Shakespeare’s Chancre: Did the Bard Have Syphilis?

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Shakespeare’s obsessive interest in syphilis, his clinically exact knowledge of its manifestations, the final poems of the sonnets, and contemporary gossip all suggest that he was infected with “the infinite malady.” The psychological impact of venereal disease may explain the misogyny and revulsion from sex so prominent in the writings of Shakespeare’s tragic period. This article examines the possibility that Shakespeare received successful treatment for syphilis and advances the following new hypothesis: Shakespeare’s late-life decrease in artistic production, tremor, social withdrawal, and alopecia were due to mercury poisoning from syphilis treatment. He may also have had anasarca due to mercury-related membranous nephropathy. This medical misadventure may have prematurely ended the career of the greatest writer in the English language.

William Shakespeare (1564–1616) is generally regarded as the finest writer in the English language. He was born in the town of Stratford, England, where his father was a prosperous entrepreneur and a local official. In the early 1590s, after moving to London, Shakespeare emerged as a supremely talented poet and playwright. He achieved popularity and wealth, but the middle-age period of his life was blighted by the death of his only son Hamnet in 1596. Shakespeare retired to Stratford in 1613 and died in 1616. According to local tradition, he succumbed to a febrile illness, perhaps typhoid, after a drinking bout with fellow writers Ben Jonson and Michael Drayton [1–4].

Shakespeare was more preoccupied than his contemporaries with sexually transmitted diseases. For example, I can find only 6 lines referring to venereal infection in the 7 plays of Christopher Marlowe [5]. However, 55 lines in Measure for Measure, 61 lines in Troilus and Cressida, and 67 lines in Timon of Athens allude to venereal disease (all quotations from Shakespeare’s writings are from [6]). Shakespeare’s references to syphilis are often odd and misplaced, leading Anthony Burgess to characterize Shakespeare as having a “gratuitous venereal obsession” [1, p. 221]. Several critics have suggested that Shakespeare himself had syphilis [1, 3, 7, 8].

SHAKESPEARE AND THE INFINITE MALADY

The Spanish chroniclers Oviedo (in 1526) and Diaz de Isla (in 1539) asserted that Columbus’ crew brought syphilis back to Spain from the Caribbean after his first voyage [9–11]. Recent studies support this contention. Investigators found no signs of venereal syphilis in several thousand pre-Columbian European skeletons, whereas up to 14% of skeletal remains from pre-Columbian sites in the Dominican Republic displayed characteristic syphilitic periostitis [12]. If venereal syphilis did arise in the New World, it was a minor revenge against the Europeans, who brought measles, malaria, mumps, typhoid, typhus, influenza, diphtheria, yellow fever, and, most fatally, smallpox to American shores [10].

In 1494, the rather daft Charles VIII of France invaded Italy with an army of international mercenaries. Naples was held by a Spanish garrison, who apparently practiced an early form of biological warfare. According to the eponymous anatomist Gabriel Fallopius, the defenders “drove their harlots and women out of the citadel, and especially the most beautiful ones, whom they knew to be suffering from the infectious disease…and the French, gripped by compassion and bewitched by their beauty, took them in” [13]. The French
soon had reason to regret their “compassion.” Naples fell without a fight on 22 February 1495, but in a few months, Charles’ army disintegrated into a debauched, diseased rabble. At the battle of Fornovo in July 1495, Charles lost his army and his Italian kingdoms. In their ignominious retreat home, the syphilitic mercenaries ignited a European pandemic. Syphilis rapidly arrived in India with Vasco de Gama in 1498 and reached Osaka, Japan by 1512 [11].

Syphilis has been called “the most disowned infection in history” [14]. The French called it the Neapolitan disease, and the English, Germans, and Italians called it the French disease. The Russians blamed it on the Poles; the Poles blamed the Germans; the Dutch, the Belgians, and the Portuguese blamed the Spanish; in India and Japan, the Portuguese were blamed [10, 14].

Syphilis was widespread in England by the 16th century, especially in the boisterous merchant city of London. Surviving records indicate that, in 1548, a total of 24% of the patients of St. Bartholomew’s Hospital (now known as Barts) in London were syphilitic; in 1579, the physician William Clowes claimed that up to 75% of the patients at Barts had the French pox [7].

