Samuel Pepys (1633-1703) is known for writing the finest diary in the English language. He was a man of remarkable accomplishments who transformed the English Navy, was president of the Royal Society, and was a member of the British Parliament. He survived the Great Plague and imprisonment in the Tower of London. During the years when he was writing the diary, Pepys began to experience great pain in his eyes when reading and writing and from photophobia, which caused him to give up writing the diary. Pepys also had an ultimately unjustifiable fear of blindness.

So ends the diary of Samuel Pepys, for he was convinced he was going blind. Unable to read or write for more than a few minutes at a time and incapacitated with photophobia, he could only ask God to prepare him for a fate he thought almost as bad as “to see myself go into my grave.” Pepys had sought the best medical and optical advice available at the time and tried many ingenious treatments, all to little avail. It was with great sorrow that he discontinued the writing of his diary.

**SAMUEL PEPYS: THE GENTLEMAN**

Pepys was a man of remarkable accomplishments. One of the first professional men we can know intimately, he transformed the English Navy from a haphazard collection of men and ships into an effective and efficient force. He was president of the Royal Society and in that position encouraged such men as Sir Christopher Wren, Robert Hooke, and John Evelyn. He was a passionate devotee of music; pieces he composed are still played today. He is best known for writing perhaps the finest diary in the English language, a diary that is an unparalleled sourcebook for anyone interested in Restoration London.

Pepys (pronounced Peeps) was born in London, England, on February 23, 1633, the son of a tailor and a washerwoman. He was educated at St Paul’s School and Magdalene College, Cambridge, England. Little is known of his school years except that in 1653 he was publicly admonished by the university authorities for having been “scandalously overseen in drink.”

His bride, Elizabeth St Michel (a Huguenot), was only 15 years old when Pepys married her, and the marriage was a stormy one. Pepys was incapable of remaining faithful for long; he groped women in church, taverns, theaters, and even his own home (until his wife caught him out with her maidservant Deb). Elizabeth was to die only a few months after Pepys ceased keeping the diary.

Ignorant even of the multiplication table when he first took office, Pepys quickly mastered the technical details of his job when he was offered a clerkship at the English Navy Office. His extraordinary capacity for and pleasure in hard work soon gained him promotion. He eventually became secretary for admiralty affairs, a Member of the British Parliament, and master of Trinity House.

Pepys remained at work in London throughout the Great Plague and managed to survive it, but he did not always enjoy perfect health. His youth was greatly troubled by bladder stones, and in 1658 he took the brave step of undergoing an operation. So thankful was he to have survived this gruesome procedure that March 26th was celebrated as his “cutting of the stone” anniversary for the rest of his life.

Pepys’ diary is an incomparable document. Its first entry was made on January 1, 1660, and its last on May 31, 1669. The diary was kept in shorthand because it was intended for his eyes alone, but he did take
the added precaution of recording his frequent illicit liaisons in a delightful mixture of French, Latin, and Spanish. Events in the journal are wonderfully jumbled together. In a single day, Pepys might be confer-ring with his king, gossiping with a ship’s captain in a tavern, watching an experiment at the Royal Society, having the nits removed from his hair by the maid, and fondling an actress in the darkness of a coach. He records the great events of his age—the plague, the Great Fire, the building of St Paul’s Cathedral. Always there is close observation, frankness, variety, and enormous charm. The diary is a deeply human document of amazing vitality.

Selections from it were first published in 1818, but the full 1.3 million words were not published until the 1970s. The diary is preserved in Magdalene College, along with a collection of books bequeathed by Pepys. Pepys went on to do many interesting things after 1669. He traveled, transformed the English Navy, wrote books about the English Navy, kept a mistress, and even endured 2 spells of imprisonment in the Tower of London, but he never returned to the unique record of his life. Both history and literature are the poorer for it. Perhaps without his eye difficulties, Pepys could have written a longer diary. Pepys died in London, the city he loved so much, in 1703.

BLINDNESS AND THE DIARY

When Pepys was forced by eye problems to bring his diary to a close, he could expect little help from the physicians of the day. It was after all the 17th century, a time when humoralist doctrines dominated medical thinking. More than 330 years since the last entry in the diary, a correct ophthalmic diagnosis is long overdue.

