

# The healing hand in literature: Shakespeare and surgery

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**The interplay between surgery and dramatic literature in the plays of Shakespeare is reviewed. This review attempts to explore medical references in Shakespeare's works and to analyse the medical and social background of his time. Caution should be taken in interpreting Shakespeare's works through a modern medical view; diseases and their therapy are used metaphorically as a means to an end in the Bard's masterly hands. Shakespeare's medical knowledge may be accounted for by his avid reading of contemporary medical texts, from primary or secondary sources; an astute sense of observation of London's medical practitioners—bona fide or otherwise—and their activities and patients; and a medical connection by way of his son-in-law, Dr John Hall.**

**It should be remembered that nothing in Nature stands alone; but every art and science has a relation to some other art or science, that it requires us to have a knowledge of those others, as this connexion takes place, to enable us to become perfect in that which engages our particular attention.**

**John Hunter (1728-93)**

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## Introduction

This review attempts to explore the history of the dramatic representation of surgery and orthopaedics in the English Renaissance by examining the cultural, ideological, political, and social conditions which underlay such depictions in the plays of Shakespeare.

The most obvious common ground between medicine and the literary arts is humanity. Thus, medicine and literature have had affinities for each other for ages. Medicine and literature are united in an unremitting paradox: the need to simultaneously stand back from and yet share in the struggle of human existence. Doctors and writers are especially observant of the tragedies of human life. Both groups encounter illness, distress, dying, death, and other important events in life. They must see objectively, but they must also be involved in the outcome of the struggle. Medicine and literature are also linked, because they both recount what is

seen. The patient's history is the story of his life—his odyssey in the realm of disease. A primary source for the doctor is the personal history of the patient which is in truth his life story. Illnesses are inextricably woven into the threads of human existence. Cardinal Henry Newman in his address to the Arts Faculty of the Catholic University of Ireland in 1845 stated: "Literature stands related to man as science stands related to nature...Literature is to man what autobiography is to the individual. It is his life and remains."<sup>1</sup>

## Medical practice in the time of Shakespeare

The works of Shakespeare (1564-1616) can be regarded as mirrors of his life-time, and so reflect the culture, morals, politics, religion, philosophy, and science of his day. Surgery—healing by manual operation—is an integral facet of life and is likewise reflected in his plays.<sup>2</sup> The Elizabethan era in which he began his career was a golden age of English pride and self-confidence. The standard of medical practice, however, fell behind that of France, Italy, the Low Countries, and Spain. Galen's humoral theory dominated medical thoughts. Medical education lasted 14 years and was monopolised by the universities at Oxford and Cambridge.

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In 1511, an Act of Parliament concerning the appointment of physicians and surgeons recited that “the science and cunning of Physic and Surgery is daily within this Realm exercised by a great multitude of ignorant persons of whom the greater part have no insight in the same or in any other kind of learning... so far forth that common artificers as smiths, weavers and women boldly and accustomedly take upon them great cures...to the great infamy of the faculty and the grievous hurt, damage and destruction of the King’s Liege people most especially of them that cannot discern the uncunning from the cunning.”<sup>3</sup>

In 1512, an Act of Parliament was passed which stated that no one could practise medicine within the city of London or within a seven-mile radius, unless he were to pass an examination conducted by the Bishop of London or the Dean of St Paul’s Church.<sup>4</sup> Oxford and Cambridge graduates were exempted. Medical licensing was thus chaotic; quacks and empirics permeated the realm, and the distinction between surgeons and physicians was not always clear. Furthermore, the Physicians Act of 1540 (32 Henry VIII) defined medicine as comprising surgery, so giving the physicians the right to practise surgery where and when they liked.<sup>5</sup>

A loose Guild of Surgeons had existed since 1369, while an older Guild of Barbers (pre-1308) had some members who practised almost exclusively as surgeons and tooth-drawers. Some followed both the ‘art of barber and the science of surgeon’, and an indefinite number of others concentrated upon shaving and hairdressing.<sup>6</sup> Thus, while some barbers were surgeons, the surgeons could not be barbers. Also, there were apothecaries who were members of the Grocers’ Company. Such was the tripartite system of orthodox medical practice in Tudor England.

**Lear** Give me an ounce of civet,  
good apothecary, to sweeten my imagination.  
There’s money for thee.  
*The History of King Lear* 20.125

The unsatisfactory state of affairs between the barbers and the surgeons was only temporarily rectified in 1540, when Henry VIII, under the influence of Thomas Vicary (c 1495-1562) who had been “a meane practiser in Maidstone until the King advanced him for curing his sore legge”,<sup>7</sup> united the two professions by an Act of Parliament. It was recorded that “the sayd maysters or gouernours of the mistery and comminaltie of barbouris and surgeons of London, and their successors yerely for euer...shal and maie haue and take without contradiction

four persons condemned adiudged and put to deathe for feloni by the due order of the kyngs highnes or successours for the same...for their further and better knowlage instruction insight learyng and experience in the sayd scyence or facultie of surgery.”<sup>3</sup>

Yet a generation later, Elizabeth I’s Serjeant, Surgeon William Clowes (1540-1604) of St Bartholomew’s Hospital, lamented: “Nowadays it is apparent to see how tinkers, tooth-drawers, pedlars, ostlers, carters, porters, horse-gelders and horse-leeches, idiots, apple-squires, broom-men, bawds, witches, conjurers, sooth-sayers and sow-gelders, rogues, rat-catchers, runagates, and proctors of spital-houses, with such rotten and stinking weeds, which do in town and country, without order, honesty and skill daily abuse both Physic and Chirurgery, having no more perseverance, reason or knowledge in this art than hath a goose.”<sup>8</sup> Such was Shakespeare’s ‘Merrie England’.

