assume that some of these cells were cut off during development, and later, resumed activity. In this way one can account for the formation of the various types of tissue present. In other words the growth would appear to be a teratoma of the orbit.

Careful search was made for evidence of the presence of other structures, e.g., remnants of gut, Lieberkühn's follicles, etc., which have been described in connection with teratomata, but none was found.

THE OPHTHALMIC HISTORY OF SAMUEL PEPYS

BY

R. R. JAMES

LONDON

In the *Lancet* for June, 1895, appeared an article by Sir D'Arcy Power on the Medical Histories of Samuel Pepys and of his wife, in which the question of Pepys' eyesight and ocular complaints is gone into at some length. It is not possible to add much, if anything, to what Sir D'Arcy sets out in his paper, but, as it is nearly thirty years since it was published, it occurred to me that the ophthalmic history of the Diarist might be reprinted in the pages of the BRITISH JOURNAL OF OPHTHALMOLOGY with advantage to the journal and to its readers.

Pepys was born in 1633; his diary starts January 1, 1659 (O.S.), and is continued until May 31, 1669.

Sir D'Arcy finds the first mention of eyes on May 22, 1660. Pepys had gone over to Holland with the ships which were to bring Charles II back to his throne in England. There was given the usual Royal Salute and much firing of cannon. Pepys records, "The gun over against my cabin I fired myself to the King, which was the first time he had been saluted by his own ships since this change; but, holding my head too much over the gun, I had almost spoiled my right eye." We have no knowledge of what damage, if any, was done, but we find Pepys harping on matters connected with eyesight, when, on May 24 at supper, "I put Dr. Scarborough in mind of what I heard him say, 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 but one eye, our eyes looking in parallel lines." On April 25, 1662, when he was at Portsmouth, Pepys "was much troubled in my eyes, by reason of the healths I have this day been forced to drink"; and on his return to London he was let blood, about sixteen ounces, by a Mr. Holliard, who received five shillings for his pains.

On May 5, 1664, occurs, "My 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." On October 5, 1664, "Comes Mr. Cocker to see me, and I discoursed with him about his writing and ability of sight, and how I shall do to get some glass or other to help my eyes by candlelight; and he tells me he will bring me the helps he hath, within a day or two, and show me what he do." On October, 7, Mr. Cocker came "and brought me a globe of glasse and a frame of oyled paper, as I desired, to show me the manner of his gaining light to grave by, and to lessen the glaringeness of it at pleasure by an oyled paper. This I bought of him, giving him a crowne for it; and so, well satisfied, he went away."

On May 23, 1666, "my right eye sore and full of humour of late, I think, by my late change of my brewer, and having of 8s. beer."

On October 11, 1666. "Memorandum. I had taken my journall during the fire, and the disorders following, in loose papers, until this very day, and could not get time to enter them in my book till January 18, in the morning, having made my eyes sore by frequent attempts this winter to do it."

On December 24, 1666, "I this morning did buy me a pair of green spectacles, to see whether they will help my eyes or no."

Before this, on January 19, 1664, "My eyes began to fail me, and to be in pain, which I never felt to now-a-days."

On June 2, 1667, "being weary and almost blind with writing and reading so much to-day."

On July 31st, 1667, "to my office, till my eyes began to ache."

On September 25, 1667, "I to the King's Playhouse, my eyes being so bad since last night's straining of them, that I am hardly able to see, besides the pain which I have in them."

On November 4, 1667, "to Turlington, the great spectacle maker, for advice, who dissuades me from using old spectacles, but rather young ones, and do tell me that nothing can wrong my eyes more than for me to use reading glasses, which do magnify much." Ten days later, "to bed, my eyes being bad again; and by this means, the nights, now-a-days, do become very long to me, longer than I can sleep out."

On January 24, 1667, "My eyes being very bad again with over working with them." On April 30, 1668, "My head and eyes out of order, the first from my drinking wine at dinner, and the other from my much work."

On June 23, 1668, "To Dr. Turberville about my eyes, whom I met with and he did discourse, I thought learnedly about them; and takes time before he did prescribe me anything, to think of."

Six days later. "To Dr. Turberville's, and there did receive a direction for some physic, and also a glass of something to drop into my eyes: he gives me hopes that I may do well. On June 30, "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 it was, I think." On July 3. "To see Dr. Turberville and others to dissect several eyes of sheep and oxen, with great pleasure, and to my great information. But strange that this Turberville should be so great a man, and yet, to this day, had seen no eyes dissected, or but once." On July 13, he was bled to fourteen ounces, "towards curing my eyes." On July 31. "The month ends mighty sadly with me, my eyes being now past all use almost; and I am mighty hot upon trying the late printed experiment of paper tubes."

On August 11. "At the office all the afternoon till night, being mightily pleased with a trial I have made of the use of a tube-spectacall of paper tried with my right eye."

On September 22, "walking in the dark, in the garden, to favour my eyes, which I find nothing but ease do help."