Syphilis was more severe in the 15th and 16th centuries than it is today [9–11]. Gruesome clinical descriptions of primary, secondary, and gummatous syphilis quickly appeared. Quétel, in History of Syphilis, notes that all the works which appeared before 1514 agree on the principal characteristics of the new disease: its contagiousness and ability to spread quickly…it’s multiplicity of cutaneous manifestations, and the intensity of pains in the head and bones…most authors mention the primary chancre and its induration…followed by a reddish rash…after a brief respite…large rounded tumors [gummas] start to appear at random in muscles or bones, eating away cavities within them…they ulcerate the body extensively, exposing the bones and eating away at the nose, the lips, the palate, the larynx, and the genitals. [11, pp. 26–7]

By Shakespeare’s time, syphilis was less explosive in onset, perhaps because of attenuated virulence or improved population immunity, nutrition, and hygiene, with decreased bacterial superinfection. Use of the term “syphilis” was not common until the 19th century [10]. Shakespeare refers to syphilis as the pox, the malady of France, the infinite malady, the incurable bone-ache, the hoar leprosy, and most oddly as “the good-year” (a corruption of the French term “goujere,” from “gouge,” meaning prostitute) [15, 16].

There are no certain references to genital chancres in Shakespeare’s writings, although the “embossed sores” in As You Like It (act 2, scene 7) and the “canker” in Sonnet 95 associated with “vice” and “lascivious…sport” are suggestive [7]. A catalog of the secondary and tertiary manifestations of syphilis in Troilus and Cressida (act 5, scene 1) includes “raw eyes” (syphilitic episcleritis, iritis, or uveitis), “bone-ache” (syphilitic periostitis), and “limekilns in the palm” (the papulosquamous, palmar rash of secondary syphilis).

Shakespeare often refers to the immense variety of syphilitic skin lesions. In Comedy of Errors (act 3, scene 2), a woman of dubious beauty and virtue has “her nose all o’er embellished with rubies, carbuncles, sapphires,” alluding to the syphilid of late benign syphilis, a “deep indurated nodule that varies from pinhead to pea size and is brownish red in color,” which is found primarily on the face, upper back, and extremities [17, p. 501]. Lesions of nodular syphilis may scale and produce plaques, mimicking psoriasis or pityriasis rosea [18, 19]. This whitish, psoriasis appearance may explain Shakespeare’s use of the term “hoar leprosy” for syphilis in act 4, scene 3 of Timon of Athens (with a pun on “whore”). Shakespeare also frequently puns on “French crowns,” which refers to gold coins but also suggests syphilitic alopecia from the French disease.

Of course, Shakespeare’s awareness of syphilis does not mean that he was personally infected. Shakespeare would be familiar with syphilis from the London arts scene of the 1590s, as an observer of the New York arts scene of the 1980s would be familiar with AIDS. Shakespeare’s fellow writers Robert Greene, Thomas Nashe, and George Peele all died young, apparently from syphilis acquired in the London brothels [7]. Is there evidence that Shakespeare’s own lifestyle put him at risk for syphilis?

SHAKESPEARE’S SEX LIFE

Shakespeare’s relationship with his wife Anne Hathaway was probably not close. They married when he was 18 years of age, and she was 26 years old and pregnant. He lived in London, whereas Anne stayed in Stratford. Infamously, he bequeathed her only the “second-best bed.” Despite the ingeniously benign explanations of Shakespeare’s biographers [4], it is hard to believe this was anything other than a final, deliberate insult. Away from Stratford, Shakespeare probably expended much energy seeking better beds.

In 1602, a law student, John Manningham, recorded this salacious anecdote about Shakespeare and the actor Richard Burbage:

Upon a time when Burbage played Richard the Third, there was a citizen grew so far in liking with him that before she went from the play she appointed him to come that night unto her by the name of Richard the Third. Shakespeare, overhearing their conversation, went before, was entertained, and at his game ere Burbage came. Then message being brought that Richard the Third was at the door, Shakespeare caused return to be made that William the Conqueror was before Richard the Third. [3, p. 121]

This might be a fabricated bit of celebrity gossip, but it likely would not have arisen if Shakespeare were a paragon of marital
fidelity. In Sonnet 129, the poet ruefully acknowledges his lasciviousness:

The expense of spirit in a waste of shame
Is lust in action; and till action, lust
Is perjured, murderous, bloody, full of blame,
Savage, extreme, rude, cruel, not to trust…

Shakespeare’s high level of sexual awareness is also borne out by his robust ribald vocabulary. In *Shakespeare’s Bawdy*, Eric Partridge [15] defines 1418 sexual or vulgar expressions in the works of Shakespeare, in a glossary of >200 pages. In 1594, a gang of Oxford students produced the sophomoric satire *Willabie His Avisa*. In this passage, the passion of “H.W.” for the virtuous Avisa is described in vocabulary evocative of venereal disease:

H.W. being suddenly infected with the contagion of a fantastical fit…at length not any longer to endure the burning heat of so fervent a humor, betrayed the secrecy of his disease unto his familiar friend W.S. who not long before had tried the courtesy of like passion, and was now recovered of the like infection...he determined to see whether it would sort to a happier end for this new actor, then it did for the old player. But at length this Comedy was liken to have grown to a Tragedy, by the weak and feeble state H.W. was brought into. [7, p. 177]

The pointed references to a “new actor,” an “old player,” “Comedy,” and “Tragedy,” as well as a subsequent doggerel parody of Shakespeare strongly suggest that the “old player” is William Shakespeare. “H.W.” may be Henry Wriothesley, the future Earl of Southampton, a patron of Shakespeare and a leading candidate for the “lovely youth” of the sonnets. The peculiar word choices—“contagion”, “disease”, “burning”, and “infection”—suggest that Wriothesley and Shakespeare were experiencing venereal disease, rather than the pangs of unrequited love.

Fabricius [7, p. 178] concludes that the “picture of William Shakespeare is clearly that of a Bohemian and libertine who is the ringleader of an aristocratic jet set specializing in the courtship of beautiful ladies” and implies that Shakespeare had venereal disease. However, the strongest evidence that Shakespeare had a sexually transmitted disease is that he tells us so himself, in the sonnets.

“A SAD, DISTEMPERED GUEST”:
THE SONNETS

The controversial sonnets concern the poet’s passion for a callous young nobleman, supposedly either the Earl of Southampton or the Earl of Pembroke, effete dandies who were Shakespeare’s patrons [2, 20]. After the youth commits the “sensual fault” (Sonnet 35) of sleeping with the poet’s mistress, the masochistic poet responds “Take all my loves, my love” (Sonnet 40). The poet and his mistress are promiscuous and sexually voracious (Sonnets 129, 135, and 151 [the “gross” sonnet]). In Sonnet 144, the poet frets that his “better angel” (or “a man right fair”) will be “fired out” (i.e., venereally infected) by his “bad angel” (or “female evil”).

There is external evidence that the love triangle of the sonnets was more than just a literary conceit. The brilliant, subversive Thomas Nashe cryptically dedicated his novel *The Unfortunate Traveller* to Southampton: “A dear lover and cherisher you are, as well as of the lovers of poets, as of the poets themselves” [2, p. 177]. Nashe may insinuate that Southampton was amorously involved with the poet’s mistress, if not with the poet himself.

The sonnets end with 2 variations on a theme: a nymph ignites the waters of love with Cupid’s stolen torch. Shakespeare transforms this into an ironic metaphor for venereal disease: Cupid’s “fire” is the dysuria of gonorrhea, and the hot bath is the tub treatment of syphilis. In Sonnet 153, the poet, “a sad distempered guest,” seeks this “seething bath, which yet men prove/Against strange maladies a sovereign cure.” Specifically, the poet seeks a remedy for the “new fire” acquired from “his mistresses’ eye.” Here, the “eye” of his mistresses can be understood as her pudendum. In Sonnet 154, the unfortunate poet laments that “Love’s fire heats water” (i.e., that love causes burning urine), leading him to seek “a bath and healthful remedy/For men diseased.”

“DISEASES DESPERATE GROWN”:
THE ELIZABETHAN TREATMENT OF SYPHILIS

Shakespeare considered syphilis to be untreatable. *Troilus and Cressida* (act 5, scene 1) refers to syphilis as the “incurable bone-ache,” and *Timon of Athens* (act 3, scene 6) as the “infinite malady.” However, somewhat effective, albeit hazardous, treatment for syphilis was available in Elizabethan England.