### Shakespeare’s medical connections

It is not within the scope of this review to discuss the controversies—if such may have existed—surrounding Shakespeare’s social and educational background, or the lack of documentation of his life in Stratford-upon-Avon (the so-called ‘lost years’). Although his formal education was basic, Shakespeare became quite knowledgeable in surgery and medicine for the following possible reasons:

(1) After his arrival on the theatrical scene in London around 1585, out of necessity to produce plays for his company, first as a member of *The Lord Chamberlain’s Men* and then *The King’s Men*, he had to be an astute observer and an insatiable reader of the many books in print. Some of these were the works of old masters—Hippocrates’ *Aphorismi and Prognostica*, Galen’s *De usu partium*, and Celsus’ *De Medicina*. Other, more ‘modern’ works included Vesalius’ *De Humani Corporis Fabrica*, Pare’s *Apologie and Treatise*, Vicary’s *A Profitable Treatise of the Anatomie of Mans Body*, Caius’ *Boke or Counseill against the Disease called the Sweate*, Boorde’s *The Breuiary of Helthe*, Bullein’s *Bulwark of Defence against all Sicknes, Sores and Woundes*, and Bright’s *A Treatise of Melancholie*. Shakespeare could have obtained his medical knowledge from these either as primary or secondary sources, for he knew Latin as well as French. According to John Aubrey’s *Brief Lives*, Shakespeare “understood Latin pretty well, for he had been in his younger days a schoolmaster in the country.”

In his daily travel through the walled city of Lon-

don, Shakespeare probably took a short route through the yard of St Paul's Church, a busy thoroughfare for Londoners. There, were gathered many bookstalls that displayed the latest publications from local and foreign publishers. London was then, as now, the centre of the publishing trade in Britain. St Paul's churchyard was the centre of London's literary life; Shakespeare was never far away from here.<sup>9</sup>

(2) In 1596, Shakespeare resided in the parish of St Helen, Bishopsgate, close to the Shoreditch Theatre. This was in the vicinity of the infamous St Mary of Bethlehem or 'Bedlam' Hospital, established in 1247, from which he possibly obtained his neuro-psychiatric inspirations.

**Clifford** To Bedlam with him, is the man grown mad!  
*2 Henry VI 5.1.131*

From 1602, he lodged with a French Huguenot hat-maker named Mountjoy in a house at the corner of Mugwelle Street and Silver Street in the Parish of St Olaf, Cripplegate. This was a stone's throw from the Barber-Surgeons' Hall which stood at the end of Silver Street at the north-western corner of the City, abutting on the city wall.<sup>10</sup> There, three annual public demonstrations in anatomy had taken place since 1540. Shakespeare, with his ever-inquiring mind, could have attended some of these events out of curiosity.

(3) On 3 June 1607, Shakespeare's eldest daughter, Susanna, married Dr John Hall (1575-1636), a Cambridge graduate in Arts with medical training, possibly from Montpellier University. Dr Hall left behind a case-book *Select Observations on English Bodies or Cures Both Empirical and Historical performed upon very Eminent Persons in Desperate Diseases*. This work, in abbreviated form, was edited by Dr James Cooke, who in the preface stated Dr Hall "lead the way to that practice almost generally used by the most knowing, of mixing scorbuticks in most remedies", and who was held "in the county of Warwick where he practised physick many years, and in great fame for his skill, far and near."<sup>11</sup> Although Dr Hall arrived in Stratford in 1600, when Shakespeare had already written works which contained medical themes, it has been suggested that Shakespeare may have used his son-in-law as a model in medical roles such as that in *Macbeth*.

### Shakespeare's views of the medical profession

The following passages show the sources of medical

authority in 16th century England:

**Cerimon** For her relapse is mortal.  
Come, come, and Aesculapius guide us.  
*Pericles 3.2.107-8*

**Sir John** This apoplexy is, I take it, a kind of lethargy, ain't please your lordship...

**Lord Chief Justice** What tell you me of it?  
Be it as it is.

**Sir John** It hath its origin from much grief, from study, and from perturbation of the brain. I have read the cause of its effects in Galen. It is a kind of deafness.  
*2 Henry IV 1.2.113-9*

Asklepios (Latin, Aesculapius) was the legendary son of Apollo by the nymph Coronis, and was placed by his father under the tutelage of Cheiron the centaur, who taught him the art of healing. It was reputed that Asklepios could even raise the dead, hence bringing him into conflict with Pluto, the god of the underworld. After Asklepios' death by a thunderbolt sent from Zeus, he became the Greek god of medicine. According to the *Family and Life of Hippocrates* by Soranus, his 19th generation descendant was reputed to be Hippocrates of Cos (born c 460 BC)—the Father of Medicine.<sup>12</sup> Claudius Galen (131-200) of Pergamum in Asia Minor was an experimental physiologist, surgeon to the gladiators in Rome, and physician to Emperor Marcus Aurelius. His system of medical theory and practice, based on mammalian dissections, dominated Europe for 14 centuries. In the following excerpt, he is placed on par with Asklepios and Hippocrates:

**Host** God bless thee, bully Doctor.

**Shallow** God save you, Master Doctor Caius.

**Page** Now, good Master Doctor.

**Slender** Give you good morrow, sir.

**Caius** Vat be all you, one, two, tree, four, come for?

**Host** To see thee fight, to see thee foin, to see thee traverse, to see thee here...

Is he dead, my Ethiopian? Is he dead, my Francisco?

