THE

VANISHING UNICORN

(A STUDY OF SCIENCE VERSUS SUPERSTITION IN TUDOR MEDICINE)

by

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ABSTRACT

Previous studies of Tudor medicine have found it dominated by superstition, its theory grounded in the mysterious and occult, its remedies derived from esoteric sources such as the bezoar stone and the horn of the fabulous unicorn. Such studies have placed unwarranted emphasis on the colorful aspects of Tudor medicine, however, and they have been further weakened by an inadequate definition of the terms "science" and "superstition." In attempting to determine which aspect - the scientific or the superstitious - dominated Tudor medicine, this thesis firstly endeavours to clarify the central concepts.

Science is defined as the effort to understand and work with nature in a rational way. Scientific effort is restricted by the current hypothesis or paradigm which gives it a basic order. The scientist, further, relies primarily on his reason aided by careful and methodical investigation. Superstition, on the other hand, is the attempt to interpret and sometimes manipulate nature through resort to the irrational. Superstitious beliefs and practices are often prompted by needs arising from the emotions, particularly the emotions of insecurity and fear. Some superstitions are not amenable to empirical investigation; others continue to be held even when they are shown to be false.

When the medical views and procedures of Tudor doctors (viz. licensed physicians, surgeons, and apothecaries) are examined in the light of the above definitions, science and

superstition are discovered to have operated in a different balance than has commonly been presumed. This thesis contends that science, rather than superstition, dominated orthodox medical practice. Tudor doctors had a paradigm in the humoral theory which postulated that disease resulted from an imbalance among man's body fluids, the humours. Treatment consisted largely in the prescription of drugs with innate physical properties believed contrary to those of the disease-causing humour or humours. That Tudor doctors relied on human reason is clear from their efforts to prove the medical worth of drugs by personal clinical experience over long periods of time. The emphasis on rationality is also reflected in their attempts to underplay the use of bizarre and fantastical prescriptions. Such cures, moreover, seem to have been administered only in crisis situations, that is, when scientifically acceptable remedies proved ineffective.

In Tudor times, medicine was practised also by a variety of social and regional groups who operated outside the licensed profession. These groups included the gentlewomen and midwives, the magi and charlatans, and the so-called "cunning folk." Taken as a whole, the unorthodox healers present a wide diversity of practice, the gentlewomen approaching orthodox medical practitioners in their scientific attitude, the "cunning folk" relying on superstitious cures such as charms and incantations, the remaining groups at various points on the spectrum. General-

ization is difficult amid such diversity, so the unregulated groups have been used chiefly as foils to emphasize the scientific aspects of orthodox practitioners who, I believe, were the vanguard of the medical profession in their day.

A variety of documents has provided the source material necessary for the research of this thesis. The historical collection of medical literature in the Woodward Library, University of British Columbia, includes some rare first editions of Tudor medical works and these have been consulted whenever possible. Extensive use has also been made of primary source material available through facsimile editions and microfilm copies. Many such volumes have been published under the title The English Experience and are found in the collections of both Simon Fraser University Library and the Main library of the University of British Columbia. Xeroxed copies of Tudor medical books held in the British Museum have been obtained through the facilities of interlibrary loan. Unfortunately, the records of unlicensed medical practitioners are virtually non-existent. In an effort to fill this void, recourse has been made to the commentaries published by sixteenth century observers of irregular medicine. These commentaries are also readily available in the Vancouver area through facsimile reprints and microfilm.

ACKNOWLEGMENT

I wish to thank my parents for their support, and my supervisors, Dr. Hamilton and Dr. Hutchinson, for their guidance and constructive criticism. I am especially indebted to my mother whose cheerful brightness sustained me when a surfeit of melancholy threatened to disrupt my humours. At least a footnote should be reserved for Goblin, my enigmatic companion during the isolated hours required to write this thesis.

TABLE OF CONTENTS

INTRODUCTION

Tudor medicine appears to have been a curious amalgam of science and superstition. In medical books of the time, we have, on one hand, the voice of the rational practitioner: "Sicknesses doth come many ways, as by surfetynge and euyl dyet, and to company with infectious people."[1] Yet medical men of the period also had recourse to esoteric remedies like the following: "The Elephantes tothe, wil helpe the yellowe Iaunders rased and drunke in Endiue water."[2] Which of these strains predominated, the scientific, or the occult and ritualistic? This is the central question which the following analysis attempts to answer.

But why choose medicine and especially English medicine of the Tudor period for an investigation of science versus superstition? The battle between science and superstition is, as we know, ubiquitous. It pervades all fields of science, and is as old as recorded history and as contemporary as the daily newspaper.[3] Moreover, there was little difference

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[1] Andrew Boorde, The Breuiary of Helth (1547; facsimile rpt. New York: da Capo, 1971), fol. li.

[2] William Bullein, Bulleins Bulwarke of defence against all Sicknes, Sornes, and woundes, The Booke of Simples (1562; facsimile rpt. New York: da Capo, 1971), fol. lxxxviii.

[3] Recently, for instance, an article in the Vancouver Sun reported that three hundred adults in Britain belong to the Fairies Investigation Society. This group has been in the process for thirty-six years now of spreading "the fairy faith, collecting records from people who have seen, sensed or heard fairies and encouraging all possible field work." The same article also reported that science is fighting back. One bit of evidence which the Society has treasured as positive proof of the existence of fairies is a photograph which is supposed to show fairies dancing in a Yorkshire glen. Yet Brian Cole, curator of the Kodak Photographic Museum in London, has said

between English medicine of the Tudor period and continental medicine of the same time.

The field of medicine suggests itself because it is intimately connected with the lives of everyone. Tudor medicine has been chosen for the following study partly because of its inherent fascination. Our examination will bring us into contact with dragon's blood, Egyptian mummies, and the fabulous unicorn's horn, all of which played a role in medicine during Tudor times.

But there is also a scholarly basis for our choice. Several medical historians believe the Tudor period to be a time of rapid advance in medical science, both in its practical and theoretical aspects, and therefore a period of more than usual interest. They point out, for example, that during the sixteenth century the doctors and the central government in England tried to raise the professional status of medicine by founding the College of Physicians and the Company of Barber-Surgeons. The two organizations were supposed to examine and license all physicians and surgeons, initially in London alone. Yet though the regulatory power of the Company of Barber-Surgeons remained confined to the Capital during Tudor times, the power of the College of Physicians had been extended by 1600 to cover the whole

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that modern photographic processes have positively identified the photo as a picture of cardboard cut-out-fairies. Michael Cope, "Fairies DO exist, claims U.K. society," Vancouver Sun, 1 Oct. 1973, p. 38, cols. 1 - 2.

realm. By the end of the sixteenth century, the College of Physicians also was supposed to inspect and test apothecaries' drugs in London and elsewhere.[4]

Regarding the theoretical aspect of Tudor medicine, many medical historians point to such rapid developments as the rejection of classical medical texts as the sole basis of medical truth. This advance, they add, was in response to crisis. The appearance in the Tudor period of new diseases unknown to ancient medical authorities forced doctors of the later period to work from direct observation. This furthered the development of scientific medicine and will subsequently be considered at length.

At the same time, William Shakespeare's plays testify to the common pre-occupation with all sorts of magic: the ghost of Hamlet, the witches of Macbeth, and the fairy kingdom of A Midsummer Night's Dream. It is not surprising, then, to find superstitious beliefs appearing in medical theory and practice: for example, the belief that the herb alysson "hanged in the house, or at the gate or entrie keepeth both man and beast from enchantments and witching,"[5] or that "the blacke graines of the Peony to the number of fifteene taken

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[4]It is sometimes overlooked that provincial barber-surgeons companies in Chester, Hereford, and St. Albans probably date from the 1500's since they are first mentioned in documents during that era. Like similar bodies in other provincial cities including Bristol, Norwich, and York, all of which had been incorporated in the Middle Ages, the new corporations tried to supply rural areas with qualified surgeons. In the following analysis, it has been assumed that the provincial barber-surgeons' companies shared the same medical views as the London company.

[5]Rembrant Dodoens, A Niewe Herball or Historie of Plantes

in wine or meade is a specially remedy for those that are troubled with the disease called . . . night Mare."[6]

Randolph S. Klein of Wisconsin State University even goes so far as to presume that the marvellous and fantastical were of major importance in English medicine four centuries ago. In outlining his case, Klein first draws attention to the findings of Lynn Thorndike of Columbia University. Thorndike has read widely in the literature of mystic doctors on the European continent. His investigations have led him to the declaration that magic, astrology, and the occult would have been welcome in any decade of the sixteenth century since "they constituted the vortex in which all works upon nature and medicine of that century had to whirl."[7] In describing continental medical practices, Thorndike has overlooked works where irrational aspects play at best secondary roles.[8] Nevertheless, Klein accepts his conclusion and

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(London, 1586), p. 119.

[6]John Gerard, The Herball (London, 1597), p. 984.

[7]Thorndike, History of Magic and Experimental Science, vol. V, p. 626, in Klein, "The History of Medicine in Tudor Times: an Historiographical Survey," The Historian, vol. 33 (1971), p. 374.

[8]For ex., Christobal Mendez, Book of Bodily Exercise (Seville, 1553), tr. Francisco Guerra (New Haven, Conn.: Elizabeth Licth, 1960). Another instance is discussed in L. Elaut, "La diététique versifiée de J. B. Fiera (1498), prodrome de la Renaissance médicale," Janus, vol LII (1965), pp. 289 - 96. More information which suggests that the practice of medicine was more rational on the continent during Tudor times than Thorndike would allow appears in E. Wickersheimer, "Les maladies épidemiques ou contagieuses et la Faculté de médecine de Paris, de 1399 à 1511," Bulletin de la Société française d' histoire de la médecine, vol. IX (1914), pp. 28 - 29. Wickersheimer indicates that when the Faculty of Medicine

extends it to Tudor England which Thorndike deals with only superficially. Klein feels justified in doing this because he believes that "England looked to Europe for medical ideas and leadership" during the sixteenth century.[9] Yet this argument also needs qualification. True, continental works were read in England and developments in that country often paralleled developments on the continent, as already noted. Nonetheless, it will be shown that most English doctors rejected the mysticism of the continent, particularly in its theoretical aspects.

Special reference should be made here to sources used for the following analysis as these sources have considerably influenced the choice of topic. The libraries at Simon Fraser University and the University of British Columbia house a wealth of primary documents related to Tudor medicine. Extensive use has been made of the exact and full-size facsimile editions of rare books published by da Capo Press of New York and Theatrum Orbis Terrarum of Amsterdam under the general heading of The English Experience. The facsimile editions are recent acquisitions to Simon Fraser University

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in Paris shunned public baths in 1500 it probably did so for fear that syphilis would be contracted by "la chaleur, la rarefaction de l' air, l' ouverture des pores de la peau, (et) les assemblées du peuple." The emphasis, then, appears to have been on factors from man's immediate environment which are more amenable to investigation than magical or supernatural explanations.

[9]Klein, "History of Medicine in Tudor Times, p. 373.

Library and to date have not been used much by the academic body. They are not restricted to medicine, of course, and should prove a valuable resource for many areas of study in the Tudor period and beyond since they encompass the years 1450 to 1640. In addition, use has been made of the large collection of rare books found in the microfilm collection at the University of British Columbia Main Library. All of them are listed in Pollard's and Redgrave's Short-Title Catalogue[10] and most of the medical books available are also listed in Russell's "A Check List of Medical Books published in English before 1600"[11] and Barlow's "Old English Herbals: 1525 - 1640."[12] Further use has been made of published extracts from Tudor books and documents like Dunhame's Complaint and Reform in England: 1436 - 1714.[13]

Although the specified time period for the present analysis is the sixteenth century, there has been some spilling over into the fifteenth and seventeenth centuries in the selection of primary source material. This has been partly because thought patterns are not clearly defined in chronological terms. English writings have been used as the

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[10] A Short-Title Catalogue of Books Printed in England, Scotland, Ireland and of English Books Printed Abroad: 1475 - 1640 (London: Bibliographical Society, 1963).

[11] "Check List," Bulletin of the History of Medicine vol. 21 (1947), pp. 922 - 57.

[12] "Herbals," Proceedings of the Royal Society of Medicine (1913 - 14), pp. 108 - 49.

[13] Complaint (New York: Octagon, 1968).

primary indication of English thought. However, since medical practitioners of the time also read a number of treatises published on the continent, additional references have been made to these works.

For the sake of flavour, all quotations from primary source materials have been cited with minimal changes. In general, the original spellings of words have been retained. Capitals, however, have been introduced at the beginning of sentences which lacked them and contractions have been expanded: for instance "thē" for then, "w̄" for with, "p̄" for per, "ye" for the, and "ō" for on. Occasionally parts of quotations have been deleted when their inclusion would have obscured the meaning of the whole for the modern reader. Sometimes, too, interpolations have been made in brackets to help clarify the meaning of quotations. In punctuation no changes have been made except for the deletion of periods in the middle of sentences. It has been impossible, of course, to reproduce quotations in the beautiful "gothic" or "black letter" type in which most Tudor medical treatises were printed. Yet an attempt has been made to explain all archaic or foreign words and phrases either in the quotations themselves or in footnotes.

CHAPTER I

SCIENCE AND SUPERSTITION DEFINED

The subject of this thesis has already been dealt with by a number of investigators. As yet, however, most studies have been weakened by the assumption that the scientific attitude involves those aspects of Tudor medicine in which the researcher himself happens to believe and that superstition is the converse. One such investigator, C. F. Smout of the University of Birmingham, rejects the following: witchcraft, astrology, the theory of the humours, and medicines made from earthworms, all of which he associates with superstition.[14] Another, B. J. Gordon, M. D., has no patience with uroscopy, relics, and amulets and therefore dismisses them as superstitious.[15] On the other hand, both Gordon and Smout are favorably disposed towards the use of ligatures to control hemorrhages in amputations.[16] Consequently, their writings suggest that sixteenth century doctors who used ligatures were scientific.

Our first objective, then, has been to arrive at an adequate understanding of science and superstition. Since these terms appear diametrically opposed, the task of distinguishing between them would seem a simple one. But it

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[14] The Story of the Progress of Medicine (Bristol: John Wright, 1964), p. 79.

[15] Medieval and Renaissance Medicine (New York: Philosophical Library, 1959), p. 759.

[16] Smout, p. 77; Gordon, p. 672.

is surprising how quickly our definitions land us in difficulties. One such difficulty arises from the subjective nature of superstition noted above. Because of its personal and irrational aspects, the phenomenon is easier to recognize in others than in ourselves. Another problem rises from the fact that areas of science and superstition have changed over the centuries so that what may be regarded as scientific in one age may be condemned as superstitious in another. Alchemy and astrology are classic illustrations of this. For several centuries they were regarded as sciences but now they are considered, at best, as pseudo-sciences by all but a few.[17] The problem of defining terms is further complicated because superstition and science turn out, surprisingly, to have some aspects in common. Both the scientist and the magician see the world as governed by laws, for instance, though their interpretation of these laws differs. Again, both believe that they must acknowledge these laws as they interpret them if their actions are to be effective. As will be seen later, the scientist, as well as the magician, uses his imagination, and is seldom, if ever, entirely free from his emotions. On the other hand, the magician, like the

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[17]This raises questions as to the relationship between science, pseudo-science, and superstition. For the purposes of this thesis, alchemy and astrology will not be considered merely as pseudo-science in the sense of being false and erroneous but will be viewed as superstitions because of their supernatural elements.

scientist, sometimes attempts to supply reasons (howsoever erroneous) for natural phenomena.

Furthermore, when we try to define superstition, some effort must be made to distinguish it from religion since there appear to be similarities between the two. To take one instance, both are associated with beliefs in supernatural forces, such as spirits, ghosts, dead ancestors, or deities. A clear understanding of the role of religion is all the more necessary because it played an influential part in Tudor medicine. Nevertheless, in spite of these and other difficulties, the terms "science" and "superstition" convey distinct and separate meanings. It is these which we wish to draw out and to clarify.

The word "science" comes from the Latin root, scientia, meaning knowledge, and may be defined further as the pursuit of knowledge about the real or natural world. This definition presumes, moreover, that the natural world behaves in a predictable fashion, that it has unchanging ways which man can discover through his rational faculty.

For the purposes of this analysis, however, we will be thinking of science in more restrictive terms, as that form of rational endeavour which men perform within the barriers of a paradigm. By paradigm, we refer not to the linguistic model but to the governing hypothesis accepted by a community of investigators at a given time and in a specific field. Examples might be Aristotle's analysis of motion or Newtonian mechanics. The paradigm gains acceptance, in part, because

its achievement is sufficiently unprecedented to attract the scientific community away from competing modes of scientific activity. Simultaneously, it is sufficiently open-ended to allow several kinds of problems for the scientific community to solve methodically. The "mopping up operations" of science may involve the verification of an accepted fact, thus demonstrating agreement between paradigm and nature. The paradigm may be partially, or even largely, in error, but this in itself does not undermine its importance. The important contribution of the paradigm is that it delineates an area within which a particular scientific community (in our case, Tudor doctors) can operate. Without this delineation, scientific movement is random, diffuse, and shallow, and no real progress can be made.

This is the definition presumed in the book, The Structure of Scientific Revolutions, by Dr. Thomas Kuhn of the University of California.[18] In his discussion of the paradigm, Kuhn is particularly interested in the appearance of a major anomaly to the current hypothesis. Minor anomalies, he notes, may be dealt with by ad hoc elaborations of the paradigm or may remain outstanding research problems. But a major anomaly produces great confusion until someone proposes a new paradigm which will encompass its unresolved features. The fight is then on between the old paradigm and the new. In the scientific revolution which follows, the new paradigm

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[18] Scientific Revolutions (Chicago: Univ. of Chicago Press, 1963).

overthrows the old and thereafter the cycle repeats itself. Two major paradigms, says Kuhn, cannot occupy the same field, though, on the other hand, the achievements of the old paradigm are never completely forgotten. Kuhn's analysis emphasizes the vitality, creative force, and conflicting pressure of scientific progress. But for present purposes, this is less important than the part played by the paradigm itself and its effects on scientific progress.

As suggested above, a second aspect of science, in the narrow, practical sense of the word, is the scientific method. As J. A. Thomson, former Regius Professor of Natural History in the University of Aberdeen, points out, the first step in the scientific study of a problem is to collect data. The investigator must exhibit at this point certain virtues: "Precision and exhaustiveness of observation, patience to go on collecting, impartiality to whatever is forthcoming, watchfulness against the deception of the senses, and humility to learn from previous mistakes" made by himself and other researchers. A second step is the accurate registration of the data into their most useful state. It may be, for instance, that the data are not fully useful until they have been further analyzed or reduced to simpler form, to a common denominator with sets of facts with which they have to be compared. Following this "comes the finding of a formula to fit all the facts, or more frequently, the new set of facts is shown to be in conformity with a

previously established law."[19]

A common misconception on the part of the layman is that the scientific method ends here. Thomson goes on, however, to emphasize that a contrasting but no less important aspect of the scientific method lies in the domain of imagination. He writes:

> In the discovery of a formula that fits, the investigator is often helped by a flash of insight. In other cases, one hypothesis after another may have to be made before a solution is found. And whether the formulation is researched imaginately or laboriously, whether it comes as a brilliant deduction from some previously established law or as a patient induction and deduction, it has to be tested, criticized and verified before it is allowed to rise to the rank of a theory. 20

The main point we wish to make here is that however methodical the scientific method may seem to be, it is never wholly cut and dried. Rather, the scientist, like the magician, also draws on the dimly comprehended reserves of his intuition and his imagination.

A debate has continued for many years, not only among scientists themselves but among laymen concerning the extent of science. Should science be restricted to purely intellectual study, or should it be extended to include the realm of practical activity? The question has particular relevance to medicine which includes both theoretical and

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[19]Thomson, "Science," in Encyclopaedia of Religion and Ethics, ed. James Hastings (New York: Charles Scribner's Sons, 1918), vol. XI, p. 567.

[20]Ibid., p. 568.

practical aspects. In assuming that medicine is a science we are, of course, taking the stand that science includes both theoretical and practical aspects.

Another contentious issue involves the attitude of the scientist to nature. Some scholars emphasize the need for humility, for they believe too much self assurance deters the scientist from the purely intellectual aim of unraveling the mysteries of nature. Others take a more aggressive approach. Viewing nature as man's adversary, they point out that man may use the theoretical findings of science to help himself in what is at best an unequal struggle to control nature. This second stand may seem to reflect the attitude of the magician who attempts to manipulate nature through his understanding of the laws of sympathy and antipathy. It is the contention of this thesis that an important difference exists between the scientist and the magician, however. The scientist seeks to understand nature on its own terms. The magician, on the other hand, strives for irrational mastery over nature which he interprets according to his own needs and emotions. In short, his quest is really for power rather than understanding.

In this thesis, then, science is seen as the rational attempt to interpret the natural world which, presumably, behaves in a regular and predictable fashion. Scientific endeavour takes place within the boundaries of the paradigm and is implemented by what is called the "scientific method," the collection of data involving careful measurement,

observation, and interpretation. Such acts must be performed with painstaking patience, and often repeated many times and supplemented by imagination. The stereotype which equates science with the calm analytical world of the laboratory is inadequate, for scientific progress also involves intuition, stress, and upheaval. Finally, for the purposes of this exposition, science is taken to involve both man's search for knowledge and his attempts to control his environment through the practical application of his insights concerning the laws of nature.

When we turn our attention from science to superstition, we move from the objective world to occult and supernatural realms. In this area, magical beliefs and practices often hold sway. These derive primarily from the centuries old principles of sympathy and antipathy. The principle of sympathy assumes a priori the existence of affinities between things which may be used to produce desired effects. For instance, it was generally believed hundreds of years ago that the stag's horn, consumed in powdered form, counteracted poison because it too was poisonous. On the other hand, the principle of antipathy assumes a priori the existence of antagonisms between things which may be used to produce desired effects. One such example would be the ancient belief that the flesh of elephants, when burnt, drove away serpents because of the antagonism between the two animals.

The principles of sympathy and antipathy originate, then, not in empirical reasoning but in associative thinking, and

ultimately in man's imagination. Yet it would be unfair to move immediately to the conclusion that reasoning based on the laws of sympathy and antipathy is necessarily superstitious if not downright erroneous. On the contrary, assuming the truth of the basic laws, many procedures can be supported rationally. While rationally supportable, others, however, may involve the bizarre and fantastical to an inordinate degree, or may not be subject to empirical investigation. One of the tests of the superstitious disposition is that the believer cleaves to esoteric or supernatural explanations when natural explanations have been shown efficacious.

Complicating matters still further is the fact that the original explanations which give meaning to magical symbolism tend to become forgotten with the passage of time. When people continue to employ superstitions without regard for their origins, their usages degenerate into stereotyped ritual.

Another useful distinction has been drawn between superstition and error by Horace and Eva English, two American psychologists. They write that "beliefs having no reference to the magical or the supernatural, even though scientifically unsupportable, are better called misbeliefs and errors or (when stubbornly held in the face of evidence) prejudice."[21] A well known instance of such prejudice is the belief in the

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[21] A Comprehensive Dictionary of Psychological and Psychoanalytical Terms (New York: David McKay, 1958), p. 536.

geocentric universe which was stubbornly adhered to by most sixteenth century intellectuals even though Copernicus furnished strong arguments for heliocentricity.

An important aspect of superstition is the atmosphere in which it thrives. In the following analysis, we have adopted the view that superstition flourishes when man confronts his world with a feeling of impotence. This impotence may be exacerbated by temporary crises, but it is always present to a certain degree because of the ultimate mystery of life. Dr. Hugo Magnus, a German scholar, emphasizes the second aspect in his book, Superstition in Medicine. Magnus notes that science can never give man complete and final answers regarding natural phenomena. Yet at the same time, man has a compelling need to reflect on the ultimate mystery of life and in some way bring it within his comprehension. Confronted with his impotence, and his need, man turns to superstition (and also to religion).[22]

On the other hand, Bronislaw Malinowski, an American anthropologist, sees superstition rising out of man's inadequacy in the face of day-to-day crises. In his work among the Trobrian islanders, Malinowski found primitives turning to magic when confronted by problems outside their normal situation, and for which they had no practical solution. In such situations, says Malinowski, the control which magic offers is delusive. Nevertheless, it mitigates fear and the

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[22]Magnus, Superstition in Medicine, tr. Julius L. Salinger (New York: Funk and Wagnalls, 1905), pp. 1 - 2.

sense of helplessness and gives the practitioner the impression that he is doing something positive towards the solution of the problem.[23]

Dr. George Steiner, deliverer of the 1974 CBC Massey Lectures, draws attention to the loss of confidence in our own time which he attributes to the ecological breakdown, inflation, the threat of a nuclear holocaust, and the loss of absolute values. Consequently, Steiner feels there has been a mushrooming of superstitions, as illustrated by the following curiosa: sales from astrological literature in western industrial societies today runs at twenty-five million dollars annually and practising astrologers in the United States now exceed by a factor of three to one the total number of physicists and chemists in American scientific bodies.[24]

Perhaps we may shed some final light on superstition by comparing it with its near relative, religion. We noted earlier that both concepts have close bonds with the supernatural. Superstition and religion are also alike in that they often supply mankind with explanations for personal misfortune, including disease and death. The concept of supernatural or divine punishment is not so much in evidence in the western world today. Yet anthropologists tell us that

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[23]Malinowski, "Magic, Science and Religion," in Magic, Science and Religion, and other Essays (1948; rpt. Garden City, New York: Doubleday, 1954), pp. 17 - 92.

[24]Steiner, Nostalgia for the Absolute, Lecture IV ("The Little Green Men"), broadcast over CBC AM Radio, 31 October, 1974.

it still exists in primitive societies and parish records suggest that it was very much in evidence in Tudor England. Consider, for example, the parish records of Cranbrook, Kent. Here we read that when the pestilence exploded in Cranbrook during 1597 - 98, the local curate attributed the outbreak to divine displeasure with the town's sins, particularly "that vice of drunkenness which did abound here."[25] The laity, too, believed in this kind of explanation, but might also attribute the pestilence to superstitions such as the evil conjunction of certain stars.

