

**A treatise on the malignant angina, or putrid and ulcerous sore throat. To which are added some remarks on the angina trachealis / [James Johnstone].**

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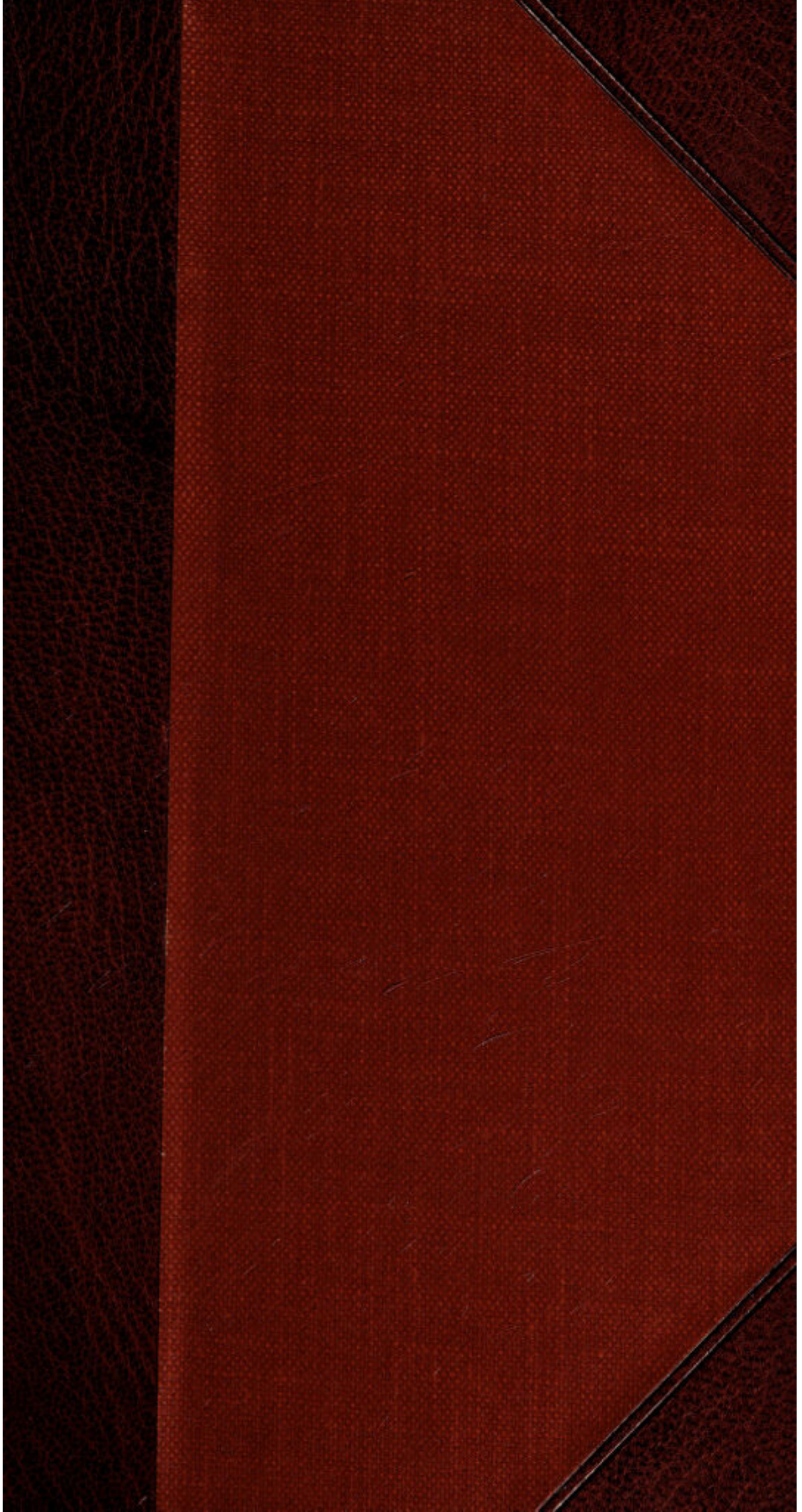
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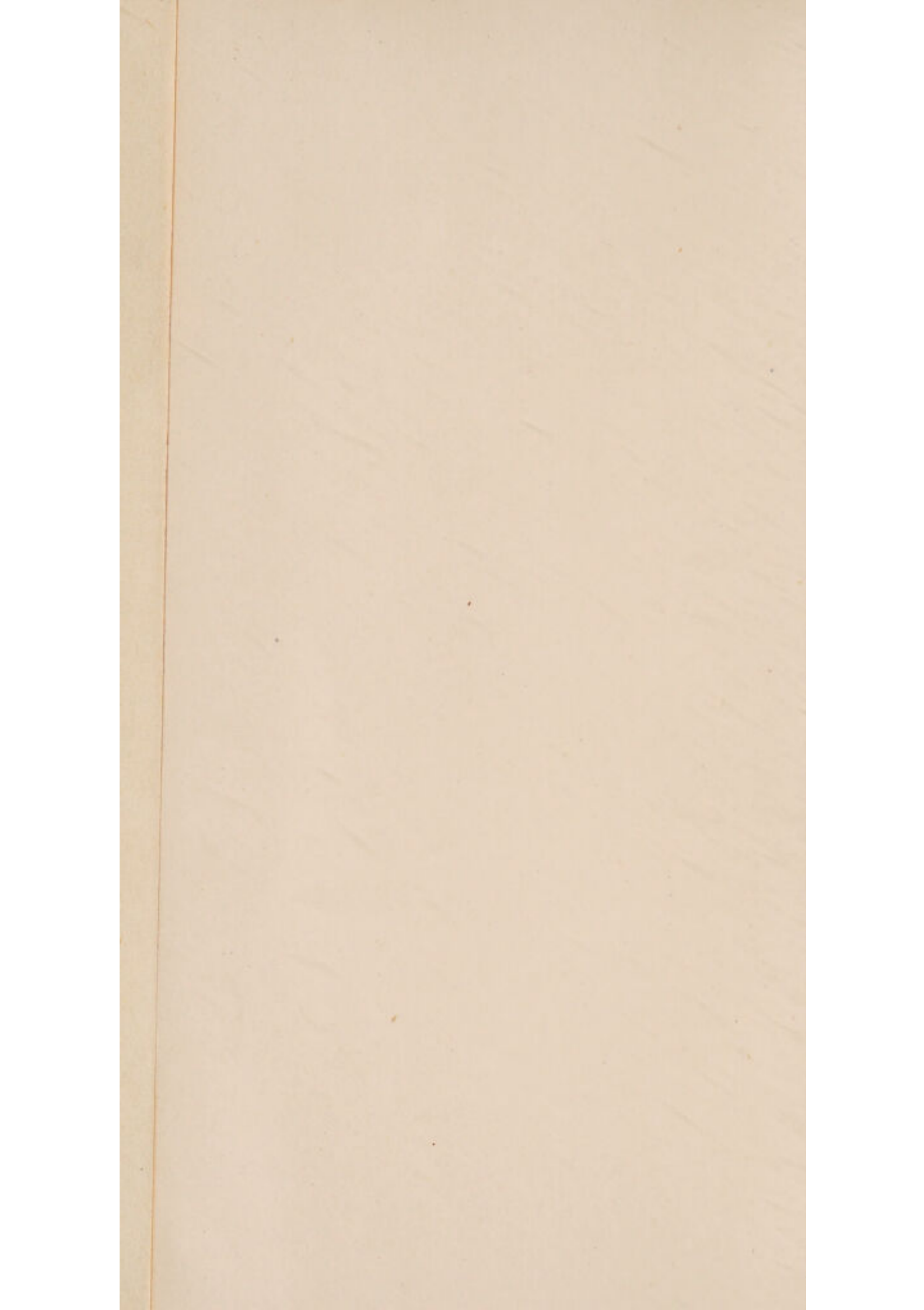
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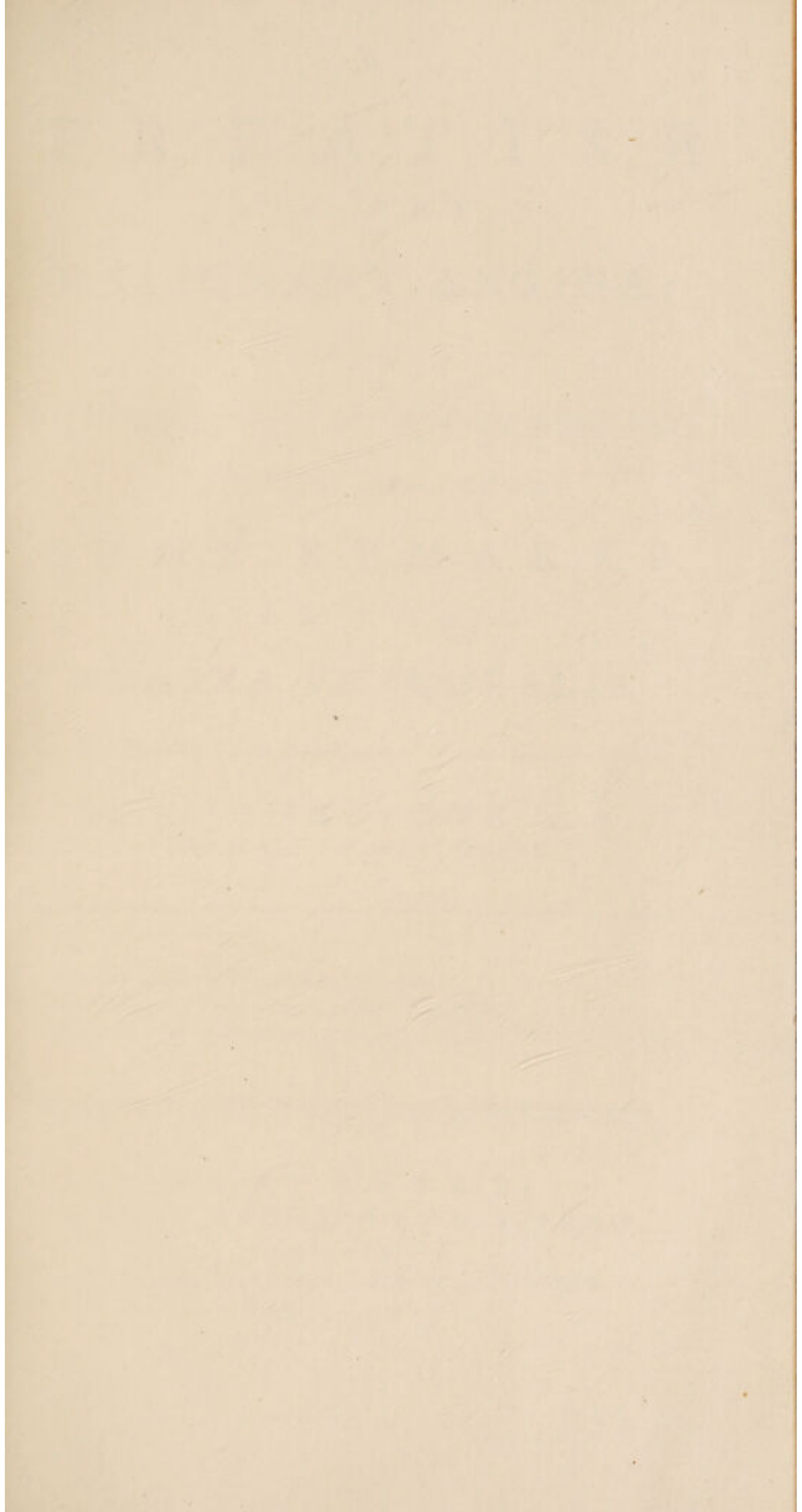




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T R E A T I S E  
O N T H E  
M A L I G N A N T A N G I N A :  
O R,  
P U T R I D a n d U L C E R O U S S O R E - T H R O A T :  
T O W H I C H A R E A D D E D ,  
S O M E R E M A R K S  
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A N G I N A T R A C H E A L I S .

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By J. JOHNSTONE, M. D.  
PHYSICIAN AT WORCESTER.

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*Ignis ab exigua nascens extinguitur unda :  
Sed postquam crevit, volitantque ad sidera flammæ,  
Vix putei, fontes, fluvii succurrere possunt. MARCELL. PALING.*

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W O R C E S T E R :  
P R I N T E D A N D S O L D B Y E . B E R R O W ;  
A N D S O L D B Y  
T . B E C K E T , I N T H E S T R A N D , L O N D O N ,  
M , D C C , L X X I X .

308632.

The Right Honourable  
Art of Plymouth  
from the Author





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T O T H E

P R E S I D E N T S,

V I C E - P R E S I D E N T S,

A N D

G O V E R N O R S,

O F T H E

W O R C E S T E R I N F I R M A R Y;

T H I S T R E A T I S E

I S R E S P E C T F U L L Y I N S C R I B E D B Y

T H E A U T H O R.



E R R A T A.

- Page 33, line 18, *for not at all read very rarely.*  
91, 14, *for asna read as an.*  
110, 12, *for thro'out read throughout,*  
148, 3, *after patient add very early and.*  
150, 5, *for atypical read a topical.*

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## P R E F A C E.

**T**HE principal part of this dissertation was published five years ago at Edinburgh as a thesis, and would never have appeared in any other form, if the favourable reception which it met with there had not occasioned its author to regret his not having printed a greater number of copies.—It is but justice to add, with a very grateful acknowledgement of many obligations to the excellent professor Dr. Cullen, that his patronage procured such a reception as its own merit might not have acquired.

A practical and more systematic view of this subject than any which hath yet appeared has often been wished for ; and on this account the author is not without hopes that his attempt may be acceptable to many physicians, who have no need of farther information ; though he is well aware that the subject has already employed many abler pens.—He is, however, sorry to observe that the nature of the disease is by no means so well understood, nor the

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proper method of cure so generally established, as they are supposed to be, notwithstanding all that has been said and written upon the subject: yet every pretender to physic imagines himself master of them, and many unhappy patients fall martyrs to such mistaken pretences.