Ha, bully? What says my Aesculapius, my Galen, my heart of elder, ha? Is he dead, bully stale?

*The Merry Wives of Windsor 2.3.17-28*

**Page** I think you know him: Master Doctor Caius, the renowned French Physician.

**Evans** Got's will and his passion of my heart! I had as you would tell me of a mess of pottage.

**Page Why?**

**Evans** He has no more knowledge in  
Hibbocrates and Galen, and he is a knave besides—  
a cowardly knave as you would  
desire to be acquainted withal.

*The Merry Wives of Windsor* 3.1.56-62

The role of Dr Caius has been much debated. There was a real Dr John Caius (1510-1573) who was physician to Edward VI, Mary I, and Elizabeth I, and co-founder of Caius and Gonville College, Cambridge. Elizabeth I called him “the most learned physician of his age”.<sup>5</sup> In contrast, his choleric namesake in *The Merry Wives of Windsor* becomes a comical character whose most memorable achievement is his murdering of the English language with his French accent.

By the 15th century, Galenic doctrine was challenged by the rise of knowledge based upon experiments, observations and reasoning, notably by the works of the Belgian anatomist Andreas Vesalius (1514-1564) and the Swiss physician-chemist Theophrastus Bombastus von Hohenheim (1495-1543), better known as Paracelsus. The latter, also called the ‘Luther of Medicine’, had his theories introduced into England by the two English Paracelsians—astrologer John Dee and physician Thomas Mouffet.<sup>13</sup> For Paracelsus, the fundamental principles of the body were not the ancient four humours of Aristotle, but sulphur, mercury, and salt. The changing mixture of these three substances supposedly brought about the various bodily functions.

**Lafeu** To be relinquished of the artists—

**Paroles** So I say—both of Galen and Paracelsus,

**Lafeu** Of all the learned and authentic fellows—

**Paroles** Right so I say.

**Lafeu** That gave him out incurable—

*All’s Well That Ends Well* 2.3.10-4

The above passage mentions the two rival protagonists of medicine in the 15th century. Shakespeare’s esteem of Galen gradually diminished, as shown by the following passage:

**Menenius** A letter for me? It gives me an estate  
of seven year’s health, in which time I will make a  
lip at the physician.

The most sovereign prescription in Galen is but  
empiric cutic and, to this preservative, of no better  
report than a horse-drench.

*Coriolanus* 2.1.112-6

The following account of a court petition by the

warden of the Guild of Surgeons in London in 1519 defined his job as: “In manuell applicacon of medicines: in staunchyng of blod, serchyng of woundes with irons and with other instrumentes, in cuttyng of the sculle in due proporcyon to the pellicules of the brayne with instrumentes of iron, cowchyng of catharactes, takyng owt bonys, sowyng of the flesshe, launchung of bocchis, cuttyng of apostumes, burnyng of cankers and other lyke, setting in of joyntes and byndyng of them with ligatures, lettynge of blod, drawyng of tethe...”<sup>6</sup>

The following passages show the role expected of a barber-surgeon in Shakespeare’s plays.

**Portia** Have by some surgeon, Shylock,  
on your charge, to stop his wounds,  
lest he do bleed to death.

*The Merchant of Venice* 4.1.254-5

**Captain** But I am faint. My gashes cry for help

**King Duncan** So well thy words became as thy  
wounds:

they smack of honour both—go get him surgeons.

*Macbeth* 1.2.41-3

**Benvulio** What, art thou hurt?

**Mercutio** Ay, ay, a scratch, marry, it’s enough.

Where is my page? Go, villain, fetch a surgeon.

**Romeo** Courage, man. The hurt cannot be much.

**Mercutio** No, it’s not so deep as a well, nor so  
wide as a church door, but it’s enough.

’Twill serve.

*Romeo and Juliet* 3.1.92-6

**Wound surgery**

In the turbulent 15th century Europe, great importance was placed on the proper management of wounds, particularly gunshot wounds whose treatment was controversial. According to Galen, ‘laudable pus’ was essential in healing.

**Alcibiades** Is this the balsam that the  
usurping senate pour into the captain’s wounds?

*Timon of Athens* 3.6.108

Wounds were probed, packed, and dressed with greasy and irritating ointments to provoke pus; boiling oil was poured onto gunshot wounds to sterilise them, because they were thought to be ‘envenomed’.