A modern diagnosis is possible because of the extraordinary detail with which Pepys records his ocular complaints. There are more than 100 references about his eye-sight in the 9½ years of the diary, and as Sir D’Arcy Power correctly stated, he has “dissected himself so completely” that we can gather far more than if any of his physicians had left a detailed description of his ailments. This invites the modern ophthalmologist to analyze the symptoms and reach conclusions.

There have, of course, been attempts to do this by surgeons, ophthalmologists, and optometrists in the years since the diary was published. Sir D’Arcy Power, writing in 1895 and 1911, concluded that Pepys had hypermetropia, some degree of astigmatism, and presbyopia and that his ocular strain was owing to long periods of convergence. While acknowledging that astigmatic refractive errors were not amenable to correction until the 19th century, he suggested that a prescription of +2.00/+0.50 axis 90 would have corrected the problem for Pepys. Trevor-Roper believed that Pepys was long-sighted and that he probably also had a secondary latent convergence, as did Beat-tie, who specified hypermetropia and esophoria. Groffman believed it was a binocular vision disability that caused Pepys’ intensive near-point stress. James diagnosed ametropia without early-onset presbyopia and a disturbance of muscle balance in the form of insufficiency of convergence that would have benefited from a low spherocylindrical lens combined with base-in prisms and suitable tinting. Some of the problems have been attributed to conjunctivitis. Prince suggests that overeating may have been the underlying problem and gives the example of one very fine dinner prepared by Pepys’ wife. These varying diagnoses also invite further scrutiny and conclusions.

PEPYS’ OPHTHALMIC HISTORY

The first time Pepys mentions his eyes in his diary was when his right eye was injured on May 22, 1660. Pepys, ever curious, had been holding his head too closely over a gun that was fired in the Royal Salute to Charles II. No permanent injury seems to have occurred, but the eye was “ayling and red” the next day. Two years later, on a visit to Portsmouth, he records being “much troubled in my eyes, by reason of the healths I have this day been forced to drink” (April 25, 1662).

The first complaints of the symptoms that were to reoccur during the period of the diary appear the following year: “my eyes begin to fail me, looking so long by candlelight upon white paper” (February 19, 1663) and “my eyes tired with seeing to write” (July 31, 1663). These remarks allow us to identify early on Pepys’ 2 main ocular complaints. Visual fatigue on reading and writing is the predominant symptom. As time went on, he could tolerate reading and writing for only a few minutes. The second main complaint is photophobia, generated by candle-light, candle-lit chandeliers at the playhouse, snow, and the brightness of white paper.

The 1664 entries are more frequently devoted to his eye complaints and pain, soreness, watering, and redness accompany the 2 main symptoms. Headache is not mentioned. Recall that Pepys is only 30 years of age. In January he writes, “my eyes begin to fail me and be in pain, which I never felt to nowadays, which I impute to sitting up late writing and reading by candlelight” (January 19, 1664). Eyestrain was not Pepys’ only worry at this time; he was also dealing with the jealousy of his wife and considerable stress at work. As a result, he had “a great pain and water in my eyes after candlelight” (April 1, 1664) and “eyes beginning every day to grow less and less able to bear with long reading or writing—though it be by daylight, which I never observed till now” (May 5, 1664).

He then describes a discharge from his left eye at a time when he had a “great cold” (March 5, 1664) and bad throat: “my eye mightily out of order with the Rhume that is fallen down into it” (March 2, 1664). This problem persisted for a week, although his right eye was “ayling nothing” (March 7, 1664). Rhume refers to a watery discharge from the mucous membranes or tears.

Pepys was having more and more trouble with his eyes: “till my eyes did ake, ready to drop out” (June 8, 1664). He was naturally interested in what caused his eye trouble and attributed his defective vision to the cold, candle-light, and a variety of other causes. He began to ask for advice and was relieved after discoursing with Mr Cocker (October 5, 1664): how I shall do to get some glass or other to help my eyes by Candle light; and he tells me he will bring me the helps he hath within a day or two.
Two days later

a Globe of glasse, and a frame of oyled paper (as I desired), to show me the man-
er of his gaining light to grave by and to lessen the glaringnesse of it at plea-
sure, by an oyled paper.