Several recent instances of the deplorable effects arising from ill-judged evacuations in the beginning of this disorder, have made him particularly earnest in cautioning against them, more especially *bleeding* and *purgings*.

The dreadful consequences of this practice are delineated at full length in their proper place, because it cannot be too positively condemned: and the observation is repeated here for the sake of those who sometimes condescend to read a short preface, when no other part of a book invites their attention.

In the last chapter, the author has endeavoured to point out the discriminating symptoms of a malignant sore-throat when it affects the trachea, with as much conciseness as appeared to him consistent with perspicuity.—Should it be said that he has  
gone



gone out of his way in retailing the sentiments of writers on the other two species of angina trachealis, which are less intimately connected with his subject; he has only to plead the frequency of various combinations in diseases, and the formidable nature of this in particular, which often endangers life when it excites no alarm. — He is solicitous to put the unwary upon their guard against a treacherous enemy which lurks in concealment only to take unerring aim, and ensure a fatal blow. For the angina trachealis, in every form, is only to be cured at its first onset:—all the aid which medicine can furnish will be applied in the succeeding stages without effect.

As the doses of medicine prescribed in the course of this work are chiefly calculated for adults, they must be diminished for younger patients in proportion to their age.—The remedies themselves must be adapted to their tastes as much as possible, and nothing should ever be added to their food which may render it disagreeable to them, because a regular supply of nourishment is no less necessary than medicine.



The ulcerated fore throat had for some years past very rarely appeared ; in those few instances which did occur, its malignity was much abated, and the management of it was become so familiar in many places, that the good women themselves cured it by means of the bark and antiseptic steams.

Since last Midsummer it has again made its appearance amongst children, in the counties bordering upon Worcestershire, and in some parts of this county, with very formidable symptoms and fatal consequences.

It begins with the common symptoms of fever accompanied with sickness, vomiting, and a scarlet eruption over the whole body, more particularly upon the face : on the second day the sickness abates, but the efflorescence continues and the fever is increased : on inspecting the throat, ulcers are usually found upon the tonsils, and the ulceration often spreads over the whole mouth : there is a considerable discharge of thin and sometimes sanious matter from the nose : the breath has a strong putrid smell.—Diarrhœa either spontaneous or excited by art is generally fatal ; in consequence



quence of this evacuation the patients often die on the third or fifth days, or else delirium, coma and difficulty of breathing come on, which close the scene upon the seventh day: few patients under such circumstances have strength enough to resist its progress to a later period.

This disease was generally observed to break out in schools; to spread very rapidly among children and from them sometimes to adults.—It was most severe in those who inhabited small, crowded and ill-aired houses.

The great advantages derived from antimonial medicines in many fevers had induced some practitioners to try the effects of *Emetic Tartar* and *James's Powder* in this disease; but the consequences were generally very bad; large evacuations by stool commonly followed their use, to the certain destruction of some and the great injury of others.—The fatality of this disease has been most remarkable in such patients as had any considerable degree of purging, or those in the early stages of life, who could not be prevailed on to take the diet and medicines necessary to support their strength.



A gentle diaphoresis is the only evacuation either useful or safe in this disease, and the only remedies which have been found to carry the sick safely through it are those which support their strength, and stop the putrid ferment in its progress.

*Antiseptic Steams* composed of vinegar, myrrh, and honey, or the acid air raised by pouring oil of vitriol upon sea-salt; *Gargles* of vinegar, or tincture of roses with spirit of salt; blisters to the throat, or other parts of the body; and *Mixtures* with a large quantity of the bark rendered gently diaphoretic; a generous antiseptic diet, and vinous subacid drinks\* constitute the only successful method of cure. — This method applied early, and continued with due perseverance has very seldom failed.

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\* *Barley-water* acidulated with vinegar, lemon juice, spiritus nitri dulcis or spiritus vitrioli tenuis, and made palatable with sugar, currant jelly, or honey—*Wine-whey* with the addition of an ounce of good vinegar or fresh lemon juice to each pint of the whey, should be taken very plentifully in the two or three first days of this disease, especially, if no diarrhoea has come on to forbid their use. — At this period wine is to be used much more sparingly than in the advanced stages of the disorder. This caution is particularly necessary, where the efflorescence and heat are considerable, and in very young patients unaccustomed to wine.



Sydenham has described a scarlet fever, which, he says, appeared in the end of almost every summer, and he treated it with his usual sagacity and success.—I wish his method of practice, not his theory, to be attended to.—He confined the patient to his room, denied animal food, rendered his diet mildly antiseptic, and cautiously refrained from bleeding and purging, though he speaks of it as inflammatory.—When the head was particularly attacked, he applied a blister to the back.

The disease which now prevails is the ulcerous malignant fore-throat combined with the scarlet fever of Sydenham, and as he speaks of the *Bark* as the best remedy for aphthæ or putrid ulcers of the mouth and throat; it is highly probable that he would have treated the present reigning disease in the manner here recommended.—He, who did not use bleeding, purges, or even opening clysters in the simple scarlet fever, would certainly have been more averse to them in the same fever accompanied with putrid ulcers in the throat tending to mortification.



We can not always account for the origin of epidemic diseases from the state of the seasons; but it seems probable enough that the animal fluids have been rendered more putrid than usual by the uncommon heat of last summer, which was almost equal to that of the West Indies.—From such a state of the fluids this disease originates.—It becomes frequent in the decline of the year, because perspiration is checked at that time, and much putrid matter consequently retained in the blood.—Thus it appears that the first effect of cold is to bring into action the putrid matter produced by the preceding heat; though its continuance afterwards gives tone to the fibres, and entirely removes the putrid disposition.

I must here advertise my reader once for all, that the principal purpose of this treatise is to record the disease as it has appeared in this country, and to recommend to the public a method of treatment which has long been successful, and is now adopted by all the physicians in this city and county.

WORCESTER, Dec. 17, 1778.

A



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A  
T R E A T I S E  
ON THE  
MALIGNANT ANGINA.

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C H A P T E R I.

*History of the disease.*

**A**CCURACY in distinguishing the various species of diseases from each other is universally acknowledged to be so essential in the study of medicine, and deservedly engages so much of every rational physician's attention, that it is unnecessary to say any thing in its behalf. Were it possible for any doubts to arise upon this subject, a very slight attention to the several species of fore-throat would immediately dispel them all.—It was the want of such distinction

B

which



which occasioned the Malignant Sore-throat to be treated, at its first appearance amongst us, as an inflammatory disease. — It is the same defect which leads ignorant practitioners of the present day into the same error. — A fatal error ! to which the lives of thousands have been sacrificed.

But it may always be most easily avoided by carefully observing the characteristic *symptoms* of the disease.

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#### S E C T. 1. *Definition.*

**T**HAT species of Sore-throat which is usually called ulcerous, putrid, and malignant, is characterised by the following symptoms :

A RED PAINFUL SWELLING OF THE TONSILS AND MUCOUS MEMBRANE OF THE FAUCES, ATTENDED WITH ULCERS, WHICH ARE COVERED BY WHITE OR ASH-COLOURED SLOUGHS, WITH A PUTRID EXANTHEMATOUS FEVER, AND WITH DIFFICULTY OF BREATHING AND SWALLOWING.

Such is the disease defined by Dr. Cullen under the second species of *Cynanche*,



nanche\*, and it is evidently the same as the *Ulcera Ægyptiaca* of Aretæus Cappadox; *crustosa et pestilentia tonsillarum ulcera* of Ætius Amidenus; *ulcera pestifera in tonsillis* of Paulus Ægineta; *faucium et gutturis anginosa et lethalia ulcera* of Mercatus; *pestilens faucium affectus* of Sgambatus; *garrotillo* of Zacutus Lusitanus; *angina puerorum epidemica* of Bartholine; *morbus strangulatorius* of Ætius Cletus; *pædançhone loimodes* of Severinus; *angina maligna* of Peter Michael de Heredia; the malignant and ulcerous fore-throat of Huxham; the fore-throat attended with ulcers of Fothergill; and the putrid fore-throat of other authors.

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\* Culleni Genera Morborum.

Genus x. Cynanche.

Pyrexia aliquando typhodes; rubor et dolor faucium; deglutitio et spiratio difficiles, cum angustia in faucibus sensu.

Species 2da. Cynanche tonsillas et membranam faucium mucosam afficiens tumore, rubore, et crustis mucosis coloris albescentis vel cineritii serpentibus, et ulcera tegentibus; cum febre typhode et exanthematis.



SECT. 2. *Literary history of the disease.*

SOME say that the Malignant Sore-throat made its first appearance in the seventeenth century (about the year 1610) in Spain; that it spread from thence to Malta and Sicily, and afterwards to several parts of Italy, so as to have broke out at Naples in the year 1618, where it continued to rage for twenty years.

It is certainly true that the disorder did appear at this time, but it is equally certain that the antients were no strangers to it.

Hippocrates says, “*Ulcera tonsillarum infantibus periculosa*”\*; and in another place, “*Ulcera proserpentia circa fauces, graviora et magis acuta, ut plurimum spirandi difficultatem inducant.*”

From a superficial account of ulcers in the fauces given by Celsus†, it appears that

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\* Hippocrat. de dentitione. sect. 3.

† Cels. lib. iv. cap. 4. sect. 3.



the famous Asclepiades was acquainted with this disease; and from a cursory expression or two of Cælius Aurelianus in the fourth chapter of his third book upon acute diseases, where he is treating of the Angina, he appears not to have been ignorant that the tonsils in certain circumstances become gangrenous.—In the second chapter of the same book, after observing that an erysipelatous eruption appearing upon the neck and breast is serviceable in angina's which have subsisted before, yet he remarks, that if the erysipelas come on before the angina or along with it, it is rather a dangerous and ominous appearance.—This observation is only applicable to the scarlet eruption, so frequently a concomitant of Malignant Sore-throats.—But all these accounts are imperfect.

The only antient authors who have left full histories of this disease, are Aretæus Cappadox, and after him Ætius Amidenus.—I say after him—for it is plain that Aretæus was prior to Ætius, because his writings



writings are quoted by the latter upon this very subject.

Under the title of "Ulcers in the tonsils," Aretæus\* has given a tolerably accurate description of the disease.

"Ulcera tonsillarum fiunt aliqua mitia, familiaria, non lædentia; aliqua aliena, pestifera, necantia. Mitia quidem sunt munda, exigua, non alte descendunt, non inflammata, dolorem non excitantia. Pestifera sunt lata, cava, pingua, quodam humore albo, aut livido, aut nigro sordentia. Id genus ulcera aphthæ nuncupantur. Quod si concreta illa fordes altius descenderit, affectus ille Eschæra est, atque ita Græce vocatur, Latine Crusta. Crustam vero circumveniunt rubor excellens, et inflammatio, et venarum dolor, quemadmodum in carbunculo, et exiguæ raræque pustulæ, quas Græci Exanthemata vocant, orientes, hisque aliæ supervenientes in unum coales-

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\* Aret. de causis et signis acutorum morborum, lib. i. cap. 9. Ed. Boerhaave.



cunt; atque inde latum ulcus efficitur. Id si interius in os depascendo serpit, ad columellam usque pervenit, ipsamque exedit; et linguam etiam occupat, et gingivas et fræna, id est, dentium alveolos; dentesque inde labefactantur et denigrescunt. In colum etiam phlegmone erumpit: atque isti, haud ita multis diebus post, phlegmone, febribus, fœtore, inediaque consumpti, intereunt. At si in pectus per arteriam id malum invadat, illo eodem die strangulat: pulmo enim et cor neque talem odoris fœditatem, neque ulcera, neque saniosos humores sustinent; sed tussis, spirandique difficultas enascitur. Causa maleficii tonsillarum est, frigidorum, asperorum, calidorum, acidorum, astringentium devoratio; quandoquidem hæ partes pectori ad vocem spiritumque edendum inserviunt, et ventri ad alimenti transmissionem, et gulæ ad ejusdem devorationem, obsequio sunt. Internis vero partibus, si quod contingat incommodum, ventri videlicet, gulæ, et pectori, ad isthmum et tonsillas, et loca ibi posita, mali consensus, et eructationes perveniunt. Quapropter pueri usque ad pubertatem



tatem maxime hoc morbo tentantur; præcipue namque pueri multum frigidumque aerem inspirant, quoniam in his plurimum caloris inest, et ad cibos intemperantes sunt, et varia concupiscunt, et frigidam potant, et excandescunt ac ludentes altius vociferantur.

“ Puellis quoque, usque ad menstruæ purgationis tempora, hæc vitia usitata sunt; Regio Ægypti horum affectuum plane fecunda est. Aer enim spirando siccus adducitur; varios præterea cibos suggerit: radices enim, herbæ, atque olera, ibi large proveniunt, et acria femina, et potio crassa, utpote Nili aqua; sibi vero Ægyptii ex hordeo, et ex flocibus, seu vinaceis, potiones acres conficiunt. Syria quoque, maxime illa quæ Cœle, id est cava, nominatur, hujusmodi morbos procreat. Unde Ægyptiaca et Syriaca ulcera id genus appellant. Modus vero mortis quam miserrimus accidit. Dolor quidam acer et calidus, qualis in carbunculo, spiritus vitiat: exhalant enim maxime putredinis odorem, eundemque vehementer in pectus spirando adducunt.



cunt. Immundi adeo sunt, ut neque suum ipsorum odorem ferre queant.