**Gonzalo** You rub the sore, when you should  
bring the plaster.

**Antonio** And most chirurgionly.  
*The Tempest* 2.1.144-5

Such treatment was introduced by Hieronymus Brunschwig (1450-1512) in his *Chirurgia*. Giovanni da Vigo (1460-1525), surgeon to Pope Julius II, in his *Practica in Arte Chirurgica Copiosa* postulated that such wounds were poisoned by the lead of the shot.<sup>14</sup> However Thomas Gale (1507-1587), the greatest of Tudor surgeons, in his work *An Excellent Treatise on Wounds made with Gooneshot* repudiated this concept.

**Hotspur** And talk so like a waiting gentlewoman of guns and drums and wounds, God save the mark!  
And telling me the sovereignest thing on earth was parmaceti for an inward bruise.  
*1 Henry IV* 1.3.54-7

Sir Richard Hawkins' *Voyage to the South Seas* of 1593 contains the following reference: "Where it is said of the whale, 'the fynnes are also esteemed for many and sundry uses, as is his spawne for divers purposes: thus wee corruptly called parmacetie, of the Latin word spermaceti'." Parmacety or spermaceti is a fatty extract from the sperm whale, described by John Woodall (1569-1643) in *The Surgeon's Mate* as "good against bruises inwardly."<sup>2</sup>

The French barber-surgeon Ambroise Pare (1510-1590) advocated less drastic wound care by using soothing dressings composed of puppy's fat, oil of lily, turpentine, and aqua vitae. Pare said, "I dressed his wounds; God healed him." Paracelsus also declared, "You should know what it is that heals a wound.... It is the nature of flesh, of the body, of the blood vessels, of the limbs to have within themselves an inborn balsam that heals all wounds.... Every surgeon therefore should know that it is not he who heals the wound but the balsam in the part that heals it. If he thinks he heals it, he fools himself, and does not know his art."<sup>15</sup>

**Post** Send succours, lords, and stop the rage betime.  
Before the wound do grow incurable;  
for being green, there is great hope of help.  
*2 Henry VI* 3.1.285-7

By the term 'green', Shakespeare meant literally 'sickly complexion', implying laudable pus, which was considered a healthy sign until the Listerian era; the term can also mean unripe, fresh, or young.

Clowes was very concerned whether gunshot wounds

were poisoned, and wrote *A Prooved Practise for all Young Chirurgians concerning Burnings with Gunpowder and Woundes made with Gunshot, Sword, Halbard, Pike, Launce, or such other*.

*Achilles reads the letter*

**Patroclus** Who keeps the tent now?

**Thersites** The surgeon's box or the patient's wound.

**Patroclus** Well said, adversity.

*Troilus and Cressida* 5.1.10-2

A surgeon's box, devised by Clowes, was a container holding the necessary instruments and medicine required in military surgery. A tent is a roll of linen or flax which was thrust into a wound for haemostasis.

### Medical theory and surgical practice in Shakespeare's plays

**Thersites** Now the rotten disease of the south, guts-gripping, ruptures, catarrhs, loads of gravel in the back, lethargies, cold palsies, raw eyes, dirt-ridden livers, wheezing lungs, bladder full of imposthume, sciaticas, lime-kilns in the palm, incurable bone ache...and take against such preposterous discoveries!  
*Troilus and Cressida* 5.1.17-21

The above speech lists all the common illnesses in Shakespearean England in the following order: syphilis, colic, hernia, rhinitis, renal calculi, stroke, conjunctivitis, cirrhosis, asthma, bladder stones/cystitis, osteoarthritis of lumbar spine, palmar arthritis/gout, and syphilitic osteitis.<sup>16</sup>

*Enter a doctor*

**Malcolm** Comes the King forth, I pray you?

**Doctor** Ay, sir. There are a crew of wretched souls that stay his cure. Their malady convinces the great essay of art, but at his touch, such sanctity hath heaven given his hand. They presently amend.

**Malcolm** Thank you, doctor.

*Exit doctor*

**Macduff** What's the disease he means?

**Malcolm** 'Tis called the evil...

A most miraculous work in this good king, which often since my here remain in England I have seen him do.

How he solicits heaven, himself best knows: but strangely visited people, all swollen and ulcerous, pitiful to the eye, the mere despair of surgery, he cures,

hanging a golden stamp around their necks,  
 put on with holy prayers.  
 To the succeeding royalty he leaves the healing  
 benediction.  
*Macbeth* 4.3.140-56

The 'King's Evil' ('morbus regius'), or 'scrofula' (which means 'swine', for the animal was thought to be subject to a similar affection), or tuberculous cervical lymphadenopathy, is a fascinating subject in the annals of the relationship between medicine and the Crown in England and France. In 1602, Clowes published *A Right Frutefull and Approved Treatise for the Artificiall Cure of that Malady called in Latin Struma, and in English, the Evill cured by Kinges and Queenes of England*, shortly before Shakespeare's *Macbeth*. Said to originate with Edward the Confessor, the ceremony of 'Royal Touch' persisted in England until the 18th century. Its practice was proof of the performer's sovereign right, hence it is hardly surprising that it flourished under the Tudor and Stuart dynasties. Charles II held the record for the most number of patients seen this way—90 000 during his reign—and saw 600 patients in one day! The practice had a final resurgence under Queen Anne. It ceased with the accession of George I to the throne.<sup>4</sup>

**Countess** What hope is there of his majesty's amendment?

**Lafeu** He hath abandoned his physicians, madam under whose practice he hath persecuted time with hope,

and find no other advantage in the process but only the loss of hope by time.

