ON THE NATURE OF MILTON'S BLINDNESS

BY

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"...Thus with the year
Seasons return, but not to me returns
Day, or the sweet approach of even or morn,
Or sight of vernal bloom, or summer's rose,
Or flocks, or herds, or human face divine;
But cloud instead, and ever-during dark
Surrounds me, from the cheerful way of men
Cut off, and for the book of knowledge fair
Presented with a universal blank
Of Nature's works to me expunged and rased,
And wisdom at one entrance quite shut out."

PARADISE LOST. III. 40-50.

The biographical and medical interest in the cause of Milton's blindness is evident; but it is not only the biographers and oculists who have been involved in this problem. Literary critics have struggled with this question and though there has been much speculation as to the effect of Milton's blindness on his later work, much ingenuity has also been expended in tracing the influence of his eyesight on his earlier writings.

I. The Evidence

The evidence available as to the nature of his blindness comes mainly from scraps of autobiographical detail left by Milton; these are supported and extended by the early biographies extant. That his blindness came on rather early in life is well known from the opening lines of the sonnet on his blindness:1

"When I consider how my light is spent
Ere half my days"

Some clue as to its nature is found in the other sonnet dealing with his blindness, the one addressed to his friend Cyriack Skinner.2

"Cyriack, this three years' day these eyes, though clear,
To outward view, of blemish or of spot,
Bereft of light, their seeing have forgot;"

That his eyes though blind were "clear to outward view, of blemish or of spot," is again asserted by Milton in his prose writings. Answering a personal attack he says4 that but for his eyes he has not changed in any respect and as for these they "are externally uninjured. They shine with an unclouded light, just like the eyes of one whose vision is perfect. This is the only point in which I am against my will, a hypocrite."
A further reference to his eyes is found in "Paradise Lost." In a glorious paean on light he says:

"Thee I revisit safe,
And feel thy sovran vital lamp; but thou
Revisit'st not these eyes, that roll in vain
To find thy piercing ray, and find no dawn;
So thick a drop serene hath quenched their orbs,
Or dim suffusion veiled."

Drop serene and dim suffusion are not so much alternate diagnoses as different names for very much the same thing, for gutta serena was the name for blindness with a transparent (i.e., non-obscured) pupil* and suffusio nigra stood for blindness in which the pupil was black (and not grey). Both these names, therefore, agree with the statements made by Milton elsewhere to the effect that in his blindness his eyes were normal in appearance. Milton has also left us information on the state of his eyes during his childhood, and expressed the opinion that his early studies had harmed his sight. On this subject he says:⁴

"From the twelfth year of my age I scarcely ever went from my lessons to bed before midnight; which indeed was the first cause of injury to my eyes, to whose natural weakness there were also added frequent headaches." That excessive work led to his blindness was the belief of himself and his medical advisers. He records the circumstances under which he undertook to write a defence of the republican ideal:

"... When I was publicly solicited to write a reply to the defence of the royal cause; when I had to contend with the pressure of sickness and with the apprehension of soon losing the sight of my remaining eye; and when my medical attendants clearly announced that if I did engage in the work, it would be irreparably lost—their premonitions caused no hesitation and inspired no dismay." Indeed Milton found the yoke of blindness tolerable through his belief that he sacrificed his eyes in the service of his ideal:⁵

"Yet I argue not
Against Heav'n's hand or will, nor bate a jot
Of heart or hope, but still bear up and steer
Right onward. What supports me, dost thou ask?
The conscience, friend, to have lost them overpried
In Liberty's defence."

*"Yet the more common name (for cataract) among the Arabians was gutta obscura, as that for amaurosis was gutta serena; the pupil in the last species being serene or transparent.

The Arabians, who had adopted generally the humoral pathology of Galen, conceived both these diseases to be the result of a morbid rheum or defluxion falling on a particular part of the visual orb, in one case producing blindness with obscurity, whence the name of an obscure rheum or gutta, and in the other without obscurity, whence the contrary name of a transparent or serene rheum or gutta.