Despite the similarities between superstition and religion, essential differences remain. Whereas religion is viewed as an end in itself, superstition is seen merely as a means to an end. Superstition frequently turns around specific problems while religion always refers to "fundamental issues of human existence." Popular superstitions, at least, discharge only a limited number of functions, such as the protection against supernatural forces which are evil. But popular superstitions, unlike religion, never offer "a comprehensive view of the world, an explanation of human existence, or the promise of a future life."[26]

We are now in a position to draw attention to some of the

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[25]C. E. Woodruff, An Inventory of the Parish Registers and Other Records in the Diocese of Canterbury (Canterbury, 1922), pp. 59 - 60, cited in Keith Thomas, Religion and the Decline of Magic (New York: Charles Scribner's Sons, 1971), p. 86.

[26]Thomas, p. 637.

broad differences between science and superstition. Where science is concerned with the natural world and its laws, superstition frequently has recourse to the supernatural which is beyond empirical proof. Opposed to science's emphasis on reason and rationality, superstition appeals to the irrational and emotional side of man's nature. The scientist uses inductive and deductive methods in his quest for truth whereas the practitioner of superstition adheres to false premises and faulty logic. In contrast to the procedures commonly designated as the scientific method, superstition often comprises rituals which have become devoid of their original meaning. The scientific attitude predominates in those areas where man has confidence in his ability to interpret nature while superstition flourishes where man is most exposed to feelings of fear and of helplessness. Science attempts to to see things as they are; superstition views things as man would like them to be. Science works within a limited area amenable to reason and defined by the current paradigm; superstition caters to a wider realm - to man's need for emotional fulfillment, to the deep drives of the unconscious levels of his mind, to his desire for immortality, and his hunger for answers which science cannot provide. Ultimately these drives account for the prevalence of superstition in Tudor times as well as in our own.

CHAPTER II

THE ORTHODOX MEDICAL PROFESSION[27]- ETIOLOGY, PROGNOSIS, AND DIAGNOSIS

Recently Eric Maple, a writer of popular history, has dismissed medical explanations for disease[28] four centuries ago with the curt remark that witchcraft and demonology dominated them.[29] It is, of course, true that most Tudor doctors believed in witches and demons[30] who were supposed to exercise their malign powers in a variety of ways. Both might resort to maledictions, for instance, which in due course were supposed to cause disease. Demons also might "possess" their victim's body simply by entering it since they were considered incorporeal beings. This power was denied witches who were believed to have bodies of their own. Witches, on the other hand, might cause disease by piercing

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[27]In this analysis, the term "orthodox medical profession" has been used to describe licensed physicians, surgeons, and apothecaries. These three groups have also been referred to collectively as "doctors" to emphasize the contrast between their approach to medicine and that adopted by most unlicensed medical practitioners who are discussed in chapter four.

[28]The definition of the term "disease" underwent some changes during the period 1493 - 1623. In 1493, the term "disease" was defined as a "molestation;" in 1526, as an "ailment;" and in 1623, as an "absense of ease, uneasiness, inconvenience, annoyance, disturbance, or trouble." C. T. Onions, ed., The Oxford International Dictionary of the English Language (Toronto: Leland, 1958), p. 524. I have used the term "disease" as connotating all these meanings.

[29]The Dark World of Witches (London: Pan Pocket Books, 1965), p. 34. The continued appeal of Maple's work today is attested to by a recent re-issue of the original hardcover edition of 1962.

[30]The only known exception to this rule was a Dr. Browne (no relation to Sir Thomas Browne) of Norwich who categori-

a victim with emanations from their eyes. They could also make malicious charms out of the herbs rue and vervaine, or they could inflict evil on an intended victim by fashioning his image in wax and sticking it with pins. Aids like these were supposed to work by occult antipathies, the theoretical basis of which was outlined in chapter one.

The aforementioned beliefs were centuries old by Tudor times and they would find a favorable environment in the revival of Platonism which occurred in England during the late sixteenth and early seventeenth centuries. To do justice to this ancient philosophy would require a separate study in itself, however. Suffice it to say that neo-Platonism envisioned the universe as populated with demons and pulsating with magical forces which might be utilized by witches for evil deeds.[31] Nonetheless, my examination of Tudor medical manuscripts seems to indicate that neo-Platonism did not have an extensive following among doctors.

Contemporary religion furnishes another more likely explanation for the orthodox medical profession's continued belief in witches and demons since some doctors were also clergymen and almost all were devout Christians. Both

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cally denied the existence of witches in 1578. See Thomas, Religion and the Decline of Magic, pp. 579 - 80.

[31]A fuller discussion of neo-Platonism and its ties with belief in the black magic associated with witchcraft appears in Thomas' book, pp. 437 - 38. On neo-Platonism and demonology, the most satisfactory brief account is Magnus, Superstition in Medicine, pp. 101 ff.

Renaissance Catholicism and Protestantism, in their efforts to account for evil and misfortune in a universe they believed ruled by a beneficent and all-perfect deity, affirmed the reality of witches and demons. It must be recognized, however, that the powers of darkness were never thought to have complete freedom to work out their machinations for that would have denied God's omnipotence. Rather, witches and demons were imagined to operate only when God permitted them to do so in order to punish man for his sins.

It is my contention, however, that Maple has greatly exaggerated the hold of witchcraft and demonology on Tudor doctors. Extensive research into relevant documents has revealed no books based entirely on the witchcraft interpretation of disease. Further, only one study has been found devoted completely to the premise that the malevolent actions of demons are responsible for personal misfortune. The study carries the title Integrum Morborum Mysterium (The Whole Mystery of Disease), and was written in the early seventeenth century by Dr. Robert Fludd. Fludd, so far as I can discover, was the only physician of his time who was also an outright neo-Platonist.[32] In contrast, other medical books of the era written by Drs. John Jones and Philip Barrough make no mention at all of witches and demons.[33] Then there is Dr. Francis

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[32]Fludd's work being unattainable, my own acquaintance with it has come through reading Sona Rosa Burstein, "Demonology and Medicine in the Sixteenth and Seventeenth Centuries," Folklore (March, 1956), p. 22.

[33]Jones, The dyall of agues wherein may be seen the diversitie of them with their names (London, 1566); Barrough,

Herring's A Modest Defence of the Caveat given to the wearers of impoisoned Amulets which mentions the forces of evil only obliquely on the last page.[34] In all these publications diseases are in fact explained according to the humoral theory which will be returned to shortly. Here it is enough to say that Tudor doctors believed the humoral theory fell within the realm of natural etiological factors. In other words, the humoral theory operated as the scientific paradigm for doctors four centuries ago.

Other medical writings of the time are openly skeptical about the workings of evil spirits though their power is not denied in toto. For instance, in Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes, we read:

> If young babes through Feuers, with colde be shaken.
> Then . . . [the unlearned] saie an euill spirite, the childe haue taken.
> A bad Angell of the aire, an Elfe, or a witche:
> When in deede deare frende, thereby fewe soche. 35

It might be suspected here that Bullein is implying, ironically, that there are no witches or devils at all. Elsewhere in his book, however, Bullein does give some evidence of superstitious belief for he beseeches God to

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The Methode of Phisicke (London, 1596).

[34] Modest Defence (London, 1604), p. 36: "Thou hast no need of Amulets with whom the diuell doth concurre and cooperate."

[35] A Dialogue betwene Sorenes and Chyrurgi, fol. vii.

"deliuer us from: and comfort us with his holy spirite, against all soche euill spirites."[36] Moreover, Bullein does not deny that witches might "prouoke, bewitche, or cast men into madde blind fantasies, or fanc[i]es, called Loue" with charms made from the mandrake plant, though he prefers to think of love as "noisome beastly luste, and when . . . wrought by herbes, foolishnes."[37]

A medical work by Edward Jorden, a physician of London and later of Bath during the late sixteenth and early seventeenth centuries, expresses similar sentiments:

> I doe not deny that there may be both possessions by the Diuell, and obsessions and witchcraft, &c. . . . But such examples being verie rare now adayes, I would aduise men to be very circumspect in pronouncing of a possession. 38

Jorden's contemporary, Dr. John Cotta of Northampton, also was chary about repudiating the possibility of evil spirits as etiological factors, but added:

> the common amazed thoughts of vulgar people to be blasted by the stupiditie of euery idle feare, to gape after witchcraft, or to make nature a diuell or a bugbeare, must needs be base procliuitie and vnlearned lightness. . . . Those whom true learning and wisedome hath well instructed, know how to stay themselves, and to consist in a temperate mediocritie betweene both these. 39

This attitude is expressed once more in a book by Dr. John

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[36] A dialogue betwene Sorenes and Chyrurgi, fol. vii.

[37] The booke of Simples, fol. xliiii.

[38] A Briefe Discovrse of a Disease called the Suffocation of the Mother (1603; facsimile rpt. New York: da Capo, 1971), s. v. "The Epistle Dedicatorie." By obsessions, Jorden means the maledictions to which devils were believed to resort in order to trouble mankind.

Halle of Maidstone, Kent, who prefaces the story of a supposed case of witchcraft with the statement: "[it] seemeth to proue that there are certayne griefes, chaunsing sometime to mans body by enchauntment."[40]

We have seen, then, that though Tudor doctors believed in the powers of evil, they subjected these beliefs to skeptical scrutiny which is the hallmark of the scientific attitude. It is to be expected, therefore, that belief in the malign influence of witches and devils played a minor role in medical practice. In fact, most Tudor doctors resorted to superstition only when the circumstances surrounding a disease were bizarre or simply unaccountable within the limits of their past experience. Such an environment is, of course, most conducive to superstition, as noted in chapter one. For instance, when the young son of a certain John Adowne was afflicted with a strange crippling disease in 1496 or 1497 - the exact date is uncertain - the family doctors blamed a demon.[41] Another instance involved fourteen-year-old Mary Glover who fell into strange "fittes . . . so fearfull, that all that were about her, supposed that she would dye" in 1602. Mary's

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[39]Cotta, A short discoverie of the vnobserved dangers of seuerall sorts o ignorant and vnconsiderate Practisers of Physicke in England (1612; facsimile rpt. New York: da Capo, 1972), p. 56.

[40]A most excellent and learned woorke of chirgerie called Chirurgia Parva Lanfranci . . . with an historical expostula- also against the beastly abusers, both of Chyrurgerie and Phisicke in our tyme (London, 1565), sig. Ccc.iii.

doctors, Robert Sherdman and Thomas Moundefourd, at first diagnosed a natural cause for her illness but when three months of treatment failed to be effective, they changed their diagnosis to witchcraft.[42] A similar case involved fourteen-year-old Anne Gunter who fell victim to "hysterical passions and paralytical convulsions" in the summer of 1604. Her father, a gentleman of North Moreton, consulted the most eminent physicians of the region, Henry Bust, John Chennell, and Peter Williams, who at first suggested that Anne was suffering from "suffocation of the mother" (i.e. hysteria) or "falling sickness" (i.e. epilepsy). But Anne's illness was not amenable to treatment and in desperation it would appear her doctors changed their diagnosis to witchcraft.[43]

The forces of evil might also be invoked to explain bizarre deaths. For example, when the Earl of Derby died suddenly after a brief illness in 1596, his doctors explained away his death as the result of witchcraft. In this case, the fact that the Earl had cried out in his illness that his doctors laboured in vain to save him because he was bewitched

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[41] G. L. Kittredge, Witchcraft in Old and New England (1929; rpt. New York: Russell & Russell, 1956), p. 61.

[42] Richard Hunter and Ida Macalpine, eds., Three Hundred Years of Psychiatry: 1535 - 1860 (London: Oxford Univ. Press, 1963), pp. 68 - 75.

[43] C. Ewen, Witchcraft in the Star Chamber (n. pl., 1938), pp. 28 - 29. For a good illustration of the cautious credulity of continental medical men in invoking witchcraft and demonic machinations as explanations for disease, see George Rosen, Madness in Society (New York: Harper, 1968), p. 146.

added credence to the belief.[44] Moreover, when a Mrs. Cromwell "fell strangely sick [italics have been added] and so continued until her death which occurred in about a year and a quarter"[45] no doctor is known to have protested the opinion of her relatives that witchcraft was responsible for her demise. Once more, recourse to the supernatural appears to have met man's need to account for the inscrutable.

Far from dominating etiology as Maple contends, however, witchcraft and demonology played at best secondary roles in medicine four centuries ago. Rather than view disease in the context of the magical and the occult, most doctors chose to work within what was for them a scientific paradigm; the paradigm of humoral theory. The theory of the humours postulated that the fluid substances of man's body were four humours - blood, phlegm, melancholy (or black bile) and choler (or yellow bile). In health, the proportions of these humours were supposed to be in balance. In disease, it was assumed that the balance had become disturbed through an unnatural or abnormal condition in one or more of the humours. Dysentery and plague, for instance, were assumed to rise from unnatural blood. Struma, dropsy, palsy, and quotidians (fevers characterized by the occurrence of a paroxysm every

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[44] G. B. Harrison, ed., The Elizabethan Journals: 1591 - 1603 (Ann Arbor: Univ. of Michegan Press, 1955), Book II, p. 297..

[45] Ibid., Book I, p. 225.

day) were believed to come from unnatural phlegm. Diseases considered to be the result of an abnormal condition of melancholy included pleurisy, hardness of the spleen, and quartans (fevers characterized by the occurrence of a paroxysm every fourth day). Abnormal choler was thought to be the source of yellow jaundice and tertians (fevers characterized by the occurrence of a paroxysm every third day).

Factors held responsible for the abnormalities or disease causing conditions of the humours were categorized under the so-called "six unnaturals": inhalation of fetid air, excessive or ill-judged eating and drinking, carelessness regarding evacuation of body wastes, insufficient or improper exercise, perturbations of the mind, and immoderate sleeping.

All this theory was taken from the writings of classical medical authorities, especially Hippocrates and Galen, who were regarded as the fathers of medicine. The classics, of course, had been revered during the Middle Ages, but in the late fifteenth and sixteenth centuries emphasis on them increased to the point that a real change resulted. Historians have explained this change, in part, by the rediscovery of classical texts hitherto lost, such as some of Galen's more important writings. Also responsible for the new interest in antiquity was the sudden spread of the teaching of Greek in the last quarter of the fifteenth century. In England, this was partly caused by the presence of Greek scholars who had fled Constantinople after its fall to the Turks in 1453

and partly by the interest of important men like John Ankwyll. Ankwyll was headmaster of Magdalen College School at Oxford where many headmasters of the early Tudor period were trained.

Further impetus to the classical revival came from the development of printing. The first English printing press had been set up by William Caxton in 1476 and by the opening of the sixteenth century there were many more, such as those operated by Edward Whitechurch and William Middleton, all of which published renditions of classical medical works. Without the development of printing, the classical revival would have taken place, but it would not have been as rapid or as widespread as it turned out to be.

It must be stressed, however, that the classical revival did not amount to a servile dependence on the writings of Galen, Hippocrates, and other medical authorities from antiquity. As in the case of neo-Platonism, those aspects of the classical heritage which attempted to explain bodily misfortune through recourse to the magical, esoteric, and fantastical were given little weight. For example, I have found only one medical work which discusses the harpy and the griffin, two fabulous monsters the ancient world had believed would tear man apart if they caught him. Significant also is the fact that the work, which carries the title Hortus Sanitatis (The Garden of Health), was extremely unpopular among Tudor doctors, no doubt because of the attention it gives to irrational health hazards like the illustrations just

cited. The original Latin version of the Hortus Sanitatis appeared on the continent towards the end of the fifteenth century. Yet there was only one English edition which is referred to in no other English medical literature published in the sixteenth century.[46]

Another mythical monster discussed in the Hortus Sanitatis is the basilisk which the ancient world had thought to be possessed of so potent a poison it could inflict disease or death on man or beast simply with its glance.[47] One might expect the basilisk to have had more credibility in English medical circles four centuries ago since the monster is discussed also in the writings of Ambroise Paré and Conrad Gesner,[48] both continental medical men often cited in English medical literature of the time. The basilisk is even referred to briefly in the writings of Andreas Laurentius,[49] another European doctor renowned in Tudor England. Yet the interest of English medical men in the basilisk legend remained marginal, despite attempts by Gesner and

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[46]The 1954 facsimile edition of the English language Hortus Sanitatis published by the Bernard Quaritch Press of London has been consulted for this thesis. In the facsimile edition, the harpy is discussed on p. 103 and the griffin on p. 105.

[47]P. 88.

[48]Paré, The workes of that famous Chirurgion, Ambrose Parey, Translated out of the Latine and compared with the French by Thomas Johnson (London, 1634), pp. 792 - 93; Gesner, The History of Four-footed Beasts, tr. Edward Topsell (London, 1658), intro. Willy Ley (New York: da Capo, 1967), vol. II, pp. 677 - 80.

[49]Laurentius, A Discourse of the Preservation of the Sight; of melancholike Diseases; of Rheumes, and of Old Age,

Laurentius to make the legend more acceptable. Gesner claimed that animals resembling the basilisk had been seen in the forests of Saxony. For his part, Laurentius broke with tradition by explaining the malign effect of the basilisk's stare without recourse to the supernatural. He declared that "the Basilisk . . . [does] not infect vs by the bright beames which come from . . . [its eyes], but by a naturall substance, which is very subtile, that is to say by a vapour insensible breathing out of the whole bodie, which infecting the ayre, is by it transported to vs."

Nevertheless, the only reference to the basilisk in English medical literature of the sixteenth century appears in Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes. Moreover, the reference seems to have been included as a digression for it deals more specifically with the generation of the basilisk than with the monster's role in medicine. Bullein has written simply that "the horrible Serpente called the Cockatrise [another name for the basilisk] is bred in the Egge."[50] In addition, I have found no references to medical cases where any Tudor doctor, including Bullein, actually blamed the basilisk for a patient's misfortune. It would seem that the basilisk legend failed to have a significant impact on sixteenth century medicine, in England at any rate.

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tr. Richard Surphlet (London, 1599), intro. Sanford V. Larkey (Oxford: at the Univ. Press, 1938), p. 38 and pp. 43 - 44.

[50] The booke of Simples, fol. lxxxvi.

The tendency to curtail the role of the fantastical likewise eroded belief in the ancient superstition that the stare of the wolf caused disease. In fact, this belief, which was based on the principle of occult antipathy, appears to have been virtually suppressed. It receives no mention in most sixteenth century publications either by English doctors or by their continental colleagues. Furthermore, the few orthodox medical works which do refer to the stare of the wolf do so disparagingly. This is true even of Laurentius' Discourse of the Preservation of the Sight, one of the works where the basilisk legend is upheld, as noted above. Laurentius dismisses the stare of the wolf as an explanation for disease as "no beter worth then [sic] to bee derided."[51] In place of the superstition, he outlines generally accepted etiological factors. One reads, for instance, that "Glaucoma hapneth through the congelation of the naturall humors of the eye"[52] and that the cause of ox-eye is "either the error of the first forme and shape committed by nature, or else some accident whether flegmatike humor, or inflammation, or else some great fluxe of humours falling down vpon the same."[53]

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[51] Discourse, p. 44.

[52] Ibid., p. 55.

[53] Ibid., pp. 49 - 50. Possibly the etiological superstition related to the wolf was further undermined in England, at least, by the almost complete disappearance of the wolf by Henry VIII's reign. For the story of the drastic decline in England's wolf population during Tudor times, see Anthony Dent's "The Last of the Wolf," History Today, vol. 24 (1974), pp. 120 - 27.

Another superstition held by the ancients but given little credence by sixteenth century doctors was associated with the henbane, a poisonous plant of the nightshade family. According to classical theory, the henbane plant had so strong an antipathy for man that merely to sleep in its shadow caused disease and sometimes death. However, the superstition is outlined in only one orthodox medical work, the herbal of Dr. John Dodoens.[54] A more typical approach to the henbane plant and its role in medicine appears in Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes. Bullein confines his discussion to the kinds of henbane, their habitat, the poisonous nature of their seeds if consumed, and the use of the henbane in various plasters and poultices.[55]

Besides etiological superstitions related to the immediate environment of man, the classical world had acknowledged the influence of the heavenly bodies in the explanation of disease. Numerous references to the baneful influence of the stars and planets turn up, for instance, in the Corpus Hippocratun, the chief work of early Greek medicine supposed to have been written in the fifth century B. C.[56]

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[54] A Niewe Herball or Historie of Plantes, p. 398.

[55] The booke of Simples, fol. xxxiii.

[56] According to Magnus, Superstition in Medicine, p. 146. The frequent mention of astrological considerations in the Corpus Hippocratum has not been taken into consideration by Drs. F. G. Alexander and S. T. Selesnick who tend to place more stress on the contributions of the classical world to rational medicine, especially the humoral theory (The History of Psychiatry (1966; rpt. New York: Signet, 1968), pp. 49 - 77). Nor have Alexander and Selesnick taken into consideration the theory that Hippocrates, Galen, and other precursors of

The generally accepted cosmology of the Renaissance, a system largely derived from the classics, helped create a favorable environment for astrological etiology. According to this model, man was seen as a "microcosm," reflecting on a small scale everything that happened in the universe or "macrocosm." When there was order in the universe, with each star and planet occupying its proper place, man would be healthy. If a heavenly body deserted its place, however, man would mirror this chaos in the heavens by falling victim to disease. The alleged influence of the heavenly bodies is more easily understood when we reflect that in an age devoid of neon signs and electric lights the stars and planets must have seemed a great deal brighter and more potent than they do today.

It is not surprising, therefore, that references to astrological etiology in orthodox medical literature occur more often than references to most other etiological superstitions. Yet it would be a mistake to think that the belief in the occult power of the heavenly bodies was a major concern in accounting for individual misfortune. Seldom does an orthodox medical tract associate common bodily disorders with the stars or planets, though one of the few exceptions occurs in an exposition by no less a person than Walter Bailey,

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Renaissance medicine had considered the doctor without any knowledge of astrology to be no better than a butcher. The certitude of this belief was attested to by Maginus, an early seventeenth century Venetian physician as quoted by Robert Burton, The Anatomy of Melancholy (1621; rpt. London, 1859), p. 300.

Queen Elizabeth I's private physician in her later years. Bailey includes the following caveat: "care must be had that you sleepe not in a chamber, or any place in which the moon doth shine" because of occult lunar emanations detrimental to eyesight.[57]

More frequently, reputable medical works[58] confine the influence of the heavenly bodies to the origins of epidemic diseases where the scale of devastation seemed to require a special explanation. Even it this capacity, however, astrological etiology cannot be said to have ruled undisputedly. Consider, for example, Dr. John Caius' tome on the "sweat." This disease had exploded in epidemic proportions in England around 1485 and though extremely contagious was confined primarily to England's shores.[59] It continued with

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[57] A briefe treatise touching the preseruation of the eie sight (London, 1586), p. 16. Occult celestial forces might also be blamed for complications that arose during operations. Yet in such cases astrology never assumed a role of primary importance. In fact, I have found only one instance where difficulties ensuing during an operation were blamed on the influence of the heavenly bodies. See William Clowes, A Profitable and necessarie Booke of Obseruations . . . for curing of wounds made with Musket and Caliuer shot (1596; facsimile rpt. New York: da Capo, 1971), pp. 70 - 71. Keith Thomas points to what he feels is another example of this kind in his Religion and the Decline of Magic, p. 330. But an examination of the source Thomas cites indicates that his illustration is better suited for a discussion of medieval medicine since it is dated 1424 (C. H. Talbot and E. A. Hammond, The Medical Practitioners in Medieval England: A Biographical Register (London: Wellcome Historical Medical Library, 1965), p. 175).

[58] Viz. works by Tudor doctors or by continental professionals who were esteemed among their English colleagues.

[59] One of the few references I have found to the sweat on the continent appears in F. Bonnardot, ed., Registres des délibérations du bureau de la ville de Paris (Paris, 1883),

periodic outbreaks until 1578 when it abruptly disappeared. Caius allows for the possibility that a malign constellation might have initiated the sweat. He adds, however, that the disease might also have originated in the contamination of the air by phenomena from the immediate world, including earthquakes and carrion rotting above ground.[60]

In another medical study by Dr. Peter Lowe, the concession is made that syphilis, the most virulent new disease to plague Tudor England,[61] may have come from the "influence of the starres, and eclipses of the Sunne."[62] Yet Lowe expresses his preference for a theory of explanation free from celestial influences. The theory, first postulated by Spanish physicians, runs thus:

> syphilis was brought among the Christians after the natiuitie of our Lord, 1492, by a Spaniard called Christopherus Columbus, with many other Spanyards, accompanied with some women who came from the new found Illes occidentalls. For this sicknes is as common, or rather rifer amongst them, then any other disease with vs, and doth infect as contagious sicknesses doe among vs. So diuers Souldiers were infected, who after their return not only infected their own Country, but also diuers others. Anno 1493. 63

Significantly, Caius and Lowe go on to relate the internal bodily malfunction which is supposed to result in the

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vol. II, p. 59.

[60] A boke, or counseill against the disease commonly the sweate, or sweatyng sicknesse (London, 1552), fols. 13 - 15. Cf. Gilbert Skene, Ane Breve Descriptiovn of the Pest (1563; facsimile rpt. New York: da Capo, 1971), chap. 2: "The causis of Pest."

[61] Evidence to substantiate this claim comes from primary sources like Clowes' Booke of Obseruations. Clowes writes: "It is wonderfull to consider the huge multitude of such as bee infected [with syphilis] and that daily increase. . . .

sweat or syphilis to the humoral theory. In other words, both doctors were involved in paradigmatic research, one of the chief characteristics of the scientific approach. Caius, who incidently made one of the most succinct testimonials of his time to objective research - "as I noted, so I wrate"[64] -, observes with regard to the sweat:

> The second cause of this Englyse Ephemera . . . [is] thimpure spirites in bodies corrupt by repletion. Repletion I cal here abundance of humores euels & maliciouse, from long time by litle & litle gathered by euel diete. . . . To such spirites when the aire infectiue cometh consonant . . . the disease [is] engendred. 65

Later Caius elaborates on the kinds of evil humours he associates with the sweat, pointing out that individuals with a hot and moist complexion (i.e. individuals with a plethora of blood in their bodies) are more susceptible to the sweat than anyone else.[66] For his part, Lowe writes

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It hapneth uery seldom in the Hospitall of Saint Bartholomewes [London], whilest I staied there: amongst euery twentie so diseased that were taken into the said house . . . ten of them were infected with Lues Venerea [i.e. syphilis]" (pp. 149 - 50).