**Countess** This gentlewoman had a father—whose skill was almost as great as his honesty; Would for the King's sake he were living. I think it would be the death of the King's disease

**Lafeu** How called you the man you speak of, madam?

**Countess** He was famous, sir, in his profession, and it was his great right to be so: Gerard de Narbonne.

**Bertram** What is, my good lord, the King languishes of?

**Lafeu** A fistula, my lord.

**Bertram** I heard not of it before.

**Lafeu** I would it were not notorious—was this gentlewoman the daughter of Gerard de Narbonne?

*All's Well That Ends Well* 1.1.11-35

*All's Well That Ends Well* tells the story of a physician's daughter, Helen, who succeeds in curing the French King of his debilitating fistula. No passage in the play gives any clue as to its exact site or nature. One is left to surmise that it could be the common fistula-in-ano, about which John of Arderne—the Father of Proctology—wrote extensively; it could alternatively imply a chronic abscess with discharging sinus, involving the finger or breast.<sup>17</sup>

According to the humoral theory proposed by Aristotle, an imbalance of the humours shown in the Box below resulted in illness.

**Sir Andrew** Does not our lives consist of the four elements?

*Twelfth Night* 2.3.9-10

*Enter hostess quickly*

**Hostess** ...Come in quickly to Sir John.

Ah, poor heart, he is so shaked of a burning quotidian-tertian, that it is most lamentable to behold...

**Nim** The King hath run bad humours on the knight, that's the even of it.

**Pistol** Nim, thou hast spoke the right. His heart is fractured and corroborate.

**Nim** The King is a good king, but it must be as it may.

He passes some humours and careers.

*Henry V* 2.1.112-22

The importance of phlebotomy in the armamentarium of the barber-surgeon to correct this imbalance is well known.

**King Richard** Let's purge this cholera without letting blood.

This we prescribe, though no physician: deep malice makes too deep incision;

#### The four humours and their role in disease

Humour	Temperament	Elements	Character
Blood	Sanguine	Air	Hot and wet
Phlegm	Phlegmatic	Water	Cold and wet
Yellow bile	Choleric	Fire	Hot and dry
Black bile	Melancholic	Earth	Cold and dry

Forget, forgive, conclude, and be agreed;  
our doctors say this is no time to bleed.  
*Richard II 1.1.153-7*

Galenic medicine placed a vital role for the liver as a blood-forming organ—the seat of life and emotion.

**Sir Toby** For Andrew, if he were opened and you find so much blood in his liver as will clog the foot of a flea,  
I'll eat the rest of the anatomy.  
*Twelfth Night, 3.2.56-60*

Surgical anaesthesia or rather, analgesia, was referred to in the following excerpt:

**Iago** Not poppy nor mandragora nor all the drowsy syrup of the world shall ever medicine thee to that sweet sleep which thou owedst yesterday.  
*Othello 3.3.334-7*

Extracts of both *Papaver somniferum* and *Atropa mandragora* were components of 'spongia soporifera' which was originally introduced by Theodoric in the 13th century, and mentioned by Guy de Chauliac (1300-1367) in his *Chirurgia Magna* which was used for surgical analgesia.

### Orthopaedic trauma

Although the term 'Orthopaedics' was not introduced until 1741 by Nicholas Andry, Shakespeare was aware of its scope and implications; deformities, fractures, dislocations, dismemberment, and mutilation were a consequence of wars, crime, domestic or civil violence.<sup>18</sup>

*Enter beadles, dragging in Mistress Quickly and Doll Tearsheet.*

**Mistress Quickly** I would to God that I might die,  
That I might have thee hanged.  
Thou hast drawn my shoulder out of joint.  
*2 Henry IV 5.4.1-3*

**Romeo** Your plantain leaf is excellent for that.  
**Benvolio** For what I pray thee?  
**Romeo** For your broken shin.  
*Romeo and Juliet 1.2.50-2*

**Nurse** I am a-weary. Give me leave a while.  
Fie, how my bones ache. What a jaunce have I!  
Is this the poultice for my aching bones?  
*Romeo and Juliet 2.4.25-6*

The use of a tourniquet for the treatment of haemorrhage shock was known, as shown by the following passage:

**Cassio** My leg is cut in two.  
**Iago** Marry, heaven forbid! Light, gentlemen.  
I'll bind it with my shirt.... So, lend me a garter.  
O for a chair, to bear him easily hence.  
**Bianca** Alas he faints...O Cassio, Cassio, Cassio.  
How do you, Cassio.  
**Iago**...O, that's well said, the chair!  
Some good men bear him carefully from hence.  
I'll fetch the general's surgeon.  
*Othello 5.1.73-102*

### Amputation and prosthetics

The indications of amputation for injuries and infections were well known, either literally or metaphorically.

**Scicinius** He's a disease that must be cut away.  
**Menenius** O, he's a limb that has but a disease.  
Mortal to cut it off, to cure it easy.  
**Scicinius** This service of the foot, being once gangrened,  
is not then respected for what it was.  
**Brutus** We'll hear no more, pursue him to his house  
and plug him there, lest his infection,  
being of a catching nature, spread further.  
*Coriolanus 3.1.307-11*

**Boult** What would you have me do?  
Go to the wars, would you, where a man may serve for  
seven years for the loss of a leg, and have not money  
in the end to buy him a wooden one.  
*Pericles 19.195-8*

Insurance and compensation for disabled war veterans were four centuries away!