But as various other diseases and particularly of the joints were also supposed to flow from a like cause, and were far more common, the term gutta and rheuma were afterwards emphatically applied and at length altogether limited to these last complaints: whence the terms gout and rheumatism." "The Study of Medicine," by J. M. Good, Vol. III, p. 219, London, 1822.
Most important information of the nature of his blindness is preserved for us in a letter written by Milton to his friend Philaras, a Greek diplomat who had asked Milton to give him an account of his blindness, so that he might consult Dr. Thevenot, a Parisian oculist of great repute. What Thevenot did, or indeed whether the letter reached him is not known. In this letter Milton gives an account of the subjective symptoms he experienced during the development of his blindness. The letter is dated September 28, 1654, and by this time Milton had been blind for about three years.

"It is ten years, I think, more or less since I felt my sight getting weak and dull, and at the same time my viscera generally out of sorts. In the morning if I began as usual, to read anything, I felt my eyes at once thoroughly pained, and shrinking from the act of reading, but refreshed after moderate bodily exercise. If I looked at a lit candle, a kind of iris seemed to snatch it from me. Not very long after, a darkness coming over the left part of my left eye (for that eye became clouded some years before the other) removed from my vision all objects situated on that side. Objects in front also, if I chanced to close the right eye, seemed smaller. The other eye also failing perceptibly and gradually through a period of three years, I observed some months before my sight was wholly gone, that objects I looked at without my self moving, seemed all to swim, now to the right now to the left. Invertebrate mists now seem to have settled in my forehead and temples, which weigh me down and depress me with a kind of sleepy heaviness, especially from meal-time to evening. [Here follows an allusion to classical literature]. But I should not forget to mention that, while yet a little sight remained when first I lay down in bed, and turned myself to either side, there used to shine out a copious glittering light from my shut eyes; then that as my sight grew less from day to day, colours proportionately duller would burst from them, as with a kind of force and audible shot from within; but that now, as if the sense of lucency were extinct, it is a mere blackness or a blackness dashed, and as it were interwoven with an ashy grey, that is wont to pour itself forth. Yet the darkness which is perpetually before me, by night as well as by day, seems always nearer to a whitisht than to a blackish, and such that, when the eye rolls itself, there is admitted, as through a small chink a certain little trifle of light."

It is worth noting that this document so careful in its details is confined entirely to subjective symptoms: the physical appearance of his eyes is not touched upon. In view of the fact that this letter is a personal statement intended for an oculist it is hardly likely that Milton would have suppressed any obvious external change in the appearance of his eyes, and this letter must therefore be taken as lending further support to his statements elsewhere that his eyes were free from blemish or spot.
There is therefore no reason to doubt the diagnosis of *gutta serena* which Milton gives of his case in "Paradise Lost."

Apart from these autobiographical details there is some further evidence bearing on the subject in the contemporary portraits and sketches of Milton and in the lives of him by his contemporaries.

As for the portraits and sketches, there is unfortunately little of any importance to be obtained in this direction. Though very many etchings are available which are claimed to represent Milton at some time or other, it would appear that there are only two undoubted contemporary portraits. Obviously but little significance can be attached to copies of later dates, and in so far as the present writer has seen them they are entirely negative for the appearances of the eyes in all of them are normal. The two undoubted portraits of Milton have been inaccessible to the writer but good photographs of them show nothing abnormal about the eyes. The subject of Milton's portraits is a highly complicated one and open to considerable dispute—and to draw positive conclusions from any of them would be a procedure of doubtful wisdom. All that can be said is that there is nothing in the available representations of Milton to disprove his statement as to his eyes during his blindness, and presumably earlier on, being of normal appearance.

The evidence as to Milton's appearance and his mode of life as retailed by biographers who were his contemporaries are in the main but confirmations of his own autobiographical notes dispersed through his writings. Thus the earliest "Life of Milton" extant, generally ascribed to his friend and physician Nathan Paget, tells of his "sitting up constantly at his study till midnight" in his early years. The onset of his blindness is thus related:

"Whilst he was thus employed* his eyesight totally failed . . . from a weakness which his hard nightly study in his youth had first occasioned and which by degrees had for some time before deprived him of the use of one ey: And the Issues and the Seatons made use of to save or retrieve that, were thought by drawing away the Spirits, which should have supply'd the optic vessels, to have hastened the loss of the other. Hee was indeed advised by his Physicians of the danger in his condition, attending so great intentness as that work required."