[62] Lowe, An Easie, certaine, and perfect method, to cure and preuent the Spanish sicknes (London, 1596), sig. B2.

[63] Ibid., sig. B.

[64] Counseill againste the sweate, fol. 2. Cf. Boorde, Breuiary of Helthe, fol. iii: "yf doctours of phisicke shulde at al tymes folow theyr bokes, they shulde do more harme then good."

[65] Counseill againste the sweate, fols. 15 - 16. The spirits referred to by Caius were thought to be a rationally acceptable part of every man's anatomy. According to theory, there were three spirits, each one being a "subtyle vapour of

simply that syphilis comes with the corruption of phlegm or melancholy.[67]

Most other professional medical men tried to relate their explanations for the new forms of disease to the humoral theory.[68] Yet the crudity of Renaissance research technique led to disagreement over the nature of the humour which, when vitiated, resulted in syphilis. In accordance with the classical tradition, proponents of the humoral theory believed that the spoiled or unnatural humour retained the same "qualities" as its natural counterpart. Unnatural blood, like natural blood, was thought to be hot and moist; unnatural choler, like natural choler, hot and dry; unnatural melancholy, like natural melancholy, cold and dry;

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the blood, whyche by the uertue of the hearte, gyueth power to the body, to doe all maner of wirkes and actions" (Christofer Langton, An introduction into Phisycke (ca. 1550; rpt. New York: da Capo, 1970), fol. xlvii). In other words, the spirits were considered as a kind of nervous system.

[66]Caius, Counseill againste the sweate, fol. 20.

[67]Lowe, Easie method, sig. B2.

[68]The "germ" theory of disease was hinted at by Jean Fernel, a French physician of the Renaissance when he maintained that an attack upon the humours by a "principe venimeux" (poisonous principle) caused syphilis (See his De Luis venereae Curatione perfectissima Liber (Paris, 1579), translated from Latin into French (Le meilleur Traitement du Mal venerien) by L. le Pileur (Paris, 1879), pp. 43 - 45). The germ theory of disease would not come into its own, however, until the invention of powerful microscopes in the eighteenth century provided incontrovertible proof of the existence of germs.

and unnatural phlegm, like natural phlegm, cold and moist. It seemed reasonable to assume, moreover, that the qualities of the unnatural humour responsible for syphilis would be exhibited in the pustules which accompanied the disease. But different doctors believed the pustules exhibited different qualities. As a consequence, almost any spoiled humour might be picked out as the malefactor. Some doctors maintained, for instance, that unnatural phlegm alone was responsible for syphilis,[69] while others held that unnatural blood was the real culprit.[70] Then there were professional medical men who argued that syphilis came from an unnatural condition of any of the four humours.[71]

There was more general consensus of opinion on the mode of contracting the disease. Reflecting on interviews with syphilitic patients, most Tudor doctors concluded that the main danger was sexual intercourse between healthy persons and those already infected with the disease.[72] Even a small

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[69]According to John Banister, "His Epilog to ye Booke Concerning Quicksilver," in Clowes, A Short and profitable Treatise touching the cure . . . of Morbus Gallicus (1579; facsimile rpt. New York: da Capo, 1972), n. pag.

[70]According to Nicolas Monardes, Ioyfvll Newes Out of the New-found Worlde (London, 1596), fol. 11.

[71]See Clowes, Morbus Gallicus, chap. 2.

[72]This mode of contagion did not break with prevailing scientific theory since copulation with a syphilitic sufferer could be regarded as improper exercise, one of the six unnaturals referred to earlier. On sexual intercourse as exercise, see, for example, Governal, In this tretyse that is cleped Gouernayle of helthe (1489; facsimile rpt. New York: da Capo, 1969), "The tpyses [sic] of exercyse."

group of "medical mystics," doctors for the most part from the continent, shared this view, though they disagreed with their contemporaries on everything else. Foremost among the medical mystics was Paracelsus, a Swiss physician who lived from 1493 to 1541. Paracelsus maintained that disease resulted not from an imbalance among humours - the very existence of which he questioned - but from an interaction in man's body between two kinds of spiritual substances, the "elements"[73] and the "principles."[74]

Paracelsus never attracted a large following among Tudor doctors. One English doctor who did accept Paracelsian theory was Thomas Moffet whose conversion took place while he was on travels through Italy and the Germanies in the late 1570's. Moffet's reasons for adopting the Paracelsian system are not entirely clear. All we know for certain is that in 1584 Moffet published a work in which he claimed to have experimented with and proven the existence of Paracelsus'

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[73]The classical world also had believed in the existence of elements, though for a number of reasons the ancient conception of the elements must not be confused with Paracelsus' theory. To begin with, the ancients thought of the elements as material rather than spiritual substances. Moreover, the ancients allowed their elements no role in etiology. Instead, the elements played a role in justifying the prescription of medicines. The use of the classical conception of elements in Tudor medicine is discussed in chapter three.

[74]Since Paracelsus himself is not the subject of this thesis, no more need be said about his etiological theory. The reader interested in a fuller discussion of Paracelsianism should consult A. G. Debus, The English Paracelsians (New York: Franklin Watts, 1965), esp. chap. one.

principles, as he (i.e. Moffet) interpreted them. Moffet also pleaded for the general acceptance of the principles as he defined them.[75]

Nonetheless, it must be stressed that most doctors did not share Moffet's enthusiasm. One explanation for the failure of Paracelsian theory to elicit widespread support may have been Paracelsus' personality for he was notoriously egotistical and arrogant. This is illustrated in an address he delivered to medical practitioners of his day:

> Let me tell you this: every little hair on my neck knows more than you and all your scribes, and my shoebuckles are more learned than your Galen and Avicenna, and my beard has more experience than all your high colleges. 76

Perhaps, too, the rejection of Paracelsian etiology was related to the circulation in England of the anti-Paracelsian works of Erastus, a Swiss theologian-physician.[77] Yet Erastus' influence must not be overrated because only two Tudor medical publications are known to refer to him - John Jones' The Arte . . . of preseruing Bodie and Soule in Healthe and George Baker's The composition or making of the moste excellent and pretious Oil called Oleum Magistrale.[78] The

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[75]Moffet, Theatrum Chemicum, cited in Debus, pp. 73 - 74.

[76]Paracelsus, Paragranum, cited in Debus, p. 16. Avicenna was an Arab physician of the Middle Ages who wrote commentaries on the medical works of ancient Greece and Rome.

[77]Erastus' criticisms of Paracelsian medicine are summarized on pp. 37 - 39 of Debus' book.

[78]Debus, English Paracelsians, p. 56.

rejection of Paracelsian etiology must be seen more as part of that larger practice of searching out rational explanations for disease.

Examples abound that medicine during the Tudor period was indeed characterized by a new mood of optimism based on the belief in the potentialities of human reason. Evidence of this new mood is found, for instance, in increasing efforts to discover the medicinal virtues of substances from the immediate world. Two such experimenters were " a learned Phisition of Colchester called master Duke . . . and an excellent apothecarie of the same towne called master Buckstone." They investigated the properties of the herb known as hartshorn.[79] Further evidence of the sanguinary belief in man's intelligence comes from a book by Dr. John Banister who lived in London:

> In fine, there is nothing so hie in the heavens above, nothing so low in the earth beneath . . . nor anything so hid in the secrets of nature, as that good will dare not enterprise, search, unclose or discover. 80

Then there is Dr. Philip Barrough's confident assertion that there "is nothing within this mortall circuite that God hath,

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[79]Gerard, Herball, p. 347. Other researchers cited by Gerard include Nicolaus Nicols, writer of a tome on agues and William Godowrus (or Goodorus), "Sergeant Chirurgion to the Queenes Maiestie" (pp. 147 and 170). For more on Godowrus, see R. R. James' "William Goodorus: Serjeant Surgeon," Lancet vol. 231 (1936), p. 1018. Cf. continental researchers mentioned in Wilfrid Blunt's Tuliponania (Harmondsworth, Middlesex, England: King Penguin, 1950), p. 10.

[80]Banister, The Historie of Man (London, 1578), sig. A2.

as it were kept to himselfe, and not made subject to the industrious capacitie of man."[81] Thomas Gale, another doctor who was also Master of the London Company of Barber-Surgeons in 1561, expressed his optimism metaphorically:

> Where all thynges that doe breath,
> Doe on th' earth ther lookes cast:
> God whan man he dyd make
> gaue him so greate a grace:
> On Sonne, Moone, and eke Sterrys,
> That he his eyes might fast:
> Also to veiu the skye.
> and that with vpright face. 82

In this mood of optimism, it is not difficult to understand that Tudor doctors would be unlikely to make extensive use of superstition.

The success professional medical men had in combatting the scourges of their day no doubt contributed to the confidence they had in human perspicacity.[83] But the references to the Christian deity in the aforementioned statements by Gale and Barrough suggest that an even more important factor in shaping the mood of sixteenth century medicine was contemporary religion. This may seem surprising. As already noted, both the Protestant and Catholic faiths affirmed the reality of witches and demons which theologians saw as agents of divine retribution for man's sins. Moreover, theologians never denied that God might work independently of the powers of darkness in his role as chastiser. In fact,

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[81]Barrough, Methode of Phisicke, sig. A4.

[82]Gale, Certaine Workes of Chirurgerie (1563; facsimile rpt. New York: da Capo, 1971), s. v. "Tho. Gale Chirurgian, to the Frindly readers Salutations in Christ Iesus, &c."

the tendency was to think of any disease, no matter what form it took, as a scourge sent by God to punish man for his turpitude. Such a viewpoint might seem more likely to generate abject humility before the Almighty than the strong feeling of pride in man's acumen which is so evident in sixteenth century medicine.

Nevertheless, contemporary religion, especially in its Protestant form, vehemently opposed many superstitious practices. Indeed, individuals who relied on the magical and the occult in medicine were more often than not denounced as witches or Satanic minions out to usurp the natural order as ordained by God. Even those who subscribed to astrological beliefs might be accused of impiety, though the astrologers themselves declared the power of God lay behind all astral emanations. The problem with astrology was that it might lead to veneration of the stars rather than of God. Philip Stubbes, a Puritan divine, elaborated on this theme when he asked:

> Who hearing that . . . the sun, the moon, the stars, the signs and planets, do give both good things and evil, blessing and cursing, good success and evil success, yea, life and death, at their pleasure . . . and that they rule, govern and dispose all things whatsoever, yea, both the bodie and souls of man . . . who, hearing this, . . . would not fall from God and worship the creatures that give such blessings unto Man? . . . Why should not planets and stars be adored and worshipped

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[83]For the measures employed to combat the more harmful diseases of the period as well as everyday afflictions, see chapter three.

as gods, if they could work these effects? 84

The Church of England, of course, never condoned worship of the stars and planets. At most, English Protestantism regarded astrology with uneasy approval and encouraged its members to exercise their rational faculty in seeking a solution to health problems, though human reason might always be aided by prayer to God. This emphasis on human initiative may have been a major force in moulding the optimistic mood of sixteenth century medicine.[85]

Furthermore, however pious they might be, Tudor doctors never let their belief in divine causation blind them to the evidence furnished by observable phenomena. Tudor doctors were clear that the realm of medicine was the real world. The impact of this view on medical theory is seen, for instance, in a syphilitic tract by William Clowes, one of Queen Elizabeth I's chief surgeons. Clowes writes in his opening pages that syphilis "is a notable testimonye of the iust wrath of God agaynst that filthy sinne [of lust]," but devotes most of his etiological section to mundane causes related to the humoral theory.[86]

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[84]Stubbes, Anatomy of Abuses, cited in Thomas, Religion and the Decline of Magic, p. 383.

[85]Readers wanting a detailed discussion of the probable impact of early Protestantism on the mental outlook of educated Englishmen should consult Thomas, pp. 278 - 79 et passim.

[86]Morbus Gallicus, s. v. "To the frendly Reader W. Clowes wisheth all happines" and "The manner of taking this sicknes, with the causes, and signes therof."

Just as residual elements of superstition survived in the etiology, so irrational aspects sometimes influenced the diagnoses and prognoses of Tudor doctors. The Hortus Sanitatis, a work we have already noted was never popular among professional medical men, speaks of the caladrius, a mythical bird supposed to be endowed with wonderful prognostic powers. The relevant part of the entry reads: "As soon as thys byrde seeth one that shal dye he turneth his hede about from ye seke body/ but yf he se that he shalle escape then this byrde turneth him toward this seke body."[87]

The caladrius superstition dated from the classical period at the latest,[88] as did the diagnosis of disease based on the positions of the heavenly bodies vis-à-vis the patient.[89] Undoubtedly, too, there were doctors who adhered to astrological diagnosis, related as it was to the doctrine of correspondences, discussed earlier in this chapter. Yet I have found no specific references to astrological diagnosis in orthodox medicine four centuries ago.[90]

It would appear that the role of astrology in diagnostics

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[87]Hortus Sanitatis, p. 91. Concerning the physical characteristics of the caladrius, the Hortus Sanitatis says: the "Caladryus . . . is . . . whyte of colour & hath no b[l]acke spottis upon him. His donge he leth the darkenes of the iyen."

[88]The Hortus Sanitatis cites Aristotle as its source for information on the caladrius.

[89]Magnus, Superstition in Medicine, p. 168.

[90]D. C. Allen cites John Chamber, an early seventeenth century preacher, as having said Henry VIII's physicians diagnosed disease astrologically (The Star-Crossed Renaissance (1941; rpt. New York: Octagon, 1966), p. 102). However, I also

must not be overly emphasized. Several of the medical books published in Tudor times which have been consulted for this thesis make no mention of astrology in discussing methods of diagnosis. A typical instance is Dr. John Banister's tome on ulcers where diagnosis is based entirely on observation of the patients.[91] Then there is the kind of book exemplified by Dr. Andrew Boorde's Breuiary of Helthe where the astute doctor is advised to know the principles of astronomy (i.e. astrology)[92] but where diagnosis is based on observation of the patients or of their urine. "An urine which is blewe or blewyshe," for example, is reported to "signifie eyther a flyxe or els an Hredropsie [dropsy] and payne and dyspleasure in the lyuer."[93] Such diagnostic

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have consulted Chamber's writing (A Treatise against Iudicial Astrologie) and have found no mention of the use of astrological diagnosis by Henry VIII's physicians, even on the page Allen claims to have got his information.

[91] A needefvull, new, and necessarie treatise of Chyrurgerie (1575; facsimile rpt. New York: da Capo, 1971), esp. sigs. Bii - Biii.

[92] Breuiary of Helthe, sig. Aii.

[93] Ibid., "The Extrauagantes," fol. xxvi. The emphasis on the patient's body chemistry as a diagnostic tool is suggested also in the writing of Thomas Wilson. Wilson, an English nobleman born in 1560, says: "A lerned and skilfull Phisician, when he desireth to understand perfectly the state and disposition of any body, the first thing he doeth, he will feel the pulse, howe it beates, and thereby he fyndeth the force of life which it holdeth and the vigor of the human which possesseth the same. Thereupon he demandeth of the patient divers questions, howe the body hath bene governed; what diet; what order; what exercise. That knowne, he beholdeth the outward appearance, he veiweth [sic] the face, the body, and each external member. Thirdly he cometh to the inward and unseen partes, and of them he devyneth by dreames, delights, cogitations, and sometimes by phantasyes which are not alwaise sure" The State of England, Anno Dom. 1600 (rpt.

methods remind us of modern diagnostic procedures and reflect the new confidence of the Tudor period in man's ability to interpret nature without recourse to the supernatural.

In methods of prognosis, too, we find a new spirit of inquiry, primitive though it may appear by modern standards. For instance, in Bullein's Bulwarke of defence againste all Sicknes, sornes, and woundes, these lines appear:

> Who so haue spattle stinke, when it is burned upon the coals, and also if his heare doe easely fall from his hedde, it is a signe of death. 94

And again:

> Who so euer haue their liuer repleted, or so filled full with water; and if the same water breake dounward to the bellie it is a present signe of death. 95

In conclusion, an examination of the etiological aspects of Tudor medicine reveals that bizarre and magical explanations and also the religious interpretation of disease had already lost much of their influence. In diagnostics and prognostics, too, there was a move towards rationality. This is seen in the attempt to determine man's physical condition through analysis of his body chemistry as revealed, for instance, in his spittle and urine. This trend is indeed amazing when we remember that the sixteenth century was the

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London: Camden Society, 1936), p. 1.

[94] Booke of Sicke Men, fol. lxxxi.

[95] Loc. cit.

age of the European witchcraze. Science, to be sure, was rudimentary by modern standards. Laboratories as we know them did not exist and technological refinements were usually lacking. But, as defined earlier in this analysis, science appears to have been on the ascent in orthodox medical circles as doctors became more confident of their ability to interpret nature through observation and deductive reasoning. Moreover, in discussing the reaction of Tudor doctors to the new scourges of their day, syphilis and the sweat, we see considerable evidence of paradigm based research. This, too, points to the rise of science.

CHAPTER III

THE ORTHODOX MEDICAL PROFESSION - THE TREATMENT AND PREVENTION OF DISEASE

In view of what has been said about orthodox medicine so far, one might expect science to have dominated the treatment and prevention of disease four centuries ago. But according to the English scholar, E. Maple, and his American colleagues, I. R. Edgar and P. French, this was not the case. French has argued recently that "astrological amulets and talismans were regularly used by practitioners of medicine"[96] while Edgar makes the confident assertion that "incantations, charms, talismans, prayers, [and] white magic . . . dominated medicine . . . in Shakespeare's England."[97] For his part, Maple states simply that medicine consisted largely of magical prescriptions.[98]

It is true, of course, that the bizarre and fanciful found their way into the treatment and prevention of disease. But it is the contention of this thesis that the above scholars have overstated their case. Far from dominating orthodox therapy and prophylaxis,[99] most superstitions played

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[96]French, John Dee: The World of an Elizabethan Magus (London: Routledge & Kegan Paul, 1972), p. 2. French's reference to "astrological amulets" and "talismans" is really redundant for a talisman is in fact a kind of amulet engraved with figures or characters to which are attributed the occult powers of the heavenly bodies. An ordinary amulet is any medicine or disease preventive device worn or carried about a person and whose virtues or manner of operation is occult.

[97]Edgar, Shakespeare, Medicine and Psychiatry (New York: Philosophical Library, 1970), p. 119.

[98]Maple, The Dark World of Witches, pp. 34 - 35.

at best secondary roles in these areas, just as they did in orthodox etiology, prognosis, and diagnosis. Consider, for example, prescriptions associated with amulets. My research into a wealth of relevant source material apparently not consulted by the above mentioned scholars[100] shows that most Tudor doctors avoided these medical aids. Indeed, a survey of dozens of orthodox medical publications of the time reveals not even one reference to the use of amulets. The typical mood is that of Barrough's Methode of Physicke or Banister's Treatise of Chyrurgerie. In these books, discussions of therapy and prophylaxis are based primarily on what were believed to be perfectly rational procedures which operated within the bounds of generally accepted medical theory. More will be said about these procedures later on.[101]

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[99]Therapy refers to the treatment of disease; prophylaxis to the prevention of disease.

[100]French's assertion is based primarily on his acquaintance with John Dee, a medical dabbler, and with Paracelsus who, as already noted, did not have much of a following in sixteenth century England. The use of magic and the occult by amateurs like Dee will be discussed more fully in chapter four. Edgar's assertion appears to have been based largely on his reading of Shakespeare. Maple's sources are not clear.

[101]Other orthodox medical works where not even a single reference to the use of amulets has been found include William Gale's Certaine Workes of Chirurgerie; Peter Lowe's Easie, certaine, and perfect method, to cure and preuent the Spanish sickines; John Caius' Boke against the sweate; John Jones' Dyal of agues; Gilbert Skene's Breve Description of the Pest; Langton's Introduction into phisycke; Governal's In this tretyse that is cleped Gouernayle of helthe; and Walter Bailey's Short Discourse of the three kinds of Peppers in common vse, and certaine special medicines made of the same, tending to the preseruation of health (1588; facsimile rpt. New York: da Capo, 1972). Another orthodox medical publication in which I have found no mention of the use of amulets is

Another medical work by Dr. Francis Herring dismisses on scientific grounds the prescription of plague amulets by some unidentified London empirics. Herring declares:

> No medicine ought to be used unless [one] is assured of the operation thereof by long experience and singular iudgement. I say long experience; for we must not trust on one, two, or three experiments: but very many are to be diligently considered and wisely gathered, that the right habit of experience may be attained, which may deserue the commendation of all men, because it is one of the instruments . . . by whose meanes and helpe Remedies are inuented. 102

As if to emphasize his point, Herring writes elsewhere in his book: "I desire to see these things often tried, with good success, to haue many testimonies of Physicians of great iudgement before I can belieue them."[103]

A publication by Dr. Edward Jorden is not as disparaging in tone as the above example, though the author refrains from giving amulets his full support because he feels that they are

> superstitious . . . toyes and gambols: which when they preuaile in the cure of diseases, it is not for any supernaturall vertue in them, . . . but by reason of the confident perswasion which melancholike and passionate people may haue in them: according to the saying of Auicen, that the confidence of the

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Andrew Boorde's Breuiary of Helthe. However, in Boorde's The fyrst boke of the Introduction of knowledge (London, 1542, sig. Bi), a tourist's guide to England and Europe, a brief reference is made to "cramp-rings." These amulets were supposed to alleviate the pain of rheumatism and muscular contractions because they had been touched by the king. The thaumaturgic powers of royalty will be examined further later in this chapter. Here I wish only to point out that Boorde's interest in cramp-rings appears to have been based on their value as tourist attractions rather than on their alleged medical attributes.

> patient in the meanes vsed is oftentimes more auailable to cure diseases than all other remedies whatsoeuer. 104

Neither are amulets enthusiastically endorsed in the herbals of Drs. William Turner, Rembrant Dodoens, and John Gerard. These works mention amulets very seldom and restrict their use almost always to medical cases involving what were believed to be witchcraft and the malefic deeds of demons.[105] Even in this limited capacity, however, amulets do not receive much attention. In fact, the efficacy of amulets against the forces of evil is guarded usually by such phrases as "some do say" or "it is believed by some." Why should it be otherwise? As pointed out in the last chapter, most Tudor doctors blamed witches and demons for diseases when the circumstances surrounding diseases were too extraordinary to be accounted for within the framework of the humoral theory. In such critical situations, an amulet might provide some measure of comfort for the patient and his friends and

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[102] Herring, Modest Defence of the Caveat given to the wearers of impoisoned Amulets, p. 3.

[103] Ibid., p. 5.

[104] Jorden, Briefe Discovrse of a Disease called the Suffocation of the Mother, pp. 24 - 25.

[105] Turner, The First and Seconde Partes of the Herbal (London, 1551), p. 36; Dodoens, Niewe Herball or Historie of Plantes, pp. 119 and 810; Gerard, Herball, pp. 440 and 848.

relatives, but could hardly be expected to work miracles.

How, then, can the fact be explained that the herbals of Gerard and Dodoens, at least, include some amulets for diseases explicable in terms of the humoral theory and amenable to what were believed to be purely rational forms of treatment? In answering this question, attention should be given to the natural tendency of man's body to rid itself of minor ailments with no outside help. None of the incidents cited by these authors of maladies "miraculously" cured by amulets have to do with virulent or terminal diseases. All, with the exception of bewitching and demonic machinations, are of the minor kind that generally desist with time, such as headaches[106] and agues.[107] Apparent success in healing these diseases and others like them undoubtedly helped sustain faith in the medicinal value of amulets. The psychological benefit accruing to a belief in amulets also must be taken into consideration, as Dr. Jorden pointed out. It is a well known fact that if a patient puts faith in a nostrum, no matter how negligible the pharmaceutical content, remarkable cures may be achieved.

Nevertheless, it must be emphasized that most doctors resorted to amulets only occasionally. Indeed, practitioners who showed an unusual interest in such medical aids might be

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[106]Dodoens, op. cit., pp. 416 and 460; Gerard, op. cit., p. 546.

[107]Gerard, op. cit., p. 778.

chastised verbally by their fellows.[108] They might even have to face imprisonment, loss of their right to practice, or both. Though I have found no instance where a doctor was subjected to such treatment for the specific use of amulets, certainly there were individuals who suffered disciplinary action because of a keen interest in superstitious practices. Such was the case, for example, with one Eliseus Bornel (or Bomelius), who received the degree of doctor of medicine from Cambridge, but later settled in London as a magical practitioner. In 1567, the Royal College of Physicians had Bornel imprisoned, citing his use of magic and his ignorance as just cause.[109] Bornel was released in 1570, but only after he had paid a bond and had promised never to practice medicine again.[110] The annals of the Royal College of Surgeons report what appears to have been another case of punitive action. The relevant part of an entry dated 26 November, 1605, reads: "This day Henry Goodwyn a Sorcerer was by the Masters for-

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[108] This is suggested by the strong stand taken against amulets by Dr. Herring.

[109] According to G. N. Clark, History of the Royal College of Physicians of London (Oxford: at the Univ. Press, 1964), vol. I, p. 116. On the other hand, S. Lee, writer of Bornel's biography in the Dictionary of National Biography from which most of the background information on Bornel has been taken, claims that the College had Bornel imprisoned for practising medicine without a license (D.N.B., vol. III, p. 334). This discrepancy may be explained in part by the fact that Lee overlooked the official records of the College's proceedings against irregular medical practitioners which Clark did examine.