“ Pallida his seu livida facies, febres acutæ: sitis, ut igne accensi videantur. Potum, veriti dolores, non admittunt: Tristantur enim, cum tonsillæ compriuntur, aut potus in nares refilit; cumque decumbunt, surgunt ut sedeant, decubitus non ferentes. Quod si sedent, quiete carentes, iterum decumbere coguntur; plerumque autem recti stantes obambulant: Nam quiescere nequeunt, solitudinem fugiunt, dolorem tollere dolore tentantes. Inspiratio magna est; frigidum enim aërem ad refrigerationem desiderant: Exspiratio vero parva; nam veluti igne exusta ulcera cum sint, a calido præterea spiritu incenduntur, raucitas adest, vox nihil significat. Atque hæc in pejus ruunt cum subito in terram collapsis anima deficit.”

Having thus described the disease, in another part of his work he gives a complete account of his method of cure, which,



though it be not so efficacious, or at least not so applicable to the disease in this country, as those which have been given by modern writers, yet is sufficient to prove that he understood the true nature of this complaint.

\* “ Horum vitiorum curatio, cum aliis tonsillarum affectibus qua communis est, qua propria. In inflammatione et strangulatu, purgatio per clysteres, venæsectio, irrigationes, cataplasmata, fomenta, deligationes, cucurbitulæ, omnia demum eadem atque in his conveniunt. Illitiones autem acriorum medicamentorum faciendæ sunt; neque enim ulcera quiescunt, neque crustæ in superficie fiunt. Verum, si ab his sanies ad interiora destillet, celeriter partes, etiamsi integræ erant, ulcerantur; celerissimeque ulcera interiorius depascendo serpunt, atque hominem perimunt. Porro, igne vitium adurere, cum in superiore parte sit, imprudentis esse, propter isthmum iudico. Sed medicamentis igni similibus, quo et

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\* Aretæi de curat. morb. acut. lib. i. cap. 9.



depastio coerceatur, et crustæ decidant, utendum præcipio; ea vero sunt alumen cum melle, galla, balauſtium, arida cum mulſa. Hæc eadem calamo, aut penna, aut craſſo et oblongo caule, quo medicamina ad ulcera perveniant, inſpiranda ſunt. Optima ſane eſt et chalcitis uſta cum trita cadmia ex aceto: Eſto autem cadmia portione dupla, et rhei radix cum aliquo humore.

“ Præterea, ne ulcerum compreſſio fiat, cavendum eſt; ab ea namque et humeſcunt et magis exedunt. Hac de cauſa, opus eſt medicamenta arida inſpergere penna: Liquida vero liquentiſſima reddentem in gurgulionem infundere. At ſi cruſtæ jam reſolvuntur, et ulcera rubida ſiunt, tunc convulſionis maxime periculum ſubeſt; reſiccantur enim plerumque ulcera, et cum his nervi diſtenduntur. Itaque lacte cum amylo et ſucco ptifanæ, aut tragi aut lini ſeminis, aut ſœni Græci, remollire, madefacereque convenit. Quibuſdam et columella uſque ad palati, os exefa eſt, quin etiam tonſillæ ad baſim uſque et epiglottida;



ac propter cicatricem devorare neque solidum quicquam, neque liquidum poterant : Sed et ipsum, quod bibebat, interdum percussum hominem fame necavit."

Such is the account given by Aretæus ; let us next attend to what has been said by Ætius\* upon the same disorder.

"Crustosa et pestilentia tonsillarum ulcera ut plurimum, nullo præcedente tonsillarum fluxu, incipiunt ; aliquando autem a consuetis fieri inflammationibus, maxime efferatis, perficiuntur. Fiunt autem frequentissime pueris, atque etiam ætate jam perfectis, maxime iis qui vitiosis humoribus abundant, in iis quæ vere contingere solent pestilentibus constitutionibus. In pueris vero oris ulcere, quod aphtham vocant, præcedente omnino perficiuntur. Sunt autem partim alba, maculis similia, partim cinereo colore, aut similia crustis, quæ ferro inuruntur. Accidit autem ægris siccitas in transglutiendo ; et suffocatio coacervatim incidit, maxime cum rubor subeat

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\* Ætiii tetrabib. 2. ferm. 4. cap. 46.



mentum; ubi hæc acrimonia præterierit, nome, quæ depascitur, locos excipit, succeditque una putrefactio.

“ Festinanter itaque auxilium afferre oportet iis qui sunt ætatis perfectæ, atque confidenter venam brachii incidere, si quidem nihil sit quod id fieri prohibeat. Multæ enim virgines, circa vigoris ætatem mensium purgationem appetentes, hac affectione apprehenduntur, quæ præcipue venæ incisione opus habent. Incidendæ autem sunt in eis tali venæ, et unica sanguinis detractio facta evacuandæ, non autem ad usque animi defectionem. Deinde glandulis et sedis illitionibus ac clysteribus utendum erit, itemque cucurbitulis juxta lumbos, ac colligationibus extremitatum; atque omnibus modis conandum est, ut diversio ab affectis partibus fiat. Postea etiam gargarismis uti convenit; velut est lenticulæ decoctum, et myxarum ac palmarum cum melle et ptisanæ succo; deinde furfurum decoctum, in decoquendo viscosum factum, adjecto melle. Potest etiam



etiam remedium oris ex moris, et maxime id quod ex malis punicis constat, colendum exhiberi, hydromelite permixtum.

“ Conandum autem est in universum, ne digitum quidem locis admoveamus, aut leni saltem tactu manum admoliamur. Etenim inscii, ad quos maxime in rebus dubiis homines confugiunt, vehementius illinunt, simulque locum inflammatum comprimunt, simulque crustam detrahunt; quod minime facere convenit, priusquam elevatam et vix innitentem crustam conspiciamus. Quod si enim adhærentem adhuc crustam avellere aggrediamur, ulcerationes magis in profundum procedunt, et inflammationes consequuntur, augenturque dolores, et in ulcera serpentia proficiunt.

“ Cohibito autem jam ulcere pascente, lac gargarizandum Samia terra permixtum. Et febrium quoque curam habere convenit (vehementes enim incidere solent) atque in repurgandis explanandisque ulceribus maxime



maxime sollicitum esse: Convulsionem enim infantes plurimi passi sunt in ulcerum repurgatione. Aliqui vero, via transglutendi exsiccata, sunt strangulati. Sunt etiam quibus corroduntur gurguliones, atque ubi diutius perstiterint ulcerationes, et in profundum proserpserint, cicatrice jam inducta, adstrictiorem vocem edunt, reflectiturque ipsis potus in ipsas nares; nam et ego puellam novi, quæ post quadragesimum tandem diem consumpta est, quum se jam a morbo recolligeret. Verum ad septimum usque diem plurimi periclitantur. Ubi vero inflammationes et ulcera serpentia semper amplius extendantur, forinsecus fomentum adhibere oportet, et cataplasmatibus communibus uti, cum cautione ne refrigeremus. Feliciter enim res procederet, si intrinsecus detentam materiem extra queant transferre. Contegantur itaque semper post cataplasmata partes circa mentum, cum nardino et cyprino cerato, cum circumpositione lanarum mollium."



All who examine these extracts with attention will be convinced, that both Aretæus and Ætius were acquainted with the true malignant angina; though it must be acknowledged that the symptoms are enumerated more fully, and marked more precisely, by the physicians who have written upon it in modern times.

The first modern physicians, who had an opportunity of seeing this disease, and have left us descriptions of it, were those of Spain and Italy.

Ludovicus Mercatus, physician to Philip II. and III.; and Peter Michael de Heredia, physician to Philip IV. have given the best descriptions of it, as it appeared in Spain.—J. A. Sgambatus, M. A. Severinus, Ætius Cletus, and Thomas Bartholine, have described its appearance in Italy; and J. B. Cortesius has done the same with respect to Messina in Sicily.—Their several accounts agree perfectly well, differing only in some theoretical points, which occasion



caſion no material variation in their practice.

The ſame diſeaſe has alſo appeared in ſome of the iſlands of the Archipelago, if we may truſt to an imperfect deſcription given by Tournefort\*, who ſaw it in the iſland of Milo.—“ Dans le temps que nous étions dans cette iſle il y regnoit une maladie très fâcheuſe, et qui eſt aſſez commune en Levante, où elle emporte les enfans en deux fois 24 heures.—C’eſt un charbon dans la fonde de la gorge, accompagné d’une cruelle fièvre : Cette maladie, que l’on peut nommer la peſte des enfans, eſt epidemique, quoique elle épargne les grandes perſonnes.—La precaution la plus neceſſaire pour arrêter le progrès d’une ſi grand mal, eſt de faire vomir les enfans dès les moment qu’ils ſe plaignent du mal de gorge, ou que l’on ſ’apperçoit que leur tête commence à ſ’aſeſantir. Il faut réitérer ce remede ſuivant le beſoin, a fin de vuider une eſpèce d’eau forte qui ſe decharge ſur la gorge.—

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\* Relation d’un voyage du Levante, &c. par M. Pitton de Tournefort, 8vo. a Lyon, 1727, vol. i. p. 202.



Il est nécessaire de soutenir la circulation des liqueurs, et les forces du malade par des remèdes spiritueux, comme sont la theriaque, l'esprit volatile aromatique, huileux, et semblables.—La solution de styrax liquide dans l'eau de vie est excellente en gargarisme dans cette rencontre; mais le cas est pressant, et l'on ne se presse guère en Levante dans les maladies les plus aiguës."

The malignant fore throat was first taken notice of by the physicians in England in the year 1739.—In 1744, that illustrious minister Henry Pelham, Esq; lost all the male branches of his family by this disorder.—It became very frequent in London, in the years 1746-7-8, when it drew the attention of all the physicians there; particularly of Dr. Letherland\*, and the ingenious Dr. Fothergill, who soon after published his judicious and accurate observations on its nature and cure.—Soon after this, it appeared in various other parts of the kingdom, and

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\* See Chandler on the Catarrh.



accounts of it were published by Dr. Huxham, our late excellent physician Dr. Wall, Dr. Johnstone my father, and several others.—The histories written by these authors, and by the celebrated Dr. Russell are so very complete, that little can be added to them by succeeding writers; excepting such peculiarities as will attend it, in particular seasons, climates, and situations. I shall make use of them all in collecting a full *historia morbi*, or descriptive history of the disease.

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S E C T. 3. *Descriptive history of the disease.*

FROM the united authority of all the writers on this disorder, it appears to be highly malignant in its nature, rapid in its progress, and particularly fatal to such as are possessed of tender fibres, a delicate structure, and relaxed habit; preferring always children to adults, and the female sex to the male.—Those persons



also who have been debilitated by other diseases, and are newly recovering from them, are particularly liable to the attack of this, and the infirm of all sorts rather than the strong and vigorous, though the very strongest if much conversant with the sick are liable to be affected with it.

It comes on with different symptoms in different persons; but in general the patient is affected with a great degree of langour and lassitude often for several days before, fluttering, weakness, and vague flying pains all over the body: these are succeeded by giddiness of the head, chillness and shivering, which are soon followed by great heat.

Chillness and heat succeed each other alternately for several hours, till at length the heat becomes more constant and intense. — The patient then complains of heat, soreness, and stiffness, rather than pain of the throat, attended with hoarseness, and sometimes with a cough; great  
stiffness



stiffness of the neck, violent sickness with vomiting, or purging, or both.—Vomiting and purging however are most common in children, the contrary state is frequently observed in adults.

The face soon after appears red, flushed, and bloated; but sometimes it is pale and sunk, the eyes appear watery and inflamed.—Great restlessness, anxiety, fainting, and remarkable dejection of spirits come on at the very beginning.

The pulse from the first is generally quick, small, and fluttering; in some, hard and small; in others, soft and full; but always without that strength and firmness which accompany inflammatory diseases.

If a vein be opened soon after the attack of this disorder, the blood appears of a fresh florid red; but if left to settle, the crassamentum, instead of concreting into a firm compact coagulum, continues to  
be



be of a lax gelatinous texture ; the serum is in very large proportion, and of a yellow colour.—The urine at first appears crude, like whey ; as the disease advances it turns yellower, as if bile were diluted in it ; and soon after the marks of recovery begin to appear, it commonly grows turbid, depositing a farinaceous sediment.

If the patient is seized in the fore part of the day, as is generally the case, the symptoms are greatly aggravated towards night, and the heat and restlessness much increased.—This exacerbation usually continues till towards morning, when, after a short disturbed slumber, a sweat breaks out which considerably mitigates the symptoms and makes the disease appear like an intermittent. Evening exacerbations return very constantly through the whole course of the disease.

Soon after the first attack, or at the same time with it, the uvula tonsils and maxillary glands appear swelled and inflamed, often



often so much as even in the very beginning to threaten strangulation.--These parts, with the velum pendulum palati, and the cheeks on each side the entrance into the fauces and the pharynx, are of a florid red or crimson colour, and have a shining or glossy appearance; this colour is most observable on the posterior edge of the palate, the angle above the tonsils, and on the tonsils themselves.

After this several white spots are seen upon these parts, which soon increase to such a size as to cover one or both the tonsils; they are generally of an irregular figure and a pale white colour, often surrounded with a florid red, the whiteness appearing very much like that of the gums when they are pressed, or as if matter was contained underneath. The patient complains less of thirst in this than in almost any other acute disease; the tongue is commonly pretty moist, and clean at the top, but furred with a yellowish brown coat at  
the



the root.—At other times it appears red, like raw flesh.

The breath has a nauseous offensive smell, which at last becomes putrid, and so stinking as to be almost intolerable to the patient himself.

In the progress of the disease all these symptoms grow much worse, the fever, restlessness, and anxiety become more considerable, the difficulty of swallowing greatly increases, and the head turns more giddy, painful, and heavy, with constant watchfulness, and very frequently with delirium.

Some lie in a stupid, almost insensible state, often starting and muttering to themselves; the skin becomes more hot, dry, and rough, with scarcely any disposition to sweat.