The following extract is of interest: "He was of a moderate stature, and well proportioned, of a ruddy Complexion, light brown Hair and handsome Features; save that his Eyes were none of the quickest. But his blindness, which proceeded from a Gutta

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* In writing the Second Defence.
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Serena, added no further blemish to them.* His deportment was sweet and affable, and in Gate erect and Manly... on which account hee wore a Sword while hee had his Sight, and was skilled in using it.'

Milton's later biographers add but little to these pen-pictures. In fact the later Lives appear to be based on this first Life and the details supplied by Milton. One noteworthy remark appears in the Life by Aubrey,† who knew Milton personally. Says Aubrey:

"His father read without spectacles at 84, his mother had very weak eyes and used spectacles presently after she was thirty years old."

Of the other contemporaries who have written about Milton, none throws any further light on the subject; but the following remark taken from the Life by his nephew Edward Philips‡ shows that the resignation with which Milton took his blindness, when at length it fell on him, was not the spirit in which he took the catastrophe during the long years it was preparing:

"... His sight, what with his continual study, his being subject to head-ake, and his perpetual tampering with physick to preserve it, had been decaying for about a dozen years... the sight of one for a long time clearly lost."

The information obtained from the original sources as to Milton's eyesight and the possible causes of his blindness may therefore be summarised as follows:

1. Milton's eyes had a "natural weakness." "His eyes were none of the quickest."

2. His vision in his early days could not have been defective to a very high degree for "Hee wore a Sword while he had his Sight, and was skilled in using it." "I was won't constantly to exercise myself in the use of the broad sword, as long as it comported with my habits and my years."§

3. The exact date of his blindness is not known with certainty. By 1654, the year that Milton wrote to Philaras the letter giving details of his case, he speaks of his blindness as though it were not a recent calamity. In a state paper, a letter from the Hague dated June 20, 1653, Milton is spoken of as being blind. The writer of "Regii Sanguinis Clamor" which was published in 1652 makes a personal attack on Milton, upbraiding him with his blindness selecting for the motto of his work Virgil's description of the eyeless cyclops: *Monstrum horrendum, informe, ingens, cui lumen ademptum.*—A monster horrid, hideous, huge and blind. Masson∥ holds that Milton's blindness was complete by March or April, 1652—and this date is generally accepted.

* Taken in its context the reference to Milton's eyes being none of the quickest seems to imply an anatomical rather than a physiological defect. But all the evidence is against such a reading.

† Taken in its context the reference to Milton's eyes being none of the quickest seems to imply an anatomical rather than a physiological defect. But all the evidence is against such a reading.
Milton was therefore only 43 at the time of his blindness, and from his letter we know that his sight had been "getting weak and dull" for about ten years before 1654, that is from his 35th year.* "Not very long after a darkness coming over the left part of my left eye (for that eye became clouded some years before the other) removed from my vision all objects on that side." It would therefore appear that the left eye had failed when Milton was not very much more than 35. The right eye does not seem to have failed so suddenly. "The other eye failing perceptibly and gradually through a period of three years. I observed some months before my sight was wholly gone, that objects I looked at without myself moving, seemed all to swim."

Milton's blindness seems not to have been associated with any external signs; the eyes "are externally uninjured. They shine with an unclouded light, just like the eyes of one whose vision is perfect."

Milton's "father read without spectacles at 84, his mother had very weak eyes and used spectacles presently after she was thirty years old." In addition there is also the account of the subjective sensations felt by Milton in the terminal stages of his developing blindness.

II. Theories as to the cause of Milton's Blindness

It throws a vivid sidelight on the age in which Milton was living that Milton's enemies should publicly ascribe his blindness to a divine punishment for his transgressions—and that Milton found it necessary to deny such charges. And not only Milton but his biographers too. In an impassioned defence of himself Milton says: 4

"... I have accurately examined my conduct and scrutinised my soul, I call Thee, O! God, the searcher of hearts to witness that I am not conscious either in the more early or in the later period of my life, of having committed any enormity, which might deservedly have marked me out as a fit object of such a callamitous visitation. But since my enemies boast that this affliction is only a retribution for the transgressions of my pen, I again invoke the Almighty to witness that I never at any time wrote anything which I did not think agreeable to truth, to justice and to piety. This was my persuasion then and I feel that same persuasion now. Nor was I ever prompted to such exertions by the influence of ambition, by the lust of lucre or of praise; it was only by the conviction of duty and the feeling of patriotism, a disinterested passion for the extension of civil and religious liberty."