[110] According to Lee, D.N.B., vol. III, p. 334. It is interesting to note that after leaving prison, Bornel went to Russia where he entered the service of the tsar. For more on

bidden to practize any more in . . . Surgery."[111]

Along with the use of amulets, there is some reason to believe that Tudor doctors also had recourse to image magic. This practice, with its primitive connotation of vengeance, dates from classical times at least, and is related to the magical law of sympathy discussed earlier. In the medical application of image magic, an effigy is made of the patient. Then the demon believed responsible for the patient's illness is persuaded or coerced by incantations to enter the effigy, leaving the patient well and whole.

It is clear, however, that image magic played an insignificant role in orthodox medicine. I have found only one doctor, a certain Richard Batte of Burton-on-Trent, Stafford, who claimed to have made use of the superstition in an effort to heal a "sharp" attack of dysentery. The adjective "sharp" suggests the critical nature of the case - one, no doubt, in which more generally accepted modes of therapy had proven ineffective. As already noted, in such situations the bizarre and fanciful are most likely to come to the fore. It is interesting to note, however, that Batte's brother-in-law had a different opinion. He believed that Batte resorted to image magic in order to destroy his mother-in-law and her family rather than heal a patient. The matter

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Bornel in Russia, see W. Barlow, A Briefe Discovery (1618; facsimile rpt. New York: da Capo, 1972), p. 5, besides the writings of Lee and Clark.

[111]Sidney Young, The Annals of the Barber-Surgeons of London (London, 1890), p. 327.

went to court, but the outcome of the trial has not been preserved.[112]

Seemingly of even less account than image magic were charms, incantations, and prayers, which, it will be remembered, were supposed to have played major roles in orthodox medicine, at least according to Edgar. I have found only contempt for users of such wonderful medical aids in reputable medical literature of the time. For instance, Dr. Peter Lowe in his Discourse of the Whole Art of Chirurgery decries them as "ignorant malicious people."[113] Of course, as Lowe points out, cunning folk and empirics often did resort to charms, incantations, and prayers. Consequently, there is some truth in Edgar's argument if applied to irregular medical practice.

Another superstitious cure which appears to have been of little account in orthodox medical circles was the "weapon salve," invented by Paracelsus, the Swiss physician and mystic to whom reference has already been made in chapter two. Paracelsus made his ointment from the unguents of human blood and fat, the moss which grew on a dead man's skull, and other disgusting ingredients, all mixed together and exposed to the

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[112] Kittredge, Witchcraft in Old and New England, p. 89.

[113] Discourse, quoted in Dunhame and Pargellis, eds., Complaint and Reform in England, pp. 405 - 06. As will be seen later in this chapter, however, orthodox medical practitioners did not completely outlaw God's role in therapy and prophylaxis even though they disapproved of healing by prayers.

sun for 365 days. He never explained his choice of ingredients or their lengthy incubation, though he did outline the procedure to be followed for cures with his weapon salve: when a person was wounded, the wound was to be washed daily with white wine and bandaged in a clean linen cloth. The weapon salve was to be applied to the weapon which had inflicted the wound. Then, according to Paracelsus, the wound would be healed sympathetically. Paracelsus was wrong, of course, in attributing any real healing power to his salve. Yet keeping the wound clean probably was in itself conducive to a quick recovery. Supposedly successful cures effected by the weapon salve may have enhanced the reputation of this ointment, at least in the view of Paracelsus and his followers.

Nonetheless, it must be emphasized that the majority of Tudor doctors rejected Paracelsus' cure without equivocation. William Clowes, the eminent London surgeon, summed up the feeling of most of his contemporaries when he described the prescription of the weapon salve as "the impudency of bolde blindness."[114] In its place, most Tudor doctors preferred to prescribe plasters and poultices, the efficacy of which they could document both on theoretical grounds and on the basis of practical results.

More widely accepted than the weapon salve but still of limited credibility were medicines related to mythical

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[114] A Right Frvtefvll and Approoved reatise, for the Cure of that Malady called in Latin Struma (1602; facsimile rpt. New York: da Capo, 1970), p. 16.

animals like the phoenix. From at least the first century A. D. when Pliny wrote his Natural History, doctors had believed unquestioningly that the ashes from this mythical bird's nest would serve as a panacea for disease.[115] In the sixteenth century, however, the new emphasis on man's ability to interpret nature without recourse to the supernatural robbed this superstition of most of its appeal. Tudor medical literature shows that doctors were disinterested in the miraculous powers of the phoenix nest and did not prescribe this cure for their patients. Consider, for example, Dr. William Turner's Avium praecipuarum . . . historia. Though Turner allows that the phoenix may exist, he says nothing about the power attributed to the ashes of the mythical bird's nest.[116]

Considerably more popular than the phoenix was the unicorn whose horn or "alicorn" is often mentioned in publications of the time. In Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes, for instance, these

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[115]Belief in the medicinal value of the ashes arose in part from what was said of their life giving power: according to legend, they were supposed to give birth to a new phoenix which would live for one thousand years. Lying even behind this belief was the magical law of sympathy.

[116]Avium (London, 1544), tr. and ed. Arthur Humble Evans (Cambridge: at the Univ. Press, 1903), p. 140. A similar attitude is adopted in the Hortus Sanitatis, p. 100. According to recent research, sixteenth century intellectuals may have confused the mythical phoenix with the real "bird of paradise," native only to New Guinea, because of the close physical resemblance. This confusion undoubtedly helps account for the survival of the phoenix legend in Tudor times. See Thomas P. Harrison, "Bird of Paradise: Phoenix Redivivus," Isis, vol. 51 (1960), pp. 173 - 80 for a fuller discussion of this topic.

lines appear: "The horne of the Unicorne is moste excellente, to be drunke againste uenime and poison, and . . . the yelowe iaunders [i.e. yellow jaundice]."[117] And in Skene's Breve Description of the Pest one reads that "the pulderis [i.e. powders] of Vnicorne [horn] . . . drunkin with conuenient decoctioun, ar maist [i.e. most] preseruative" against the plague.[118] Similar references appear in almost every other plague tract published in sixteenth century English.[119]

The medical value of alicorn was believed to operate through occult sympathy and like so many other superstitions discussed in this thesis the belief had a long history by Tudor times. Unlike several other superstitions, however, the alicorn theory cannot be traced back to ancient Greece and Rome. To be sure, the civilizations of ancient Greece and Rome had believed in the unicorn. Yet they had attributed no marvelous powers to the unicorn's horn. Pliny, for instance, wrote only that the unicorn lived in India, was impossible to kill, and had the head of a stag, the hooves of an elephant, the tail of a boar, and, of course, the horn, which he described as about three feet long.[120]

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[117] The Booke of Simples, fol. lxxxviii. See also the reference to alicorn in The Booke of the vse of sicke men and medicines, fol. lx.

[118] Chap. 7, par. 4.

[119] Cf. Bullein's A dialogue both pleasaunte and pietifull wherein is a godly regimente against the feuer pestilence, with a consolacion and comfort aguinst death (London, 1564), fol. 74; Kellwaye's A Defensative against the Plague (London, 1587), pp. 18 - 19; and Monardes' Ioyfvll Newes Out of the New-found Worlde, fols. 119 - 20.

Recently an attempt has been made to find the European origin for the alicorn's medicinal powers by studying the etymology of popular European words for unicorn - the Italian licorno, liocorno, leocorno, and leoncorno, and the French licorne and lincorne. All of them, it seems, are derivatives from Arabic for "the horn." The Arabs were confirmed believers in the marvelous powers of the alicorn, and probably carried this superstition into Europe when they invaded Spain in the thirteenth century A. D. since the first extant references to it in European literature date from this time.[121] The additional possibility must not be overlooked, however, that arabic notions about the alicorn were brought back to Europe by Crusaders who heard about them on their travels.[122]

Whatever the European history of the alicorn, its usage grew in popularity during Tudor times, in part because of the Portuguese. In the late fifteenth and early sixteenth centuries, these enterprising people established trade routes to India, the earliest known home of the superstitions surrounding the alicorn, stretching back even before those that came out of Arabia. From India, the Portuguese brought

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[120] Pliny, Natural History, tr. H. Rackham (London: William Heinemann, 1940), vol. III, p. 57.

[121] Odell Shepard, The Lore of the Unicorn (1931; rpt. New York: Barnes & Noble, 1967), pp. 140 - 41.

[122] Ibid., p. 292.

back the horn of the rhinoceros which was believed to be alicorn and which was indigenous to India and Africa.[123] From Portugal, the fame of the alicorn spread through continental Europe and England. The German traveller, Thomas Platter, records in his journal that an alicorn in Queen Elizabeth I's possession was seven spans long and that filings from it had been used in medicines.[124] Platter does not document the success of the medication, but a testimonial to the effectiveness of an alicorn prescription does appear in the memoires of Edward Webbe, which were published in the latter sixteenth century. Webbe, who was a sailor and adventurer, wrote that "some lewd gunners" once tried to poison him. But the attempt failed because his physician "gave him speedily Unicorne's horne to drinke."[125]

It is, of course, easy to hypothesize explanations for belief in the alicorn cures, among them, the possibility of an initially mistaken diagnosis. A doctor might, for instance, erroneously deduce that a stomach upset had been caused by poisoning. In such a situation, prescription of alicorn would appear to have real efficacy. It is also possible

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[123] Shepard, op. cit., pp. 140 - 41.

[124] Clare Williams, trans., Thomas Platter's Travels in England. 1599 (London: Jonathan Cape, 1937), pp. 204 - 05. Possibly it was from the same alicorn that Queen Elizabeth I's chief apothecary, Hugh Morgan, made the alicorn confection which one scholar claims was sold for eleven shillings. See L. G. Matthews, "Royal Apothecaries of the Tudor Period," Medical History, vol. 8 (1964), p. 178.

[125] The Rare & most wonderful thinges which Edwarde Webbe an Englishman hath seene & passed in his troublesome travailles (London, 1590), cited in Shepard, Unicorn, p. 122.

that the poison given to patients like Webbe was less potent than it was supposed to be or was simply some vile tasting herb. In such cases, prescription of alicorn would appear to be effective. Fraud may also account for some of the success stories. It is conceivable, for instance, that a doctor might realize his patient had contracted only a minor ailment. He might then magnify the illness, prescribing alicorn as a necessary curative. The patient's inevitable recovery would enhance the doctor's prestige as the administrator of the marvelous medicine.

Certainly some doctors were not above such deceitful practices. For example, in Edward VI's reign, Cesare Adelmari, a Venetian physician living in London, found one of his patients, a certain Baptist Boron, unconscious and believed already dead by his relatives. Adelmari,

> knowinge no danger of deathe at that tyme to be in the said Baptist Boron, said that he wold werke & shewe vnto them [i.e. the relatives] a miracle in raysinge & revivinge the bove-said Baptist Boron to Lyf agayne. And theruppon . . . did waken & bringe the said Baptist Boron oute of his vehemened & grete slepe of Lethargus to his brode wakinge knowledge & remembraunce.

This information came to light during a legal battle over some of Adelmari's possessions in the High Court of Admiralty.[126]

It should be added that instances in which the alicorn

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[126]Alwyn A. Ruddock, "The Earliest Records of the High Court of Admiralty (1515 - 1558)," Bulletin of the Institute of Historical Research, vol. 22 (1949), p. 145.

was used without success[127] did not necessarily detract from the popularity of the drug. A doctor might explain away failure by suggesting, for example, that the alicorn used in his prescription had been spurious or that the alicorn's efficacy had been hindered by witchcraft. Possibly, too, a doctor might resort to the excuse that the long ocean trip from India had adversely affected the alicorn's medicinal power. A widely held belief in Tudor times and even later was that exotic drugs could deteriorate during transportation.[128]

The extent to which Tudor doctors relied on the alicorn must not be given undue emphasis, however. Several medical books of the time, including Boorde's Breuiary of Helthe and Barrough's Methode of Physicke, make no mention of the drug in their discussion of cures for the diseases it was believed to heal.[129] Even those medical books which speak favourably about the alicorn tend to stress other more rational modes of therapy. Dr. Gilbert Skene's Breve Descriptiovn of the Pest, for instance, devotes only the few lines quoted before to the alicorn in a chapter of several pages on treatment for the plague.

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[127]When Sir Henry Unton, Queen Elizabeth I's ambassador to France, fell sick, prescription of a concoction whose ingredients included alicorn failed to save his life. This information comes from R. C. Strong's "Sir Henry Unton and his Portrait: an Elizabethan Memorial Picture and its History," Archaeologia, vol. 99 (1965), p. 65.

[128]See, for example, Christoforo Borri, Cochin-China Containing many admirable Rarities and Singularities of that Countrey (1633; facsimile rpt. New York: da Capo, 1970), sig. G2.

The one major exception to books which give at best scant attention to the alicorn is Monardes' Ioyfvll Newes Out of the New-found Worlde. Here Monardes claims to have performed several cures with a nostrum whose ingredients include alicorn, though he cites only one instance, involving a patient who had "a sore Feuer, with soundinges, Uomittes and other Accidents of an Agewe."[130] Probably this was one of those minor ailments which left the patient, having run its course, thus adding credence to Monardes' belief that the alicorn was efficacious. In addition, Monardes outlines a crude scientific experiment, even attempting to use control group technique, which he feels proves the medicinal worth of alicorn. The reader is told about a certain Venetian living in Seville, Spain, who

> tooke a threede and dyd annoynte it well with the Hearbe of the Crosseboweshooter and dyd passe it through the Crestes of two Chickens: unto one of them hee gaue a lyttle of the Unicornes horne stamped in a little common water, and to the other hee gaue nothing at all: this died within one quarter of an houre, the other that took the Unicornes horne, dured out two daies, but he woulde not eate, and at the end of them hee died as dry as a sticke.

"I doe beeleeue," Monardes adds,

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[129] Breuiary, fols. liiii, lxx, and cxxxv; Methode, pp. 192 - 98. Alicorn is not mentioned either in Present Remedies against the Plague . . . Written by a learned Physition, for the health of his Countrey (London, 1603), intro. W. P. Barrett (Oxford: at the Univ. Press, 1933), or in An aduise set downe . . . by the best learned in Physicke within this Realme . . . for the preseruation . . . from the plague before infection, as for the curing and ordering of them after they shalbe infected (London, 1592), which appears at the end of Barrett's work.

> if it had been giuen to a man that he had not dyed, bycause hee hath the wayes more broade, and therby hee may expell from him the poyson, and to hym might bee giuen other remedies, by meanes whereof with the Unicornes horne hee might haue beene deliuered. 131

One has the distinct impression that Monardes' belief in the medicinal powers of the alicorn, rather than a scientific interpretation of the evidence, accounted for the "success" of the experiment.

Whatever the reason, it must be emphasized that other doctors of the period were less enthusiastic than Monardes about the medicinal value of the alicorn. No doubt the failure of the superstition to achieve extensive use had ties with that larger movement to limit the role of magic and the occult in orthodox medicine.[132] Surprising as it may seem,

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[130] Monardes, Ioyfvll Newes, fol. 132.

[131] Ibid., fols. 119 - 20.

[132] One should also allow, however, for the possibility that the writings of Ambroise Paré, the French surgeon, helped hold in check the popularity of the drug. Paré's writings, which were read widely in England as on the continent in the late sixteenth century, condemned the alicorn mainly on the following grounds: Galen and Hippocrates had not mentioned its medicinal value, the gist of this argument being that whatever the ancients had not mentioned was not worthy of attention; and experiment had shown that the alicorn lacked any real medicinal value. Paré's writings on alicorn are discussed more fully in Shepard's Lore of the Unicorn, pp. 169 - 72. In addition, allowance must be made for the likelihood that Spanish privateering in the late sixteenth century helped brake the popularity of the alicorn by reducing its availability on the English market. Certainly R. S. Roberts, a modern medical historian, would argue that this was the case. See his "The Early History of the Import of Drugs into Britain," in F. N. L. Poynter, ed., The Evolution of Pharmacy in Britain (London: Pitman, 1965), pp. 165 - 85.

the same movement probably enhanced the medical value of what was believed to be the blood of dragons (sanguis draconis) which appears often in prescriptions of the time. For example, in Clowes' Profitable and Necessarie Booke of Obseruations, we read of a plaster invented by Dr. John Hall of Maidstone, Kent, which calls for half an ounce of dragon's blood.[133] Then there is Gale's Certaine Workes of Chirurgerie which contains thirteen more concoctions calling for dragon's blood.[134] Dragon's blood was, in fact, the red resin exuded from the fruits of certain trees indigenous to the East Indies. The association of this resin with dragon's blood stemmed ultimately from the resin's colour and the belief that dragons lived far away in the east. At some primitive date, the medicinal value of the drug may have been derived from either of the two main laws of magic discussed in chapter one. By the sixteenth century, however, the medicinal value of dragon's blood had come to be rationalized to fit accepted medical theory, as will be shown later on. In short, the prescription of dragon's blood cannot be dismissed simply as superstition.[135]

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[133] P. 206. Clowes, it should be added, gives only the medical symbol common in Tudor times for half an ounce. In interpreting this symbol and others in Clowes' writing I have relied on the symbol codes found in the following literature: Bullein, Bulwarke of defence againste all Sicknes Sornes, and woundes, The names of the Compoundes and the Apothicaries rules which appears at the end of The booke of Compoundes; Barrough, Methode of Phisicke, sig. A; and Kellwaye, A defensative against the Plague, The Author to the to the Reader, n. pag.

[134] The first Booke of the Enchiridion, fols. 4, 5, 18, 19, 20, 21, 23, 25, 26, 27, 52, and The Second Book of the Antidotarie, fols. 53 and 62.

A less exotic nostrum, but one which never achieved the same reputation as dragon's blood, was the bezoar stone. This drug was the concretion formed in the stomachs and intestines of ruminating animals, especially goats. According to an ancient superstition, it was supposed to be a specific against all poison and pestilence because of its antipathy to them. Yet the drug is not even mentioned in many Tudor medical publications which discuss plague medicine and antidotes for poison.[136] Of those few medical works which do acknowledge the bezoar stone, Monardes' Ioyfvll Newes Out of the New-found Worlde goes farther than most in making concessions to the drug, but only because of what Monardes mistakingly believed to be some successful cures effected by it.[137] The average Tudor medical work, if it mentions the bezoar stone at all, does so only in passing. In Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes, for example, only one reference to the bezoar

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[135]Dragon's blood constitutes a separate study in itself and cannot be dealt with further here. Questions which could form the basis of a more detailed investigation include the following: How did dragon's blood come to be associated with the tree resin? Was a hoax involved? If so, with whom did it originate and how was it perpetuated? Were exotic animals confused with dragons? If so, which ones?

[136]I refer the reader once more to Boorde's Breuiary of helthe as indicative of the kind of medical publication which makes no mention of magical medicines like the bezoar stone in its discussions of plague medicine and antidotes for poison.

[137]See, for example, the story of Dr. Lewes, a Spanish scholar supposed to have been saved from death by poisoning because he was prescribed the bezoar stone (fols. 129 - 30).

stone appears.[138] This reference is overshadowed by Bullein's discussion of medicines for plague and poison which do not belong in the realm of magic or the occult.[139]

Thus far in this chapter, our discussion has concentrated primarily on magical cures from the plant and animal kingdoms. Another category of cures consisted of the God-given thaumaturgic powers claimed by the English monarchy. Foremost among these powers was the claim to heal scrofula.[140] The royal cure for the disease was supposed to take place following attendance by the scrofulous patient at special courts presided over by the king where an elaborate ritual was observed to stress the affinity between the monarchy and God. To begin with, the king, seated on his throne, said a confiteor.[141] This was followed by an absolution given by a royal chaplain and the reading of two passages from the Bible: the verse from Saint Mark related to the miracles performed by the apostles[142] - the allusion is clear - and

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It is noteworthy that in Lewes' case and several others cited by Monardes, the bezoar stone was administered only when natural medicines failed to be effective. In such critical situations, as noted before, superstition is most likely to thrive.

[138] The booke of Simples, fol. lxxvii: "Byzabar . . . is precious & resisteth poison, & is put into precious Antidotaris which preuaileth against al foule ayre, pestilence & uenim . . . if it be hanged upon the left arme, . . . it wil preuaile against the foresaide euils, looke Matthiolus Lib.5 Diosco. cap. 73."

[139] See, for instance, The booke of Simples, fols. vi, xv, xlvi, and xlvii for more generally accepted plague medicines and fols. iii, xxvi, xlvi, and lii for more generally accepted antidotes against poison.

the first words of the Gospel of Saint John[143] which were standard in all forms of benediction. After the readings, another royal chaplain led each scrofulous victim past the monarch twice. On the first time past, the monarch touched the victim's sores with his bare hands, thus supposedly allowing his divine, but occult, power to enter them. The second time round, the monarch suspended a gold medallion, known as an "angel," from the victim's neck. The medallion was intended as a royal gift and when each scrofulous victim in the king's presence had received his medallion, the ceremony was concluded.

The royal touch had its beginning in the eleventh century when God is supposed to have told a woman stricken by scrofula to visit her king, Edward the Confessor, who would heal her. The woman did as she was instructed. Edward touched her sores and within a week they miraculously disappeared, or so the story goes. Edward, however, did not establish the custom of laying on of hands on a regular basis.

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[140]This is a tuberculous involvement of the lymphatic glands, especially those of the neck.

[141]This is a prayer in the form of a general confession.

[142]"They shall lay their hands on the sick and they shall recover."

[143]"In the beginning was the word, and the word was with God. The same was in the beginning with God. All things were made by him; and without him was not anything made that was made. In him was life; and the life was the light of men."

Henry II did this one hundred years later in an attempt to enhance royal prestige. Henry also initiated the ceremony to accompany the laying on of hands which his successors developed until it reached the form described above.

To my knowledge, no Tudor doctor ever denied the thaumaturgic powers claimed by the monarchy, perhaps because the then widespread belief in the divine nature of kingship made royal miracles possible.[144] Cures attributed to the royal touch may well have influenced orthodox medical opinion, generally, as they did in the case of Dr. William Clowes who wrote: "our Kings or Queenes haue and doe still Cure [scrofula]: the experimentall proofe thereof I haue often times seen effected."[145] As the British scholar, Keith Thomas, has pointed out, however, most contemporary claims for the success of the royal touch do not stand up under scrutiny. Since the majority of cures were supposed to take place after a period of time, it is reasonable to attribute them to the tendency of some kinds of tubercular infections to heal spontaniously. The same explanation would apply to

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[144]On the divinity of the monarchy, see John Cheke, The hurt of sedicion (1549; facsimile rpt. Menston, England: Scolar Press, 1971), esp. sig. Aiiii and Thomas Smith, De Republica anglorum (1583; facsimile rpt. Menston, England: Scolar Press, 1971), esp. p. 10.

[145]Treatise for the Artificiall Cure of that Malady called in Latin Struma, p. 9. For examples of cures attributed to the royal touch, see ibid., pp. 48 - 50 and Robert Laneham, A Letter: Whearin, part of the entertainment untoo the Queenz Maiesty, at Killing woorth Castl, in Warwik Sheer in this Sommerz Progress 1575 iz signified (1575; facsimile rpt. Menston, England: Scolar Press, 1968), p. 44.

superficial illnesses, like "sore eyes," which Thomas notes were thought to be within the province of monarchical healings.[146]

As in the case of the alicorn, unsuccessful cures presented no real problem for those who believed in the magical powers of the monarchy. They could be accounted for by suggesting that the patient was suffering from a particularly sharp attack of scrofula which made further treatment necessary. Nevertheless, there was a tendency in orthodox medical books to cut down on the importance of the laying on of hands. Only in Boorde's Breuiary of Helthe does emphasis seem to be placed on the cure. "For this matter [i.e. curing scrofula]," Boorde writes, "let euery man make frendes to the kynges maiestie for it doth pertaine to a kynge to helpe this infyrmyte." Yet even Boorde was not wholly enthusiastic about the royal touch. Almost in the same breath he complains about individuals who "iudge diuers tymes a fystile or a french pocke [i.e. a syphilitic sore] to be the kynges euyll," and consequently visit the king hoping for a cure. "In such matters," Boorde advises, "it behoueth nat a kynge to medle withal except it be thorow [i.e. through] and of his bountiful goodnes to geue his pytyful and gracious confell [i.e. counsel]."[147]

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[146] Religion and the Decline of Magic, p. 205.

[147] Breuiary of Helthe, fol. lxxxxvi. As already noted in footnote 7, Boorde also was not very enthusiastic about the royal amulets called cramp-rings. Nor, so far as appears, were other doctors of Boorde's time. True, in Marc Bloch's

Presumably Boorde hoped that the king would "counsel" the sufferers to visit doctors.

Aside from Boorde, however, Tudor doctors pay scant attention in their writings to the laying on of hands. This is true of Barrough, for instance, and even of Clowes in spite of his belief that he had seen evidence of the efficacy of the cure. Instead, the doctors emphasize "artificial" or natural cures.[148] In addition, Clowes, at least, seems to have felt that the royal touch should be prescribed only when ordinary therapeutic measures failed to produce results. One interesting statement professes to recommend divine cures but when shorn of its obsequious royalism in fact reserves such measures as a last resort for times of crisis. Clowes writes: "I doe steedfastly beleeue, that (for the certaine cure of this most miserable Malady) when all Artes and Sciences doe faile [italics have been added], her Highnesse [Queen Elizabeth I] is the only Daystarre, perrelesse and without comparison."[149]

Other doctors undermine belief in the royal touch still

Les rois thaumaturges (1925; rpt. Paris: Armand Colin, 1961, pp. 326 - 27), it is recorded that Dr. Thomas Linacre sent some cramp-rings to a continental colleague. But I have found no more references to English doctors and cramp-rings in relevant source materials.

[148] Barrough, Methode of Phisicke, pp. 255 - 65; Clowes, Treatise for the Artificiall Cure of that Malady called in Latin Struma, passim.