The face, neck, breast, and hands, even to the fingers ends, become of a deep



deep erysipelatous colour, sensibly swelled; and a number of small pimples appear on the arms, and other parts, of a fiery red colour, distinguishably more intense than that which surrounds them; they are generally largest and most prominent where the redness is least intense, *e. g.* on the arms, breast, and lower extremities.

The Angina commonly appears before any eruption is observable; but sometimes the eruption will appear before the Angina; nay, in some cases, people have been seized with a severe Angina of this kind without any eruption at all; yet even in these cases a great itching and desquamation of the skin has come on: this however has always happened among adults, not at all in children.

The pustules are often so very small that they cannot easily be seen, but may be felt, as they give a sort of roughness to the skin, which appears swelled, inflamed, and of a crimson colour.



As the skin acquires this colour, the sickness, vomiting, and purging generally abate, but not universally; for sometimes an universal scarlet eruption has appeared without the least abatement of the symptoms, nay even when some of the symptoms were increasing. *Huxham* relates several instances of persons who died in a raging phrenzy, at the same time that they were covered with the most universal fiery rash he ever saw; from which he concludes, that the eruption only denotes the quantity of the disease. Notwithstanding all this, it is in general to be considered as a good symptom when a kindly eruption breaks out on the second or third day.—After the eruption has appeared, the fauces continue nearly in the same state as before, except that the white spots become more opake; and we are now assured, that what was before taken for the covering of a superficial tumour, is really a slough covering an ulcer of the same dimensions.

All



All the parts before mentioned are liable to these ulcerations, particularly the uvula, tonsils, pharynx, root of the tongue, and inside of the cheeks; but when the disorder is mild the ulcers are so exceedingly superficial as only to be distinguished from the other parts by a little inequality of the surface, though at other times the ulcers, especially if not carefully attended to, will eat very deep into the parts.

The parotids also swell, grow hard and painful to the touch, and, when the disease is violent, a large œdematous tumour surrounds the neck, extends to the breast, and greatly increases the danger.

The breathing then becomes more difficult, with a kind of rattling noise as if the patient was suffocating; the voice is hoarse and hollow as in venereal affections of the throat and fauces.—This gave occasion to the Spanish name *Garrotillo*.

If the eruption has not the happy effect of alleviating the other symptoms, they are



generally much increased the following night, and a particular kind of delirium comes on, somewhat different from that which attends most other diseases. The patient commonly answers your questions distinctly enough, but with unusual quickness, talks incoherently when alone, and often betrays himself by affecting too great composure; this happens most frequently to those who sleep but little.

Others are affected in a very different manner; they become totally stupid and comatose.—In this way they generally continue three or four days with constant exacerbations at night, but more or less of sweat breaking out in the morning; after which the patient is much easier, a great degree of faintness only remaining, of which he complains more than of all his other sufferings.

This disease has no regular crisis, nor any constant period that can be called its *acme*. Some grow better from the very first day of its attack, but more commonly  
under



under proper treatment the disease is removed on or before the seventh day, and generally is at its height in young persons about the fourth, fifth, or sixth days, and in more elderly persons not so soon ; some indeed are carried off on the second or third day by the matter falling upon their lungs, and bringing on pe ripneumony.

When the disease has run its course, and the patient begins to recover, the symptoms proceed in the following order.

If, after a gentle easy sweat, the redness of the skin and the heat grow less, the pulse become more slow, firm, and equal, the external swelling of the neck subside, the sloughs cast off in a kindly manner, and appear clean and florid at the bottom, the ulcerations fill up, the patient sleep without confusion and be composed when awake, his appetite for solid food return, his breathing be soft and free, some degree of vigour and quickness return to the eyes, and gentle sweats continue with plentiful  
 expec-



expectoration and desquamation of the cuticle, the patient will soon recover.

But on the other hand, if a rigor come on, if the exanthemata suddenly disappear, or become livid or black, the pulse small and quick, skin hot and parched, breathing difficult, the eyes dead and glossy, the urine pale and limpid, and phrenzy or coma come on, with cold clammy sweats on the face or extremities; and especially if there should be any singultus, or sudden liquid and involuntary stools; these symptoms are certain marks of approaching death.

In some the face is much bloated and very fallow, the whole neck much swelled, and has a cadaverous look, and the whole body œdematous to such a degree, that an impression made with the finger will remain fixed, which plainly shews a stagnation in the capillaries, and total loss of elasticity in the fibres.—The breath towards the fourth or fifth day becomes more and more foetid so as to be absolutely insufferable,



able, and the patient spits up a large quantity of stinking purulent mucus, sometimes tinged with blood, and of a livid colour.

The inside of the nostrils is inflamed and excoriated, and continually dripping down a thin corrosive sanious ichor, or white putrid matter, which is so acrid as to excoriate the lips, cheeks, and hands of children labouring under the disease, and even the fingers and arms of the nurses who attend them.

This same acrid matter passing into the stomachs of children may be one reason why they have this disorder more severely than adults.—This virulent matter producing the same effects on the intestines as on other parts of the body, is the occasion of those violent gripings, dysentery, and excoriations in the anus and buttocks, which sometimes attend it, and which shew that the sanies retains its virulence throughout the alimentary canal.

The trachea too is sometimes excoriated by this matter, and pieces of its internal  
membrane



membrane are spit up with much blood and corrupted mucus, which has caused the patient to linger for some time, and at length die tabid.

Hæmorrhages from the nose are also very common during the whole course of this disease, and the menses frequently appear, in those who are of an age to have them, soon after the attack of the disease, though the proper period may be at a considerable distance ; and when seized at the usual period, the discharge is always much greater than common; nay some have menstruated during their illness who never had the least sign of it before.—This evacuation, unless very copious, does no great harm; but when excessive, it occasions fainting, and increases all the other symptoms.

Some account of the several appearances, discovered by dissecting bodies which have died of this disorder, is necessary to compleat the history of it.

## S E C T.



S E C T. 4. *Dissections.*

**T**HE first dissection, which I find upon record, is in the Additamenta, which M. A. Severinus subjoins to his tract de pestilente ac præfocante pueros abscessu.

“Pædanchone in cadavere septennis pueri valetudinarij incurabilium dissecto observata, 1642, mense Novembri.

“Pulmo latis maculis prælividus et propé niger. ——— Pervestigata larynx crustacea quadam pituita facie exteriori contacta circa ulceris speciem, mortuus est puer octennis septimo post die anhelus et anxius, recto plurimum capite cubans.”—  
From these circumstances we may infer this patient died of the malignant angina trachealis.

The celebrated *Lieutaud*\* found not only the fauces and nose, but the larynx

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\* *Precis de la medicine*, ed. ii. Par. p. 519.



trachea and bronchia full of ulcers, which were covered with the same sort of sloughs, as those which are seen upon the tonsils, palate, uvula, &c.

In several other cases he saw them spread through the whole length of the œsophagus, stomach, and intestines.——I have already observed, that this is always to be suspected when the patient complains much of griping pains, or is afflicted with violent diarrhœa.

Mr. Le Cat\*, in his account of a malignant distemper, attended with ulcers in the throat, which appeared at Rouen in 1753-54, mentions several instances in which the villous coat of the intestines was mortified through the whole length of the alimentary canal; nay, in some cases, all the coats of the intestines were mortified to so great a degree that the fœces passed

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\* Philosophic. Transact. vol. xlix, p. 49.

through



through them into the cavity of the abdomen.

The ingenious Dr. Withering has published the following accurate dissections (communicated to him by Dr. Nooth) in his Inaugural Dissertation, printed at Edinburgh in the year 1766.

“ Mulier quædam trimestri spatio post partum in anginam gangrænosam implicita est; quo morbo procedente, exanthemata pectore apparebant; alvus limosa quædam cum torminibus reddebat; ipsa octavo die perempta est.—Cadavere aperto, membrana fauces et superiorem œsophagi partem intus obducens, multo crassior justo, crustisque fulvi coloris confita, reperiébatur; quibus facile separatis, partes subjæctæ rasæ, tanquam inde aliquid periisset, apparebant.—Rubedinem, quæ vi-  
varum fuit, fauces perdiderant.—Crassior solito, magisque rubra interior laryngis membrana erat.—Ventriculus et intestina materiem limosam continebant.—Circa guttur glandulæ lymphaticæ ampliatae  
F 2 erant;



erant; salivæ autem sublingua glandulæ minimè affectæ videbantur.—Glandula quædam lymphatica protinus supra ipsum parotidis additamentum sita, magnopere, ipsa vero parotis glandula minimè tumescebat.—Hinc tumores, qui a parotidum et salivæ in maxillis glandularum affectibus orti crediti sunt, revera glandularum lymphaticarum esse; quodque acrem ex ulceribus faucium materiem hæ imbiberent ideo affectæ; et salivæ glandulas solum ex reliquis partibus tumefactis deinde affici, verissimillimum est.

“Ad supra dicta adtexendum videtur, huic mulieri sanguinis unciiis quatuordecim detractis, arterias multo debilius micuisse, robur prorsus fractum esse, ipsamque ad pristinas vires et valetudinem, auxiliis aliter secundissimis adhibitis, nunquam deinde reduci potuisse.

“Idem juvenis, pueri annos quinque nati hoc morbo perempti, cadavere scrutato, membranam fauces intus obducentem multo



multo spiffatiorem, non incrustatam, sed ulceribus maculisque liventibus, per magnam œsophagi partem serpentibus, confitam, laryngem a morbo liberam, pituitosam nasi membranam memorabiliter tumefactam conspexit.—Hic puer vivus exanthematibus caruerat; sed alvo soluta, per totum morbi tempus, erat exercitus.”

The following dissections of such children as have died of the *Croup* deserve particular notice here, because they have so many circumstances in common with the preceding ones, and because a very close connection of that disease with the Malignant Angina will hereafter be pointed out.

Dr. Bard who has written an account of this disease, as it appeared in America, gives the three following dissections.

“ I have had an opportunity of examining the nature and seat of this disease, from dissection, in three instances.—One was a child of three years old.—Her first complaint was an uneasiness in her throat.—Upon  
examining



examining it, the tonsils appeared swelled and inflamed, with large white sloughs upon them, the edges of which were remarkably more red than the other parts of the throat.—She had no great foreness in her throat, and could swallow with little or no difficulty.—She complained of a pain under her left breast; her pulse was quick, soft, and fluttering.—The heat of her body was not very great, and her skin was moist; her face was swelled; she had a considerable prostration of strength, with a very great difficulty of breathing; a very remarkable hollow cough, and a peculiar change in the tone of her voice.—The next day her difficulty of breathing was increased, and she drew her breath in the manner before described, as if the air was forced through too narrow a passage; so that she seemed incapable of filling her lungs.—She was exceedingly restless, tossing perpetually from side to side; was sensible; and, when asked a question, would give a pertinent answer; but otherwise, she appeared dull and comatous.—All these symptoms con-

tinued



tinued, or rather increased, until the third night, on which she had five or six loose stools, and died early in the morning.

“ Upon examining the body, which was done on the afternoon of the day she died, all the back parts of the throat, and the root of the tongue, were found interspersed with floughs, which still retained their whitish colour.—Upon removing them, the parts underneath appeared rather pale than inflamed.—No putrid smell could be perceived from them, nor was the corpse in the least offensive.—The œsophagus, or gullet, appeared as in a sound state.—The epiglottis, which covers the wind-pipe, was a little inflamed; and its external surface, and the inner side, together with the whole larynx, was covered with the same tough white floughs as the glands of the throat.—The whole trachea, quite down to its division in the lungs, was lined with an inspissated mucus, in form of a membrane, remarkably tough and firm; which, when it came into the lungs, seemed



seemed to grow thin and disappear. It was so tough as to require no inconsiderable force to tear it, and came out whole from the trachea, which it left with much ease, and resembled, more than any thing both in thickness and appearance, a sheath of thin shamoy leather. — The inner membrane of the trachea was slightly inflamed; the lungs too appeared inflamed, as in peripneumonic cases; particularly the right lobe, on which there were many large livid spots, though neither rotten or offensive; and the left lobe had small black spots upon it, resembling those marks left under the skin by gunpowder. — Upon cutting into any of the larger spots which appeared on the right lobe, a bloody sanies issued from them without frothing; whereas upon cutting those parts which appeared sound, a whitish froth, but slightly tinged with blood, followed the knife.

“ The second dissection I attended was of a child about seven years old, who had all the symptoms with which this disease  
is



is commonly attended, except that, in this case, the glands of the throat and upper parts of the wind-pipe were found entirely free from any complaint; and the disease seemed to be confined to the trachea only, which was lined with this tough mucus, inspissated so as to resemble a membrane.

“ We could trace it into the larger divisions of the trachea, and it was evident that the smallest branches were obstructed by it. For it was very observable that upon opening the breast, the lungs did not collapse as much as usual, but remained distended, and felt remarkably firm and heavy, as if they were stuffed with the same mucus.

“ The last was a child of about three years old, who died in thirty six hours after the difficult breathing first came on; yet even in this case, I discovered and shewed to several by-standers, the inspissated mucus which lined the trachea, and which was so remarkable as to be evident to all who



saw it, that it must have been the cause of the child's death."

Appearances very similar to these are also described by the learned professor Martin in a dissection related by H. C. D. Wilcke in his Inaugural Dissertation published at Stockholm\*.

"Asperam arteriam intus undique singulari inductam membrana observavit, quam sponte fere nexu omni solutam peculiaris tubi instar extraxit, crassiore, grisea, et ex putredine laciniosa, qua cavum sui spectabat; qua vero asperæ arteriæ adhæserat, sanguineo-purpurea.—Quo longius in pulmones descenderet, eo pallidioris fuit ruboris, et in subtilissimis quidem bronchiorum ramis prorsus albicans, speciem præbuit membranæ quæ ovi putamen intus investit; quacunque vero se extenderet, evidenter a membrana bronchiis propria distinguere potuisse judicavit vir acutissimus.—

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\* Sandifort. Thesaurus. Vol. 2, p. 352.