### Bone and joint infections

**Thersites** After this, the vengeance on the whole camp or rather, the Neapolitan bone ache,  
for that methinks is the curse dependent on  
those that war for a placket.  
*Troilus and Cressida 2.3.17-9*

Bone ache in Shakespeare's works usually means the 'great pox' or syphilis. This disease was alleged to have been brought to Europe from the New World by the crew of Christopher Columbus.

In 1495, Charles VIII of France invaded Italy and

captured Naples in February. There was a sudden epidemic among the troops and burghers. It spread to Italy and then France. The Italians called it the 'French disease' ('morbus gallicus'); while the French called it the 'Italian disease', or the 'rotten disease of the south', or the 'Neapolitan bone ache'. A contemporary writer, Oviedo y Valdes, recalled: "Many times in Italy I did laugh, hearing the Italians say the French disease, and the French calling it the disease of Naples; and in truth both of them would have hit on the correct term if they had called it the Disease from the Indies."<sup>19</sup> The effects of the late stages of syphilis on bones were described as 'hollow bones', 'marrow-eating disease', and 'cold sciatica'.

**Timon** Plagues incident to men,  
your potent and infectious fever heap on Athens,  
ripe for stroke! Thou cold sciatica, cripple our senators,  
that their limbs may halt as lamely as their manners.  
*Timon of Athens* 4.1.21-5

Clowes wrote a *Brief and Necessary Treatise Touching the Cure of the Disease Called Morbus Gallicus or Lues Venerea*. Its effects of the disease on the larynx and nasal bridge are also mentioned by Shakespeare.

**Timon** Consumption sow in hollow bones of man,  
strike their sharp shins, and mar man's spurring.  
Crack the lawyer's voice, that he may never more  
title plead nor sound his quillets shrilly...  
Down with the noise down with it flat;  
take the bridge quite away of him...  
*Timon of Athens* 4.3.151-8

**Lucio** A French crown more.  
**First Gentleman** Thou art always figuring  
disease in me.  
Thou art full of error—I am sound,  
**Lucio** Nay not, as one say healthy,  
but so sound as things are hollow—  
thy bones are hollow—impiety has made a feast  
of thee.  
**Gentleman** (to Mistress Overdone) What now,  
which one of your hips has the most sciatica?  
*Measure for Measure* 1.2.49-57

A 'French crown' refers to alopecia in late syphilis. In this context, sciatica could be caused by Charcot's arthropathy, associated with 'hollow-bone' and 'impiety'.

One of the most colourful victims of the pox was Sir John Falstaff. This fat, cowardly malingerer suffered from both syphilis and gout, no doubt due to his overindulgence in food, wine, and women.

**Doll Tearsheet** A pox damn you, you muddy rascal!  
**Sir John** You make fat rascals, Mistress Doll!  
**Doll Tearsheet** I make them? Gluttony and  
diseases make them;  
I make them not.  
**Sir John** If the cook helps to make the gluttony  
you help to make the disease, Doll.  
We catch of you, Doll, we catch of you.  
*2 Henry IV* 2.4.38-44

Falstaff took a philosophical view of his disabilities.

**Sir John** A man can no longer separate age  
and covetousness that a can part young limbs and  
lechery;  
but the gout galls one and the pox pinches the other...  
A pox on this gout!...or a gout on this pox!  
For the one or the other plays the rogue with my  
big toe...  
I will turn disease into commodity.  
*2 Henry IV* 1.2.245-50

His final illness was a classical Hippocratic description of a dying patient; Shakespeare probably had either read or observed this personally.

**Pistol** For Falstaff he is dead.  
**Bardolph** Would I were with him wheresom'er he is,  
either in heaven or in hell.  
**Hostess Quickly** Nay, sure he's not in hell...  
For after I saw him fumble with the sheets,  
and play with flowers, and smile upon his finger's end,  
I know there was but one way. For his nose was  
as sharp as a pen,  
and a' babbled of green fields. So he cried out  
God, God, God three times.  
So a bade me lay more clothes on his feet...  
I put my hands into the bed and felt them,  
and they were as cold as any stone.  
Then I felt up to his knees, and so up'ard and up'ard,  
all was as cold as any stone.  
**Nim** They say he cried out of sack.  
**Hostess** Ay, that a did.  
**Bardolph** And of women.  
**Hostess** A did in some sort, indeed, handle women—  
but then he was rheumatic, and talked of the  
whore of Babylon.  
*Henry V* 2.3.5-36

## Deformities

One of the most famous deformed characters in literature is undoubtedly Richard III (1452-1485) of England. Around 1513, Sir Thomas More as Under-



sheriff of London, wrote *The History of King Richard the Thirde*. This was thought to have been derived from certain Tudor protagonists (especially John Morton) with the purpose of degrading Richard III. More described him thus: “Richard (the thirde sonne of Richard Duke of York), of whom we now entreate, was in witte and courage egalle with neither of them...little of stature, ill fetured of limmes, croke backed, his left shoulder much higher than his right, hard favoured of visage...he was malicious, wrathfull, envious, and from afore his birth, ever forwarde. It is for trouth reported, that the Duches his mother had so muche adoe in her travaile, that shee could not bee delivered of hym uncutte: and that hee came into the worlde with feete forwarde, as menne be borne outwarde...”