[149] Ibid., p. 50. Cf. Gale, Certaine Workes of Chirurgerie, An Institution of a Chirurgian, p. 22: "the kings and Queenes of England (by a diuyne and peculer gyfte of God) doe cure such as are molested wyth this infirmitie [i.e. scrofula], whan as no acte of Chirurgerye can take place."

further by completely ignoring this cure in their publications. Bullein, for example, concentrates solely on what were believed to be natural cures for scrofula in his Bulwarke of defence againste all Sicknes, Sornes, and woundes.[150]

As noted earlier in this thesis, Tudor doctors sometimes attributed disease to mysterious emanations from the heavenly bodies. The doctors might also try to take these emanations into account when choosing the most propitious time for the medical procedure known as phlebotomy (i.e. blood letting). Particularly interesting in this respect are the writings of William Clowes whose view on the royal touch, mentioned above, suggests a reluctance to rely on superstition. Yet in his Short and Profitable Treatise touching the cure of the disease called Morbus Gallicus and again in his Briefe and Necessary Treatise, Tovching the Cvre of the Disease now called Lves Venerea, liberal allowance is made for the role of celestial geography in blood letting. One reads, for instance, that the veins in the arm should not be opened when the moon is in the celestial house of Gemini, and that it is extremely dangerous to open any vein when the moon is full.[151]

Such beliefs were inherited from the past, like the

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[150] The booke of Simples, fols. viii and xlix.

[151] Short and Profitable Treatise, sigs. Ciii - Ciiii; Briefe and Necessary Treatise, pp. 159 - 60.

practice of bleeding itself. Furthermore, their survival in the Renaissance can be attributed in part to the current theory of the microcosm and the macrocosm, discussed in chapter two. Clowes, however, preferred to defend his use of astrology on personal observation and deductive reasoning, a procedure essential to scientific practice. In the Briefe and Necessary Treatise, Clowes claims to have observed many doctors who neglected to bleed patients at astrologically propitious moments and "after they did repent themselues, when it was too late."[152] Clowes' main flaw was that he had insufficient data from which to deduce a valid conclusion.

Another doctor who, like Clowes, was a firm believer in the practice of bleeding according to astrological considerations was Andrew Boorde. This is made clear by a passage in Boorde's Breuiary of Helthe: "I do aduertyse euery chieruigion, howe, whan, and what tyme they do let any man blode except that they do know the operacion of the signes [of the zodiac]."[153]

It may be that Thomas Heywood's biography of the early life of Elizabeth Tudor contains further evidence of astrological phlebotomy. We read that when Elizabeth fell ill in 1555, Queen Mary sent her "D. [octor] Owen and D. [octor]

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[152] P. 160.

[153] Fol. lxviii.

Wendye . . . [who] carefully administred vnto her, let her bloud, and in sixe dayes set her on foote againe."[154] There is at least a possibility that the good doctors consulted astral charts in choosing the best time to let Elizabeth's blood.

It is, however, symptomatic of the new emphasis on man's ability to interpret nature without recourse to the occult that doctors, generally, appear to have had little interest in astrological phlebotomy. This is suggested by the claim of a contemporary chiromancer that not one physician in a hundred knew the proper rules of astrological medicine.[155] Further, a number of medical texts consulted for this thesis give at best cursory attention to stellar or planetary considerations in bleeding. Typical of these texts is A Treatise of Melancholie by Timothy Bright, physician to St. Bartholomew's Hospital, London, in the late sixteenth century. The Treatise states that the opening of the veins in the "hammes" (i.e. calves) or ankles be done "at the full mone in the elder sort, and [at] the chaunge [of the moon] in

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[154]Heywood, England's Elizabeth: Her Life and Trovbles, During her Minoritie, from the cradle to the Crowne (1631; facsimile rpt. New York: da Capo, 1973), pp. 179 - 80.

[155]John Indagine, Briefe introductions . . . unto the Art of Chiromancy (London, 1575), sig. Jiiii. See also the reference to a letter by the magical practitioner, Bornel, in the Dictionary of National Biography, vol. III, p. 334. The reference suggests that Dr. Thomas Francis, President of the Royal College of Physicians in 1567, was ignorant in astrology.

the yonger."[156] But this brief reference comes only at the end of a lengthy discussion on phlebotomy where the emphasis is on more rational factors. Bright maintains, for instance, that "because melancholy blood is thicke and grosse, & therefore easily floweth not through the vaine to be opened," the patient should exercise moderately before he is let blood. The activity, Bright explains, will "stir up" the blood so that it will pass readily from the body.[157]

Still other medical works make no mention of astrological considerations in blood letting. In this group belong Barrough's Methode of Phisicke, which went through four editions in thirteen years, and Laurentius' Discourse of the Preseruation of the Sight.[158] We may add that both works are silent on many superstitions discussed elsewhere in this exposition and pass over others very quickly.

A somewhat more ambiguous example of this type of treatise is found in The noble experyence of the vertuous Handy warke of surgery, by Hieronymus von Braunschweig (or Brunschwig). Originally written in German, and later translated into English, the text itself makes no reference to the superstitious aspects of blood letting.[159] Curiously,

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[156] Melancholie (1586; facsimile rpt. New York: da Capo, 1969), p. 272.

[157] Ibid., p. 270.

[158] Methode, p. 196; Discourse, pp. 68, 108, 134, and 158.

[159] For instances where blood letting is mentioned, see chaps. xlv, liiii, lxviii, lixx, lxx, and lxxii of The noble experyence (1525; facsimile rpt. New York: da Capo, 1973).

however, the book does include a wood-cut relating man's anatomy to the signs of the zodiac.[160] Furthermore, the prologue addressed to surgeons reads: "ye ought nat only to be expert in surgery/ but also in astronomy."[161] In the sixteenth century astronomy was synonymous with astrology. How do we account for these anomalies? The prologue may be explained on the grounds that it was an addition written by the translator, not a doctor but a layman named Peter Treveris. The wood-cut, on the other hand, may simply have been interpolated into the English translation, as other wood-cuts, also not referred to in the text, clearly were.[162]

The important point to be made here, however, is that English doctors had little use for Braunschweig's surgical work which ceased publication after only one printing. Possibly the attention The noble experyence seemed to give astrology was a factor in accounting for its unpopularity. Another of Braunschweig's works, The vertuous boke of Distyllacyon of herbes, enjoyed at least two editions in the early sixteenth century.[163] Both editions contain wood-cuts

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[160] The noble experyence, sig. Cii.

[161] Ibid., sig. Aii.

[162] For ex., Treveris borrowed the cuts in chaps. xxxii, xlviii, and lix of The noble experyence from the prologue and colophon to the 1521 version of the Hortus Sanitatis by Laurence Andrewe.

[163] The editions appeared in 1527 and 1530. According to K. F. Russell, there was another edition in 1528 ("List of Medical Books published in English before 1600," p. 933).

from other books,[164] but there are no zodiacal men and no exhortations in the prologues to be "expert" in astronomy.

A further group of medical publications rejects outright the practice of associating astrology with phlebotomy. Typical of these works is Bullein's Bulwarke of defence againste all Sicknes, Sorres, and woundes, where the author claims:

> [if doctors] for the paines of the hedde, intende to open the veine [called the] Basilica . . . and through ignoraunce, doe open a greate sinewe [i.e. artery] harde by it, which is like a vaine: in which sinewe the spirites of life doe swiftly run up and doune, mixte with the blood of life. What haue . . . [the doctors] doen now? Mary, slaine one. And what is their refuge in soche a case? The signe [of the zodiac], saie thei, was in that place: and he would be nedes letten blood. 165

This denunciation is unfair to doctors like Clowes and Boorde who sincerely endorsed astrological phlebotomy, as noted previously. It is important rather as an indication of Bullein's total rejection of the practice. A similar stance appears to have been taken by one Dr. Peter Dacquet who wrote

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[164] Through the collation of sources, I have found that the cut showing a courtier on the last page of the 1527 edition of The vertuous boke is a Jan van Doesborgh cut first used by Laurence Andrewe in his rendition of the Hortus Sanitatis. Furthermore, the cut portraying Christ with Simon and Lazarus on the title page of the 1530 version of The vertuous boke is a Verard cut, initially employed by Richard Pynson in his Kalendar of Shepherds. For this information, I am indebted to H. J. Abrahams who wrote the introduction to the recent facsimile edition of the 1530 Vertuous boke (London: Johnson Reprint Corporation, 1971), though Abraham errs in recording that the Kalendar of Shepherds was printed in 1560. The work appeared in 1506.

[165] The booke of Compoundes, fol. lii.

that surgical operations should be performed without any reference to the stars and planets.[166]

In view of the predominantly negative attitude toward astrological phlebotomy among medical practitioners, a development at the Royal College of Physicians seems particularly puzzling. In 1601, the College elected as its president Dr. Richard Forster whose only publication eulogizes astrology as the handmaiden of medicine. But Forster's contribution to medical literature appeared twenty-six years before his election.[167] From what is known about orthodox medical attitudes toward the occult, generally, Forster probably had modified his view-point by 1601, and may even have changed it altogether. Certainly there were doctors whose views on astrology changed radically during their careers. One such example is the French physician, Jean Fernel, who devoted twelve years to the superstition before he abandoned it.[168]

The trend toward reason and rationality in professional medicine appears also to have had a detrimental effect on the ancient belief that the efficacy of drugs depended on occult planetary emanations. To be sure, not all doctors eschewed

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[166]Dacquet (or Dacquetus), Almanach novvm et perpetvvm (London, 1556). For pointing out Dr. Dacquet's work, which is less than twenty pages long and is written in sixteenth century Latin, I owe a debt of thanks to Keith Thomas (Religion and the Decline of Magic, p. 354).

[167]Forster's work carries the title Ephemerides Meteorographicae.

[168]W. B. Hamby, Ambroise Paré (St. Louis, Missouri: W. H. Green, 1967), p. 19.

the belief, as the long title of another Tudor medical work suggests: A litell treatyse of astronomy, very necessary for physycke and surgerye, declaryinge what herbes, and all kynde of medecynes are appropryate and under the influence of the planets. The work itself, by the little known astrologer-physician Anthony Ascham, is very rare nowadays and has not been consulted for this thesis.[169] Possibly, however, it contains medical information similar to that found in A theater of the planetary houres for all dayes of the yeare. This early seventeenth century book is attributed to George Simotta, described on the title-page as "a Grecian, of Constantinople, Spagirick Physition, to Monsieur, brother to his Majestie of France." In it one reads about caper roots, for instance, which Simotta feels have a mystical association with Mars and Jupiter thus making them particularly effective against scrofula.[170]

But it must be stressed that most doctors of the Tudor period tried to rationalize their prescriptions without reference to the heavenly bodies. Instead professional medical men emphasized the supposedly innate natural properties of drugs, conventionally described as "temperatures." To understand this rationalization, one must

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[169]The Short Title Catalogue entry for Ascham's book is 857a. The index to the University of British Columbia S. T. C. holdings lists Ascham's book as located on reel 521. However, the only work by Ascham on this reel is A Lytel treatyse of Astronomy declaryngе the leape yere, and what is the cause thereof. As the title suggests, this book contains no medical information.

[170]Theater (1631; facsimile rpt. New York: da Capo, 1971),

first realize that in the sixteenth century inanimate substances were believed by most people to be made of four material substances known as the elements. The elements could be considered analogous to the four humours in both their natural and unnatural states since each element had the same qualities as a specific humour. Earth like melancholy was cold and dry, air like blood was hot and moist, water like phlegm was cold and moist, and fire like choler was hot and dry. Inanimate substances, it was generally believed, were made of these four elements in varying ratios. The dominating element in each substance was supposed to produce the temperature of that substance. Within the context of medical theory, the unnatural humour responsible for a disease could be purged by the prescription of drugs whose temperatures were contrary to the qualities of the humour.

The paradigm of the elements and humours was used to justify the prescription of several drugs long since eliminated from orthodox materia medica. The lapis lazuli (lazule stone) and the lapis smaragdus (smaragd) are two such examples. Because the lapis lazuli was considered to be cold and moist, it was prescribed in pills for quartans and madness[171] which were thought to come from unnatural melancholy. The lapis smaragdus was considered efficacious

[171] Bullein, Bulwarke of defence againste all Sicknes, Sornes, and woundes, The booke of Simples, fol. lxxvii.

medicine against venom because the drug was thought to be cold and dry.[172] Venom, then, was believed to be hot and moist. Besides the lapis lazuli and the lapis smaragdus, there was gold and silver. Considered hot (and dry?),[173] gold, in powdered form, was prescribed in concoctions for consumption and dropsy[174] which were supposed to rise from an unnatural condition of phlegm. Silver, on the other hand, was believed to be cold and dry[175] and accordingly was prescribed in medicines for smallpox which was thought to come from an unnatural condition of blood.[176] Blood, it will be remembered, was considered hot and moist in both its natural and unnatural states.

Some animal products used by Tudor doctors strike us as bizarre but their use cannot rightly be attributed to superstition for this reason alone. Nor can their use be called superstitious simply because present day medicine has progressed to a point where their prescription is unacceptable. Like the lapis lazuli or the lapis smaragdus, the prescription of these animal products was justified according to generally accepted medical theory. In Bullein's Bulwarke

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[172] Banister, Treatise of Chyrurgerie, p. 105.

[173] Ibid., p. 96.

[174] Bullein, Bulwarke of defence againste all Sicknes, Sornes, and woundes, The booke of Compoundes, fol. vi.

[175] Banister, Treatise of Chyrurgerie, p. 96.

[176] Kellwaye, Defensative against the Plague . . . whereunto is annexed a short treatise of the small Poxe, The Treatise of the small Poxe, p. 48.

of defence againste all Sicknes, Sornes, and woundes, one finds several examples of this kind, including cow dung and young boy's urine. The latter drug was believed to have a hot and dry temperature. This made it a good specific for leprosy[177] which was supposed to rise from an unnatural condition of phlegm. Cow dung also was considered hot and dry. This temperature made it especially popular in the treatment of another phlegmatic complaint, scrofula.[178] In addition, there was dragon's blood, which already has been mentioned in passing. Attributed with constringent powers because of its hot (and dry?) temperature,[179] dragon's blood found its way into most poultices and plasters for wounds,[180] and ulcers.[181] Another exotic substance, Egyptian mummy, also was considered to be hot and dry[182] and consequently a good constrictive against ulcers.[183] Moreover, it might be drunk in special preparations with dragon's blood for dysentery.[184]

All the drugs mentioned in the last few paragraphs, like the humoral paradigm, dated from classical times at least,

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[177] The booke of Simples, fol. lxxxviii.

[178] Ibid., fol. lxxxix.

[179] Banister, Treatise of Chyrurgerie, p. 111.

[180] For page references to examples, see above, p. 68.

[181] See, for instance, Banister, Treatise of Chyrurgerie, pp. 34 and 58, and Banister, An antidotarie chyurgicall, p. 217.

[182] Banister, Treatise of Chyrurgerie, p. 120.

and their popularity in the Tudor age may be explained in part by the "classical revival," discussed in chapter two. Yet with the new confidence of the time in the potentialities of human reason, there was a strong inclination to relate the value of medicines to personal experience. In other words, Tudor doctors were involved in rudimentary paradigm articualtion which is an important part of science, as pointed out in chapter one. Evidence of this development appears in the introduction to the Antidotarie chyurgicall, where the author, Dr. John Banister, explains that all the medicines discussed in his book have been "tried."[185] By "tried," Banister meant, of course, proven by experience. Then there is the Bulwarke of defence againste all Sicknes, Sornes, and woundes, from which several of the aforementioned prescriptions have been taken. On the title page of this work, the author, Dr. William Bullein, exclaims that his medicines have been "gathered and practised [italics have been added] from the most worthie learned, bothe old and newe."

Bullein's reference to "bothe old and newe" also draws attention to the importance of innovation in therapeutics, as

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[183] See, for instance, Banister, Treatise of Chyrurgerie, p. 56.

[184] Bullein, Bulwarke of defence againste all Sicknes, Sornes, and woundes, The booke of Simples, fol. lxii.

[185] Sig. ✳i.

does Gale's assertion that "of good and approued medicines . . . I dyd take out of the best authours . . . addinge therto suche experte medicines as I had both inuented and proued."[186] This experimental strain was essentially a new development. Contrary to what one might think, the most zealous investigators of the Middle Ages had been the alchemists who had tried to discover the "philosopher's stone," which was envisioned as a magical panacea. As pointed out previously, however, the appearance of new diseases in Tudor times forced doctors to take a more active interest in research. In this way, for instance, the North American drugs, sarsaparilla, sassafras, and guaicum, came to be used extensively in the fight against syphilis.

Paracelsus, the Swiss mystic, popularized the use of another drug to combat syphilis. The drug was mercury, the old Arabian cure for leprosy. Yet when Tudor doctors adopted mercurial treatment as part of their practice, they did not adopt a more favorable attitude toward Paracelsian mysticism which postulated close bonds between the efficacy of mercury and the stars. Instead, the doctors tried to rationalize their use of mercury according to the generally accepted theory of the temperatures or elemental qualities.[187] The reader may thus be reminded of modern medical efforts to find

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[186] Certaine Workes of Chirurgerie, last page of "Tho. Gale Chirurgian, to the Frindly readers Salutations in Christ Iesus, &c," ll. 10 - 13.

[187] See, for example, Bullein, Bulwarke of defence againste all Sickines, Sornes, and woundes, The booke of Simples, fol. lxxiiii.

a scientific rationale to replace the mystical basis for the ancient Chinese treatment of acupuncture.

Tudor doctors believed their drugs gave them a natural means of control over the new diseases of their day, though in the case of mercury, this control was not without its limitations. Chiefly, some doctors argued that the side effects of mercury were as harmful as syphilis itself. Leading the critics was the French doctor, Jean Fernel, who took special offence at the prescription of mercurial pills. Fernel cited two case histories in his writing to show that the pills not only failed to cure syphilis; worse, they engendered in the already sick patient another disease similar to lead poisoning.[188] On the other hand, several English medical practitioners tried to defend the use of mercurial pills, emphasizing their own scientific investigations. The London doctor, Geroge Baker, for instance, was a strong advocate of mercury in the treatment of syphilis. In addition, he pointed out that he had fed mercury "to many dogs, and other liuing things, which neuer had harme by it."[189] Another doctor, John Banister, maintained:

> I knowe those that haue accustomably for xl. or lx. dayes, taken pilles containing Quicksilver [i.e. mercury] without hurt at all, nay rather with commoditye: yea others I have knowen to haue been perfectly healed of syphilis,

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[188] Mal venerien, pp. 101 - 115.

[189] "The nature and propertie of Quicksilver, by G. Baker one of hir Maiesties Chirurgions," in Clowes, Booke of Observations, p. 227.

onely by the meanes of these pilles. 190

The new drugs also contributed to the spirit of optimism among doctors in the potentialities of human reason, first mentioned in chapter two. One important result of this development, it has been suggested, was a loss in prestige for many superstitions. The alchemical quest for the philosopher's stone also lost prestige for the same reason. To be sure there were still some professional medical men involved in alchemical research, among them, George Turner, physician and friend of Simon Forman.[191] Conrad Gesner, the eminent Swiss doctor, even published a lengthy compendium of the results of alchemical research, both present and past, which George Baker translated into English late in the century.[192] Nevertheless, there were few alchemists, at least of the thorough-going kind, in professional medicine.

Another development which had close ties with the new confidence in human reason was the lively interest in investigating tobacco for medical uses justified by the current paradigm. Since tobacco was introduced into England in the latter Tudor period, the sheer novelty of the drug may have added to its appeal. Some results of medical research with

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[190] Banister, "An Epilog," in Clowes, Morbus Gallicus, sig. Giii.

[191] Forman has been the subject of a recent study by A. L. Rowse which is discussed in chapter four. For more on Turner, see Sidney Lee, Dictionary of National Biography, vol. 57, p. 337.

[192] The Newe Iewell of Health (1576; facsimile rpt. New York: da Capo, 1971).

the new import appear in Gerard's herbal where Gerard tells about a balsam he has invented for the treatment of wounds which has tobacco as its principal ingredient. In addition, Gerard lists several other medical powers attributed to the drug by his fellow doctors. When smoked in a pipe, for instance, tobacco is reported to be a palliative for "paines of the head, rheumes [and] aches in any part of the body." When consumed in liquid preparations, it is supposed to cure epilepsy and agues.[193]

Such prescriptions as these were condemned by sixteenth century laymen, but it should be noted that the scientific attitude appears to have played little importance in shaping the opposition. Indeed, in at least one book by the chronicler, William Harrison, tobacco and other exotic drugs are dismissed on what appear to be solely religious grounds. "God," Harrison exclaims, "hath bestowed sufficient commodities upon every country for her necessity." Accordingly, the medical value of foreign drugs should not be extolled above that of drugs indigenous to England.[194] Another lay publication by a certain Philaretes condemns tobacco in part because it wastes away blood and greatly increases melancholy. In other words, Philaretes has attempted to link his disapproval to contemporary scientific

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[193] Herball, pp. 237 - 38.

[194] The Description of England (London, 1587), ed. George Edelen (Ithaca, New York: Cornell Univ. Press, 1968), pp. 265 - 66.

theory. Ultimately, however, Philaretes falls back on an irrational argument based on the assumption that since tobacco was first tried by "the Diuells Priests," it should "not be vsed by vs Christians."[195] The "Diuells Priests," referred to here were the American Indians from whom the Europeans first learned about the drug.

In spite of these lay arguments against tobacco, the use of the drug itself cannot be dismissed as superstitious since Tudor doctors explained their prescriptions according to generally accepted paradigmatic theory. Typically, Gerard wrote that tobacco's medicinal powers derived from a hot and dry temperature.[196] Here we see again that professional medical men represented the cutting edge of the scientific attitude.

Nor can one rightly condemn as superstitious much of the hygienic advice Tudor doctors gave. They advocated, for example, that sweet scented herbs or handkerchiefs dipped in rosewater should be carried close to the nose when walking in vile smelling streets. This precaution was supposed to prevent fetid fumes from entering the body and vitiating the humours. In addition, the doctors suggested that individuals should hold their breath as long as

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[195] Work for Chimny-sweepers: or a warning for Tabacconists (London, 1601), ed. S. H. Atkins (Oxford: at the Univ. Press, 1936), sig. F4.

[196] Herball, p. 286.

possible and then exhale it quickly. This "exercise" was believed to expel superfluous humours from the body. Such centuries-old advice was not only supported by the humoral theory but also by the related theory of the six non-naturals outlined in chapter two. It must not be forgotten either that orthodox medical men believed their personal experience verified the advice.

As already noted, the sixteenth century was a time of expanding horizons in medicine. As part of this movement, several new hygienic measures were proposed. These also were interpreted within the context of the humoral paradigm and were susceptible to objective scrutiny. For instance, the doctors stated that the roar of cannons provided "exercise" for the ears because it would drive excess humours from them. Again, the doctors declared that sexual intercourse with syphilitic sufferers should be avoided as dangerous to one's health. The medical assertion that the spread of syphilis was furthered through copulation spurred public officials to close brothels in the city of London.

Further evidence of the doctors' reliance on the rational in hygiene was their tendency to explain the medicinal virtues of England's numerous baths primarily in natural terms. To be sure, no doctor denied the possibility that God in his benevolence had provided the baths with healing properties. That would have gone against the teachings of contemporary christianity and individual conscience. Still, the supernatural element received scant

attention. In the writing of Dr. Edward Jorden, for example, the mineral elements in the baths are viewed as basic to their healing qualities. On the other hand, God's beneficent influence is mentioned only twice. In one instance, the divinely curative nature of the baths is passed over quickly with the remark that they are a "great blessinge of God bestowed vpon vs."[197] In the other reference, Jorden comes dangerously close to denying the role of Providence. He writes of some biblical baths with healing properties "done by supernatural power" and adds:

> [these waters] and such like examples have bred in the mindes of men a reuerend and diuine opinion of all Bathes: especially where they saw such strange effects as they could not well reduce to natural causes. 198

Jorden's implication appears to be that whereas ignorant people will turn to God for explanations the doctors themselves are more likely to seek natural explanations.

Another indication of the tendency to de-emphasize the importance of the divine in medicine appears in the belief that therapy and prophylaxis might be effective irrespective of God's will. True, this is implied rather than stated. In Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes, for instance, one finds both Sornes

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[197] A Discovrse of Natvrall Bathes and Minerall Waters (1631; facsimile rpt. New York: da Capo, 1971), pp. 3 - 4. Although published in the seventeenth century, this work has been quoted since it is available in our library. Other medical works published in the sixteenth century which adopt a similar attitude, such as Dr. William Turner's Booke of the Bath of Bath and Dr. Walter Bailey's A Briefe Discourse of Certain Bathes, are not readily available.

and Chyrurgi acknowledging the importance of divine benevolence. Sornes says: "I beseeche God of his mercie, sende me healthe, and to many as are sore." Chyrurgi replies: "Thou has spoken wisely, for al thing is in vain where God doeth not put to his helping hande."[199] By far the largest part of Bullein's book, however, is devoted to natural forces which can affect the outcome of medical practices. Bullein discusses the failure of purgatives, for instance, on the grounds that the purgatives have been given in too small a dosage. A further explanation, Bullein says, may be that the unnatural humour did "extinguishe or quence the vertue of the laxative medicine." On the other hand, the purgatives may have worked all too well, their harshness causing the patient considerable discomfiture. Regarding such mishaps, Bullein comments:

> Consider the faulte is in the Phisicion, which hath giuen to sharpe a purgacion, or in the unwise paciente, which will not kepe the house with a cloase stoole, but sitteth in the winde abrode in the ayre, yarde, or garden, etc. Or els in the undiscrecion of the apothicarie puttyng in to much Skamony. 200

It will be noted that in all the above instances Bullein seems unconcerned about the role of divine will.[201]

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[198] Discovrse of Natvrall Bathes and Minerall Waters, pp. 3 - 4.

[199] A Dialogue betwene Sornes and Chyrurgi, fol. ix.

[200] The Booke of Sicke Men, fol. lxii. "Skamony," or scammony, is a herb which apothecaries added to purgatives to give them extra strength.