This remedy was the beginning of numerous and ingenious attempts to relieve his symptoms. It was ineffectiveness, and Pepys continued to experience pain without seeking outside help for 2 more years.8

Some attacks he attributed to his beer: “Only, for want of sleep, and drinking of strange beer, had a rheum in one of my eyes which troubled me much” (July 24, 1665).

The next day, my eye only troubling me, which by keeping a little covered with my han-
kerccher and washing now and then with cold water grew better by night.

Then he recorded “having my [right] eye sore and full of humour of late, I think by my late change of my brewer and having of 8s beere” and “my right eye continuing very ill of the rheum which have troubled it four or five days” (May 23-24, 1666). Still, the next month the right eye continued to be sore (June 9, 1666):

But I am to observe how the drinking of some strong water did immediately put my eyes into a fit of sorenesse again, . . . I mean, my right eye only.

Humor refers to a normal functioning fluid or liquid from the body.12

By December, the “sorenesse” was so bad that once again Pepys was motivated to find some cure (December 13, 1666):

I perceive my overworking of my eyes by Candle light doth hurt them, as it did the last winter. That by day I am well and do get them right—but then under candle-light they begin to be sore and run—so that I intend to get some green spectacles.

This is one of the earlier written references to the use of tinted lenses as a visual aid.8 Pepys was getting desperate and was prepared to try anything, no matter how outlandish! “I do truly find that I have over-wrought my eyes, . . . my eyes are very bad, and will be worse if not helped”; so he “did buy me a pair of green spectacles, to see whether they will help my eyes or no” (December 24, 1666). Pepys was assiduous about wearing the green spectacles: “I write by spectacles all this night” (December 29, 1666), but they gave little help or relief.

To Pepys’ terror, blindness began to seem a distinct possibility: “I writing till my eyes were almost blind” (January 18, 1667). Throughout 1667, every bit of reading seemed to exacerbate the soreness and redness: “my eyes being a little sore by reason of my reading a small printed book the other day after it was dark” (April 11, 1667); “my eyes troubling me still after candle-light” (April 13, 1667); “did business till my eyes are sore again; . . . my eyes failing me mightily” (April 22, 1667).

By midyear, he was recording despondently, “Being weak and almost blind with writing and reading so much today” (June 2, 1667).

His work at the Admiralty had to continue regardless. Much of his work was done in darkened rooms under candlelight rather than natural light. He often worked 18 to 20 hours a day, writing on coarse paper and reading crabbed writing under insufficient and flickering candlelight.3 But there was little Pepys could do to improve these working conditions, and he worked on until he “was almost blind” (August 4, 1667), worrying about the “eyes, which every day grow worse and worse by over-useing them” (August 19, 1667).

Whenever possible, Pepys tried to lessen the growing eyestrain by employing an amanuensis: “I was fain to get the boy to come and write for me” (September 22, 1667). His wife also helped by reading to him.

Once again driven to seek relief, Pepys went shopping (October 18, 1667):

bought me two new pair of spectacles of Turlington, who it seems is famous for them. And his daughter, he being out of the way, doth advise me to very young sights, as that that will help me most; and promises me great ease from them, and I will try them.

A fortnight later (November 4, 1667), he

took coach and went to Turlington the great spectacle-maker for advice; who dissuades me from using old spectacles, but rather young ones. And doth tell me that nothing can wrong them more then for me to use reading-glasses—which do magnify much.

A precise definition of “old lenses” and “young lenses” is not known, but it is generally agreed that old lenses corrected “old sight,” a colloquial term for presbyopia. Very young lenses, as recommended to Pepys by Turlington’s daughter, probably refers to concave lenses. Turlington was master of the Worshipful Company of Spectacle Makers at this time. Pepys, however, did not take up his optometric recommendations. Turlington must have thought that a man of 34 years would not be presbyopic and that convex (old) lenses would be harmful. Pepys tried the glasses but continued to have pain: “my eyes being bad again; and by this means, the nights nowadays do grow very long to me, longer then I can sleep out” (November 14, 1667). Work made him feel that his “eyes were ready to fall out of my head” (November 18, 1667).