Pulmones non fuerunt inflammati, neque ulla ratione læsi, ut suffocatione infantem periisse constaret."

We are likewise indebted to Professor Home, for an account of such appearances as were observed by him in dissecting some children who died of this disease.

" On opening the trachea of these children, it was found to be lined with a whitish membrane, under which a collection of pus was formed.—Pus of the same nature was also squeezed from the branches of the bronchia within the substance of the lungs, though, in other respects, they seemed quite sound, and free from inflammation.



## CHAPTER II.

*Diagnostic Symptoms.*

**T**HE malignant is so totally different from every other species of Angina, that if the history of the disease be well understood, there can be but little danger of mistaking it.——However as this very essential article cannot be too minutely attended to, I shall briefly point out the principal symptoms which distinguish it from the inflammatory Angina, the only species with which it is liable to be confounded\*.

Children, women, the relaxed, weak, and sickly are most subject to the malignant

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\* This branch of the subject is treated with very remarkable ingenuity and discernment by Dr. Smith, of Oxford, in some observations on the ulcered sore throat, subjoined to a letter addressed by him to J. K——y, M. D. Oxford, 1765.



angina.—Adults, men, the healthy, and robust are most subject to the inflammatory.

The malignant species is most common in autumn, and is highly contagious.—The inflammatory usually appears in the spring, and is never contagious.—Both of them begin with shivering, but the malignant is more commonly attended with sickness, vomiting, purging, and acute pain of the head, than the inflammatory.—In the former, the pulse is quick, weak, unequal, and fluttering, sometimes heavy and undose.—In the latter, it is frequent, strong, full, and hard.—The malignant is attended with but little pain; the inflammatory with very acute pain.—The malignant sort is always attended with prostration of strength, dejection of spirits, perpetual anxiety, sighing, and great oppression at the præcordia, with dull, heavy, watry eyes.—But whenever sloughs appear, especially if they are accompanied with a purple or erysipelatous eruption upon the skin,



skin, there can then be no doubt concerning the true nature of the disease, and all suspicion of inflammation must vanish.

There is but one other species of Angina from which this disease requires any distinction, and that is the Croup, Angina Infantum, or Suffocatio Stridula.—A small degree of attention to the several divisions of that distemper, which have been made by the best writers, will shew that in respect to many of the cases, there can be no distinction, because in reality there is no difference.

The justly celebrated Dr. Whytt was used in his clinical lectures to divide the suffocatio stridula into the spasmodic, the inflammatory, and the putrid.—Professor Home, in treating this subject, says, “ There are two different situations of suffocatio stridula, one inflammatory and less dangerous, the other less inflammatory and highly dangerous; in the former, the pulse is generally strong, the face red, drought



drought great, and they agree with evacuations; in the latter, the pulse is very quick and soft, great weakness, tongue moist, less drought, and evacuations hasten death."

The first and second species of *Croup*, attended with spasmodic and inflammatory symptoms, may be easily distinguished from this disease in the same manner as the Inflammatory Angina. But with respect to the third species; as it is attended with the very symptoms of malignant angina; as the dissections already related prove the trachea to be affected in the same manner by the malignant angina, and the putrid suffocatio stridula; as the writings of Huxham, and the experience of other physicians, assure us that the stridulous voice is a common attendant on malignant angina; and as all authors agree that the putrid suffocatio stridula is increased by the same circumstances, and cured by the same remedies, there certainly cannot be stronger reasons for arranging it among  
the



the varieties of malignant angina. Hence arises the propriety of dividing the malignant angina into—

1. Angina maligna tonsillaris.
2. Angina maligna trachealis.

The first of these comprehends all cases where ulcerations are spread over every part of the mouth and throat, when the Larynx is not affected, which are marked by the ordinary symptoms, and discovered by inspecting the throat.

The second takes in all cases, where ulcers are formed in the Larynx and Bronchia, which are discoverable by sharpness and shrillness of the voice, increased difficulty of respiration, frequent cough, and expectoration of putrid mucus, at the same time that the fauces are covered over with white sloughs.

This is a distinction of some importance, and deserves attention, because it gives  
much



much assistance in forming a prognosis of the event.—When ulcers have found their way into the trachea, we can seldom expect a cure, and in the very few cases of this kind, where recovery may be hoped for, it must be brought about by some variation in the method of treatment.





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## CHAPTER III.

### *Causes of the Malignant Angina.*

**T**HESE are best understood by considering them, as *predisposing*, *occasional*, *exciting*, and *proximate*.

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#### S E C T. I. *Predisposing causes.*

I. **A** Relaxed habit of body.—Each of the several progressive stages in life, from certain peculiarities of constitution taking place in it, is liable to particular diseases.—Children, who have always a relaxed habit, and fibres extremely delicate and tender, are more especially liable to diseases which arise from that source; hence the Malignant Angina  
is



is more common amongst them than amongst adults, and for the same reason women are more liable to it than men.—Relaxation from other causes will produce similar effects.

2. Debility by whatever cause induced.—Excessive fatigue, and too meagre diet predispose to this disease, and may perhaps explain in some degree, why the lower classes of people are more subject to it than those who live at their ease, use a generous diet, and drink wine.—In the same way, too copious evacuations predispose to this disease; hence, women who have the menstrual discharge in a large quantity are particularly subject to it.

All the depressing passions, viz. Fear, terror, grief, &c. are certain means of debilitating the system, and rendering such as are unhappily under their influence, particularly susceptible of infection.—Wherever contagious diseases prevail, those timorous people who dread them most are



generally soonest affected, and most severely handled by them.

3. Too great acrimony of the fluids.—People who have a scorbutic, or scrophulous habit, those who have taken large quantities of mercury, and such as have been confined to animal diet through want of fresh vegetables, are peculiarly liable to this and all putrid disorders.—In this set of causes may be reckoned suppressed excretions, which, unless they are restored by timely assistances, generally bring on a putrid state of the system.

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## S E C T. 2. *Occasional cause.*

THERE is only one occasional cause of this disease, which is a *specific pestilential contagion*.

A little acquaintance with the history of this disease is sufficient to evince its contagious nature.—At its first appearance, in every place from which we have received



ceived accounts of it, it has spread very rapidly and extensively, particularly among children and all such as had any signs of predisposition about them.—Whenever it came into any family, it generally affected all the children there, unless they were carefully removed out of the reach of infection; and even those adults who much attended the sick, especially if they received any breath immediately from the patient, scarcely ever escaped its attack.—Its symptoms too have always been most violent and fatal, at its first appearance in every place, and in its future progress they gradually became more mild and gentle; a notorious circumstance in the history of specific contagions which is not easily to be accounted for.—One probable reason of it is, that the persons most strongly predisposed are always first attacked.—It may also be owing in some degree to the difference of treatment, which is never so well understood when the disease makes its first appearance, as when it has proceeded farther in its course.

However,



However, something must still be attributed to the nature of the contagion itself, which is generally conveyed from one country to another in cloaths or other goods, affording a kind of fomes where it ferments, and by that means acquires a greater degree of virulence than it ever has when received from a patient labouring under the disease.—The ingenious Professor Cullen has demonstrated this to be the case in respect to the contagion of the plague, and it is highly probable that the same thing happens in the contagion of the Malignant Angina.

Another circumstance, which proves the contagion to be specific, is the gradual progress of the disease from one country to another.—We are told by Aretæus, that this disorder was common in *Ægypt*; and it is probable that, like many other pestilential diseases, it had its origin in that country which is so remarkable a seminary of contagion, in consequence of the unwholesome miasmata with which it  
abounds.



abounds.—From Ægypt it seems to have been communicated to Syria, Natolia, and the islands of the Archipelago. It was afterwards carried to Italy, Sicily, and Spain; and appears to have been spread by the Spaniards through all the rest of Europe.—It broke out and raged with the greatest fury, both in France and this island, soon after the beginning of the Spanish war.—Thus contagion evidently appears to be the uniform and constant occasional cause of this disorder; but its effects on the system may be greatly increased by other circumstances acting as exciting causes.

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### S E C T. 3. *Exciting causes.*

**T**H E principal of these are,

1. Moist climates and seasons, and low, wet, marshy situations.—These are particularly unwholesome when joined with heat, for heat combined with moisture is well known to be a most powerful promoter



promoter of putrefaction.—It appears from the history of the weather, in the seasons which preceded the appearance of this disorder in 1753, as it is given by Dr. Huxham at Plymouth, and Dr. Johnstone at Kidderminster, that there had been much wet, hazy, and rainy weather, attended with a warm, rather than a cold atmosphere.—In the winter before there had been very few frosts, and those of short duration.—The latter of these places is situated very low, and surrounded with meadows, which are frequently overflowed by a small river running through the town; the water thus stagnated becomes putrid, and renders the place peculiarly liable to malignant diseases.—The pernicious effect of marsh miasmata on the human constitution, and their power of producing intermittent fevers, is sufficient to prove that they will greatly assist contagion in the present case, and it is well known that such situations as these are most subject to putrid diseases of every kind.

## 2. Effluvia



2. Effluvia arising from a number of people collected together in a small space, where the air has not sufficient access to carry off the perspirable matter which is continually exhaling from their bodies: especially when the persons thus crowded together are of the poorer sort, not having proper change of cloaths, and living in houses where little or no attention is paid to cleanliness.—This alone has often been sufficient to cause fevers of the most dangerous and malignant nature among such as have been closely confined in gaols, hospitals, and camps.—It is not therefore to be wondered at, that the contagion of the Malignant Angina should be rendered much more violent and fatal by the concurrence of so powerful a cause.

Such are the chief remote causes of the disorder: I am next to consider what is the proximate cause.



S E C T. 4. *Proximate cause.*

FROM all that has been advanced in the preceding part of this dissertation, it is sufficiently clear that the proximate cause of Malignant Angina is a *putrid acrimony* conveyed into the system.—Hence, all the symptoms may be easily explained, as arising from a debility of the nervous power, and a dissolved state of the circulating fluids.—But should it be asked, why does this acrimony affect the fauces rather than any other part? It is a circumstance I can only account for from the particular situation of these parts, which exposes them more than any others to be acted upon by putrid and contagious effluvia.—They are placed directly in the way of all that air which passes to and from the lungs in respiration.—According to the calculation of Dr. Hales, 48,000 cubic inches of air are inspired every hour, which in its return carries off 408 grains of perspirable matter exhaled from the lungs.—

This



This matter is highly charged with phlogiston, and affects the air in the very same manner as putrefaction, and every other phlogistic process.—Respiration is now clearly proved to be a process of the phlogistic kind\*, and its principal use to discharge those putrid effluvia from the blood, which it acquires in the course of circulation, and which never fail to produce putrid diseases when retained. Hence it is evident, that whenever the septic tendency of an animal body is increased by contagion, (as in the present instance) or any other morbid cause; the respired air then

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\* This appears from the very ingenious and decisive experiments of Dr. Priestley, which plainly demonstrate that the dark colour of the blood in the veins and right ventricle of the heart is owing to the phlogiston that it then contains; and that the restoration of its florid appearance in the left ventricle and the arteries, is owing to the discharge of that principle by the lungs.—I have attended with particular satisfaction to these experiments, because they confirm an idea which I had before entertained, and communicated to a medical society at Edinburgh in a paper read at one of their meetings in the year 1772.



becomes more fully saturated with putrid vapour, which in its expiration is blown with considerable force against the fauces and entrance into the throat, as well as the larynx and nose.—All these parts are plentifully supplied with lymphatic vessels and glands which absorb the putrid matter, and by subsequent tumours and ulcerations prove themselves to be the chosen seats,

Quorsum hæc tam putrida tendent.





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## CHAPTER IV.

### *Method of Cure.*

**T**HE proximate cause explained and illustrated, as in the preceding chapter, furnishes one general Indication of Cure :

TO CORRECT THE PUTRESCENT TENDENCY THROUGHOUT THE SYSTEM IN GENERAL, AND TO STOP THE PROGRESS OF PUTREFACTION IN PARTICULAR PARTS.

The means of answering this indication have been exceedingly various in the hands of different practitioners.—I shall mention the chief of them, and give my own opinion concerning each in its turn.

SECT.



SECT. I. *Effects of remedies considered.*

A. BLEEDING. This has been esteemed a remedy of great importance in the Malignant Angina; it was therefore much used by the ancients, and has been recommended by every writer upon the subject, till the publication of Dr. Fothergill's ingenious treatise.

Having already seen the methods of cure proposed by Aretæus and Ætius, it would be useless to repeat any part of them here: only let it be remembered, that they both recommend bleeding in the beginning of the disorder, from the idea of its being inflammatory. For the same reason, as well as to bring on a revulsion, bleeding has also been recommended by the principal Spanish and Italian physicians.—“ Disputare cœpi-  
mus,” says Mercatus, “ de sanguine extra-  
hendo: siquidem non defuerunt medici, qui  
id renuerent: cæterum, unanimi consulen-  
tium



tium consensu, primo die sanguinem misimus, cruribus scarificatis, et mox octava noctis hora brachiis, aut si ultra duos annos fuerit natus, ex vena brachii : in hoc malo plurimum vereri oportet vires plurimum dejicere." \*

Severinus advises bleeding from four to eight ounces ; and Heredia says, " brevissime secandam esse venam in hoc confitentur omnes."

Upon these authorities the same remedy was generally adopted by physicians, till the judicious Fothergill, more attentive to the genuine nature of the disease than to the authority of any preceding writers, and convinced by his own experience that bleeding instead of mitigating the symptoms always increased them, gave us his opinion in the following terms.

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\* Mercati Conf. 24.