[201] At first glance, Dr. William Butts may seem to be an

This chapter has been devoted to the treatment and prevention of disease, a topic which, in the narrow sense, does not include beliefs and practices associated with normal childbirth. However, a brief reference to practices in the field of obstetrics may shed some further light on the nature of orthodox medicine in Tudor times.

Of course, child-delivery was traditionally a woman's occupation. Yet the involvement of doctors in this field is attested to by Dr. Thomas Raynalde's statement that "I my selfe . . . or other physicitions beyng yet a lyue at this day" have administered medicines to safeguard women in labour.[202] In addition, there is the story that Dr. George Owen delivered Queen Jane of the future Edward VI by a surgical operation.[203]

Significantly, this information also suggests that the emphasis in obstetrics was on practical methods of child-

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anomaly among his peers who played down the role of divine will in medicine. Butts is reported to have told Wolsey when the Cardinal was ill that through God's "grace and assistaunce we shall ease you of yor paynnes and red you clean from yor disease" (George Cavendish, The Life and Death of Cardinal Wolsey. A Manuscript dated 1554 - 58, ed. Richard S. Sylvester (London: Oxford Univ. Press, 1959), p. 121). Nevertheless, even Butts was not overly concerned with Providence in healing. This is indicated by the numerous prescriptions Butts devised, none of which are religious in tone. For examples, see Gale, Certaine Workes of Chirurgerie, The seconde booke of the Antidotarie, pp. 52 (Emplastrum nigrum Ioannis de Vigo & D. Buttes), 55 (Emplastrum desicatiuum. D. Butti militis & medici regii), 63 (Ceratum D. Gul. buttes Medici ad Iunctuarum dolores), and 71 (Cataplasma D. Gul. Buttees ad phlegmones).

[202] The byrth of mankynde (London, 1545), sig. Bv.

[203] Anthony A. Wood, Athenae Oxonienses (London, 1691 -

delivery rather than on the numinous and the occult. Corroborating evidence comes from the writing of James Guillemeau, the French surgeon who received favorable mention in English medical publications of the day.[204] Guillemeau's contribution to obstetrical literature is entitled Child-birth or the happy delivery of women, and devotes at best scant attention to superstitions. For instance, there is only one brief reference to the aetites, or eagle-stone.[205] According to a centuries old superstition, this amulet prevented abortion when worn about the neck and hastened delivery when transferred to the thighs. Another amulet passed over quickly in Guillemeau's work is the lapis orites, or loadstone.[206] Like the aetites, this amulet had been believed for centuries to prevent abortion and to hasten delivery when worn in the same places.

More typical obstetrical practices than the use of the aetites and the lapis orites appear in Guillemeau's discussion of "the manner of helping the deliuery, wherein the child comes with his belly and breast formost." Guillemeau writes:

> [the attendant medical official] shall slide

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92), ed. Philip Bliss (London, 1813), vol. I, p. 275. See C. H. Cooper, et. al., Athenae Cantabrigienses (1861; rpt. Farnborough, England: Gregg Press, 1967), vol. II, p. 76 for a further example of orthodox medical practitioners as obstetricians.

[204] Ex., Clowes, Booke of Observations, p. 105.

[205] Child-birth (1612; facsimile rpt. New York: da Capo, 1972), p. 90.

> vp his right hand [into the womb] (being first annointed) to obserue and feele what part of the childs body is neerest, which heeshall perceiue both by his feeling, and by wagging and stirring the child vp and downe: If the breast be next, he shall take with the said hand) the child by he shoulders and top of the Arme, bringing him thereby gently downeward, afterward lifting vp his hand, that the childs head may fall right towards the passage, putting in presently his left hand to receiue and set straight the childs head, which may be turned on the one side, and that being done, the deliuery shall be afterwards performed Naturally. 207

Elsewhere in Guillemeau's book appear obstetrical prescriptions made from dragon's blood,[208] a bizarre drug it is true, but one which was not necessarily administered on superstitious grounds. As already pointed out, dragon's blood could be rationalized to fit accepted scientific theory.

Furthermore, it should be recognized that Guillemeau has tried to relate the credibility of his techniques to research based on the collection of data over a long period of time and deductive reasoning. This is made clear by a statement in the introduction to the Child-birth or the happy delivery of women. "I haue gathered together all that I could possibly," Guillemeau explains, "out of that which I haue obserued this forty yeares and aboue [italics have been added], wherein I haue practised . . . obstetrics and seene it practised."[209] The frequent mention of dragon's

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[207] Child-birth, p. 90.

[208] Ibid., pp. 76, 78, 196, 203, 214, and 225.

[209] Ibid., sig. ¶¶.

blood in Guillemeau's work indicates that a refinement of his research procedure was needed, involving the controlled experiment of the laboratory. But this deficiency must not overshadow Guillemeau's attempts to deal with obstetrics on a rational basis. Like the late sixteenth and early seventeenth century doctor, Edward Jorden, Guillemeau might well have asserted: "if I do erre . . . I hope that I shall not be blamed, seeing I do it in the disquisition of the truth."[210]

To conclude, superstitious beliefs and practices cannot be said to dominate orthodox therapy, prophylaxis, and obstetrics but appear, rather, as random events, often prompted by conditions of fear and helplessness. In fact, doctors who paid considerable attention to superstitious practices in these areas could be chastized by their fellows and even ostracized from the medical profession. The extent to which Tudor doctors conformed to accepted medical practice is illustrated in orthodox medical literature which pays scant attention to superstitions. This was true even though various means existed for explaining the failures of superstitious cures, thereby preserving faith in them. True, a few professional medical men believed the supernatural and irrational could be supported by observation and deductive reasoning. Dr. William Clowes, for example,

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[210] A Discovrse of Natvrall Bathes and Minerall Waters, p. 67.

attached considerable importance to astrological phlebotomy on these grounds. In most medical books, however, the emphasis is on procedures, both old and new, which operate within the confines of the humoral paradigm and which doctors believed verifiable by personal experience. Further, the role of Providence in orthodox medicine was undermined. On the whole, doctors preferred to explain medical procedures irrespective of God's will. The role of the supernatural was less apt to engage belief in a time characterized by a new spirit of confidence in the potentialities of human reason.

CHAPTER IV

LAY MEDICINE

In preceeding chapters, little attention has been given to lay medical practitioners, and it is to these individuals and their medical techniques that we turn now. The largest of the groups under scrutiny, but also the most difficult to define, were the so-called "cunning folk." The difficulty arises partly because the adjective "cunning" had at least four different meanings in the sixteenth century: the pejorative terms "guileful" or "sly," as well as "learned," "possessing magical knowledge," and "skilful."[211]

Certainly not all of these terms have equal relevance to the cunning folk as medical practitioners.[212] Intensive research into primary sources has revealed only one case of deception where a cunning person was involved,[213] thus relegating the meaning of the adjective "cunning" as "guileful" or "sly" to a position of little importance.

Even less descriptive of the cunning folk was the adjective "learned," at least in the sense of formal education, since members of the group appear to have been persons of little if any schooling. A good example would be Rawe Clyes, described by the Cornish gentleman, Justice of

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[211] C. T. Onions, ed., Oxford English Dictionary (Oxford: at the Clarendon Press, 1933), vol. II, p. 1254.

[212] It should perhaps be noted that medical care was only one of several services offered by the cunning folk. For the non-medical aspects of the cunning folk's repertory, see, in general, Thomas, Religion and the Decline of Magic, chap. 8.

[213] See Reginald Scot, The Discouerie of Witchcraft (1584;

the Peace, and chronicler, Richard Carew, as a "blacksmith by his occupation, and furnished with no more learning than is suitable to such a calling, who yet hath ministered physicke for many years."[214]

Modern investigators generally agree that the term "cunning folk" does refer, in part, to magical practitioners. Yet even this definition is problematical. Since orthodox medicine was not completely free from magical beliefs and practices, the question arises: can doctors be categorized separately from cunning folk? Rather than tackling this question head-on, historians have resorted to intellectual obscurantism. Consider the lengthy list of Essex cunning folk, including many doctors, drawn up by Dr. Alan Macfarlane of Essex University. Macfarlane appends a symbol code to the list by means of which he reveals that he does not know whether most of the doctors really were cunning folk.[215] The reader can only be confused by such an ambiguous categorization.

The final meaning of the adjective "cunning" in the sixteenth century was "skilful." Skill does seem to have been an important aspect of medicine as practiced by the

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facsimile rpt. New York: da Capo, 1971), pp. 258 - 59.

[214] The Survey of Cornwall (London, 1602), intro. F. E. Halliday (London: Andrew Melrose, 1953), p. 131.

[215] Witchcraft in Tudor and Stuart England (London: Routledge & Kegan Paul, 1970), pp. 117 - 18.

cunning folk. This was suggested by the contemporary preacher, Richard Bernard, when he wrote that the cunning folk were "fantastically proud" and exulted in their "gift and power."[216]

The cunning folk, then, possessed what they believed to be skills. They also had a knowledge of magic though they had little formal education. In addition, the cunning folk may be distinguished from other medical practitioners of their time by means of certain socio-economic criteria: the cunning folk were men and women of humble birth who lived chiefly in rural areas and often practiced medicine partly to augment otherwise meagre incomes from vocations such as shoemaking or milling.. It should be added, however, that financial reward was not the driving aspiration among the cunning folk since even those who lived solely on the income from their clients kept fees low. For instance, one full-time cunning woman charged only threepence on one occasion and sixpence at another time.[217] It seems that the

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[216] A Guide to Grand-Iury Men (1627; rpt. London, 1629), p. 129.

[217] J. Raine, ed., Depositions and other Ecclesiastical Proceedings from the Courts of Durham extending from 1311 to the Reign of Queen Elizabeth I (London, 1845), p. 100. It is interesting to note that the fees charged by the cunning folk were considerably less than those of the doctors which amounted to several shillings at least. See, for example, the professional medical costs cited in H. D. Traill and J. S. Mann, eds., Social England (London: Cassell, 1901), vol. III, sect. I, p. 200; C. Read, ed., "Lord Burghley's Household Accounts," Economic History Review, 2nd ser., vol. IX (1956), pp. 343 - 48; and chap. III of the present work, n. 124. Does this imply that Tudor doctors were avaricious? Some of their contemporaries thought so. For instance, in 1542, Parliament attacked England's surgeons as individuals who mind "only

prestige which came from having special skills was a more important motivation than money.

A major problem in studying the techniques of the cunning folk is the absence of both holographs and publications by the group. One way to explain this gap is to point to the inadequate schooling of the cunning folk, many of whom probably could not write. Even if some rudely educated cunning folk kept personal records, there were a

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their own lucre and care nothing for the diseased" (34 & 35 Hen. VIII, in A. Luders, et. al., Statutes of the Realm (London: Dawsons of Pall Mall, 1963), vol. III, p. 906). In 1552, Bishop Latimer also lamented: "But now, at our time physic is a remedy prepared only for rich folks, not for the poor; for the poor is not able to wage the physician" (a sermon, cited in Traill and Mann, Social England, vol. III, sect. I, p. 200). It does appear that some professional medical men were primarily motivated by the desire to amass a personal fortune (For a likely ex., see F. D. Zeman, "The Amazing Career of Dr. Rodgrigo Lopez (? - 1594)," Bulletin of the History of Medicine, vol. XXXIX (1965), pp. 295 - 308). Yet I do not believe that the high cost of orthodox medical service generally resulted from avarice. Such incentive would have been incompatible with the Hippocratic Oath which was known and respected by many doctors (S. V. Larkey, "The Hippocratic Oath in Elizabethan England," Bulletin of the Institute of the History of Medicine, vol. VI (1936), pp. 201 - 11). Moreover, personal greed is not compatible with the strong humanitarian instincts revealed repeatedly in orthodox medical literature (exs., the writings of Clowes and Gale). It may be added, however, that respect for the Oath and a desire to relieve human suffering did not preclude acceptance of gifts. For instance, one grateful patient, the sixth Earl of Northumberland, gave his doctor, Stephen Thomson, an extensive lease of family property in York (A. G. Dickens, ed., Clifford Letters of the Sixteenth Century (London: Bernard Quaritch, 1962), p. 126). Lavish gifts like Northumberland's may well have contributed to the contemporary belief in the cupidity of professional medical men. But if most doctors were not concerned primarily with making personal fortunes, how can the high price of their care be explained? I believe part of the answer is to be found in the nature of many medicines they prescribed. As seen in the last chapter, orthodox medicines included gold, silver, and precious stones which hardly could have been

number of further deterrents to publishing. In the first place, since most printing presses of the time were located in urban centers, there was the ordeal involved in a trip to the city. Unless rich enough to afford retainers, the traveller was easy prey for highwaymen and unscrupulous innkeepers who often appear to have worked in collusion with the outlaws.[218] There was as yet no effective police force to deter malefactors. The problem of sixteenth century travel was exacerbated, moreover, by the fact that English roads often were little more than bogs. For instance, the highways within ten miles of Oxford were described by Frederic Gershow, tutor to the young German nobleman, Philip Julius, as "very bad and marshy."[219]

Another deterrent to publishing was economics. Printers of the time never put out less than a hundred copies of a work. For this service, the author, if as yet unknown, was

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passed on to the patient without a considerable charge unless the doctor was subsidized by one of England's few hospitals. Furthermore, the sixteenth century price revolution, about which more will be said later, undoubtedly pushed the market price doctors had to pay for less valuable drugs higher than normal. This too would mean higher bills for the consumer.

[218]On this point, see Harrison, Description of England, pp. 398 - 99.

[219]Gottfried von Bülow and Walter Powell, trans. and eds., "Diary of the Journey of Philip Julius, Duke of Stettin-Pomerania, through England in the Year 1602," Transactions of the Royal Historical Society, 2nd (new) ser., vol. 6 (1892), p. 41. For more data on the poor state of English roads, see Harrison, op. cit., p. 443 and Carew, op. cit., p. 15.

expected to pay a large part of the production costs. The same expectation applied to the bookseller in the case of a posthumous or pirated edition. As some recently discovered bills of the London printer, Richard Pynson, show, this meant an outlay of several pounds[220] which the cunning man or woman could ill afford.

The only clues to the clinical practices of cunning medicine come from chance references in two kinds of sources: the writings of contemporaries, like those mentioned at the beginning of this chapter, and legal records, since cunning folk sometimes became involved in litigation. The historian thus runs the risk of deducing too much from too little.

Nonetheless, assuming the accuracy of what little is known, cunning folk seem to have been infinitely more superstitious than doctors. At times, allusions to the cunning folk suggest that they attributed disease to vague and unspecified supernatural forces. Yet more often, the allusions reflect a reliance on witchcraft as an explanation for disease. For example, in a letter written by a certain Jo Stileman to Robert Cecil, Principal Secretary to Queen Elizabeth I, a cunning woman who lived near Waltham, Lincoln, is reported to have prescribed for a patient afflicted by witchcraft.[221] Furthermore, in the ecclesiastical court

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[220] H. R. Plomer, "The Lawsuits of Richard Pynson," The Library, 2nd ser., vol. 10 (1909), pp. 115 - 33.

[221] Historical Manuscripts Commission, Calendar of the Manuscripts of the Most Honorable the Marquis of Salisbury (London, 1892), vol. IV, p. 310.

records of the Archdeaconry of Essex, mention is made of a Witham cunning woman who attributed her client's lameness to the machinations of witches.[222] Then there is the Berkshire cunning man reported in a contemporary pamphlet to have diagnosed an ostler's sickness as the result of the same evil forces.[223] Besides these allusions to individual cunning folk, there is the confident assertion of the Puritan divine, George Gifford: "cunning men and women" claim their patients "be bewitched, that they bee haunted with fayries, and that there be thus many witches therabout in euerie town some."[224] It is small wonder, therefore, that cunning folk themselves were also known as "witches," "white witches," "sorcerers," and "wizards" by their contemporaries.

From what has been said already about the way an atmosphere of helplessness promotes superstition, one might be tempted to explain the cunning folk's use of witchcraft solely in terms of inadequate medical knowledge and practice. That the cunning folk were indeed ignorant of orthodox medicine seems indicated by the fact that research has revealed only one cunning man, a certain John Walsh of

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[222]The records are found in Macfarlane, Witchcraft in Tudor and Stuart England, appen. I, pp. 307 - 09.

[223]Anon., A Rehearsall both straung and true of the hainous and horrible acts committed by . . . Fower notorious witches (London, 1579), sig. Bii.

[224]A Dialogue Concerning Witches and Witchcrafts (London, 1593), intro. Beatrice White (Oxford: at the Univ. Press, 1931), sig. D3.

Netherbury, Dorset, who claimed an acquaintance with orthodox medical lore. Moreover, Walsh appears to have had difficulty substantiating his claim. When asked as to the temperatures[225] of various herbs by the Commissary to the Bishop of Exeter, Walsh could make no reply.[226]

Several factors may account for the ignorance of the cunning folk in the sphere of orthodox medical knowledge. There was, for instance, the mid-century rise in book-prices, part of the spiral inflation of the sixteenth century. Yet book-prices on the whole never rose so high as to be beyond the reach of anyone except the very poor.[227] A more basic explanation undoubtedly is the high rate of illiteracy among the cunning folk which resulted from inadequate schooling. Moreover, it is highly probable that the existence of many peculiarities of dialect worked against the oral dissemination of orthodox medical knowledge. That there was a language barrier is suggested by the following quotation from the diary of Lupold von Wedel, a German traveller of the later Tudor period: "there are fourteen provinces in England in which the English language is not spoken for there are six different languages in

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[225]For a discussion of temperatures, see above, chap. III, pp. 82 - 83.

[226]Anon., The Examination of John Walsh . . . vpon certayne interrogaries touchyng Wytchcrafte and Sorcerye (London, 1566), n. pag.

[227]See, for example, the list of figures in Francis R. Johnson, "Notes on English Book-prices, 1550 - 1640," The Library, 5th ser., vol. 5 (1950), pp. 83 - 112.

England."[228]

Of course, von Wedel probably could not speak English very well and therefore any dialectic differences would seem to him indicative of an entirely new language. Nonetheless, his stand must not be dismissed as nonsense. According to G. M. Trevelyan, educated Englishmen developed a common dialect during Tudor times thanks to the influence of the printing-press which popularized "literary English." On the other hand, illiterate members of society continued to speak a variety of dialects.[229]

Ignorance of orthodox medicine may have been a contributing factor in the dependence of the cunning folk on witchcraft as an interpretation of disease. It is well to remember, however, that other influences probably played a role as well. For example, there is some evidence that the reliance on witchcraft may have had psychological aspects. That is to say, in many cases the cunning folk appear merely to have confirmed the suspicions of those who visited them. In other words, the diagnoses of the cunning folk were not based on objective scientific analysis but apparently were shaped by emotional factors such as the

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[228]Gottfried von Bülow, trans. and ed., "Journey through England and Scotland made by Lupold von Wedel in the Years 1584 and 1585," Transactions of the Royal Historical Society, 2nd (new) ser., vol. 9 (1895), p. 229.

[229]Illustrated English Social History (1942; rpt. Harmondsworth, Middlesex, England: Penguin, 1964), vol. I, pp. 169 - 70.

desire to comply with the client's wishes.

An hypothesis advanced by Alan Macfarlane and Keith Thomas seems to offer at least oblique support to the psychological interpretation. They suggest that at times both doctors and cunning folk would be visited by a layman who suspected his disease was caused by witchcraft. Invariably, in such circumstances the layman also linked the witchcraft with a definite suspect, usually someone to whom the complainant owed a social obligation which he wished to avoid. Macfarlane and Thomas submit that most commonly the social obligation involved giving alms or loans to the poor.[230] A typical case would involve the individual who suffered pangs of conscience after turning away a poor neighbour who had requested a bowl of porridge. According to Macfarlane and Thomas, when the parsimonious neighbour or one of his loved ones fell ill, he would recall that he had rejected the alms seeker and would suspect him of employing witchcraft. Confronted with the suspicions of such a layman we can assume that the cunning folk would be all too ready to offer confirmation, partly because of their own superstitious beliefs. The cunning folk would then attempt to counter the black magic with white magic.

A sixteenth century pamphlet describes a specific instance which seems to confirm the psychological interpre-

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[230] Macfarlane, Witchcraft in Tudor and Stuart England, esp. pp. 192 - 98; Thomas, Religion and the Decline of Magic, esp. pp. 552 - 69.

tation. We read that in 1580, or thereabouts, an Ipswich sailor, believing his daughter to be bewitched, took a vial of her urine to a local doctor for confirmation of this suspicion. The doctor refused to give it, presumably because the composition of the girl's urine suggested a more rational interpretation based on the humoral theory. So, still "not satisfied to his minde," the sailor visited a local cunning man who agreed that the girl was bewitched.[231] Significantly, this story also explains why the clientele of the cunning folk included, in addition to the poor, middle class Englishmen who could well afford professional medical care.

However fascinating such theorizing may be, it does not solve the problem posed by medical cases in which the cunning folk appear to have encouraged witchcraft suspicions where none had been held before.[232] Further complications arise when we realize that even cunning folk known to have confirmed the suspicions of those who visited them were

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[231] W. W., A True and Just Recorde of the Information, Examination and Confession of all the Witches, taken at S. Oses in the countie of Essex (London, 1582), sig. E.

[232] For exs., Ewen, Witchcraft and Demonianism (London: Heath Cranton, 1933), pp. 147 and 163. Also, Anon., A Rehearsall both straung and true, sig. Bi. Though the latter source is mentioned in Witchcraft and Demonianism, Ewen has in this case underplayed the importance of the cunning person in initiating the witchcraft suspicion. For more misuse of historical material, cf. Kittredge's description of one W. Awder (Witchcraft in Old and New England, p. 88) with that found in the source Kittredge cites (H. M. C., Calendar of the Manuscripts of the Most Honorable the Marquis of Salisbury, vol. III, p. 106). In the Calendar, Awder is described as "taking upon himself divers personages: as sometimes of a schoolmaster, sometimes of a reading minister, and sometimes of a physician or chirugeion." In Kittredge, the distinction between fact and fancy is completely dis-

expected to provide some rationale for their action. In both situations, it will be argued, the key factor in understanding the cunning person's diagnosis of malevolent magic was data supplied by certain tests.

Further, the word "tests" may be seized upon to indicate that the cunning folk were more scientific than has previously been allowed. Yet such a contention would not reveal the true story. As the following illustrations show, the tests employed by the cunning folk involved none of the critical evaluation of evidence which is so vital a part of the scientific method. The patient's inability to recite prayers - undoubtedly a common characteristic among the lower classes who, according to recent research, appear to have had an appalling ignorance in religious matters[233] - was considered one sign of bewitchment.[234] Another involved first having the sick party sleep overnight in old clothes. These were burnt the next day and if they turned black - as combustible materials always do when lit - witchcraft was interpreted as the cause of illness.[235] In addition, it is recorded in the parish records of the diocese of York that when Cuthbert Williamson, a local cunning man, was "asked how

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carded. Awder has now become "schoolmaster, minister, and physician."

[233]Thomas, Religion and the Decline of Magic, pp. 159 - 64.

[234]Bernard, Guide to Grand-Iury Men, p. 135.

[235]Gifford, Dialogue, sigs. B1 and E3.

he knoweth when one is forspoken [i.e. bewitched] he saith that so sone as his help is craved in that case his eies will furthwith run with water."[236] Here no one considered the possibilities that some natural irritant such as dust or pollen or perhaps nervous tension could produce the same effect.

Similar "tests" to confirm client suspicions as to the specific witch responsible for misfortune or to identify the culprit if clients had not considered witchcraft before consultation included the so-called divination by "sieve and shears." A sieve would be hung beside a pair of shears. Then, if the client had a suspect in mind, the cunning person would say the suspect's name and any movement of the sieve would be interpreted as incontrovertible proof of guilt. In such cases, the questions were never posed, "How do we know that the string by which the sieve was suspended had not been twisted inadvertently and in unwinding produced the movement?" or "Could not a gust of wind have had the same effect?" If the client had no particular suspect in mind, but the cunning person suspected his problem was caused by witchcraft, the procedure was as follows: the cunning person would pronounce the names of individuals he suspected to be witches solely on the basis of gossip or prior consultations (note the further departure from rationality).

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[236] J. S. Purvis, ed., Tudor Parish Documents of the Diocese of York (Cambridge: at the Univ. Press, 1948), pp. 199 - 200.

Any irregular movement of the sieve on mention of a particular suspect's name was considered enough to supply the culprit's identity. At times, too, torture was used to locate the malefactor. In 1596, for instance, a cunning man of Stapenhill, Burton-upon-Trent, had the feet of a suspect roasted until a confession was made.[237]

It is beyond the scope of this analysis to trace the histories of the various practices described in the last few paragraphs. Possibly, however, all were very old by Tudor times. Certainly this was true of other techniques employed by the cunning folk. The prescription of anti-witchcraft herbs - vervain and St. John's wort, for example - dated from the Middle Ages, at least, as did attempts to break a witch's power by scratching her face.[238] The same could be said for the use of charms against almost every other ailment.[239] Further techniques can be traced back to even earlier times. A cure for headache by tying the halter "wherewith one hath beene hanged" around the patient's head[240] goes back at least as far as the classical age since it is

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[237]Anon., The most wonderfull and true storie, of a certain Witch named Alse Gooderige of Stapenhill (London, 1597), p. 24.

[238]Maple, The Dark World of Witches, p. 28.

[239]On this point, see Thomas, Religion and the Decline of Magic, p. 42.

[240]Scot, Discouerie, p. 245. Scot would have us believe that besides cunning folk (i.e. "melancholike witches") "bad" physicians and surgeons resorted to the same technique "to shadow their ignorance" when they knew "not how to cure." Put another way, Scot felt that competent medical men shunned the above mentioned cure. My research leads me to a similar con-

referred to in the writing of Marcellus Empiricus, foreign minister to the Emperor Theodosius.[241] Pliny's Natural History testifies to the antiquity of other cunning medicines: epileptic patients must drink spring water at midnight from the skull of one who has died violently,[242] and scrofulous victims must touch "the hand of one that died an untimelie death."[243]

Presumably such ancient cures came to England during the first three centuries A. D. when the country was a Roman province and were passed on orally from one generation to the next like cures which dated from medieval times. The possibility must not be overlooked, however, that some rudely educated cunning folk pqssesssed manuscripts from which they learned their skills, as Keith Thomas has suggested in his Religion and the Decline of Magic. Nonetheless, even Thomas stresses the former method of learning. One of the several illustrations to which he refers involves Margareta Hunt who told the Commissary of London in 1528 that she had learned how to collect and prepare medicinal herbs from Mother Emet of Wales.[244]

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clusion. No mention is made of the "halter" cure in any of the orthodox medical publications consulted for this thesis. Moreover, I have found no specific references in any other literature of the time to doctors who used the cure.