Pepys makes interesting ophthalmic observations on binocular vision and diplopia (May 24, 1660):

that children do in every day’s experience look several ways with both their eyes, till custom teaches them otherwise. And that we do now see with one eye—our eyes looking in Parallel lynes.

Pepys also writes (November 30, 1667),

saw a pretty deception of the sight, by a glass with water poured into it, with a stick standing up with three balls of wax upon it, one distant from the other—how these balls did seem double and disappear one after another, mighty pretty.

The spring of 1668 brought some relief, with only a few journal entries of eye complaints. Probably the jaunts to Cambridge, Bramp-
ton, Oxford, and the West, which took him away from his papers and books, gave his eyes a much needed rest from the strain of work.13 A return to the office brought a return of the pain: “my eyes, which are daily worse and worse, that I dare not write or read almost anything” (April 30, 1668) and “my head and eyes out of order, the first from my drinking wine at dinner, and the other from my much work” (May 9, 1668). Later, Pepys writes, “my eyes being
now constantly so bad that I must take present advice or be blind” (June 20, 1668).

He consulted Dr Daubeney Turberville, the most famous ophthalmologist of the time, but, as Pepys observed, one who had never until 1668 seen an eye (of a sheep or ox) dissected by an anatomist: “but strange that this Turberville should be so great a man, and yet to this day had seen no eyes dissected, or but once” (July 3, 1668). Pepys found that however much Dr Turberville might be lacking in practical experience, “he did discourse I thought learnedly about them, and takes time before he did prescribe me anything, to think of it” (June 23, 1668). Six days later “did receive a direction for some physic, and also a glass of something to drop into my eyes; who gives me hopes that I may do well” (June 29, 1668).

He was in deep need of a cure for depression (June 30, 1668):

I very melancholy under the fear of my eyes being spoil’d and not to be recovered; for I am come that I am not able to read out a small letter, and yet my sight good, for the little while I can read, as ever they were I think.

But he dutifully tried the remedies he had been provided: “About 4 in the morning took four pills of Dr Turberville’s prescribing for my eyes, and they wrought pretty well most of the morning” (July 5, 1668). Sadly, it soon became clear that the eye drops and purges, the physis and the pills, like the remedies before, were useless. Pepys resorted to the universal cure of the time, the first and last shot in the medical locker of the 17th century:3 “This morning I was let blood, and did bleed about 14 ounces, towards curing my eyes” (July 13, 1668).

Pepys was certain that the dim candlelight of winter was damag-ing his eyes (July 15, 1668):

Up, and all the morning busy at the office to my great content, tending to the settling of my papers there, that I may have the more rest in winter for my eyes by how much I do the more in the settling of all things in the summer by daylight.

But even in summer he had difficulties: “my eyes for these four days being my trouble, and my heart thereby mighty sad” (July 29, 1668), and “The month ends mighty sadly with me, my eyes being now past all use almost” (July 31, 1668).

There was still room for hope, and Pepys became excited when he heard of “the late printed experiment of paper Tubes” (July 31, 1668). He was quick to try these tubes: “mightily pleased with a little trial I have made of the use of a Tube-spectacall of paper, tried with my right eye” (August 11, 1668). These paper tubes were 3 inches long with a small orifice at the lower end.3 They worked by eliminating binocular vision and glare.4,5 They gave transient relief and proved to be his favored visual aid (August 23, 1668):

After dinner to the office, . . . to examine my letter to the Duke of York; which to my great joy, I did very well by my paper tube, without pain to my eyes.

But they were not comfortable to use, did not completely resolve the problems and did not prevent the abandonment of the diary soon afterward.

Before abandoning his beloved diary, he relieved his eyes by buying a reading glass, walking in the dark in the garden, and having a special candlestick designed. All of little use: “my eyes are come to that condition that I am not able to work” (November 30, 1668). From 1668 onward, his handwriting is noticeably larger, and there is a remarkable increase in the number of references to the eyestrain.3

By early 1669, he was dictating all his correspondence. Having someone take the eyestrain for him produced promising results at first: “I being very well in my eyes after a great day’s work” (February 3, 1669). But no one could watch a theatrical production for him (and theater going was one of the delights of Pepys’s life!), and he was forced, to his chagrin, to sit so far away from the stage that he “could not hear well, nor was there any pretty women that I did see but my wife” (February 15, 1669).