“ Bleeding in this disease has in general been observed to be prejudicial ; some indeed admit of it at the first attack without any sensible inconvenience ; but a repetition of it, even where the disease is mild and favourable, seldom fails to aggravate the symptoms ; and in some cases, it appears to have produced very fatal consequences.

“ The heat, restlessness, delirium, and difficulty of breathing, which this evacuation commonly prevents or mitigates in other cases, in this are increased by it ; nor does the swelling of the tonsils, fauces, &c. seem to receive the least benefit from it : on the contrary, though the fulness of these parts decreases, yet the sloughs thicken, and change to a livid or black colour, the external tumor grows large, and the spitting continually diminishes.”\*

In a note he adds, “ The heat indeed, and quickness of the pulse, seem at first to

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\* Fothergill, page 41.



be affected by this evacuation ; but they commonly return, after a fallacious respite, with greater violence ; the patient is seized with a difficulty of breathing, falls into cold sweats, and dies suddenly."

This very just and useful caution has not always been regarded so much as its importance deserves ; for it appears from various publications written since Dr. Fothergill's, that bleeding is still recommended by some physicians both at home and abroad.

Dr. Huxham, to whom the world is so much indebted for his excellent practice and observations on fevers, in a treatise made public in 1762, speaks of bleeding as follows :—

" I met with too many instances before of rash bleeding and purging in this distemper ; nay, some were weak enough to tell me, the blood they had drawn was very fine and rich ; florid truly I found it



as lamb's blood, but so soft and loose that you might cut it with a feather, giving off little or no serum, but having exactly such an appearance as when spirit of hartshorn is poured to the blood to prevent its natural coagulation.—I will not say but that in some plethoric adult persons, some blood may be drawn in the beginning of this disease; and I have in some few ordered it with advantage, particularly as to the anginous symptoms, and where the difficulty of breathing was also considerable, but I must say a repetition of the bleeding to any considerable degree is extremely detrimental, where the first blood, especially was of such a loose and soft texture; for the second or third will always be found a mere sanious gore, as I have too often noted: nay sometimes I have observed the first blood drawn covered with a very thin, whitish or lead-coloured skin, pretty tenacious; but immediately underneath it, was a greenish soft kind of jelly, and at bottom, a very loose, black crassamentum, scarce at all cohering.—This appearance



appearance of the blood, however, as much forbids further bleeding as that above described, and is mostly observed when there is a throbbing pulse, and great heat at the access of the distemper\*.”

The pernicious concession, which Dr. Huxham has here made in favour of bleeding, seems to be granted rather from a disposition to comply with established custom, than from any conviction of its utility:—indeed, those instances, in which bleeding has been employed without injury, may be fairly reckoned fortunate escapes much more properly than cures.

Dr. Ruffel, otherwise a man of genius and an improver of the practice of physic, speaks of bleeding in the following manner:

“ If I have been called in early, I have advised bleeding, and given a little manna,

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\* Huxham on fevers. Ed. 5. p. 287.



committing the business afterwards to nature, who then proceeds with less difficulty in disposing of the disease after her own way, being not so much oppressed with that fullness which is apt to do so much mischief on the first days of febricitants. But, in many cases, where the symptoms are mild, I do not bleed at all, for I have observed the blood of these patients is not fizy like those of pleuriticks, but the texture appears rather loose and tender, and therefore does not require bleeding so much as inflammatory quinzies." \*

In this unfortunate opinion, and in persuading to this fatal practice, Dr. Ruffel is by no means singular; as appears by the writings of other physicians both in England and foreign countries †, in which this evacuation is either recommended, or not sufficiently cautioned against in the manner it ought to be from its pernicious

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\* Ruffel's œconomy of nature, p. 112.

† Sauvages, Wilcke, and Dr. Grant.



effects.—I am bold to affirm, that the history of the disease well understood does not furnish the least appearance of an indication in its favour.—I was born in a situation, where from the very great frequency of this disease about the year 1750, it was known in the neighbouring country, by the name of the Kidderminster Sore Throat, in the same manner as its frequency in *Ægypt* occasioned it to be called *Ulceræ Ægyptiaca* in the time of *Aretæus*.—So long as the prepossession in favour of bleeding prevailed there, it was one of the most fatal of diseases; but since the lancet has been laid aside, and the antiseptic method only depended upon, it has proved one of the most certain and easy to be cured.—If any persons have recovered after bleeding in this disease, they are to be considered as instances of recovery by the efforts of a good constitution overcoming a bad method of cure.—What indeed can be the effect of bleeding in a putrid complaint which has so rapid a tendency to gangrene? while nature already debilitated is struggling



struggling with a strong enemy, what can bleeding do? It destroys the force of nature, and adds to that of the disease.— Sometimes indeed it will happen, that putrid ulcers appear on a gland which is really inflamed; but even in this case, harmless suppuration is far preferable to the hazard of a fatal gangrene.

If the consequences of bleeding in diseases of this kind had been properly understood, it is probable that the life of the Duke of Gloucester, presumptive heir to the British Crown, might have been preserved at a very critical juncture. For it appears from Bishop Kennet's account of this prince's case, which is related in certain anonymous memoirs of the reign of Queen Anne, in two volumes octavo, that he died of a putrid sore throat badly treated by bleeding.—“ On the 25th of July, 1699, the day after his birthday, when he was eleven years old, he was seized with pain in the throat, anxiety at the præcordia, and fever.—At first, little  
or



or no notice was taken of it.—On the second day he was bled, in the evening his fever was increased, and an eruption appeared on the skin.—A blister with some other remedies was then applied.——

On the third day the eruption was greatly increased, more blisters were applied, and in the evening a delirium came on which continued to the time of his death.——

On the evening of July 29th he was suddenly seized with difficulty of breathing, lost the power of swallowing, and about midnight died\*.”

Besides

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\* This case, so unfortunately misunderstood, was the occasion of great blame to the attending physicians.—The duke was intrusted to the care of Sir Edward Hannes and Dr. Bidloo, who were at first apprehensive of the small-pox and prescribed accordingly, but without any success.—The court was much alarmed, and the Princess of Denmark was persuaded to send for Dr. Radcliffe; who, upon the first sight of the royal youth, declared that there was no possibility of recovering him, and that he would die by such an hour the next day, which he did.—However, with great difficulty, the doctor was persuaded to be present at the consultation, where he could not refrain from bitter invectives against the two physicians above mentioned, telling the one, that it had been happy for this nation if he had been bred up a basket-maker,



Besides the pain of the throat, the scarlet eruption on the skin, the aggravation of symptoms by bleeding, and the sudden difficulty of breathing terminating in death, which are all characteristic symptoms of Malignant Angina, there is no other fever with which we are acquainted that in the beginning gives so little alarm, and yet is so quickly fatal to the patient.——  
 From hence the Duke of Glocester's disorder appears to have been the Malignant Angina, the nature of which was not known, till its general prevalence in this

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maker (his father's occupation); and the other continued making a havock of nouns and pronouns in the quality of a country schoolmaster, rather than have ventured out of his reach in the practice of an art to which he was an utter stranger, and for which he ought to have been whipped with one of his own rods.

This account is taken from Radcliffe's life in the *Biographia Brittanica*, which leaves us uninformed what method of cure this severe censor of others would have adopted, and therefore we cannot determine his own notions respecting the nature and cure of the disorder, or whether the termination of it would have been less fatal if the management of the case had been committed entirely to him.

country



country near fifty years afterwards called the attention of the faculty very particularly to it.——The first account of its appearance in England is little more than forty years old, as we have already seen in the beginning of this dissertation.

B. *Purging*.—Concerning this remedy, it is almost sufficient to say that the very same arguments and authorities which so strongly reprobate the practice of bleeding may be urged with equal force against this evacuation.

“ Gentle cathartics, says Fothergill, have brought on very dangerous symptoms. Upon procuring a few stools with manna, especially when the disease has continued two or three days, the redness of the skin has disappeared and the flux to the throat has been surprisingly increased.—If it happens that this discharge by stool continues, the swelling of the neck commonly grows larger, the fauces become flaccid, dry, and livid; and the patient

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tient in a few hours after this expires : so that purgatives seem to have no better effects in diminishing the tumor, and abating the supposed inflammation than bleeding."

Every thing which diminishes the patient's strength, when the disease itself has so strong a tendency to debilitate him, must necessarily be prejudicial. Costiveness may be obviated much better by ripe fruits, and occasional clysters of the antiseptic kind, than by any cathartic medicines, which are certainly pernicious.

*C. Emetics.*—Vomiting is one of the evacuations which may sometimes be employed in this disease; especially when nausea is very urgent in the beginning of it.—A gentle emetic may then be serviceable both to empty the stomach and to excite a diaphoresis.

*D. Blisters.*—Notwithstanding the septic nature of Cantharides, blisters have been



been found useful in this complaint, by raising the pulse, and supporting the vis vitæ.—This effect might have arisen from their stimulant power, independent of any evacuation; but it is also probable that they may have some good effects by expelling the putrid virus, or by drawing it from the lymphatic glands, in consequence of increased action excited in the vessels of the part, and the same increased action of the vessels which expels the putrid matter already formed, will prevent the generation of fresh matter. They are applied to the back, behind the ears, and often with considerable advantage to the throat itself.

E. *Nitre*.—The known effects of sal nitri in abating heat and other symptoms of inflammatory fevers, has suggested the use of it in fevers of every kind.—Whenever this remedy has been much trusted in the fever attending the Malignant Angina, it has manifestly increased the heat and all the putrid symptoms; as might naturally be expected in a fever attended with great



depression of the nervous and circulating powers, from a remedy which diminishes instead of adding to the strength of those powers.—“ It increases that faintness which accompanies this disease, and disposes the patient either to copious sinking sweats or to stools.”\*

F. *Spiritus Mindereri*.—The advantage derived from this remedy in many fevers has made it fashionable also in this; but as its tendency is to attenuate the fluids, it seems very unlikely to have any good effect; and in fact a dependence upon it has been observed to have bad consequences where the tenuity of the blood was in any degree considerable.

G. *Lemon juice saturated with sal absinthii or sal volatile c. c.*—The operation of this medicine is similar to that of sp. Mindereri, and is liable to the same objections.—It is certain that where medi-

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\* Fothergill.



cines of this class were alone or principally depended upon, the patient frequently sunk under the disorder.—Indeed, it is not reasonable to expect that medicines, which are effectual in inflammatory disorders, should have any beneficial consequences in fevers attended with the putrid diathesis.—If any circumstances should direct to the use of this remedy or *sp. Mindereri*, they ought to be given in the state of effervescence, that the fixed air disengaged thereby may act upon the throat, and be thrown into the body of the patient as a corrector of putrefaction.

All the neutral salts, merely as such, are to be suspected, because they thin the blood, and render it more florid both in and out of the body; and though the blood may be thin without being putrid, yet that tenuity disposes it so much to putrefaction, as to render all remedies which act in this way very precarious and improper.

This



This observation, which I first received from my father, has been confirmed by the late Dr. Gregory,\* whose genius and knowledge in his profession were exceeded only by the goodness of his heart.—Physicians in succeeding ages will form the best idea of what he was, by learning from his inimitable lectures † what they ought to be,

H. *Fixed Air*.—A series of curious and important discoveries made by the persevering genius of Dr. Priestley upon different kinds of air, has excited an almost universal attention to that subject.—Many of them seemed to promise a very useful application to the purposes of medicine, but none have been employed so generally or so successfully as the *fixed air* obtained from effervescing mixtures.—Its antiseptic virtues have been well ascertained by deci-

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\* Elements of the practice of physic, p. 142.

† Lectures on the duties and qualifications of a physician, passim.



five and often repeated experiments.—In the stomach it acts as a stimulant, tonic, and anti-emetic.—Several of those mineral waters which have been long and justly celebrated in cases of relaxation and weakness of the stomach and bowels (particularly the Pyrmont) are indebted for their virtues to the fixed air they contain.—Dr. Percival found relief from the application of fixed air, procured from an effervescing mixture of pot-ash and vinegar, to a painful aphthous ulcer upon his own tongue: he relates several instances of its good effects in the ulcerous fore-throat; and he observed that the fœtor of putrid fæces was corrected by a clyster of fixed air, procured from chalk and oil of vitriol, in a boy who laboured under a putrid disease.—Similar trials have since been made by approved practitioners in different parts of the kingdom, and its success has been such as will warrant its use in every putrid disease.—Where the convenient apparatus of Dr. Priestley or Dr. Nooth for the purpose of impregnating liquids with this air cannot easily



easily be procured, the extemporaneous method lately recommended by Dr. Hulme\* may be adopted with advantage.

I. *Mercury*.—This has been proposed as a remedy by some American physicians, and if we attend to their own accounts it will perhaps appear to be recommended on no sufficient foundation.—For they do not seem to have made use of it at any time but when blisters, serpentaria, sene-ka, bark, or antiseptic fomentations and gargles were also employed.—Dr. Bard lays much stress upon its attenuating virtues; but this very property ought to make us afraid of it.—Besides, mercury is the most universally evacuating medicine we are acquainted with, and therefore is in danger of producing all those fatal effects which so certainly arise from too plentiful

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\* Hulme's safe and easy remedy for the stone, &c. together with an extemporaneous method of impregnating water and other liquids with fixed air, by simple mixture only, p. 34, experiment ix.

evacuations.



evacuations.\*—If there be any instances in which it appears to have done good, it has happened in consequence of a copious expectoration; but there are many other medicines to be given for promoting expectoration whenever it is wanted, which are attended with infinitely less hazard, and calculated to answer the end proposed much better than mercury.