[241] According to Magnus, Superstition and Medicine, pp. 38 - 40.

[242] Natural History, vol. VIII, p. 7; Scot, Discouerie, p. 243.

[243] Natural History, vol. VIII, p. 35; Scot, Discouerie,

All techniques for which genealogies can be traced derived initially from the magical laws of sympathy and antipathy which have been outlined in chapter one. To take one instance, the prescription of vervain for witchery had been based originally on the antipathy the herb was supposed to have for any evil force. According to legend, vervain staunched Jesus' wounds on Mount Calvary. Conceivably, at least in the case of charms, the primitive magical symbolism of sympathy and antipathy had been largely forgotten by Tudor times. In other words, certain techniques of the cunning folk appear to have degenerated into stereotyped ritual. Keith Thomas argues this way, though he does not supply evidence to substantiate his theory. In describing charms based on holy names, he writes only that by the Tudor period, "their original meaning was often hidden from those who used them."[245] Exactly the same phraseology is used later when he discusses charms in general.[246] To support Thomas, we must turn to an early seventeenth century publication, the Ignorant Practisers of Phisicke (even the title

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p. 244.

[244]The reference appears in a footnote to William Hale's A Series of Precedents and Proceedings in Criminal Causes, extending from the Year 1475 - 1640; extracted from the Act-Books of the Ecclesiastical Courts in the Diocese of London (London, 1847), on p. 228 of Thomas' work. In Hale, Mother Emet is introduced this way: "Et quod deducit predictam doctrinam in Cambria a quadam muliere vocata Emet" (p. 108).

[245]Religion and the Decline of Magic, p. 180.

[246]Ibid., p. 182.

connotes the irrationality in irregular medical practice), where the author, John Cotta, describes the charms of the cunning folk as "idle words and sentences."[247] According to the Oxford English Dictionary, the adjective "idle" meant "groundless" in Cotta's time.[248]

In view of the uncomplimentary description of unorthodox medicine given thus far, it might be assumed that the cunning folk were dismal failures. Surprisingly, however, this does not appear to have been the case since many clients and contemporary observers testified to the effectiveness of the cunning folk's medicines. For instance, Elizabeth Gibson of the village of Benton claimed that Jenkyn Pereson, a local cunning woman, healed her mother who had been "taken with the fayre" (i.e. bewitched).[249] Another cunning woman was reported by Sir Anthony Shirley to have healed "most miraculously" a patient of an unnamed disease.[250] Then there is George Gifford's assertion that "out of question they be innumerable which receiue help by going unto cunning men."[251]

It may seem, therefore, as if the irrational side of unorthodox medicine should not be emphasized. Yet many success stories may well have been fabricated by clients who

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[247] Ignorant Practisers, pp. 50 and 71.

[248] O. E. D., ed. Onions, p. 952.

[249] Raine, ed., Depositions and other Ecclesiastical Proceedings, p. 100.

[250] Historical Manuscripts Commission, Calendar of the Manuscripts of the Most Honorable the Marquis of Salisbury,

did not want to appear foolish in having consulted irregular medical practitioners, as Richard Carew suggested.[252] To be sure, the possibility of psychosomatic healing must not be ruled out. As already pointed out in chapter three, the cure in which the patient puts great faith may achieve remarkable results in the dissipation of minor ailments through its enlistment of the imagination even if it has no relevant pharmaceutical content whatever. Moreover, it should be noted that some cures which the cunning folk prescribed for superficial complaints really did have a therapeutic value despite the mystical mumbo-jumbo which surrounded them. Such was the case, for instance, with unguents made from marigolds. As a woman mashed the marigolds in a container, she was to say "iii pater nosters, iii aves, and a crede, in the worshyp of our Lady; & if it be a man he must se [say] iii pater nosters, iii aves, & a crede in the worshypp of Jesus."[253] Nonetheless, it is inconceivable that in the treatment of more serious complaints the cunning folk had any success with the methods they used. For example, the recital of the following charm for Saint Anthony's Fire (i.e. ergotism, a deadly disease resembling leprosy) can

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vol. IV, p. 81.

[251]Gifford, Dialogue, sig. G3.

[252]Survey of Cornwall, p. 131.

[253]Hale, ed., A Series of Precedents and Proceedings in Criminal Causes, pp. 107 - 08 and M. Grieve, A Modern Herbal (Darien, Connecticut: Hafner, 1970), vol. II, p. 518.

confidently be dismissed as worthless: "there came ii Angels out of the North East, one brought fire, thother brought frost: out fire, and in frost."[254]

How, then, is it possible to explain the pride which the cunning folk reportedly had in their medicines?[255] Conceivably there were some cunning folk who dealt only with minor complaints where the possibility of success was reasonably certain. Such irregular medical practitioners would thus have been similar to the continental hermit of the time about whom a commercial agent for the wealthy banking and trading family, the Fuggers, wrote: he heals Catholics with prayers and fresh water, but only if they are not victims of "ills which arise . . . from heredity or the French disease" (i.e. syphilis).[256] The cunning folk further ensured themselves against loss of prestige through failure by taking care never to claim their medicines were infallible. As Richard Bernard noted, they could always resort to a number of explanations when failure was imminent. They might blame their patients

> that they came not in time, or say they applied not the meanes aright, or that they wanted faith to beleeue, or at least . . . acknowledge their

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[254]This charm appears in Bullein's Bulwarke of defence againste all Sicknes, Sornes, and woundes, The booke of simples, fol. lx.

[255]On this point, see above, pp. 101 - 02.

[256]Victor von Klarwill, ed., The Fugger News-Letters being a Selection of unpublished Letters from Correspondents of the House of Fugger during the Years 1568 - 1605 (London: John Lane the Bodley Head, 1925), pp. 24 - 25.

> power not great inough, and therefore . . .
> aduise them to go to a more cunning man. 257

The procedure is reminiscent of the various explanations used by Tudor doctors to account for the failure of marvelous drugs including the alicorn and the bezoar stone. Yet the comparison between orthodox and unorthodox medicine must not be carried too far since extant primary sources intimate glaring discrepancies between the two types of practice. Whereas cunning folk relied on the supernatural which is beyond scientific investigation, doctors were concerned primarily with the natural world. Cunning folk appear to have been ready to accept medicines whose rationale had been completely forgotten but, as pointed out in chapter three, doctors were extremely reluctant to rely on a prescription which could not be rationalized to fit the humoral-elemental theory. Nor can it be overlooked that cunning folk lacked the inquiring attitude of science which was illustrated in orthodox medical experiments with hartshorn and tobacco.

A third category of medical practitioner consisted of charlatans or "mountebanks" as they were more generally known in the sixteenth century. Available evidence suggests that members of this group came from the lower classes. Because they had little or no formal education their techniques also seem to have been based extensively on superstitions inherited from the past. These included image

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257 Bernard, Guide to Grand-Iury Men, p. 143.

magic, the theoretical basis of which has been outlined elsewhere.[258] For instance, apples with the magical word "abracadabra"[259] gouged in them were prescribed for the plague. In many respects, then, mountebanks seem to have been like cunning folk. Unlike village wizards, however, they are reported to have roamed the country, usually in small groups, and to have practiced medicine almost invariably on a full-time basis. Furthermore, source materials intimate that mountebanks worked primarily for money rather than the prestige which would come from having special skills , and that they often resorted to chicanery. This characteristic also distinguishes them from fellow lay practitioners who seldom tried to dupe their clients.

A common ruse used by the quack doctors is described by Robert Copland, a mid-sixteenth century Londoner who probably gleaned his information while on duty as a member of the city watch "when that . . . [he went] about,/ Under the stalls, in porches, and in doors."[260] The ruse suggests the

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[258]See above, chap. III, p. 57. The composite picture of Tudor quackery given here is based primarily on information in John Halle's A most excellent and learned woorke of chirgerie called Chirurgia Parva Lanfranci . . . with an historical expostulation also against the beastly abusers, both of Chyrurgerie and Phisicke in our tyme and the writings of William Clowes which are listed in the bibliography of this thesis.

[259]According to Gustav Davidson (A Dictionary of Angels (London: Collier-Macmillan, 1967), p. 4), this is one of the most ancient words in magic. It is derived from the Hebrew "ha brachah dabarah" which means "speak this blessing."

[260]Copland, The Highway to the Spital-house (London, 1535 - 36), quoted in the notes to A. V. Judges, ed., The Elizabethan Underworld: A collection of Tudor and early

perfidy of the charlatans as recognized in their own day and also the credulity of their clients. Copland cites as an example two charlatans who inform a mother that her apparently healthy child is in fact the victim of a deadly disease which they will cure without fee. The gullible but grateful mother accepts this offer and receives a "powder of experience,/ That a cart-load is not worth twopence" to be administered after the child has fasted three days. Then the charlatans "taketh licence" (presumably a free meal) and depart. The next day a confederate and his minion arrive on the scene. The confederate examines the child and cautions the mother that it will surely die unless given additional physic which he can provide and promises, moreover, that he and his underling will stay with the family until the child recovers. Once more the mother consents. Copland continues:

> Then goeth his knave to a town to buy
> These drugs that be not worth a turd:
> And there they lie a fortnight at board
> With these good folks and put them to cost;
> Both meat and money clearly have they lost.

Finally the tricksters leave with a fee of twenty shillings and straightway make for a rendezvous with their partners where they "prate and make their avaunt/ Of their deceits, and drink adiue taunt."[261]

Stuart tracts and ballads telling of the lives and misdoings of vagabonds, thieves, rogues and cozeners, and giving some account of the operation of the criminal law (London: George Routledge & Sons, 1930), p. 491.

[261] Highway, in Judges, Underworld, pp. 10 - 12.

So far in this chapter, attention has been given to the lower rungs of a complex hierarchy of lay medical practitioners. Considerably higher up were gentlewomen who looked after the sick poor without charge, thus carrying on a European tradition which stretched back at least as far as the Middle Ages. It is reported, for instance, that in the beginning of the fourteenth century, Mahaut, Countess of Artois and Burgundy, spent long hours ministering physic to the poor in hospitals built at her instruction and maintained at her expense. If needs be, she even sent patients to some place better to be cured, as was the case with one indigent who suffered from gout and was sent to take healing waters.[262] Along with the influence of tradition, English gentlewomen seem to have been motivated by energetic dispositions, humanitarian instincts, and religious zeal. This is suggested, for instance, by a quotation from the diary of Grace Mildmay, a patrician woman of the Tudor period:

> It is good sometimes to be alone and meditate; but it is good also to call on one's neighbours, to comfort their souls and bodies and thereby do good to themselves and lay up treasures in heaven; and far better it is so to do than to sit with a dumme [dumb or dummy] pair of cards in our hands, for as the hands are busied with good or bad, the mind will be set thereon. 263

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[262]Alice Kemp-Welch, Of Six Medieval Women (London: MacMillan, 1913), pp. 83 ff.

[263]R. Weigall, "An Elizabethan Gentlewoman. The Journal of Lady Mildmay circa 1570 - 1617 (unpublished)," Quarterly Review, vol. CCXV (1911), p. 129.

In addition to their acts of altruism, some gentlewomen published collections of medical recipes. Particularly noteworthy in this respect is Elizabeth, Countess of Kent, whose Choice Manuall of Rare and Select Secrets in Physic and Chirurgery proved so popular that it was translated into German. Yet compendiums like Elizabeth's are difficult to locate nowadays and consequently have not been consulted for this thesis. One of the few available sources of information on the medical practices of gentlewomen is the diary. Entries are usually too sketchy to ascertain finally the extent to which upper class women were scientifically inclined, though they seem to emphasize practical methods of healing rather than the superstitious. For instance, in the diary of Lady Margaret Hoby appear entries like the following: "looked vpon a poore mans Legg;"[264] "did se a sicke man;"[265] "gaue a poore woman of Caton saulue [i.e. salve] for hir arme;"[266] "dressed my saruants foot and another poore mans hand;"[267] and "dressed Hiares finger."[268] Taken together, these entries suggest conditions that are relatively easy to diagnose. Faced with the obvious needs of servants and others, gentlewomen appear to have ministered

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[264]Dorothy M. Meads, ed., Diary of Lady Margaret Hoby (1599 - 1605) (London: George Routledge & Sons, 1930), p. 72.

[265]Ibid., p. 86.

[266]Ibid., p. 145.

[267]Ibid., pp. 169 - 70.

[268]Ibid., p. 186.

to them in a practical and efficient manner using the materials close at hand.

At first glance, a remedy prescribed by Lady Mildmay, recorded in her diary, and reportedly learned from a friend, may suggest dabblings in the occult. To remove corns, the entry reads, "take a blacke snaile, roast it in a white cloth, and when it is roasted laie it to the corne hot, and it will take it awaie."[269] On the other hand, it is possible to argue that the application of a red hot snail may have been a relatively efficient way to remove a corn in circumstances where corn plasters and absorbing poultices were not available.

It must be admitted, however, that gentlewomen sometimes used prescriptions which have clearly defined links with superstition. For instance, elsewhere in Lady Mildmay's journal are found a number of treatments for epileptic seizures which are supposed to derive their efficacy from occult lunar emanations.[270] We do not know if Lady Mildmay's treatments are typical of those used by other gentlewomen. Nor do we know whether Lady Mildmay herself resorted to occult healings except in extreme circumstances. From what we do know of English gentlewomen generally, however, it seems reasonable to assume that superstitions were of minor influence on them.

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[269]Cited in Weigall, "Journal," p. 131.

[270]Loc. cit.

If little is known about the methods of cure administered by gentlewomen, even less is known about the theoretical beliefs that formed the basis for the cures. Possibly gentlewomen were not greatly concerned with theory. In fact, a cure such as the one calling for red hot snails may have had no theoretical basis at all. Assuming, however, that attempts were made to rationalize prescriptions, the question rises, were magical principles or the humoral-elemental theory involved?

Significantly, the diary of Lady Anne Clifford, who lived from 1590 to 1676, reports that Anne's mother, Lady Margaret Cumberland, was deeply interested in alchemy.[271] (This passion may have reflected the influence of Lady Cumberland's father-in-law who was himself a practicing alchemist. More will be said about his kind later in this chapter.) Since astrology and magic are related to alchemy, Lady Cumberland may also have had a keen interest in these aspects of the occult and may even have related her prescriptions as an amateur healer to them.

Nevertheless, it seems probable that gentlewomen, like doctors, were generally optimistic about the potentialities of human reason unaided by superstition. Therefore, they would have minimized the role of the extraordinary in healing. The rational approach to medicine drew support from con-

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[271] According to George C. Williamson, Lady Anne Clifford, Countess of Dorset, Pembroke & Montgomery, 1590 - 1676. Her Life, Letters, and Work (1922; rpt. East Ardsley, Wakefield, Yorkshire: S. R. Publishers, 1967), p. 38.

temporary Protestantism which we have seen emphasized healing through natural means. This is not to suggest, of course, that the devout gentlewomen failed to call upon God in their acts of curing. In addition, diary entries suggest that gentlewomen often read widely in the field of orthodox medical literature. In Lady Mildmay's diary are found references to Jean de Vigo's Workes of Chirurgerie and William Turner's Herbal.[272] Moreover, Lady Hoby's journal mentions Timothy Bright's Treatise of Melancholy and a herbal, possibly John Gerard's, which was published shortly before Lady Hoby commenced her personal record.[273] Nor can the likelihood be overlooked that when gentlewomen consulted professional medical men about their own health[274] they were encouraged to adopt what doctors envisioned as rational therapeutic measures which operated well within the bounds of the humoral-elemental paradigm.

On the other hand, A. L. Rowse would have us believe that one gentlewoman practitioner of medicine, Lady Hoby, also sought consultations with the magus, Simon Forman, regarding medical matters. These consultations took place twice for herself and once for her brother.[275] Accordingly, the infer-

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[272]Weigall, "Journal," pp. 120 - 21.

[273]Meads, Diary, pp. 72, 77, and 78.

[274]For an example, see ibid., p. 73.

[275]Simon Forman. Sex and Society in Shakespeare's Age (London: Weidenfeld and Nicolson, 1974), pp. 132 and 233 - 34.

ence might be drawn that Lady Hoby was more ready to rely on superstitions than has been allowed.

Yet it is exceedingly doubtful that the consultations actually took place. Rowse bases his argument on references to Lady Hoby in Forman's personal papers. Other references in the papers have led Rowse to argue that during April and May, 1601, when all three visits were supposed to have been made, Forman was in Lambeth, now a borough of South London. However, entries in Lady Hoby's diary indicate that she was miles away in Hackness, Yorkshire, during the time in question.[276] Nor are there any references to consultations with Forman elsewhere in the diary. Lady Hoby, then, appears to have had no ties with Forman and like most other gentlewomen of her day probably played down the role of superstition in healing.[277]

Besides their role as amateur doctors, Tudor gentlewomen doubled as lay obstetricians, as further diary entries make clear. The sources make no mention of techniques, however, though they emphasize the gentlewoman's piety. For example, looking once more at Lady Hoby's journal, we find only the

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[276] Diary, pp. 166 - 74.

[277] Conceivably Lady Hoby's name had been mentioned by an acquaintance of hers and a regular client of Forman's, one Mrs. Blague. Later Forman may have confused Lady Hoby with another client. The likelihood of a mistaken identity is made more plausible when it is realized that Forman really did mix up names, as even Rowse belatedly admits in a footnote at the end of his book (Simon Forman, p. 301).

following brief statements: "I was sent to Truts dall in the trauill of my Cossine Isons wiffe, who was brought to bed of a daughter,"[278] and "I went to awiffe in trauill of childe, about whom I was busey tell: I a Cloke about which time, She b[e]ing deliuered and I hauinge praised god, returned home."[279]

There were others in addition to doctors or gentlewomen who also engaged in the practice of obstetrics. Indeed, when we turn our attention to this aspect of medical practice we confront a particularly amorphous group, and one which it is impossible to categorize clearly. It is even difficult to describe definitely the techniques employed by that much more limited group, the midwives in the service of the monarchy. All that can be said with certainty is that these personnel received adequate salaries for their day,[280] though deliveries were not always successful.[281] Moreover, royal midwives sometimes travelled to foreign countries to perform accouchements there. Such was the case, for instance, with

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[278] Diary, p. 63.

[279] Ibid., p. 195.

[280] Ex., Alice Massy, midwife to Elizabeth of York, Queen of Henry VII, received a salary of ten pounds in 1503 (J. H. Aveling, English Midwives: their History and Prospects (1872; rpt. London: Hugh K. Elliott, 1967), pp. 15 - 16). Cf. salaries paid other royal servants in Francis Peck's Desiderata Curiosa (London, 1732), Lib. II, esp. pp. 7 - 10. The examples cited here show that even in the inflation economy at the end of the Tudor period master cooks and sergeants of the royal household made only eleven pounds, eight shillings, and one pence per annum.

[281] In Francis Bacon's The History of the Reign of King Henry the Seventh (1622; rpt. London: Folio Society, 1971),

an unnamed midwife sent by Queen Elizabeth I to Russia to look after the Tsaritsa during her pregnancy in 1586.[282]

Conceivably, gentlewomen and royal midwives were familiar with the obstetrical techniques of orthodox medical practitioners discussed in chapter three. Moreover, gentlewomen may even have adopted orthodox obstetrical techniques as their own. The close ties between gentlewomen and doctors have already been suggested. Mention has also been made of the probable influence on patrician women of contemporary Protestantism, a force which was in itself generally hostile to superstition.

Beyond the gentlewomen and royal midwives, however, there appear to have been midwives who were deeply immersed in the occult, presumably because of ignorance, impiety, or a combination of both. Exact numbers of these midwives are not known, but they must have been large in view of the frequency with which bishops asked parochial clerics questions like the following: "Whether you know anye that doe use charmes, sorcery, enchauntments, invocations, circles [a form of divination?] , witchcrafts, south-sayings, or any like crafts or imaginations invented by the Devyl, and specially in the tyme of women's travyle."[283]

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p. 206), it is related how Henry VII's wife, whom we have seen had Alice Massy as a midwife, "died in child-bed in the Tower, and the child lived not long after."

[282]M. S. Anderson, Britain's Discovery of Russia. 1553 - 1815 (New York: St. Martin's Press, 1958), p. 10.

[283]Articles of a visitation written in 1559, quoted in Aveling, English Midwives, pp. 2 - 3. Similar instances are found in ibid., pp. 3 - 4 and in Thomas Rogers Forbes, The

It may be noted, moreover, that the desire to eliminate practices like those mentioned in this query influenced the Church's decision to initiate a licensing system for midwives during Henry VIII's reign. Before procuring her imprimatur, the prospective licentiate was questioned on her religious orthodoxy and skill by the bishop of her diocese and a panel of doctors and learned midwives. The candidate also might have to swear an oath which included a clause never to use "any witchcraft, charms, relics or invocations to any Saint in the time of travail,"[284] or, more simply, to desist from "sorcery or incantations in the time of the travail of any woman."[285]

Yet the problem of unlicensed midwives who relied extensively on practices the Church condemned was never solved during Tudor times. Though the reasons are not fully known, a legal snag in the ecclesiastical court system where violators of church law were tried may be of significance: defendants who pleaded innocent to the charge against them had only to procure the names of from four to eight compurgators in their parish and their case would be dismissed.

Midwife and the Witch (New Haven, Conn.: Yale Univ. Press, 1966), pp. 148 - 49. Forbes also devotes a chapter of his work to obstetrical charms, some of which may have been prescribed by the group of midwives now under examination. Yet the general reader must pick his way with caution through Forbes' chapter. Like many nineteenth century historians (exs., T. J. Pettigrew, On Superstitions connected with . . . Medicine and Surgery (London, 1844) and W. G. Black, Folk-Medicine: A Chapter in the History of Culture (1883; rpt. New York: Burt Franklin, 1970)), Forbes has for his prime concern the compilation of a list of bizarre and fantastical practices down through the ages. Consequently he tends to blur or completely disregard distinctions between the kind of

In this way, the recalcitrant midwife could flout the church licensing system, provided she was popular among her neighbours or wealthy enough to buy supporters.

Besides unregulated and unlettered midwives, gentlewomen and royal midwives, it is possible that contemporary magicians known as the magi practiced obstetrics, at least occasionally. This is suggested by the discovery that the magus, Simon Forman, alluded to above, mentioned in his diary the obstetrical amulet discussed in chapter three called the eagle-stone. The reference is difficult to interpret, however, for it reads simply: "The 17th of December I had my . . . mad[e] with the e[a]gles stone."[286]

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people who resorted to charms.

[284]An oath for midwives, in Forbes, p. 145.

[285]An oath administered to one Eleonor Pead of Canterbury, in loc. cit.

[286]J. O. Halliwell, ed., The Autobiography and Personal Diary of Dr. Simon Forman, the celebrated Astrologer, from A. D. 1552 to A. D. 1602 (London, 1849), p. 16. The deletion is Halliwell's. The addition of the minims "e" to "mad" and "a" to "egles" is my own.All further references to Forman's diary are to Halliwell's edition, a microfilm copy of which has been sent me by the Library of Congress Photoduplicating Service. It should be added that the appellative "Dr." in the title of Halliwell's edition is misleading. Cambridge University gave Forman a medical license possibly because of the influence of Dr. Blague, who was Dean of Rochester, a member of the University, and one of Forman's regular clients. Yet official approval never came from the College of Physicians in London. No doubt, the College's rebuff was largely the result of Forman's occultism. True, there have been other interpretations. The seventeenth century historian, Charles Goodall, wrote that the College rejected Forman because it found him ignorant in physic and astrology (The Royal College of Physicians of London (London, 1684), p. 337). In our time, Forman's biographer, A. L. Rowse, has suggested that Forman's popularity in London and his financial success,

Accordingly, until more substantial information is found, even Forman's involvement in child-delivery must remain tenuous.

More easily ascertainable is the interest of the magi in non-obstetrical arcana. For instance, my research into primary and secondary source materials reveals that Tudor England's magicians were deeply involved in the search for the philosopher's stone. The best known of these men, in addition to Simon Forman, were Burchard Kranich and John Dee.[287] As already noted, moreover, I have found that Forman,

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both of which threatened the livelihood of doctors angered the College (Simon Forman, p. 47). But both interpretations create a false impression. As suggested in the beginning of this chapter, most doctors were not avaricious, as Rowse would have us believe. In addition, we saw in earlier chapters that most doctors gave astrological medicine at best scant attention. So it is highly probable that the main reason for the College's antipathy to Forman was the latter's disregard for orthodox medical efforts to restrict the role of the occult in medicine.