Pepys battled on with keeping his journal, but it had become a task imposing too great a strain (February 16, 1669):

my eyes mighty bad with the light of the candles last night; which was so great as to make my eyes sore all this day, and doth teach me, by a manifest experi-

ment, that it is only too much light that doth make my eyes sore.

The theater now gave him only pain: “my eyes being sensibly hurt by the too great lights of the playhouse” (March 8, 1669). He searched desperately for a form of shield so that he did not have to give up theater-going entirely: “I did also bring home a piece of my Face cast in plaster, for to make a vizard (mask) upon for my eyes” (March 1, 1669).

Play-going could be given up, if it really had to be, but there was no such solution when it came to work. One task “did so trouble my eyes, that I had rather have given 20£ then have had it to do” (March 22, 1669). He realized that alcoholic excesses aggravated his eyes, but depression drove him to seek such consolations anyway (March 28, 1669):

I find it most certain that strange drinks do make my eyes sore, as they have done heretofore always, when I was in the country, when my eyes were at the best—there strange beere would make my eyes sore.

Asking everyone he met if they could suggest a remedy became a habit with him. Sometimes he got suggestions and hurried to put them into practice: “This night I did bring home from the King’s poticary’s in White-Hall by Mr Cooling’s direction, a water that he says is mighty good for his eyes” (April 2, 1669). The remedies were frequently painful (April 30, 1669):

the mistress of the house, an oldish woman in a hat, hath some water good for the eyes, she did dress me, making my eyes smart most horribly, and did give me a little glass of it, which I will use and hope it will do me good.

He also persevered with the tube “and there set down my journal, with the help of my left eye through my tube” (April 11, 1669).

Pepys, with the assistance of Mr Lead, then devised a clever modification of the tubes by adding them to a vizard and a glass was then inserted within the tube and the position of the glass could be altered, which was “mighty manageable” (April 24–25, 1669). He changed the position of his desk at the office; he tried anything and everything. Now scarcely a day passed without Pepys recording in his diary the agony that
his eyes now gave him: “the trouble of my eyes with the light of the candles did almost kill me” (May 12, 1669).

It seemed that the only hope left was a complete rest. In May, Pepys started drawing up a formal petition to the Duke of York for leave to spend 3 to 4 months out of the office, his sole aim being the relief of his eyes. The King and the Duke, who knew Pepys well, “expressed great sense of my misfortune in my eyes” (May 24, 1669) and ordered him to take time off and rest. The diary ended some weeks later (May 31, 1669):

And thus ends all that I doubt I shall ever be able to do with my own eyes in the keeping of my journal, I being not able to do it any longer, having done now so long as to undo my eyes almost every time that I take a pen in my hand.

The diary had ceased, but there are still references to Pepys’ eyes from other sources. In “The Present Ill State of my Health,” a document written in 1677 when Pepys was 44 years old, he commented on the pain which seizeth me in a minute upon applying my eyes not only to any book, small character or other lesser object, but to any object great or small that I am obliged to look upon as near (or nearer) than the ordinary distance at which a man reads from the object, while on the contrary I see as small an object as I ever did in my life at the distance that other men can see it and without the least pain let me look as long as I will at objects that are farther distant.

From the end of his diary to his death, as evidenced by letters and “The Present Ill State of my Health,” Pepys continued to have the same recurrent complaints. He never lost his fear of blindness, a fear that probably arose from the knowledge that his contemporary, the poet John Milton, became blind at only 43 years of age. But Pepys never went blind. He continued his duties and business into the 1690s, and his vision was fully adequate during his last few years, which were spent cataloguing and organizing his various collections of books and manuscripts. He employed clerks whenever he could and continued to write in shorthand when forced to write. He coped by no longer placing strain on his eyes in the keeping of an elaborate diary under conditions of poor visual hygiene. By treating his sight with great care, he was even able to publish a parliamentary diary in 1677, the Boscobel manuscript of 1680, and the Tangier diary of 1683-1684.