* Philips says Milton's sight "had been decaying for about a dozen years." That puts back the onset of the trouble to the 31st year.
The cause of Milton's blindness was touched upon by two writers before the era of the ophthalmoscope. According to W. Lawrence Milton suffered from "suffusion"; Mackenzie held that the blindness was caused by "amaurosis" due to congestion or inflammation of the optic nerve secondary to a chronic disease of the digestive organs.

More recent writers have been more definite in their diagnosis, and four different suggestions have been advanced.

1. Glaucoma.—That Milton's blindness was due to glaucoma seems to be a popular view. This view first was advanced in 1879 by Alfred Stern who says in his classical "Life of Milton," that he consulted a "distinguished ophthalmologist" on the nature of Milton's blindness and that according to this authority some of the features tended to a diagnosis of glaucoma, though others were against such a view. The reasons for this conception are not given. Glaucoma is also suggested by Hirschberg in a footnote in his "History of Ophthalmology." Again no reasons are given. In an article on the subject in the "American Encyclopedia of Ophthalmology," T. H. Shastid also suggests glaucoma—and again no reasons are advanced.

Apparently the main reason for the diagnosis of glaucoma is the fact mentioned by Milton in his letter to Philaras, that if he "looked at a lit candle, a kind of iris seemed to snatch it" from him. That this symptom led Hirschberg to the diagnosis of glaucoma is vouched for by Mutschmann who declares that Hirschberg says so in a personal letter to him.

On the face of it there is much to support the view that glaucoma was responsible for Milton's blindness. Here is a progressive deterioration of sight extending over a period of years (somewhere between 8 to 12 years), associated with the phenomenon of iridescent rings around naked lights, and ultimately leading to complete blindness though the external appearances of the eyes are normal. But the diagnosis of glaucoma only holds good when the bare outlines are considered: the details do not fit in.

To begin with Milton was first troubled with his eyes at about the age of 35 according to his own account, at about the age of 31 according to the account of his nephew Philips. "Not very long" afterwards the "left part of the left eye" had failed. This certainly does not mean contraction of the nasal half of the field—nor can it mean the deterioration of vision following an acute attack of glaucoma, for such deterioration does not pick out particular parts of the fields. Besides it presupposes the glaucomatous process to have started very early in life if by the early thirties the sight of an eye could have been lost. By 43 Milton was totally blind. It is surely most unusual for chronic glaucoma—and it must have been chronic if it was glaucoma, as the "right
eye was failing perceptibly and gradually for a period of three years”—to lead to complete blindness by 43.

Thus if it is true that the chronic nature of the deterioration suggests glaucoma, the age of the victim is all against it. The objection to glaucoma is strongly fortified by an analysis of the symptoms as related by Milton. Chronic glaucoma is essentially a symptomless disease; it is true that vision deteriorates steadily but because central vision is unaffected till late the patient is not aware of it. Glaucomatous patients do not describe loss of field such as Milton describes. The metamorphopsia of which Milton speaks, the micropsia, the illusion of objects moving, the “copious light glittering from shut eyes” are all symptoms that are never met with in glaucoma. The one outstanding symptom that is present in glaucoma is the seeing of iridescent rings, and because other symptoms are absent in glaucoma this symptom has usurped quite an unmerited place in the diagnosis of this disease. It certainly is not pathognomonic of glaucoma: it is met with in a number of other conditions, and in view of the fact that everything else points strongly against glaucoma, the presence of this symptom is quite insufficient evidence for such a diagnosis. It must also be remembered that when Milton was blind, he could still get “a certain little trifle of light” with his eyes in certain positions. The blindness from glaucoma is usually absolute.

Two further facts throw doubt on the diagnosis of glaucoma. One is our knowledge that Milton’s eyesight was naturally weak. It may therefore be that this “natural weakness,” if its nature could be ascertained, was ultimately the cause of the blindness. The other is the fact that on the one symptom on which one is tempted to diagnose glaucoma Milton appears to have been an unreliable witness. The iris around a candle of which Milton speaks may merely have been a play of colours, for it is said that Milton only saw three colours in the rainbow. A play of colours around a light is decidedly more feeble evidence of glaucoma than a display of rainbow-colours.