[287] Forman's alchemical investigations are referred to briefly in his diary on pp. 23 ("Abought Michelmas I first begane to practise the philosopher's stone."), 25 ("This yere in Lente I began the philosopher's stone, and before made my furys and all for yt."), and 28 ("The 27 of Aprill in subliming, my pot and glasse brok, and all my labour was lost pro lapide."). Those of Kranich and Dee are discussed in M. B. Donald's "Burchard Kranich (c. 1515 - 1578), Miner and Queen's Physician, Cornish Mining Stamps, Antimony, and Frobisher's Gold," Annals of Science, vol. 6 (1950), pp. 308 - 22 and P. French's John Dee: The World of an Elizabethan Magus, passim. See also the brief references to alchemical research in J. L. Halliwell's The Private Diary of John Dee (1842; rpt. New York: Ams, 1968), esp. p. 13. It may be noted that, like Forman, both Kranich and Dee were men of learning and had no formal recognition from the College of Physicians. Unlike Forman, however, Kranich and Dee were never harassed by the orthodox medical profession, no doubt because they had considerable royal patronage. Kranich's ties with royalty are especially well discussed in F. E. Halliday's "Queen Elizabeth I and Dr. Burcot," History Today, vol. 5 (1955), pp. 542 - 44.

at least, had an interest in astrological medicine. The extent to which this interest influenced Forman's medical practice is made clear by an event of 1593. When questioned by the Royal College of Physicians, Forman claimed that he could diagnose diseases with no help other than an ephemeris[288] and that he could tell at once what the cause of an illness was merely by looking at the stars.[289] Dee also may have diagnosed and explained diseases astrologically. Certainly he had a profound interest in other astrological matters which might easily have carried over into his medical practice. A good illustration involves his passion for drawing up nativities[290] which is testified to by the several allusions to them in his diary.[291]

It should be added that the magi healed without the use of magic. For example, an entry in Forman's diary reads: "I cured the fellowe of Quidhampton of the king's evill, which had 24 holes in his throte and necke out of the which in one morning I got 86 worms at on[e] tyme lyke maggots, and after he was well."[292] Nonetheless, it is more than likely

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For Dee's I refer the reader once more to French's book and to Dee's diary, esp. pp. 21, 32, 36 - 37, and 42.

[288]This is an astronomical almanac showing the daily positions of the sun, moon, and planets.

[289]Thomas, Religion and the Decline of Magic, p. 316.

[290]These are astrological representations of the position of the heavenly bodies at one's birth.

[291]For examples, see p. 1.

[292]Halliwell's edition, p. 35.

that as part of their general interest in the occult, the magi stressed the prescription of wonderful cures, like those discussed in chapter three.

Since the magi were men of learning, it might seem at first difficult to understand their immersion in beliefs and practices which placed them outside the mainstream of contemporary scientific activity. To some extent, the magi undoubtedly were influenced by neo-Platonism. As pointed out earlier, this philosophy envisioned the universe as pulsating with all kinds of sympathies and antipathies, and consequently would have fostered astrological, alchemical, and magical lore, at least among its votaries. That there were in fact links between the magi and neo-Platonism is suggested by references to the writings of neo-Platonists in the magi's diaries. For instance, Dee's diary refers to "Paracelsus twelve lettres, written in French with my own hand."[293] Again, in Forman's diary there are references to the De arte memoratus by the neo-Platonist, Appolonius Niger.[294]

But even after allowing for the influence of neo-Platonism, the problem remains: what made the magi turn to the occult in the first place? In some cases, there simply is not enough documentation on which to base an answer.

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[293] Halliwell's edition, p. 35.

[294] Halliwell's edition, p. 30.

Recently, however, the American historian, P. J. French, has tried to psychoanalyze John Dee by scrutinizing Dee's personal papers and published works which are scattered about in various English libraries. French feels that Dee wanted, above all else, to achieve god-like omnipotence and to help his fellow man by discovering the deepest secrets of the universe. Becoming disillusioned with contemporary education at Oxford and Cambridge where the emphasis was on rhetorical studies, Dee turned to the occult hoping to acquire the powers he so deeply craved.[295]

Another historian, A. L. Rowse, has tried to delve into the psyche of Simon Forman. His research into the mass of Forman papers in the Bodleian Library, Oxford, leads him to conclude that Forman, too, had an insatiable desire to penetrate the unknown and to control it. This desire, Rowse would have us believe, stemmed from Forman's inferiority complex, the result of being physically small both as a child and as an adult. In addition, though Forman was learned, he was virtually self taught. An ambition to attend university went unfulfilled, except for a brief period in his youth when he lived at Oxford as a servant. As a result, Forman was particularly susceptible to beliefs and practices which seemed to promise the key to recondite knowledge.[296] If we are willing to adopt the psychological explanation, it is not too

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[295] John Dee: The World of an Elizabethan Magus, esp. chap. 2.

[296] Simon Forman, esp. chap. 1.

difficult to agree with French and Rowse that the driving force behind the magi appears to have been a Faustian desire for power and glory.

Thus far in this chapter, nothing has been said about ecclesiastical medicine. Yet clerics also doubled as lay medical practitioners and therefore their services demand attention. Unfortunately, however, there is once more a paucity of good source materials, making it virtually impossible to comprehend the extent to which clerical practitioners were scientific. For instance, in Carew's Survey of Cornwall, it is recorded that Mr. Atwell, the parson at St. Ewe from 1559 to 1615, prescribed milk or milk and apples for many illnesses. But did Mr. Atwell rationalize his concoctions to fit generally accepted medical theory of his day? Or was magic involved? Carew does not say.[297]

Nonetheless, it is clear from what little is decipherable in extant documentation that some clergymen had no compunction about the use of wonderful cures despite the disapproval with which established religion looked upon them. Consider, for example, the Sussex curate who in 1538 had a child drink water three times from a chalice for the "chyne cough" (i.e. whooping cough).[298] Here the medieval

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[297] Survey of Cornwall, pp. 131 - 32.

[298] The presentment of the parochyans of Rye presented to the Chancellor and other visitors of the Bishop of Chichester in their visitation at Winchilsea, quoted in Ewen, Witchcraft and Demonianism, p. 446.

belief in religious objects as a source of supernatural power is discernible.

Possibly the recourse to magical prescriptions by some clerics can be explained in part by inadequate religious education which would make such clerics little better than cunning folk with whom their contemporaries sometimes confused them.[299] Indeed, it is conceivable that many of the clerics did not have any religious education at all. The chronicler, William Harrison, writes in the 1577 edition of his Description of England that miserly parishioners gave clerical appointments to weavers, peddlers, and glovers who would be glad of an augmentation of eight or ten pounds yearly to their incomes. The parishioners thus avoided having to pay adequate salaries to learned clergymen. In a later edition of the same work, Harrison adds that the parishioners also bestowed benefices upon "bakers, butlers, cooks, good archers, falconers, and horsekeepers, instead of other recompense for their long and faithful service."[300]

It must be recognized, moreover, that religious education per se was not necessarily a bulwark against the bizarre and fantastical in clerical medicine, as is illustrated in the case of John Darrell, a clergyman with a university degree. In the last decade of the sixteenth century, he

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[299]For instance, the above mentioned presentment describes the Sussex curate as a witch when he gave the sick child the chalice.

[300]Both quotations come from Edelen's version of the Description of England, pp. 31 - 32.

toured several southern counties claiming to heal victims of demonic possession by incantations and fasting.[301] In part, Darrell may thus have seen himself as striking a blow against Catholicism. Certainly George More, one of Darrell's closest friends and himself a university educated cleric, rationalized depossession along these lines. "If the Church of England have this power to cast out devils," wrote More, "then the Church of Rome is a false church; for there can be but one true church, the principal mark whereof (as they say) is to work miracles, and of them this is the greatest, namely to cast out devils."[302] As might be expected, however, the pundits of orthodoxy took a decidedly different view. Darrell was tried and convicted by the ecclesiastical Court of High Commission as an impostor who had trained his patients to simulate possession to prove his curative power.[303]

Established religion was more tolerant towards astrological medicine as the following information suggests: Simon Harward, yet another university trained ecclesiastic, was not prosecuted for writing a treatise in which several pages are devoted to the astrological side of phlebotomy. One explanation as to why no court action was taken may have

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[301] Thomas, Religion and the Decline of Magic, p. 483.

[302] A True Discourse concerning the Certaine Possession or Dispossession of 7 persons in one familie in Lancashire (London, 1600), cited in Thomas, p. 484.

[303] Thomas, p. 483.

been Harward's care not to impinge upon either divine or human will which were basic considerations in contemporary theology. "God," Harward declared,

> hath giuen a power to the heauens, and an influence to the Starres and Planets, which doe mightily worke in the things here below, not to induce any necessities, but to dispose the inclinations, so farre as God hath appoynted and determined. 304

Nonetheless, it is highly improbable that most educated clerics paid much attention to the astrological side of bleeding. Adherence to astrological principles would lead to a philosophical determinism antithetical to contemporary theology.

Finally, rather than submit to the ministrations of unlicensed (or licensed) medical men, individuals might attempt to look after themselves through home remedies. A considerable amount of _prima facie_ evidence suggests that people who opted for this alternative were deeply interested in astrological medicine. As a starting point, there is the popularity of _The myrrour or glasse of helth_ which went through fifteen editions between 1539, when it first appeared, and 1580. Written for general sale by Thomas Moulton, "Douctoure of dyvynte of the ordre of Frere Prechours,"[305] the work lists remedies for many diseases, but always according to the positions and conjunctions of

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[304] _Harwards Phlebotomy: Or, A Treatise of letting of Bloud_ (1601; facsimile rpt. New York: da Capo, 1973), p. 94.

[305] Moulton, _Myrrour_ (London, 1539), s. v. "How begynneth the fyrst parte of this booke that sheweth dyuers causes how

the heavenly bodies. Then there are the scores of almanacs and prognostications written for the popular market by Moulton's contemporaries, including some doctors, where consideration almost invariably is given to astrologically propitious times for therapeutic measures. Such works hardly would have been put out in great numbers if there had been only a few people who bought them.[306]

Significantly, however, a substantial number of laymen appear to have had little, if any, interest in home medicine of an astrological nature. This is indicated by another treatise on amateur healing, Sir Thomas Elyot's The castel of helth, which was published initially in 1539 and went through thirteen more editions by 1595. The continued appeal of the work into the early seventeenth century is

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the pestilence may be gendered."

[306]The writers of astrological vade mecums which contain home medical advice are an interesting group worthy of a separate study. One might begin, for instance, by examining Drs. William Cunningham and Thomas Gale. Cunningham wrote home medical almanacs in 1558, 1559, 1560, 1561, 1565, and 1566, while Gale turned his out in 1566 and 1567. Though both doctors lived into the 1580's, they wrote no more almanacs after the 1560's. Perhaps they became disillusioned with astrology, as was the case with Jean Fernel, noted earlier. On the other hand, Gale, at least, may never have considered astrology an important part of medical practice. His major contribution to medical literature, Certaine Workes of Chirurgerie, published in 1563, barely mentions the superstition. After examining Cunningham and Gale, one might turn to the layman Robert Wyer. Wyer hoped to boost the sale of his astrological work by attributing it to a fictitious doctor whose name appears on the title page: A Prognosticacion of Erra Pater, a Jewe Borne in Jewry, a Doctoure in Astronomye and Physycke, Profytable to Kepe the Body in Helth. Though professional medical men generally were not overly enthusiastic about astrological medicine, Wyer's temerity seems to have worked in his favour for Erra Pater's prognostication enjoyed several reprints. The work's popular-

attested to by another edition in 1610. Yet there are only fleeting references to astrology in The castel of helth. One of the few instances occurs in a discussion of atmospheric pollutants where Elyot writes: "the ayre is corrupted . . . through the Influence of sondry sterres, Great standynge waters never refreshed, Carayne [i.e. carrion] lyeng longe aboue grounde, Moche people in small rome lyunge uncle[a]nly and sluttyshely."[307] More often, Elyot, who was not a licensed practitioner but had taken a course in medical instruction from Dr. Thomas Linacre before writing his book, does not even mention the influence of the stars. Consider, for example, Elyot's statement that "many great syckenesses . . . be ingendred of corrupted bloude, or of melanc[h]oly," among them, "dropsies, consuptions, inadnes [madness?], fransies, and diuers diseases of the head."[308] The emphasis on the natural as opposed to the supernatural appears also in Elyot's attempts to explain the efficacy of drugs with respect to their temperatures. Temperatures, it will be remembered, were regarded by doctors as perfectly rational

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ity may even have started a trend. The title of another astrological work reads: A newe Almanacke and Prognosticacion seruing for the yere of our Lord God M.D.LXXI . . . by G. Gossenne, Doctour in Physicke. Yet I have found no mention of Gossenne in Lee's Dictionary of National Biography, Munk's Roll of the Royal College of Physicians of London, or Panckoucke's Dictionaire des sciences medicales. Laymen who affixed their own names to their astrological home medical works and who might also be studied include T. Hill, G. Hartgill, R. Norton, A. Mounslowe, and T. Digges.

[307] Castel (London, 1539), p. 12.

[308] Ibid., p. 62.

explanations for the medical value of drugs because they operated well within the bounds of the humoral theory.

In this chapter, we have seen that there were various groups of lay medical practitioners: cunning folk, who were the most numerous, mountebanks, gentlewomen, midwives, magicians, ecclesiastics, and individuals who catered to their own health needs. These groups differed considerably from one another, though most of their practices were alike in that they had been inherited from the medieval and classical periods. Research suggests that often the practices had been, and continued to be, passed on orally and that the primitive magical symbolism which underlay some of the practices had been forgotten by Tudor times. In other words, some of the techniques employed by irregular medical practitioners appear to have degenerated into stereotyped ritual. Further, it appears that among many irregular medical practitioners there were no attempts to prove clinically the inheritance from the past. Failures were simply explained away.

Generally speaking, we have argued that education plays a role of considerable importance in understanding lay medical practice in England four centuries ago. Lay practitioners, like the gentlewomen, who were familiar with contemporary theological and medical knowledge, seem to have minimized the role of superstition. In contrast, unlearned medical practitioners, among them the cunning folk, mountebanks, and midwives, appear to have made extensive use

of the bizarre and fanciful. Of course, other factors than lack of education may have been involved. Mountebanks, for instance, may have employed superstition in a deliberate desire to mislead. Cunning folk, on the other hand, may have been influenced by a desire to please clients by confirming their suspicions. Cunning folk also believed a diagnosis of witchcraft could be confirmed by prescribed tests, though these procedures would not pass as tests in any scientific sense of the word. The magicians present an anomaly in the attempt to relate superstition to lack of education for these scholarly men turned to the numinous and the oc ult despite their learning. We have suggested they did so not through ignorance but a Faustian desire for power.

CONCLUSION

Can Tudor medicine be viewed predominantly as a science or must it be regarded as a colorful but irrational accumulation of occult and ritualistic superstitions? Having surveyed the texts, diaries, pamphlets, and official documents at our disposal, we are now challenged to formulate these materials into a final assessment. The challenge is by no means an easy one, for at first glance the predominant impression is the great diversity of medical practice. As we have seen, the diversity includes licensed physicians, surgeons, and apothecaries, and their emulators, the gentlewomen; there were the magicians, learned, but unorthodox; the clerics, who also practiced medicine and were in themselves a diverse lot; there were the midwives and the large body of individuals who by necessity practiced home medicine; there were the cunning folk of the village and rural areas; and there were the charlatans, those nether individuals who attach themselves to every professsion in every age.

Such diversity is difficult for Canadians to comprehend, living as we do in a highly technological society where professional medical care is available to almost everyone. In Tudor England, however, as in many parts of our world today, professional medical care was limited. Most physicians, surgeons, and apothecaries lived in the larger towns and cities and catered to the wealthy, unless hired by municipal authorities to look after the sick poor in hospitals. But

there were few hospitals. Most of the poor in large population centers as well as those who lived in the country were forced to rely on the medical services of unregulated practitioners.

In this regard, it is interesting to note that the education of the full-fledged Tudor physician required no less than fourteen years attendance at university, approximately double the time today. Though the training of surgeons and apothecaries was much less rigorous, they too had to serve an apprenticeship of several months in their guilds. In addition, certain self-educated persons might practice physic upon obtaining a license from the Church. But apparently this was no facile exercise. To procure the license, these individuals had to demonstrate their knowledge of medicine to the bishop of their diocese and also before a panel of doctors. The final result of these attempts to formulate medical practice was that the number of licensed doctors was very small.[309]

If we attempt to deal with the whole range of medical services available, it becomes virtually impossible to issue statements about the nature of medical care in the Tudor era. Of necessity, then, we have chosen to base our conclusions on the practice of licensed practitioners of the

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[309]We can get some idea of the paucity of reputable medical practitioners from Joyce Godber's discovery that between 1530 and 1603 there were in all of Bedfordshire only two physicians and an occasional barber who practiced primitive surgery (History of Bedfordshire 1066 - 1888 (Luton, Bedfordshire: White Crescent Press, 1969), p. 209).

Tudor period, using other groups as a foil to illuminate their methods. This approach seems justified when we consider that modern English medicine has proceeded from orthodox medical efforts to regulate the profession through the licensing bodies established in Tudor times, especially the College of Physicians and the Company of Barber-Surgeons. It is the contention of this exposition that the licensed practitioners were in the main stream of medical history. When we limit our findings to this group, it is possible to assert that doctors of the time were predominantly scientific in their approach to medicine and had little recourse to superstitious practices.

The scientific approach requires first of all a paradigm and Tudor doctors had one in the humoral theory. This theory came to light as part of the revival of classical learning which was an important characteristic of the sixteenth century. It postulated that disease resulted primarily from an imbalance among body fluids or humours. The doctor's duty, then, was to re-establish the equilibrium among the humours and to maintain it. This was to be done usually by the prescription of drugs whose innate properties or "elemental make-ups" were contrary to the properties of the excess humour. The paradigm of the humours and the elements has long since become antiquated. Nevertheless, its importance as an attempt to deal with disease intelligently must not be underrated.

The scientific approach in orthodox medicine was further illustrated by a reliance on human reason which may be traced to at least two sources. In the first place, the Church of England urged its members to cast off charms, incantations, and the like, and to rely on practical self-help abetted by the individual's direct supplication to God.[310] Secondly, the confidence of the doctors was bolstered by their apparent success in devising efficacious modes of therapy to combat new scourges of their day, the most virulent of which was syphilis.

The reliance on human reason took several forms. One of these was the attempt to relate syphilis to the humoral theory through scientific method. First came the search for signs of morbid humours by the examination of syphilitic pustules. This was followed by the formulation of hypotheses. The one significant step lacking to make the procedure truly scientific was the testing of the hypotheses by the controlled experiment of the laboratory. In this respect, however, it must be born in mind that Tudor doctors were handicapped by the incipient state of their technology. The compound microscope was not invented until 1590 by the Dutch spectacle-maker, Zacharias Jansen, and its use for medical purposes did not occur until the seventeenth century. Admittedly the thermometer had been known for centuries. But it was first

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[310] This was despite the Church's insistence on the reality of witches and devils.

used clinically in the early seventeenth century by the Italian physician, Santorio Santorio, and it would not be put to significant use until some time later.

A further manifestation of the orthodox medical profession's reliance on human reason was the endeavour to relate prescriptions, both centuries old and recently developed, to personal clinical experience. It hardly needs to be reiterated that some of the prescriptions, such as cow dung and young boy's urine, no longer belong to orthodox materia medica. The appeal of these prescriptions and others like them may even indicate that Tudor doctors sometimes failed to distinguish clearly between those patients who recovered because of their medicines and others who survived them. Still, we cannot overlook the fact that in their attempts to relate the value of prescriptions to observable phenomena, Tudor doctors acted scientifically.

The reliance on human reason also led doctors to attach less importance to the role of Providence in medicine, at the very time that the Reformation Church contributed to the emphasis on rationality through exhortations to seek natural means of disease control. To be sure, no doctor denied the belief that disease was a scourge sent by God to punish mankind for his sins. Nor did any doctor assert that a therapeutic measure could restore health irrespective of God's will. To do so would have been to go against individual conscience and to incur the opprobrium of the Church. Nonetheless, the religious aspects were weakened by a concentra-

tion on the physical manifestations of disease and on natural ways to combat them.

Likewise, the emphasis on reason and rationality undermined superstition. In etiology, we find that references in orthodox medical literature to the occult malignancy of the wolf's eyes and of the henbane plant's shadow have all but disappeared. In prognostics, only one reference to the mythical caladrius is discovered. In diagnostics, many orthodox medical books give at best short shrift to the role of astrology. In therapy and prophylaxis, references to marvellous drugs, among them the alicorn and the bezoar stone, are few. In obstetrics, our examination of orthodox medical literature turns up only one reference to the aetites, an amulet prescribed to prevent abortion. In all these fields, then, there is a tendency to shun the marvellous and the fantastical, substituting in their stead theory and practice which is rationally substantiated by the humoral paradigm.

This is all the more remarkable when we recall that superstitious procedures were easily explained away in Tudor times. As noted earlier, for instance, the inefficacy of a bizarre drug could be accounted for by blaming witchcraft or by saying the drug had been spurious. Dr. William Clowes, who appears to have been committed to astrological phlebotomy, went even farther in his attempt to justify superstitious procedures. Clowes kept an account of occasions when certain of his fellow doctors engaged in blood letting. On the basis of his record, Clowes believed

that he worked out a correlation between failures of the operation and negligence. In other words, he used a crude empirical procedure to show that astrological phlebotomy was efficacious. Nevertheless, Clowes' contemporaries continued to pay scant attention to the role of astrology in blood letting. The significant point to note here is that Tudor doctors were so committed to reason and rationality that they rejected superstitious procedures even against the arguments of their most ardent supporters.

It has been suggested, moreover, that superstitions were resorted to primarily in times of crisis. For instance, when syphilis broke out at the end of the fifteenth century and continued to rage in epidemic proportions during the sixteenth century, some doctors were driven to say that the disease had astrological origins. But even these doctors were inclined to minimize the influence of the stars. In fairness to orthodox medical men of the Tudor period, their attitude towards syphilis appears to have been scarcely more superstitious than the attitude of contemporary doctors towards cancer. There is a growing awareness, for example, that massive cancer operations have frequently been performed on the basis of questionable scientific evidence and with little, if any, positive effect. In times of crisis, when human beings are motivated by fear, the irrational elements of the psyche all too easily take control of their actions.

Of all the medical groups which functioned outside or-

thodox medical practice, the gentlewomen appear to be the most admirable and impressive. Though it was an anomaly for a woman to attend university in Tudor times, the gentlewomen were a surprisingly well educated group who strove both as healers and as midwives to emulate the doctors. Gentlewomen read widely in orthodox medical literature of their day and had close contacts with doctors whom they consulted about their own health problems. In addition, gentlewomen were subject to the influence of the Protestant faith which decried most superstitions, including those associated with healing. The gentlewomen, then, seem to have been supportive of the scientific strain in Tudor medicine, extending medical services to areas the small group of licensed practitioners could not reach.

Dedication and education appear to have been formative influences in the positive role played by gentlewomen. Education probably also contributed significantly to the watershed that existed between the scientific and superstitious practitioners of home medicine. As we have seen, some home medical practitioners adhered to the superstitious beliefs embodied in almanacs and prognostications. Others, however, were governed by the scientific precepts exemplified in Thomas Elyot's The Castel of helth. Aside from the natural limitations we would associate with the amateur methods of home medicine, the variability of home remedies points to the need for formulation and consistency in a scientific discipline. On the whole, we have found that

consistency did exist in the medical practice of Tudor doctors.

In examining another group of lay medical practitioners, the magi, we find individuals who were deeply involved in alchemical and astrological lore despite their erudition. Furthermore, there were links between the magi and neo-Platonism. In other words, the magi had a paradigm, even though it was steeped in magic and consequently was one which doctors tended to ignore. The magi, it seems, saw the world as a reification of their wishes, drives, and emotions. On this basis, their energies were directed towards the manipulation of nature by gaining power over nature. On the other hand, doctors began with an investigation of the natural world as it exists. As scientists, they hoped by unfolding the mysteries of nature to find ways in which mankind could live in harmony with nature and therefore with greater ease and happiness.

When we turn to the cunning folk, we discover that this group relied on a medley of beliefs and practices derived from medieval religion and from primitive magical symbolism. This inheritance from the past was generally passed on orally since the cunning folk, unlike the doctors, were usually unlettered. Partly because of the intrinsic nature of the cunning folk's beliefs and also because of their oral tradition, the basis of their practice tended to be either obscure or non-existent. In other words, the cunning folk lacked a paradigm, one of the first requisites of a science.

The contrast between the cunning folk and doctors is increased by the absence of efforts on the part of the cunning folk to prove clinically the merits of their heterogeneous heritage. Failure was explained away, for example, simply by claiming that the cunning person had not been consulted in time to be of assistance. Nor can we forget that the cunning folk lacked the spirit of adventure which animated orthodox medicine and which was demonstrated in the attempts of doctors to find medical uses of a reasonable kind for hartshorn and tobacco. The primitive and stagnated aspects of the cunning folk's art emphasize the developing nature of Tudor medical science.

On the other hand, it may be noted that the cunning folk performed a real service in the England of their day. Like the gentlewomen, they brought medical care to the rural regions where professional medical men were few. And though their techniques were questionable, they at least brought some measure of comfort and reassurance to clients in time of physical misfortune. It may be added, moreover, that country midwives who through ignorance, impiety, or a combination of both, resorted to a hodge-podge of superstitions to help women in childbirth performed similar functions. However, this does not alter the fact that their services remained superstitious rather than scientific in nature.

The altruistic nature of the services rendered by the gentlewomen, the cunning folk, and the country midwives contrasts with the practices of the charlatans. These indi-

viduals were not only ignorant but exploitive of society. Thus they further separated themselves from orthodox medical men who by and large were guided by the high precepts of the Hippocratic Oath.

When the doctors of the sixteenth century are contrasted with other medical groups of their day, the scientific nature of their practice stands out in bold relief. The doctors based their practice on the humoral paradigm, a paradigm grounded in the natural world and subject to objective analysis. Buoyed by a new wave of confidence in man's rational faculty, doctors confronted disease with the beginnings of the scientific method, including clinical observation and verification. Their reliance on this approach led to a corresponding weakening in the reliance on divine healing and on secular superstitions. Though superstitions reappeared in times of crisis, as they do in every age, even then their role was minimized by Tudor doctors.

Observe the Tudor doctor, then, accoutered for work in close fitting doublet, embroidered hose, and shoes slashed in the latest French fashion. Chin sunk in his voluminous ruff, he prescribes here a herbal concoction for the gout, there a mercurial unction for syphilis, all prescriptions rationalized within the humoral paradigm and verified by objective analysis. Who would believe that this epitome of the scientist has paused, even so briefly, to scan his astral prognostication before sallying forth on his rounds?

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