THE EXAMINATION

As one of the most famous men of Restoration London, it is not surprising that at least 90 paintings or engravings of Pepys exist today. Portraits, of course, were probably not a true reflection of the individual. Painters were often influenced by the vanity of their clients, and Pepys may have instructed his portraitist not to paint any manifest abnormality of his eyes. Yet in the famous portrait by John Hayls, Pepys is holding a piece of music he composed, there is the impression of a divergent left eye (Figure 1). Paintings show that his eyes were brown or hazel-brown.

An ivory medallion, carved in 1688 by Cavalier, provides a side profile of his face, revealing the right eye to be prominent if not somewhat proptotic with some lower lid retraction and swelling (Figure 2). The postmortem examination, undertaken by Sir Hans Sloane and 2 colleagues, includes no mention of the eyes. Pepys is buried in front of the altar at St Olave’s, London. There are no remaining body parts, nor would a genetic analysis be likely to aid in a definitive diagnosis.

THE DIAGNOSIS

There is no doubt that Pepys had asthenopia (eyestrain)—a weakness or fatigue of the eyes often accompanied by pain, resulting from the con-
Up to 1677, spectacles were of no benefit to him, and the wizard with the tube fastened and a glass within the tube did not improve his vision but provided ease. Therefore, the low amount of hypermetropia and the astigmatism were components of his asthenopia, but they alone do not explain his complaints.

There was some additional cause for his asthenopia. Does Pepys himself, in 1677, provide us with the answer? As he writes, "the posture of my eyes as it is required to be in reading and writing will of itself bring the pain, be the object great or small" and "being liable to the same pain upon turning my eyes into a reading posture even when I am in the dark." "Posture of my eyes" refers to his ocular alignment, and it is indeed likely his trouble was partly an error in muscle balance, not an esophoria as proposed by other authors, but in fact a convergence insufficiency associated with an esophoria for near. There is often an associated insufficiency or paralysis of accommodation, although either disturbance may exist independently. Such patients complain of asthenopia, visual fatigue, blurred vision, and nearsighted intermittent diplopia.

It is the constant use of fusional convergence to control the esophoria that produces asthenopia. At first the periods of strain are intermittent and gradual. With time, they increase in duration and frequency until vision becomes impossible unless the patient increases his or her working distance or ceases to work. On resuming work, the intervals of effective vision become smaller until eventually work has to be abandoned. This closely matches Pepys' records with the increase in eye complaints over the years until eventual abandonment and also the increase in the size of his handwriting from 1668, which was an attempt to lessen visual fatigue. Monocular occlusion commonly relieves the patients of their symptoms. The tubes helped Pepys temporarily, although he was unable to sustain a prolonged accommodative effort with one eye with its uncorrected refractive error. Becoming reliant on a monocular state, Pepys' convergence insufficiency then deteriorated further.

Convergence insufficiency does occur in adults, and the onset of Pepys' asthenopia at the age of 30 years correlates with the intensive use of his eyes and mental concentration required for his tasks at the Admiralty. Before this, he had been used to an outdoor life, but now he was in an office attending to figures and accounts. He also had many stresses at home and work. These environmental factors were contributory to his asthenopia.

The exophoria associated with his convergence insufficiency occasionally compensated. It certainly did after heavy drinking. The only inconsistency with this diagnosis is that Pepys was aware of diplopia but never experienced it himself or tells us so. He was also knowledgeable on strabismus ("squinting girl" [August 30, 1668]), but there is no indication in the diary that he or others observed any ocular deviation in his eyes. His wife would have noticed one, because she spent much time looking at her husbands' eyes to make sure they were not wandering toward a pretty girl.

Neither a small refractive error nor the convergence insufficiency can explain Pepys' pain from photophobia and glare. Could he have had a low-grade intraocular inflammation? Unilateral eye complaints in March 1664, July 1665, and May 1666 were predominantly of rheum, soreness, and photophobia. Accompanied by redness and pain on convergence, this is suggestive of intermittent attacks of low-grade idiopathic anterior uveitis (idiopathic because Pepys had no easily identifiable systemic disease, which is commonly associated with intraocular inflammation). In particular, he does not seem to have had tuberculosis. At his postmortem examination, the physicians concluded, "his stamina in general were marvellously strong." Adequate vision to an old age, however, argues against a significant untreated intraocular inflammation with its secondary complications.