2. Detached Retina.—In a short communication Dufour of Lausanne advanced in 1909 the suggestion that Milton’s blindness was due to detachment of the retina in both eyes. He bases his conclusions on an analysis of the letter to Philaras and on the fact that Milton’s eyes were normal in their external appearances. Dufour stresses the illusions of deformity and mobility of objects looked at, the subjective sensations of light persisting after loss of sight, and the facts of “dimness of the visual field coming on first on the left side and then at the top; the sensation of steam before the eyes, showing the well-known picture of the narrowing of the visual field from above.”
As to the cause of the detachment, Dufour holds that it was due to myopia, and in support of the theory that Milton was myopic he points out that Milton was an ardent student since childhood, and this would cause him to be myopic. As further proof is given the fact that though Milton travelled extensively, crossing "some of the most beautiful parts of the world" there is not in his work "one description, one line referring to the beauties of Nature." "Although in the seventeenth century no thought was given to the beauties of Nature, this attention to things heard, and indifference to things seen, appears to be the chief characteristic of the shortsighted."

In criticism of Dufour's view it must be said that though his analysis of the letter to Philaras makes out a strong case for detachment, his proof that Milton was myopic is not very convincing. Whether close work, even by poor candle light, can bring on myopia, is to say the least, very much in question, and to say that Milton was insusceptible to the charms of Nature is decidedly an overstatement. It is enough to mention the opinion of Walter Savage Landor on Milton's treatment of Nature: "If ever there was a poet who knew her well and described her in all her loveliness, it was Milton." That Milton should not have spoken of the natural beauty that he must have seen during his travels is quite satisfactorily explained by the fact that none of his contemporaries ever spoke of such things. Appreciation of the beauties of Nature is a remarkably recent acquirement—and only two hundred years ago Switzerland was regarded as a country full of hideous and inconvenient mountains. Milton may have been, and probably was, myopic, but the evidence advanced by Dufour is by no means convincing.

3. Congenital Syphilis.—In 1924 Saurat and Cabannes advanced the suggestion that Milton suffered from congenital syphilis and that this affection was the cause of his blindness. They reject the suggestion of detachment, because they are not satisfied that Milton was myopic; indeed they hold that Milton was not the subject of myopia, basing their conclusion on the fact that Milton had good colour vision. In arriving at the conclusion as to Milton's good colour vision they base themselves on the work of Squires whose opposite conclusion, viz., that Milton had poor colour vision they do not mention. They therefore argue against detachment on this hypothetical good colour vision. They also say that such of the symptoms described by Milton as are suggestive of detachment may also be met with in the last stages of chronic inflammatory processes of the retina and optic nerve. Excluding detachment (they say nothing against glaucoma) they therefore suggest neuro-retinitis, and hold that it was of syphilitic origin on the strength of some facts concerning Milton's health
and that of his family. The chief of these are the mortality in Milton's family, and the fact that Milton suffered from joint trouble (affecting the fingers and diagnosed as gout by his physicians). The further proof advanced is that Milton had feeble eyes in his childhood and that his mother's eyes were weak—and also that Milton's oval face suggests congenital syphilis to a physician.

This is remarkable evidence on which to diagnose congenital syphilis. Nothing at all is said of the fact that Milton was one of six children—of whom three survived—and that Milton was the third, the two others who survived being the second and the sixth. The survival of the second, third and sixth does not suggest syphilis, and the death of three out of six children is nothing unusual in mediaeval chronicles and certainly poor evidence for the diagnosis of syphilis. How the fact that Milton's mother had weak eyes is a support for this theory is by no means obvious. Supposedly she was suffering from syphilitic inflammation of the eyes and we are to believe that it was for this that she took to wearing glasses. Such a belief certainly lacks nothing in boldness. The other evidence as to Milton's congenital syphilis is the mortality among his children and grandchildren, and also the fact that his brother lost three children in their childhood. Congenital syphilis with such widespread influences persisting for generations is indeed a remarkable phenomenon. The immediate progeny of a congenital syphilitic usually show no strain of syphilis: in Milton's case his grandchildren were still dying from it. The exceptional qualities of Milton were apparently not confined to his poetical achievements: the congenital syphilis ascribed to him by Saurat and Cabannes is even more exceptional. One of Milton's daughters and his first two wives died in childbed. This apparently was also due to the congenital syphilis of Milton, for these deaths are recorded in the list of catastrophes for which congenital syphilis is the explanation.