In 1539, the Spanish physician Ruy Diaz de Isla noted that high fever often arrested the progress of syphilis [10]. The explanation was only recently discovered: not only does *Treponema pallidum* lack an effective heat shock response, but at least one key metabolic enzyme is very sensitive to heat [21, 22].

Elizabethan physicians treated syphilis with hot baths, mercury, and a spartan diet. In *Timon of Athens* (act 4, scene 3), Timon urges Alcibiades’ harlots to “bring down rose-cheeked youth/To the tub-fast and diet.” In *Henry V* (act 2, scene 1), Falstaff’s mistress Doll Tearsheet is in “the powdering tub of infamy.” The “powder” is the mercury ore cinnabar (mercuric sulfide, HgS). Thrown onto a hot plate and volatilized to mercury vapor, it was absorbed by the respiratory tract [7, p. 34].

Mercury chemotherapy was the subject of intense controversy into the 20th century, and its efficacy was never validated in clinical trials. Mercury caused Jarisch-Herxheimer reactions in treated patients, and it cleared spirochetes from experimental
skin lesions, suggesting that it was treponemical [23]. Osler [24] believed that mercury was beneficial for secondary syphilis, noting that it failed to prevent neurosyphilis. However, most untreated patients with secondary syphilis in the Oslo study remitted spontaneously, casting doubt on the treatment effect of mercury. Leonard Goldwater, a modern toxicologist, called the medical use of mercury a “colossal hoax” [23]. Mercury use was abandoned with the introduction of bismuth and arsenical therapies, which were not fully protective against neurosyphilis either [23, 25].

Neurosyphilis was not described until the late 18th century, perhaps in part because frequent epidemics in Europe may have caused fever-associated treponemal lysis. Mattauschek and Pilcz followed a large cohort of syphilitic Austrian army officers, noting that neurosyphilis was rare in survivors of a supervening infection, such as malaria, erysipelas, typhoid, or pneumonia [26]. Emboldened by these observations, Julius Wagner-Jauregg introduced vivax malaria therapy for neurosyphilis in 1917 (despite earlier lethal misadventures with erysipelas and falciparum malaria). The recurrent high fevers provoked by malaria resulted in clinical improvement or remission in many paretic patients. Wagner-Jauregg became the only psychiatrist to ever win the Nobel Prize in Medicine, despite the 9% mortality of patients. Wagner-Jauregg noted that neurosyphilis was rare in survivors of a supervening infection, such as malaria, erysipelas, typhoid, or pneumonia [25].

Given the dangers of arsenic and malarialotherapy, use of extrinsic heating for syphilis treatment revived in the 1940s. “High-tech” fever cabinets were devised, employing radiant light, electrical diathermy, or short-wave radio as heat sources. However, neurosyphilis was also successfully treated with hot baths (temperature, 43.3°C [110°F]), to increase body temperature to 40.5°C–41.1°C (105°F–106°F) for 1 h daily for 2–3 weeks. These alternative forms of fever therapy were more controllable than malaria, with mortality rates of only 1%–2% [27]. Thus, before the use of antibiotics, the treatment of syphilis evolved little beyond Shakespeare’s “seething bath.”

Shakespeare was painfully aware of the symptoms of syphilis and could afford treatment. Twentieth-century experience suggests that fever therapy for syphilis was reasonably effective, making it less likely that Shakespeare died of syphilis. Moreover, it seems implausible that Shakespeare could have produced a steady stream of works of genius or occasionally acted in major productions (such as Jonson’s Sejanus in 1603) if he was experiencing the wasting and disfiguring ravages of syphilis.

CONFUSION OF SYPHILIS AND OTHER VENEREAL DISEASES

As previously noted, syphilis, gonorrhea and herpes simplex were poorly differentiated in Shakespeare’s day, because of the high frequency of coinfection. The Scottish surgeon John Hunter perpetuated this confusion. In a misbegotten experiment in 1767, the querulous Hunter inoculated himself with gonorrheal pus from a patient. Unfortunately, his patient was coinfected with the etiologic agents of syphilis and gonorrhoea, and Hunter developed both conditions [28]. More sensibly but less ethically, Benjamin Bell, another pugnacious Lowland Scot, conducted a series of inoculation experiments involving medical students, establishing the distinction between syphilis and gonorrhoea [11].