It is also interesting to speculate if Pepys' eye troubles were secondary to a sexually transmitted disease. He had extraconjugal relations with no fewer than 50 women between 1660 and 1669. Syphilis was prevalent in London at the time. This has led MacLaurin to say "it seems impossible that any man could live as promiscuously as Pepys . . . without paying the
penalty! Pepys did have a chance in his mouth in February 1660, which was most likely to have been a common mouth ulcer because there is otherwise no evidence that he or his wife contracted any venereal disease. Untreated syphilitic ocular inflammation is usually severe, chronic, and progressive and had he had such a disease it is improbable that Pepys would have lived to what was, in those times, a ripe old age. But syphilis is "the great imitator," so there is the remote possibility that Pepys had syphilitic eye disease.

Ocular surface disease could partly account for his asthenopia and photophobia. Chronic eye strain can result in conjunctival hyperemia and a chronic blepharocconjunctivitis, although it is not seen commonly today. Perhaps it was a chronic follicular conjunctivitis, which has a variety of origins, including chlamydia, although Pepys never mentions a mucous discharge. Did the noxious irritants within the candle and chandelier smoke aggravate his ocular surface? Does the Cavalier medallion suggest low-grade thyroid eye disease with prominent eyes, lid retraction, and eyelid edema, resulting in secondary lagophthalmos, corneal exposure, tear film disruption, and dry eye? Perhaps the gunshot injury in 1660 resulted in a more significant burn or injury than previously thought, and this resulted in chronic ocular surface problems, dryness, or even recurrent corneal erosion syndrome. Similarly, in 1677 Pepys actually attributes his eye problems to a trip to the glasshouse and gazing much on the flame within the furnace. A number of other external eye diseases could be considered. Lastly, migraine, one of the most common causes of photophobia in the general population, must be in the differential diagnosis.

In 1677, Pepys describes an ocular pain that originated in the paranasal sinuses, which is in addition to the pain in his eyes on reading and which he terms "moisture of my head." There was a heaviness in the forepart of his head and pain in his eyes, usually present on awakening but improving after draining his head and nose by spitting. This sinus-related ocular pain or referred pain does not seem to have been contributory during the years of the diary.

Lesser degrees of sensitivity to bright light may be normal for some individuals and this may be the case with Pepys. It can often be neurotic in origin as well. A neurotic temperament can also be a causal factor for asthenopia. Pepys had "wind colic" at times of stress, and he was always preoccupied by his health. We have seen that the damage he thought he was doing to his eyes and the imagined blindness was a fearsome thing for Pepys, with potential threat to his happiness and economic security. Is not his fear of blindness out of proportion to his symptoms? There are also inconsistencies in Pepys' symptoms; for instance, he states his eyes are worse in the winter, worse in excess of light, worse under candlelight, but better by daylight. Could this indicate that there was a functional element to his symptoms? His diary, work pattern, and love of order are also indicative of an obsessional personality that probably exacerbated his symptoms. Anyone willing to wear a mask to the theater to which lenses and longish tubes to peer through have been attached may have been somewhat neurotic about his eyes. A functional element and obsessional disorder must therefore be considered in the differential diagnosis. A neurotic trait may also be contributory to Pepys' motive for writing the diary, a topic of unresolved speculation to historians.

We conclude that the origin of Pepys' asthenopia was multifactorial: a low amount of uncorrected hypermetropia and astigmatism, convergence insufficiency with near exophoria, nonspecific low-grade ocular inflammation that was exacerbated by alcohol, paranasal sinus inflammation contiguous with or referred to the eye or orbit, a contributing functional element, and an obsessional personality.

Pepys has provided us with a unique account of his eyes, but he was writing at a time when ophthalmic knowledge was simplistic. With the passing of centuries since the writing of the diary, our diagnosis is at best speculative. As Richard Ollard, one of Pepys' biographers, says, "It is the secret of Pepys' fascination that one never gets to the end of it."

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