The symptoms that Milton describes during the onset of his blindness are said to fall in with the suggestion of a lesion of congenital syphilitic origin. In a world where everything is possible, this of course cannot be ruled out, though most oculists expect a different type of clinical picture for congenital syphilis. Interstitial keratitis and iritis are, with their obvious external lesions, more common conditions in congenital syphilis than lesions which could give rise to obscuration of definite parts of the visual fields and distortion in the appearances of objects. It must be admitted that some—and only some—of the symptoms described by Milton can be explained on the hypothesis of disseminated choroiditis. But any other chronic lesion would do as well—hydatid cysts of vitreous among others. The fact that Milton's eyes were "weak" since childhood is important evidence, but in itself no evidence at all that he suffered from congenital syphilis.
Milton's oval face we are also told suggests congenital syphilis. Milton's face must have possessed highly suggestive properties: to his fellow students it suggested the nick-name of the Lady of Christ College,8 to a contemporary lampooner of his it suggested "a horrid monster"; to a modern critic17,18 who thinks that Milton was an albino it suggests albinism. And no doubt it has suggested other things to other critics besides Saurat and Cabannes.

Milton's family history is definitely against congenital syphilis and the nature of Milton's eye trouble does not contain one shred of evidence in favour of such a view. Congenital syphilis as the cause of Milton's blindness is not only a far-fetched theory, but one that flies in the face of all established facts. A rather less painfully laboured case could be made out for acquired syphilis—less painfully laboured but no less obviously impossible.

4. Albinism.—The theory that Milton was an albino is really outside the scope of the present article, for the author of that theory —H. Mutschmann,17,18 a professor of literature and not a medical man—does not claim that albinism was the cause of Milton's blindness. He accepts Hirschberg's view that glaucoma was responsible for the final catastrophe.

Mutschmann's views are, however, of interest as they touch upon the nature of the "natural weakness" of Milton's eyes. It must be added that Mutschmann has no interest in this question apart from the fact that it is part and parcel of a theory of his that Milton was a physical and moral degenerate, and that all his life and work was only a striving after power, that he was a potential criminal and kept out of criminal activities by his cowardice, and so on and so forth. It is not surprising that Mutschmann should think that some of the accepted views concerning Milton are "impertinent concoctions" (eine freche Erfindung). Those who are interested in the remarkable tour-de-force by which all this is "proved" can refer to the voluminous efforts of their author—both in German and in English.

That Milton was an albino is argued on two lines: evidence is advanced from the biography by Aubrey and this is supported by internal evidence from Milton's writings. Milton, according to Aubrey had brown hair: a marginal note makes the brown into abrown; furthermore Milton was "exceeding faire." The fact that Milton's hair was "abrown" means to Mutschmann that it was not brown, that is white. White hair being proved the "exceedingly faire" complexion proves albinism. That his eyes according to the same biographer (who knew Milton) were a "darke gray" does not upset Mutschmann very much. That Milton had white hair is further proved to Mutschmann's satisfaction by the reddish tinge of his hair seen in some portraits.

The fact that the earliest life of Milton extant, the one ascribed
to Nathan Paget, speaks of Milton as having a ruddy complexion and light brown hair is not even mentioned by Mutschmann. On the "evidence" that Mutschmann has collected he has reared a colossal superstructure of albinism—and as if it were a natural corollary—of physical and moral degeneracy. Milton's albinism is further proved by reference to his writings from which Mutschmann is satisfied that Milton among other phobias had photophobia and was a nystalope. On the literary merits of this criticism Mutschmann can be left to the recognised authorities on Milton. He has been dealt with faithfully by Stern, the veteran Milton scholar of Germany, amongst others. Here it is only necessary to point out that there is no disproving Mutschmann's evidence as to Milton's albinism, for there is no evidence to consider. What he says about Milton's appearance are not facts but distortions.