Shakespeare’s repeated references to “fire” suggest that he had gonorrhoea, which is more often associated with dysuria than syphilis. If he was not coinfected with syphilis, he may have received fever therapy and mercury unnecessarily.

THE PSYCHOLOGICAL IMPACT OF VENEREAL DISEASE

The 17th-century writer John Aubrey made 2 contradictory comments about Shakespeare’s demeanor, which were based on interviews with his acquaintances. Aubrey stated that Shakespeare was a “handsome, well-shap’t man: very good company” [29] but scribbled elsewhere that he “was not a company keeper,” and “wouldn’t be debauched [go to brothels], and if invited to wrat that he was in pain” [2, p. 122]. Did an external event change Shakespeare’s temperament from the merry seducer of Manningham’s diary and Willobie His Avisa to Aubrey’s withdrawn loner?

Up to 85% of patients with venereal disease have psychological symptoms [30], including anger, anxiety, depression, sexual dysfunction, and misogyny [7, 31–34]. Guilt associated with promiscuity, homosexuality, or extramarital sex is a major risk factor [30, 35–37]. Perhaps the withdrawal described by Aubrey, as well as the misogyny in Hamlet and Lear, were psychological aftershocks of venereal disease, or perhaps Shakespeare was depressed after his son’s death. But there is another potential explanation for the change in Shakespeare’s personality.

DID SHAKESPEARE HAVE MERCURY POISONING?

Biographers have blamed syphilis, alcohol, and depression for Shakespeare’s waning creative output [3, 4]. The quality of Shakespeare’s final writings argues strongly against major cognitive dysfunction. Although he relied heavily on his collaborator John Fletcher and his late style was increasingly idiosyncratic, he was still capable of writing poetry of startling originality and power. It would be unfair to compare the dense, grim, masterful verse in Shakespeare’s share of Two Noble Kinsmen, his last play, with Fletcher’s featherweight portion. Perhaps Shakespeare lacked the energy or stamina for sustained writing, or perhaps he had a physical handicap that made writing difficult.

Shakespeare’s will provides another clue. He was agitated during its composition, based on the frequent revisions and
deletions [3]. Shakespeare’s signature on the first page demonstrates a pronounced tremor, which was attributed to alcoholism elsewhere [4, p. 335]. His signature begins boldly and vigorously but becomes weak and tremulous, worsening on subsequent pages [2, p. 397].

A unifying diagnosis for Shakespeare’s tremor, agitation, and social withdrawal is mercury vapor poisoning, associated with the “triod of intentional tremor, gingivitis, and erethism” [38]. Mercury poisoning was common in Shakespeare’s day [7, 23]. Sir George Carey, patron of Shakespeare’s acting company from 1597 to 1603, developed tremor, mental torpor, and weight loss after receiving mercury therapy for syphilis [39].

Erethism was described as an occupational disease of hatters, who used mercuric nitrate solution to manufacture fine felt; hence the expression, “mad as a hatter.” Because personality changes in hatters included “excessive timidity, embarrassment in the presence of strangers, and irritability” [40], erethism in Shakespeare could perhaps explain why he was not a “company keeper.”

Mercury can damage both the cerebellum and the basal ganglia, resulting in intention or Parkinsonian tremor [41]. Tremor from mercury may appear decades after exposure, as age-related neuronal loss unmask earlier damage [42]. Severe mercury vapor exposure causes memory loss and word-finding difficulties, although these symptoms are usually reversible [43]. If Shakespeare was treated for syphilis in the 1590s, when most of the sonnets were written, his exposure to mercury must have been relatively mild, given the lack of cognitive impairment.

Shakespeare may have experienced other mercury-associated toxicities. Baldness, Shakespeare’s most notable physical feature, can be caused by mercury [44]. Shakespeare’s bust in his parish church at Stratford, probably taken from a death mask [2], has been described as “puffy” and “bloated” [45], despite the fact that Shakespeare was probably dehydrated from his terminal febrile illness. Perhaps Shakespeare had simply become corpulent in his retirement. However, mercury exposure can also cause membranous nephropathy, with edema and nephrotic-range proteinuria [38, 46]. Nephrotic syndrome would predispose Shakespeare to death from sepsis caused by low serum levels of immunoglobulin and complement [47].

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References

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