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\* The following observations tend to prove that mercury has real septic powers :

“ If the phenomena of a salivation are compared with the appearances in an ulcerated sore throat, the clearest analogy and similitude will appear.--For in the artificial as well as the natural disorder, we observe a low putrid fever, attended with a soft undulating pulse, a stinking breath, copious spitting, white aphthous ulcers in the glands, tongue, gums, cheeks; the glands of the head and neck are swelled; sometimes hæmorrhages and bloody stools appear, &c.—This sameness of phenomena at once shews us the true state of the fluids, viz. their dissolution in the Angina Maligna, and directs us to the use of the bark and mineral acids, as remedies to incrassate the fluids; and to avoid mercury, alkaline salts, and attenuants in general, *cane pejus et angue.*”—Johnstone's historical dissertation concerning the malignant epidemical fever of 1756. p. 8.

M

K. *Vegetable*



K. *Vegetable acids*.—These are excellent antiseptics, and very grateful additions to what the patient drinks in this as well as other fevers; and are always exceedingly useful unless a diarrhœa, which they might possibly increase, should require them to be used with caution.

They cannot be given with freedom to infants at the breast, because they coagulate the milk, bring on a diarrhœa, and in other respects disorder the tender bowels of such infants.

L. *Mineral acids*.—These, particularly *sp. vitriol. tenuis* and *elixir vitrioli*, are antiseptics of the clearest efficacy, to the prudent application of which no objection can be made, unless in the cases of infants, whose principal or sole food must be milk.

M. *Dulcified acids*, *sp. nitri dulcis*, *sp. vitrioli dulcis*, &c.—This combination of the mineral acids with *sp. vin. rect.* renders



ders them particularly grateful to the stomach, and they are as antiseptics, diaphoretics, and anti-emetics some of the best remedies in putrid diseases.

N. *Pulvis contrayervæ compositus*.——This composition is one of those which in fashionable practice is almost universally ordered in malignant diseases, perhaps, without any other recommendation than that of custom and fashion.——The absorbent earths, a principal part of the composition, are known by the experiments of Sir John Pringle to be promoters of putrefaction out of the body, and I know no facts which afford us any reason, to believe that they check it in the living body.——Yet, in some circumstances of diarrhœa, this composition may possibly be used with propriety.

O. *Confectio cardiaca*.——This aromatic composition, the nostrum of Sir Walter Raleigh and the placebo of routine practitioners ever since, may sometimes be given with propriety in this disease.—It  
has



has its use in abating heat, making the pulse fuller and stronger, removing anxiety, and lessening sickness.—This is also true with respect to wine and all other cordials.—“One Drachm of the confectio Raleighana (says the learned and experienced Fothergill) has been given to a youth not quite 15 years of age, every four hours, which was soon followed by a sensible amendment, and the decrease of the patients restlessness, faintness and heat.

*P. Myrrh.*—Is a most powerful antiseptic, and may be used with much propriety as an internal medicine, though it has for the most part been employed only in gargles and steams for this disorder.

*Q. Camphor.*—One of the strongest antiseptics we are acquainted with, and a powerful diaphoretic may frequently be given with advantage.

*R. Peruvian Bark.*—Sydenham pointed out the use of this bark as an antiseptic by recommending it in Aphthæ; and its very  
extensive



extensive use in putrid ulcers, gangrenes, small-pox, and malignant fevers, naturally enough led to a trial of it in the Malignant Sore Throat.—Its efficacy in this disease has surpassed the healing powers experienced from it in every other instance.—Those who have tried it most in this complaint, best know how absolutely it subdues the disease, which is more certainly cured by the early application of this remedy than any disease of equal consequence by any means whatever.—This is the language of all those physicians who have, from long experience, had the best opportunities of learning the true nature of the disorder, and observing the good effects of the bark, a medicine upon which great dependence has for many years been placed in this country. This useful remedy was recommended in 1751 by the late ingenious Dr. Wall, whose loss (particularly in this neighbourhood) is not less deservedly than generally lamented.

Various



Various have been the opinions of physicians concerning the manner in which the bark operates. Some ascribe its effects to its astringency merely, others to its bitterness ; but we have medicines, which are both bitter and astringent, yet very unequal to the bark in their effects.

In this disease it evidently acts as an antiseptic and tonic. It corrects putrescency when it is begun, and it resists the process of putrefaction by repairing the forces of nature, and by giving that vigour to the nervous system which enables it to oppose and overcome the disease.

Dr. Cullen \* attributes the whole of its effect in this disorder to its tonic power ; and the late Professor Monro † ascribed the effects of the bark in gangrenes to its invigorating powers.

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\* *Materia Medica*, p. 293.

† *Medical Essays*, vol. v. p. 84.



As it has been found inconvenient to administer the bark, in intermittent and remittent fevers, at any time but during the intervals of paroxysms; so it has been questioned by some whether we ought not also to wait for a remission in the fever attending the Malignant Sore Throat before we give the bark?

To determine this question I need only remark, that no inconvenience has ever been observed to accompany or follow the use of the bark, at the very height of the fever attending this sore throat. Nay, we ought to give it more frequently, and in larger quantities in proportion to the height of the fever.—On the contrary, by waiting for a remission, more especially for a perfect intermission, the disease has often gained ground, and the patient lost his life.—It is true, that nausea and other symptoms of spasm, in the beginning of the paroxysm in intermittent and remittent fevers, render it very proper to delay giving the bark till the decline of the paroxysm.

Such



Such delay cannot generally be inconvenient or dangerous in those diseases; but wherever the delay is dangerous, as sometimes happens even in the intermittents, and still oftener in the remittents of hot climates, then it is given without a perfect intermission, as may be seen in Cleg-horn's judicious treatise on the diseases of Minorca, p. 202.—In like manner the rule of giving bark only in the remission of fevers has been superseded in the fever attending the Malignant Angina with equal propriety and success.

*S. Cortex Cascarillæ and Lignum Campechense.*—Decoctions or extracts of these are often useful additions to the bark, when patients labouring under this complaint have any propensity to diarrhœa.

Cascarilla, besides its effect as an astringent, may be useful as a corroborant and antiseptic; Apinus gave it with success in an epidemic fever, attended with petechiæ which raged in some parts of Norway



Norway in 1694-5, when other alexipharmacs and sudorifics failed.—The French Academicians also found it very serviceable in an epidemic dysentery in 1719, when ipecacoanha was ineffectual.

*T. Wine.*—It is unnecessary to say any thing concerning this either as a cordial or antiseptic medicine; in both these respects, its efficacy in nervous and putrid fevers is well ascertained.—In the disorder which is the subject of this treatise, it has been given with the utmost liberality, and with no less advantage.

It removes the depression of spirits, anxiety, and restlessness of the patient, abates heat, renders the pulse less frequent and more firm, supports the vis vitæ, promotes easy perspiration, and resists putrefaction.—In short, it is essential as a cordial, and ought to be used both in the drink and diet of patients labouring under this disease.

Such are the principal remedies proposed for the cure of this disorder; the effects of



the most approved among them are to increase the tone of the nervous system, to invigorate the powers of circulation, and to act as antiseptics on the mass of fluid.

It only remains to shew the particular application of them.

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SECT. 2. *Particular method of cure proposed.*

WHenever a patient is attacked with the Malignant Angina, he should be kept to his bed in a well-aired room, in order to promote a gentle perspiration, which is always beneficial; though profuse sweating, like every other excessive evacuation, is hurtful.—If he should be seized with violent sickness and vomiting, this ought to be encouraged by taking a few grains of ipecacoanha, and by drinking chamomile or carduus tea.—Ipecacoanha is in this case preferable to antimonial emetics, because it is less disposed to run off by stool. As soon as the emetic has finished its operation, the stomach should be settled, and a diaphoresis encouraged



couraged by a gentle sedative draught\*, and then the bark must immediately be given in large doses, and those frequently repeated.—This excellent remedy, so wonderfully powerful in removing debility, and in restoring strength to the nervous system, scarcely ever fails of giving instant relief in this disease, if it be taken in time and properly managed.—Various modes of administering this medicine have been recommended by different practitioners. Every one has supposed his own favourite preparation to be the most eligible; but in most cases the substance is unquestionably superior to any preparations of it, because no menstruum will completely extract all its active matter.

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\* R. Spiritus nitri dulcis semidrachmam,  
Syrupi e meconio drachmam unam,  
Aquæ cinnamomi tenuis unciam unam. Misce.

This may be repeated at bed time, and it is often necessary to promote perspiration through the whole course of the disease by draughts of this kind, with the occasional addition of one grain of ipecacoanha.—By causing a determination to the skin, they often check a dangerous diarrhœa. Ipecacoanha is here also used in preference to antimonials, because all preparations of antimony are too apt in this disease to bring on diarrhœa.



The quantity to be taken is at least half a drachm or a drachm every three hours †.

Dr. Huxham assures us, that his own tincture of the bark succeeded much better than the bark in substance, or in any other form ; but some allowance must always be made for every man's prepossession in favour of his own compositions. No Tincture of the bark can contain the quantity necessary to be given, without

† R. Decocti corticis peruviani uncias sex,  
Pulveris corticis peruviani subtilissimi  
Spiritus vitrioli dulcis ana drachmas duas,  
Sacchari limoniati drachmas sex.

Fiat mistura de qua cochlearia tria sunt sumenda tertiâ  
vel secundâ quâque horâ.

O R,

R. Spiritus Mindereri subacidi uncias duas,  
Decocti corticis peruviani uncias sex,  
Pulveris subtilissimi corticis ejusdem drachmas duas,  
• Aquæ cinnamomi spirituosæ  
Sacchari albi ana unciam unam.

Fiat mistura cujus capiat cochlearia quatuor tertiâ quâque horâ.

These mixtures are diaphoretic as well as antiseptic, but in order to support easy perspiration, a tea-spoonful of spiritus nitri dulcis, or spiritus vitrioli dulcis should be taken in a draught of warm whey, between the doses of the bark, when the patient is in bed.

joining



joining with it so much spirit as will be very inconvenient, especially to infant patients : this indeed is always a material objection to its use.

The decoction, though recommended by some writers, is less useful than the bark itself, but may sometimes be given with advantage when the stomach is too weak to admit the substance. However the bark must not be discontinued because it vomits \* the patient a few times at its first adhibition, for even when this happens it is an useful remedy and the best emetic

\* Fixed air administered, in the following manner, with the bark, commonly puts an immediate stop to the vomiting, and is in all respects a good addition to the medicine, as its properties coincide with those of the bark, in fulfilling the general indication.

R. Decocti corticis peruviani uncias quatuor,  
 Salis tartari drachmam unam,  
 Pulveris subtilissimi corticis peruviani drachmas duas,  
 Olei cinnamomi guttas quatuor, tritas cum  
 Sacchari albi semunciâ.

Fiat mistura, cujus capiat cochlearia duo tertiâ secundâ vel singulâ quâque horâ, cum succi limonum recenter expressi semunciâ in actu effervescentiâ.

that



that could be given ; because it cleans the throat, while at the same time it acts as a most excellent antiseptic topical remedy, and having been thrown up a few times, it will frequently afterwards stay upon the stomach without the least inconvenience. If the stomach should continue constantly to reject it, we must then give it in clysters, in which form it produces nearly the same effects as when given in the other way, but a double quantity of it must be employed \*. At the same time we must endeavour to check the vomiting by giving *sp. nitri dulcis* in pepper-mint water, or the saline draughts of Riverius in the act of effervescence.

\* R. Pulveris corticis peruviani

———— Gummi arabici ana drachmam unam,

Decocti albi uncias quatuor.

Fiat enema tertiâ quaque horâ injiciendum.

It is sometimes very necessary to administer nourishment as well as medicine by means of clysters.—In such cases it is an excellent method to mix the quantities of bark and gum arabic prescribed above with four ounces of *new milk*, which makes a more nutritious composition, no less antiseptic than the other.

The



The operation of the bark and its easy digestion may be promoted in many cases by joining with it some of the aromatic remedies before mentioned, particularly the confectio cardiaca, which is itself an useful cordial in this disorder †.

The bark has a purgative effect on some particular constitutions, and is very apt to increase diarrhœa wherever there is a previous tendency to it. In such cases it is proper to add the powder of Cascarilla, which generally answers all the purposes

† The following mixture is prescribed by Dr. Fothergill.

R. Aquæ alexiteriæ simplicis uncias sex,

———— spirituosæ cum aceto sesquiunciam

Confectionis cardiacæ sesquidrachmam

Pulveris contrayervæ simplicis semidrachmam,

Syrupi croci semunciam.

Fiat mistura de qua capiat cochlearia duo tertiâ quâque horâ.

The bark may be added to this formula, or a drachm or two of confectio cardiaca to one of the bark mixtures. — The bark has in every view an undoubted right of preference to the confectio cardiaca, but whenever a patient nauseates the bark, the addition of confectio cardiaca may make it sit easier upon the stomach; however there is much attentive regard unquestionably due to the recommendation of Dr. Fothergill.

of



of an astringent, and is preferable to electarium e scordio, or any other medicine of that class, because it co-operates with the bark in all its other intentions. If the cascarilla should not succeed, as it is of the utmost consequence to stop this evacuation, we must give small doses of ipecacoanha joined with extract. ligni campechensis. One or the other of these remedies is generally efficacious in stopping the diarrhœa; at least, it is always right to try them before we have recourse to opiates, which should be the last resort, because opium by its strong sedative power is in danger of increasing relaxation, and consequently the debility of the system.

The patient's diet should consist chiefly of preparations from the farinaceous vegetables, panada, sago, salep, &c. with port wine or claret. All sorts of summer fruit, oranges, strawberries, mulberries, currants, cherries, apples roasted and boiled, &c. unless contra-indicated by a diarrhœa, should be eaten in great plenty.

His



His drink \* should be good rough cyder, or water mixed with plenty of port, and acidulated with the mineral acids, particularly *sp. vitrioli tenuis* or *elixir vitrioli*.—The dulcified acids are always to be preferred for children, because they have less tendency to coagulate the milk.—Besides wine diluted with water for common drink, the patient ought frequently to take it pure as a cordial; and in this view, a glass of good port is better than all the medicines in the apothecary's shop.—When diarrhœa is profuse, the wine should be mulled with spices, which will greatly assist it to strengthen the intestines and stop the purging.