Mutschmann has drawn up an elaborate chronology of Milton's works on the hypothesis that Milton betrays his photophobia in his writings up till 1644. In that year he got his "first attack of glaucoma" and that "would have the effect of suddenly reducing the sensibility of the retina so considerably, as to cause the disappearance of existing photophobia without however completely destroying the sight."

Glaucoma which acts by "suddenly reducing the sensibility of the retina" cannot but be acute glaucoma. And unless Milton had acute glaucoma in both eyes in 1644 (and there is no evidence of involvement of the right eye till much later) we must believe that it was only the left eye that was albinotic. Albinism confined to one eye is a decidedly interesting subject.

5. The "natural weakness" of Milton's eyes and his blindness.—From what has been said it is clear that the most important document available, the letter to Philaras, does not in itself solve the problem of Milton's blindness. The two views deserving attention that have been advanced on the strength of this letter are that the blindness was due to glaucoma, or to detached retina. The reasons for rejecting glaucoma have been advanced: glaucoma only explains the broad outlines but not the details that we have, and some of these details go most decidedly against glaucoma.

Against detachment the arguments are that no satisfactory proof is advanced by the exponent of this theory that Milton was myopic and that he ignores the question of iridescent rings of which Milton speaks. As to these rings it has already been pointed out that they do not by any means always argue for glaucoma, and certainly cannot be taken to mean glaucoma when as in this case all the other symptoms and available evidence are against glaucoma. The symptoms described by Milton may therefore be taken to mean detachment if the pre-existing condition of myopia can be proved. The graphic description of obscuration of the left side of the left
eye and ultimately complete failure of that eye, strongly suggests detachment leading to disorganisation of the eye, particularly if taken together with the description of the failure later on of the right eye. "I observed some months before my sight was wholly gone that objects I looked at, without myself moving seemed all to swim." Perception of light and some functioning retina remained, as it almost invariably does in such cases: "The darkness which is perpetually before me by night as well as by day, seems always nearer to a whitish than to a blackish, and such that when the eye rolls itself, there is admitted as through a small chink, a certain little trifle of light."

It is, of course, possible that the right eye was suffering from a progressive inflammatory chorido-retinitis which would explain most of the symptoms, though hardly the swimming of objects looked at. The difficulty of detachment as a diagnosis in the case of the right eye is that it was "failing perceptibly and gradually through a period of three years." Detachment is usually abrupt in onset though the deterioration it causes is progressive for a considerable time before complete blindness sets in. In view of the fact that the swimming of objects only set in some months before the sight was wholly gone, and at the time when "invertebrate mists" made their appearance, it is not unlikely that detachment was the culmination of active myopic degeneration which had been going on for some years.

Abrupt detachment in the left and detachment in the right following on progressive myopic changes in that eye seems to be a likely diagnosis on the strength of Milton's letter, and not an unlikely diagnosis from what we know of myopia.

It therefore remains to consider what evidence there is for the view that Milton was myopic, and in attempting to establish myopia it is not at all necessary to presuppose a high degree of myopia, for detachment is as prone—if not more so—to attack the medium myope as the high myope. This brings us back to the question of the natural weakness of his eyes to which Milton testifies. Was this natural weakness myopia?

It is quite impossible on the available evidence to come to a definite conclusion, but there is a strong presumptive evidence that it was indeed myopia which was the cause of his weak eyes, and led ultimately to his blindness. The evidence comes from varying sources:

(1) Milton's heredity:

Milton's mother "had very weak eyes and used spectacles presently after she was 30 years old." We have no nearer definition of her defect than this statement. It could not have been astigmatism for which she took to glasses, for an astigmatic
correction was first made use of by Airy in 1827. Thirty is too young an age for presbyopia, so that the choice is left between hypermetropia and myopia, and of these myopia is much the more likely condition, for hypermetropia very rarely gives rise to such a severe visual defect as is implied in Aubrey's statement. Of course it is possible that the "weak eies" were not visually defective but subject to chronic conjunctivitis or blepharitis, but it is unlikely that glasses were worn for such conditions at that time. "Weak eies" in all probability means a high degree of myopia.

There is also a strong probability that Milton's father was a myope. Aubrey says that he could read without glasses at 84. Only a myope can do that, though the myopia need not be of the axial type. It is just possible that this myopia of Milton's father at 84 was not of the axial type but due to incipient cataract. But again axial myopia is the more likely.

