶⁴ J.G.A.Pocock, *Virtue, Commerce and History*, p.7.

medical texts at that time eschewed conflict. An example with a scorbutic connexion is the debate over the medical properties of tobacco. One issue in this was whether smoking, as sailors claimed, helped to prevent the disease²⁶⁵. There is also evidence, in the use of the double 'scurvy or scorbute' formulation, that the word 'scurvy' alone was being recognised as ambiguous and had to be clarified.

To make sense of this it is necessary to start from scurvy in the pre-scorbutic sense. My model, on Pocockian lines, develops as follows.

There were in the sixteenth century parallel and mutually reinforcing discourses of scurvy in medical and non-medical texts, presumably in spoken conversation as well. The medical version related to scurf, sores and scabs on the skin of the head, with an implication of physically poor hygiene. The non-medical discourse used scurvy as a derogatory adjective, with an implication of morally poor hygiene inside the head.

Scorbute and its first English equivalents such as scorby and skyrby emerged gradually, first as references to a rare disease in people across the North Sea, then more widely with its recognition among mariners, and finally its presence in landsmen. Scurvy would not have been a good choice for an English translation at this stage, as the word had another

²⁶⁵ Philaretus, *Work for chimney-sweepers: or A warning for tabacconists Describing the pernicious vse of tabacco, no lesse pleasant then profitable for all sorts to reade*, (London, 1602), F.F3(r)-(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99839338 (1 September 2010); R. Marbecke, *A defence of tabacco vvith a friendly answer to the late printed booke called Worke for chimney-sweepers, &c*, (London, 1602), F.G3(r)-(o), consulted at: http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:citation:99845152 (1 September 2010); Gardiner, *The triall of tobacco*, pp47-48.

meaning. For disease at sea, versions such as *skyrby* were used at first. The gradual nature of the introduction, and the fact that the signs of the new disease could be paralleled in older texts, would have made it easier for the concept to become accepted. The non-medical use continued unchanged.

Next, some of the attributes of the scorbute, notably laziness, were absorbed by the non-medical discourse. This fitted neatly into the derogatory meaning, and made possible an elision from the old scabby/skurfy scurvy to the new scabby/lazy scurvy, without any need for a change of name. In popular culture, the new medical and old non-medical scurvies had merged.

This merged scurvy was sufficiently powerful that it could move back into the medical discourse, providing the natural translation for the new sort of *scorbutus* coming from other countries. One marker of these changes is in the separate adjectives we have inherited: 'scurvy', still derogatory, and scorbatic, relating purely to the medical meaning.

A short summary cannot do justice to all the potential currents which may have been at work. I believe though that this model offers one great advantage, which is a testable hypothesis for changes in other diseases and areas of medical discourse at the same period. Was scurvy alone in changing in this way, or are there parallels in the development of other disease concepts? Perhaps I should stress here that these changes seem to have taken place without overtly requiring the presence of either Paracelsian or Helmontian ideas.

11. CONCLUSION

To return briefly to my opening points: scorbute and the scurvy were important diseases in the early modern period, as evidenced by the amount and nature of writing devoted to them. Examining the development of associated ideas, the changes in terminology, and the wider non-medical context, mean that they are illuminated by, and reflect illumination back on to, the wider social and medical context in which they were situated.

APPENDIX A. Names and case numbers of scorbutic cases in Hall's casebook and Select Observations, first edition, with Hall's heading in the casebook.

Name	Hall's case number	Cooke's number (First edition)	Hall's heading
Countess of Northants	1	I (1st C.)	-
Wagstaff	47	XLVII	Melancholia hypochondria ... scorbuti cura
Boughton	69	LXXIII	De gluttonis impedimentis ...
Talbot	103	VII (2nd C.)	Scorbutus cum ... symptomati~
Handslop	104	VIII	Scorbutus confirmatus ...
Puckering	105	IX	Palpitationis cordis
Brown	106	X	Scorbutus cura
Delaberr	111	XV	Scorbutus lipothic~
Layton	113	XVII	Epilepsia scorbutica
Underhill	115	XIX	Articularis doloris
Winter	119	XXIII	Fluxus ventris
Jenkenson	120	XXIV	Scorbuti cura
Richardson	122	XXVI	Scorbutus albus fluxus
Peerse	123	XXVII	Vomitus ... scorbuti cura
Baker	127	XXXI	Histerica passionis
Wife	129	XXXIII	Scorbuti cura
Combs	130	XXXIV	Scorbuti longi confirmati cura
Hunks	134	XXXVIII	Feb. Ard. Cont. ...
Fines	147	LII	Melancholia ex utero ...
Woodward	150	LV	Feb.continua ... scorbutica
Vernon	154	LIX	Scorbutus confirmatus cum varis symptomati~
Brown	162	LXVII	Feb. Scorbutica
Thornberry	164	LXIX	Arthritis scorbutica
Underhill	165	LXX	Vomitus ... scorbutus
Finnes	167	LXXII	Feb.ard. Hydrops scorbutica
Fortescue	168	LXXXIII	Scorbuta hydropica ...
Kimberley	169	LXXIV	Scorbutus confirmatus cum sudor
Heir to Underhill	176	LXXXI	Scorbuti cura
Trapp	178	LXXXII	-

APPENDIX B. Distribution of signs of Scurvy, in Hall's casebook, and in Core Texts

Texts recognising symptom as scurvy (see Section 7.4.2)	Symptoms	Reference in Hall's casebook to:			
		Scurvy only	Scorbutic disease	Scurvy & other disease	Scurvy in text only
Most	Spots on limbs	4	1	2	
	Swollen painful legs	3	3	1	1
	Difficult breathing	2	1	1	3
	Altered bowels	5		3	2
	Swollen gums	6			
	Loose teeth	1			
	Stinking breath	1			
Many	Urine troubled	5	3	2	2
	Fever variable	3	2	3	2
	Changed colour	2	2	1	1
	Pulse variable	3	1		1
	Weariness, fainting, laziness of body	6	3	3	4
	Altered appetite	3	1		
	Cold, stiff, cramped sinews and joints	3			1
Few	Passions disturbed	2			1
	Melancholy	4	1	2	1
	Headache	3		2	
	joint pains	1	2	2	1
	Abdominal pains	4		1	5
	Other pains	2			
	Dropsy		2		1
	Other Skin changes			1	
	Palsy	1			
	Heart trembling, Palpitations	2	1	1	3
	Epilepsy		1		
	Wasting	1		1	3
	Swollen abdomen	3	2	1	
A.M. only (after Sennert)	Troubled Courses	2	1	2	1
	Belching or vomiting	2	2	3	
	Troubled sleep	2	1		1
TOTAL		76	30	32	34
Cases		9	6	5	9

ABBREVIATIONS

EEBO: Early English Books Online.

ODNB: Oxford Dictionary of National Biography.

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