**Richard of Gloucester** For I have often heard my mother say I came into the world with my legs forward.

The midwife wondered and the women cried—  
‘Jesus bless us, he is born with teeth!’

Then, since the heavens have shaped my body,  
so let hell make crooked my mind to answer it.

*3 Henry V 5.6.70-8*

This description resurfaced in Edward Hall’s *The Union of the Two Noble and Illustre House of Lancaster and York* published in 1548, and again in Raphael Holinshed’s *Chronicles of England, Scotlande and Irelande* of 1578. Shakespeare based his characterisation on the 1587 edition of Holinshed which described Richard III as: “Little of stature, left shoulder much higher than right, crook-backed, hard visage, body greatly deformed, small face, cruel countenance.”

**Richard of Gloucester** She did corrupt frail nature with some bribe to shrink mine arms up like a withered shrub,

to make an obvious mountain on my back—  
where sits deformity to mock my body—  
to shape my legs of unequal size.

To disproportion me in every part,  
like to a chaos... until my misshapen trunk  
that bears this head be round impaled with a  
glorious crown.

*3 Henry VI 3.3.155-70*

Literary pathologists have a field day to conjecture the possible causes of King Richard’s orthopaedic deformities. Here is a list of the differential diagnoses:

- (1) Breech delivery resulting in a difficult labour that necessitated an episiotomy; as a consequence he may have developed Erb’s palsy.<sup>20</sup>
- (2) Cerebral palsy caused by neonatal asphyxia due

to prolonged labour.<sup>21</sup>

- (3) Pituitary dwarfism consequent on fracturing of the skull base during parturition.<sup>22</sup>
- (4) Sprengel’s deformity of the left shoulder.
- (5) Cervical plexus injury during birth, which would have resulted in paralysis of the left levator scapulae and trapezius.<sup>22</sup>
- (6) Congenital kyphoscoliosis.
- (7) Ellis-van Creveld syndrome (chondro-ectodermal dysplasia)<sup>23</sup> with the following features: autosomal recessive inheritance; large hands relative to feet; arthrogryposis of fingers; polydactyly; talipes equinovarus; genu varum; chondrodysplasia (shortening of limbs); ectodermal dysplasia (upper lip short and bound down), defective and dystrophic finger and toe nails, sparse hair, natal, hypoplastic, and rudimentary teeth; and thoracic deformities (long and narrow, or short and broad thorax).
- (8) Coeliac disease presenting with foul-smelling stools, malabsorption, and nutritional osteomalacia.<sup>24</sup>

Most contemporary descriptions of Richard III bore the evidence of his official portraits in the Royal Collection in Windsor Castle and the National Portrait Gallery, namely that he had no noticeable deformity. They established him as a thin, frail man of little less than normal height. Six years after Richard’s death, one source in York rumoured that he was a ‘crouch-back’, but no one else had said so. That source may be referring to an inequality in Richard’s shoulders, probably due to muscle hypertrophy as a result of constant practising with weapons.<sup>25</sup>

Both Hall and Holinshed darkened More’s portrait of Richard while painting Henry Tudor as an angelic deliverer. Predictably, such opportunities were a godsend to Tudor playwrights. Shakespeare worked this up to a new height of dramatic sensation in his creation of *Richard III*, possibly using as his model some actual deformed person whom he knew. His dramatic exuberance endowed the Tudor myth with a vitality that has been one of the wonders of the literary world. While this is a tribute to literature, this is a misfortune for history.<sup>26</sup>

**Richard of Gloucester** But I, that am not shaped for supportive tricksnor made to court an amorous looking-glass,

I that am rudely stamped...I that am curtailed of the fair proportion,

cheated of feature by dissembling nature,  
deformed, unfinished, sent before my time  
into this world

scarce half made up and that so lamely and

unfashionable that dogs bark at me as I halt by them—  
 why, I in this weak piping time of peace  
 have no delight to pass the time away,  
 unless to spy my shadow in the sun and descant  
 on mine own deformity...  
*Richard III 1.1.18-27*

Actors have a difficult task to portray all the deformities as described by Shakespeare. Dr Samuel Johnson recalled one such as “a fellow who claps a hump on his back and a lump on his leg, and cries ‘I am Richard the Third’.”<sup>18</sup>

## Discussion

Medicine has exerted its influence with varying degrees on literature. The writer is either well-grounded in the medicine of his time, or the age immediately preceding his, as was the case for Shakespeare, who was influenced by the medicine of the Medieval and Renaissance periods. Writers may have been medically trained, such as Thomas Browne, Tobias Smollet, Oliver Goldsmith, John Keats, Arthur Conan Doyle, Anton Chekhov, Oliver Wendell Holmes, Robert Bridges, and William Somerset Maugham. Other writers were not doctors but had medical interests; these include Daniel Defoe, George Eliot, Charles Dickens, Alexander Solzhenitsyn, Thomas Mann, and Peter Shaffer. A writer ‘matures’ with the medicine that he will later use in his writings. He need not have read or studied medicine formally, and may have been capable of absorbing medical information from the general culture around him, for example, from conversations or the media. This absorption is explicitly found in Shakespeare’s characters whose basic nature would be different without this superimposed ‘medical richness’.<sup>27</sup>