Thus if Milton's father and mother were both myopic, it is not at all unlikely that Milton too was a myope, for the strong hereditary tendency in myopia is well known.

(2) Milton's habits:

Milton tells us that his eyes were "naturally weak." Whether this weakness means in Milton's case what it meant in his mother's we do not know, for there is no record of Milton taking to glasses. We know he was an ardent student from his early days, with brilliant scholastic attainments; he shunned society and was not popular amongst his gay fellow-students. He was what is colloquially known as a "bookworm," exhibiting all the characteristics popularly ascribed to the spectacled student. His habits are in agreement with the suggestion that he was of myopic stock and that the weakness of his eyes was indeed myopia.

(3) The internal evidence from Milton's writings:

The support based on the internal evidence of Milton's writings comes from a disinterested source. V. P. Squires in analysing Milton's treatment of Nature shows—and this is generally accepted—that Milton was none too good an observer, and the following lengthy extract gives the conclusions reached on the careful analysis he makes of Milton's references to Nature.

"This lack of intimate knowledge sometimes caused him to make mistakes as in his allusion to the pine tree in 'Paradise Regained,' IV, 416-17, and in 'Lycidas' where he groups together flowers of different seasons which could not possibly be found in bloom at the same time. Another fact which forces us to this conclusion is his lack of fine distinctions in colours. He mentions green and blue, but never refers to their various shades. In Wordsworth, for instance, we find not only green, but olive
green, pear green, dark green, etc., not only blue, but pale blue, dark blue, sable blue, black blue, etc.

"These failures to be exact may possibly have been occasioned by near sightedness. We do not have a record that Milton was thus afflicted, but we do know that he had some trouble with his eyes, that he strained them by overstudy in his youth, and that they were a continual source of anxiety to him. Excessive study in youth nowadays usually tends to myopia,* and so it is not unreasonable to suppose that this was the nature of Milton's ailment. The effect of myopic vision is to render outlines indistinct, and hence to make impressions indefinite. It is impossible to distinguish one sort of bird from another or one sort of tree from another, altho' the observer is fully aware that a bird or a tree is before him. This seems to have been precisely the case with Milton. He mentions definite birds very rarely, except the nightingale and this is always spoken of in connection with its singing at night, when of course it could not be seen. The failure to make nice distinctions in colour also could be explained by the same theory, as could the fact that he saw three colours in the rainbow.† Another bit of evidence is his fondness for bright glittering objects."

This is the evidence in favour of myopia, and as far as it goes it certainly does not contradict the suggestion that Milton's blindness was ultimately due to complications of myopia. On the contrary it lends some support to such a view.

One piece of autobiographical detail must be considered as going against the conclusion that Milton was a myope, and this is Milton's statement supported by his first biographer that he wore a sword and had skill in using it. It must, however, be remembered that these statements were written in defence against attacks on Milton's character, and to wear a sword and use it was a necessary equipment of a gentleman's character in those days. Besides, a myope of medium degree, as Milton probably was, might very well be able to use a sword, for sword play after all takes place at fairly close quarters, and should not be impossible to one not very highly myopic. But Milton was certainly no man of war. He did not serve in the army during the whole of the civil war, though he was an ardent Parliamentarian, being satisfied with more bookish exploits. His later years were of necessity years of passive activity, but his earlier years too give the picture of a quiet man.

But all these speculations are only about the man and not about the creator of the polysyllabic splendour of "Paradise Lost." To

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* This is questionable.

† I have not been able to trace the source from which this statement is made.
attempt to trace the influence of Milton's eyesight and of his blindness on his poetical achievements is an idle task, for Milton, whose soul was like a star that dwelt apart, is like Shakespeare, free—though others abide our question.

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A REPORT ON THE USE OF VITAMIN "A" IN CONJUNCTION WITH ULTRA-VIOLET LIGHT IN OPHTHALMIC DISEASES

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Any remedy or therapeutic measure which is acclaimed, especially in the daily press, as a panacea, should be approached with suspicion. For this reason much harm has been done to the legitimate use of ultra-violet light in the minds of reasonable people by those advocates who have proclaimed it as the cure for any and every bodily ailment.