At the end of November, 1668, "But my eyes are come to that condition that I am not able to work; so God do his will in it."

On December 4, "wrote a letter at the Board, by the help of a tube."

On January 26, "but my eyes are now too much out of tune to look upon them (printed music books) with any pleasure."

On January 28, Pepys was given "a candlestick, made after a form the donor remembers to have seen in Spain, for keeping the light from one's eyes."

By February 3 he was dictating all his business and correspondence, finding that he can do a great deal of business this way without spoiling his eyes, "I being very well in my eyes, after a great day's work."

The tube is mentioned again on February 16, when he wrote up his journal, "since this day se'nnight."

On February 22 at the play, the light of the candles gave him mighty pain.

On March 1st. "I did bring home a piece of my face cast in plaister, for to make a vizard upon, for my eyes."

On March 28, he notes "I find it most certain that stronge drinks do make my eyes sore, as they have done heretofore always, for, when I was in the country, when my eyes were at their best, their stronge beere would make my eyes sore."

On April 2, "This night I did bring home from the King's pottcary's in White Hall by Mr. Cooling's direction, a water that he says is mighty good for his eyes."

Nine days later, he notes that he had written up his journal "with the help of my left eye through my tube, for fourteen days past." On April 14 "it is with great trouble that I now see a play, because of my eyes, the light of the candles making it very troublesome to me."

On April 24. "Well pleased to night to have Lead, the vizard maker, bring me home my vizard, with a tube fastened in it, which, I think, will do my business, at least in a great measure, for the easing of my eyes." And next day, at his office, "thither comes Lead with my vizard, with a tube fastened within both eyes; which, with the help which he prompts me to, of a glass in the tube, do content me mightily."

On the 30th, "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."

From this date to the end of the Diary, scarce a day passes without some reference to his eyes, either sore after use at business or at the play. On May 24, The King "expressed great sense of my misfortune in my eyes," Pepys having been "led" by the Duke of York to his Majesty. He was ordered to give his eyes rest this summer.

The last sentence of his Diary on May 31, 1669, runs as follows:—"And so I betake myself to that course, which is almost as much as to see myself go into my grave; for which, and all the discomforts that will accompany my being blind, the good God prepare me!"

Pepys, of course, did not go blind. He lost his office under William and Mary and led a studious life at Clapham in the house of his old friend and servant, William Hewer, where he died May 26, 1703.

Sir D'Arcy considers that Pepys' defect was one of ametropia with presbyopia. The ametropia, I think, is certain, but I am not so sure about the presbyopia, as Pepys was well under forty when the Diary ends. I think it far more likely that much of his trouble was due to an error in muscle balance, possibly an insufficiency of convergence. The spectacle maker would hardly have dissuaded him from "old spectacles," the higher plus spheres, if a large hypermetropic error had been present, and Pepys himself admits that for a short time of reading his sight was as good almost as ever it was.

Glare was obviously a factor in the case, hence the green spectacles and the oiled paper. The fact that he got relief from unocular vision in a tube, I think, is much in favour of his defect being concerned with binocular vision, and I hazard the guess

that he would have been made comfortable by a low plus spherocylindrical lens combined with prisms bases in and suitably tinted.

NOTES

Mr. Holliard was probably the Thomas Höllier, Warden of the Barber Surgeons' Company, 1664, 1665, 1666, and Master in 1673.

Dr. Scarborough is Sir Charles Scarborough, 1616-1694. Physician to King Charles II and James II. See *Dic. Nat. Biography*.

The King's Potteary was most probably John Jones, who was appointed Apothecary and Perfumer to the Royal Household, March 21, 1660 (O.S.). (Payments, Auditor's Patents, E.403, 2461, in Public Record Office.). Mr. John Jones still held his office of King's Apothecary in August, 1673, when it was decided that he should not be nominated for the Mastership of the Society of Apothecaries. In 1676, he presented the picture of Charles I to be hung in the Hall.

A MODIFIED SUCTION CATARACT EXTRACTOR

BY

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I THINK those surgeons who have had any considerable experience with Barraquer's apparatus will have felt that the "erisiphake" itself is not entirely satisfactory; the instrument here described has been designed with a view to incorporating what seems to me to be a number of improvements upon Prof. Barraquer's instrument.

It consists of two parts, the handle (A) and the cup bearing portion (B). The handle is connected to Barraquer's vacuum pump by means of thick rubber tubing. It is traversed from end to end

by a medium sized bore, which bore communicates with the exterior by the lateral hole (e); above this hole is a small knob the idea of which is to act as a guide to the finger or thumb; it is not essential. The cup-bearing portion (B) fits into the handle (A) by an airtight cone junction and can be placed at any angle relative to the lateral hole (e). Two cup-bearing portions are supplied having cups of different sizes; the curvature of the stem (d) can be altered.

Method of use

The instrument is used with the right hand for the right eye and the left for the left eye. It is held like a pen, the pulp of the thumb being over the hole (e). For ease and delicacy of use it is important