Generations of scholars have marvelled at Shakespeare’s masterly grasp of human nature and sufferings as revealed in his plays. This interest took a serious turn beginning with Dr Charles Bucknill’s *The Medical Knowledge of Shakespeare* which was published in 1860. In 1959, Dr Robert Simpson found 440 major medical references in Shakespeare’s plays. Dr Simpson also noted “the inspired imagery, the quality of metaphor and simile, the dramatic use of the medical situation, and the accurate, terse, clinical descriptive power of Shakespeare.”<sup>28</sup>

Disease in Shakespeare’s plays is nearly always a metaphor; a sign of some moral illness in the individual or society.<sup>29</sup> His plays present a number of

doctors, apothecaries, and other medical practitioners (such as the Friar Laurence in *Romeo and Juliet* whose administrations were often as symbolic and metaphorical as their cures). A surgeon is requested whenever a character is wounded, but no surgeon physically appears on stage; instead his presence is only implied and serves as the exit for the injured from the stage. Named doctors (eg Dr Caius) are noted for their antics and incompetence, and not for their professional abilities.

**Doctor** This disease is beyond my practice.  
*Macbeth 5.1.56*

The doctor is hence not at the centre of most Renaissance cultural works. Rather, the charlatan, the impostor, and the beneficiary from the sufferings of others were to remain powerful motifs up to the 19th century. In Shakespeare, the power of drama itself provides the medicine, and the doctor merely watches the action like the audience.<sup>30</sup> Doctors are thus not the focus of attention either in Shakespeare’s plays or in his society.

**Timon** Trust not the physician:  
 his antidotes are poison,  
 and he slays more than you rob.  
*Timon of Athens 4.3.433-4*

Shakespeare’s relatively low esteem for doctors can be accounted for by the social background of his time.

While the various Companies and Colleges had legal backings in their practices, the citizens of London and elsewhere did not accord them with the monopoly of medical practice. Between 1540 and 1640, the records of the London Barber-Surgeons’ Company documented the activities of more than 900 individuals, including apprentices; however, the Company comprised only 120 freemen. Those various unlicensed persons had been stigmatised by the London College of Physicians as ‘ignorant, mercenary and fraudulent’, ‘criminal impostors’ or ‘crows and magpies’.<sup>31</sup> In fact, those prosecuted often had higher education standards than would be supposed by their prosecutors. Midwives, nurses, and wise women also played a significant role in medical practice, despite their absence from professional organisations.<sup>31</sup> One review suggests there was one ‘medical practitioner’ for every 400 citizens in London.<sup>32</sup> In addition, the strict division of labour between physicians, surgeons, and apothecaries was not adopted until the 19th century.

## Conclusion

The works of Shakespeare whether by the immortal

Bard himself or by ‘alternative Shakespeares’ (Francis Bacon, Christopher Marlowe, the Earl of Derby, or the Earl of Oxford)<sup>33</sup> are, like all good literary works, reflections of his times. They contain passages that are still relevant four centuries on.

The essence of Shakespeare is his humanity. He was neither an aristocrat nor a university-trained Classics scholar, but a grain merchant from the provinces. He felt for his fellow countrymen, for their human faults and weaknesses. Despite his knowing ‘small Latin and less Greek’, Shakespeare fully comprehended humanity—the common ground between medicine and the Arts. John Dryden in his *Essay on Modern Poesy* of 1668 wrote “Shakespeare: he was the man who of all modern and perhaps ancient poets, had the largest and most comprehensive soul.... He was naturally learn’d; he needed not the spectacle of books to read Nature; he looked inwards and found her there.”

The human nature in Shakespeare’s works is best expressed by the following speech—perhaps the best of Shakespeare’s medical references—that he puts in the mouth of Jaques:

**Jaques** All the world’s a stage,  
 And all the men and women merely players  
 They have their exits and entrances,  
 And one man in his time plays many parts,  
 His act being seven ages. At first the infant,  
 mewling and puking in the nurse’s arms.  
 Then the whining school-boy, with his satchel  
 and shining morning face, creeping like snail  
 unwillingly to school. And then the lover,  
 sighing like furnace, with a woeful ballad  
 made to his mistress’s eyebrow. Then a soldier  
 full of strange oaths, and bearded like the pard,  
 jealous in honour, sudden and quick in quarrel,  
 seeking the bubble reputation even in the  
 cannon’s mouth.  
 And then the justice in fair round belly with good  
 capon lin’d,  
 with eyes severe and beard of formal cut,  
 full of wise saws and modern instances; and so he  
 plays his part.  
 The sixth age shifts into the lean and slipper’d  
 pantaloons,  
 with spectacles on nose and pouch on side,  
 his youthful hose, well sav’d a world too wide for  
 his shrunken shank;  
 and his big manly voice, turning again toward  
 childish treble,  
 pipes and whistles in his sound.  
 Last scene of all, that ends this strange eventful

history,  
 is second childishness and mere oblivion,  
 sans teeth, sans eyes, sans taste, sans everything.  
*As You Like It* 2.7.139-66

## Acknowledgements

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