A careful attention to and perseverance in this plan is generally successful in correct-

\* R. Emulsionis communis semilibram,

Spiritus nitri dulcis drachmas duas. Misce pro potu.

—If the patient should have any tendency to diarrhœa in the beginning of the disorder, he may drink the following apozem ad libitum.

R. Gummi arabici semunciam,

Aquæ hordei semilibram,

Spiritus nitri dulcis semunciam,

Sacchari rosacei unciam unam. Fiat Apozema.



ing the putrescent tendency throughout the general system.—The remaining part of the indication is to stop the progress of putrefaction in particular parts, especially the fauces and throat.—For this purpose, the mouth and throat must be often washed with acid, astringent, and antiseptic gargles.—Vinegar and water answer this intention very well in the milder stages of this disease; but where the ulcers are large, and increase very fast, gargles made of tincture of myrrh with simple oxymel, and strongly acidulated with sp. vitrioli tenuis, may be employed with advantage.—A more useful gargle than either of the former is made of tinctura rosarum and spirit of sea salt.\*

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\* R. Tincturæ rosarum semilibram,

Mellis rosarum semunciam,

Spiritus salis marini semidrachmam. Fiat gargarisma.

Or the following,

R. Tincturæ rosarum semilibram,

Mellis rosarum,

Spiritus nitri dulcis, ana semunciam. Fiat gargarisma.

Another kind of gargle is recommended by Raulin, a French physician, as being remarkably useful in this disease.

R. Sacchari saturni scrupulum unum,

Aquæ plantaginis uncias duas. Misce.

I can say nothing of it from experience.



A very particular attention to this part of the cure is of the utmost consequence; for by thus frequently washing the throat, the putrid virus is removed from the ulcers, and the strong acid spirits, by their antiseptic power, stop the putrefactive process, and prevent the formation of fresh matter. By the stimulus they give to the salivary glands a considerable flow of saliva is produced, which greatly assists in keeping the ulcers clean.—The patient ought always to wash his mouth with one or the other of these gargles before he eats or drinks or takes his medicines: by these means the putrid matter will be prevented from passing into the intestines, where it would be apt to produce ulcerations, and in consequence of them violent diarrhœa, griping, and dysentery.—Children who are incapable of using gargles should have them injected into their mouths with a syringe, and the person who attends them should frequently wash their mouths with a linen rag made wet in spirit of salt well diluted with tinctura rosarum.



When the sloughs are large and separate but slowly, it is sometimes proper to touch them with myrrh mixed with oxymel, or with Van Swieten's mixture of twenty drops of spirit of sea salt with half an ounce of mel rosarum.\*

These applications may be conveyed to the ulcers by means of an armed probe.

External applications to the neck are sometimes used with advantage.—When the symptoms are mild, a drachm of camphor added to an ounce of the volatile liniment, and rubbed frequently on the neck, will be sufficient.—In the more advanced stages, tincture of the bark is a better application.—Either of them is preferable to cataplasms, which are apt to grow cold, stiff, and uneasy to the patient, and therefore do much more hurt than good.—A

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\* Or with the following epithem :

R. Spiritus salis marini drachmas duas,

Tincturæ myrrhæ,

Mellis rosarum, ana unciam unam. Fiat epithema.

blister



blister to the neck in these circumstances is never to be omitted.—Huxham tells us that he often blistered the throat from ear to ear with success.

Antiseptic vapours are also to be considered as remedies of the first importance.—The steams of myrrh and camphor, boiled in vinegar and honey, are of great use in cases of Malignant Angina, by facilitating respiration, and increasing the flow of saliva.—It has already appeared (chap. iii. § 4.) that the air thrown out from the lungs is highly charged with putrid effluvia, and that these effluvia occasion the parts about the throat, fauces, and nostrils, to be particularly affected with malignant ulcers.—The antiseptic vapours above mentioned are most immediately and essentially serviceable in correcting any putrid quality of the air, when it is either drawn into or breathed out of the lungs; by their means the fomes of the disease is altered and counteracted, at the same time that the parts already ulcerated are cleansed and healed.—

The



The humid vapour of vinegar with honey and myrrh or camphor should be drawn into the mouths of the sick as often as they can conveniently do it: for this purpose there are *steaming pots* fitted with proper pipes to convey the vapour with greater force into the lungs, which being generally known need not be described here.—It is no inconsiderable advantage of such vapours that they encourage a discharge of putrid lymph from the glands, while they act as topical correctors of putrefaction thro'out the whole extent of the fauces, trachea, and ramifications of the bronchia.—As it is impossible too cautiously to guard against the effects of so putrid a contagion, the *acid air* or spirit of salt should be kept rising continually in the room, by pouring oil of vitriol once or twice a day on sea salt placed in a convenient vessel; this spirit will rise in the moderate degrees of heat, from 60 to 70 degrees of Fahrenheit's thermometer, so as to be perceived in every part of the room by its penetrating acid smell.—This method of correcting vitiated air, which is  
 useful



useful in this and every other putrid disease, was long ago ordered by my father\*, and is now recommended by Dr. Priestley.

To have the patient's chamber filled with these vapours is the surest method of preventing the spread of contagion; for which reason, as well as the patient's particular advantage, care should be taken to preserve the air as pure as possible.

Moderate warmth, especially in the winter season, is particularly necessary; therefore the patients should always be confined to their chamber, and in admitting fresh air by the windows, care must be taken not to check perspiration, which has been insisted upon as highly beneficial in this complaint.—Yet it is proper that fresh air should be admitted, so far as is consistent with moderate warmth, and as many growing vegetables be placed in the room as it will conveniently hold.

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\* Johnstone's historical dissertation concerning the malignant fever of 1756, p. 51.



Boërhaave long ago recommended strewing the floors of sick rooms with fresh branches of trees, and placing these with newly gathered plants in water.—The utility of this practice is fully proved by the ingenious experiments of Dr. Priestley, which shew the extensive influence of vegetation in restoring vitiated air. But in order to obtain the perfect advantage of such plants, it is necessary to preserve them in a vegetating condition, because, in that state only they are capable of absorbing the phlogiston.

This disease, especially after repeated attacks, sometimes leaves a tendency to *consumption*; in such cases riding and a milk diet are the best remedies.—It very often happens that *tumors* of the glands in the neck and throat remain after this complaint.—Sometimes the *abdomen swells*, and the patient is subject to *painful gripings*, which probably arise from, or are accompanied with, an infarction of the lymphatic glands in the abdomen.—These complaints



plaints will generally yield to friction, strengthening bitters, and the bark.—Active purgatives are, even in these circumstances, always pernicious, and the gentlest laxatives only are admissible.—Five or six grains of rhubarb, with the same quantity of sal polychrest given once a day, and continued for some length of time with the use of a simple chalybeate water, have been very serviceable in removing these reliquiæ morbi; and in general, the medicines above mentioned, with gentle exercise, nourishment of easy digestion, and pure air, will be found successful in re-establishing the patient's health.

Such is the method of cure which is applicable to all cases of Malignant Angina, and it is a method which, when carefully administered, scarcely ever fails to remove the disorder, excepting those instances where the trachea is affected.—These require some additional remedies which will appear in the next chapter.



## CHAPTER V.

*Of the Malignant Angina Trachealis.*

I HAVE already had occasion to remark that the Angina Trachealis is of three kinds, the inflammatory, spasmodic and putrid.—The last of these is the principal object of our present attention; yet it is necessary to consider this as intimately connected with the other two, because the disease often arises not from one only, but from two or all of these causes combined.—As for example, the inflammatory itself often turns putrid after a short stage of inflammation.—Inflammation is seldom seen without some degree of spasm.—Spasm subsisting for any length of time will bring on inflammation.

In order therefore to guard against this disease in all its varieties, it may be useful to take a short general survey of the several ingenious.



ingenious publications which have appeared upon the subject.

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SECT. I. *Accounts of the Angina Trachealis from different authors.*

DR. Cullen has arranged it as the third species of Cynanche, and defines it by the following symptoms.

DEFINITION.

CYNANCHE ATTENDED WITH A DIFFICULTY OF RESPIRATION, SONOROUS INSPIRATION, CROAKING VOICE, RATTLING COUGH, WITHOUT ANY REMARKABLE SWELLING OF THE FAUCES, WITH BUT LITTLE DIFFICULTY OF DEGLUTITION, AND A FEVER OF THE INFLAMMATORY KIND\*.

Dr. Ruffel† has described a disease corresponding with this definition by the

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\* Gen. morb. gen. x. sp. 3.

Cynanche respiratione difficili, inspiratione strepente, voce rauca, tussi clangosa, tumore fere nullo in faucibus apparente, deglutitione parum difficili et febre synocha.

† OEconomia naturæ Londini 1755.



name of Angina inflammatoria infantum, " Quæ quidem a secundo ad octavum aut decimum ætatis annum, sed præcipue juniores, laceffere solet.—Fluxio nullas non tracheæ glandulas occupat, ita ut universa fistula pulmonalis inflammatione tentetur.—Nullus tumor in externis apparet; at si fauces intus intuearis, in posteriore palati parte, et in epiglottide, rubor percipitur; glandulæ inflammatae, siccae, mucoque secernendo parum aptæ reperiuntur.—In his etiam tonsillæ nonnunquam afficiuntur, et ulcuscula quædam serpentina laryngem cingunt et vocem impediunt.—Febris quoque oritur quæ quanquam remissionum tempora satis libera habeat, tamen singulis accessionibus respiratio crebra difficilisque urget, ita ut infans non nisi rectâ cervice spiritum ducere, et vix lecto se continere possit, nonnunquam etiam surgere coactus sit.—Sonum inter vagitus raucum edit, et stridulum quoque clangosumque aliquando spiritum intus ducit: et si neque a naturæ viribus neque ab artis ministerio auxilium statim adhibeatur, cito moritur."

His



His method of cure is the following :

“ In his casibus venæsectio, purgantia lenitiva, vesicatoria, per tepidos vapores decoct. pectoral. spiritum ducere, ut vasorum strictura relaxetur, et ut glandulæ in muco suo secernendo adjuventur, maxime profuisse reperiuntur.—Sed si sudores superveniant, partesque aliquantum leventur, evacuationes alias rejicere, et in diaphoresi solâ confidere oportet; quæ circa quintum vel sextum diem plerumque crisin conficit.—Nonnunquam etiam febris intermittere solet, quam cortice peruviano curare consentaneum est.—Id si non fiat, aphthæ putridæ oriuntur, novumque diversi generis negotium faciunt.—Atque hæc de fluxionibus, quæ in tonsillas atque uvulam cadere solent, dicta sint.”

Dr. Home\* describes the same disease by the names of Croup and Suffocatio Stri-

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\* Vid. Home's inquiry into the nature, cause, and cure of the croup.—Edinburgh, 1765.



dula.—He considers it as a disease entirely unknown till he took notice of it, and observes, that it is most frequent near the coast, pools, and low marshy situations; that it is peculiar to children from the time they are weaned till twelve years old, and to certain seasons of the year, viz. from October to March ——Its characteristic symptoms, according to this author, are a shrill voice, quick laborious breathing, pulse frequent and strong at first, but weak towards the end, scarcely any difficulty of deglutition, or remarkable inflammation of the fauces, a dull pain, and sometimes external swelling at the upper part of the trachea, senses distinct to the last. The disease is the more dangerous as it is silent, though extremely rapid in its progress, and gives no alarm till death is near at hand.

On dissection in nine different cases, a white soft præternatural membrane was found either to cover a part of the internal surface of the trachea, or to line the whole of



of it; this membrane was quite loose, and underneath it was found a quantity of pus, which was also squeezed from the branches of the bronchia, though the lungs seemed quite uninflamed.—Hence he concludes the disease to be seated in the cavity of the wind-pipe, its first and principal seat being the back-part of the trachea where there are no cartilages, and where there is the greatest number of glands; and he supposes that the disorder is owing to an excessive secretion of mucus, by the inspissation of which the præternatural membrane is formed.

There are two different situations of the disease, viz. the inflammatory and the purulent state.—In the former of these the pulse is strong, and the urine thin.—in the latter, the pulse is weak, and the urine has a light ouzy purulent sediment.

In the first stage he recommends bleeding expeditiously and plentifully; first with the lancet, and afterwards by leeches applied to the upper and fore part of the throat



throat.—The belly is to be kept open by tablets of magnesia made palatable with sugar, and by sal polychrest dissolved in whey.—After the vessels are well emptied, he allows blisters to be applied round the neck.—Emollient fomentations and cataplasms applied round the neck are of considerable use, and keep up a local evacuation.—He thinks vomits pernicious by increasing the secretion of mucus, but recommends gentle sudorifics, and steams of warm water and vinegar.—In the second stage, he says, evacuations in general are hurtful; and that in this case nothing is to be done but to bring up the matter from the lungs. As this cannot be done either by vomits or stimulating steams, he thinks that in cases of imminent danger bronchotomy may be tried.

Nicholas Rosen von Rosenstein\*, late physician to the King of Sweden, takes notice of this disease which he calls a

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\* Diseases of children and their remedies, translated by Dr. Sparrman. Chap. 25.



difficult disease of the throat, with a præternatural membrane in the windpipe."—He adopts the description, relates the cases, and coincides in all respects with the opinions of Dr. Home.—He has also collected a number of cases from Wilcke's dissertation, and the reports of other Swedish practitioners, which correspond both in their symptoms, and appearances after death, with the former.

In the cure of this disease he recommends bleeding, gentle laxatives, application of blisters to the neck; or if these be thought too rough, "we may wrap the neck in a moderately warm emollient poultice to which is added some mustard seed; this we suffer to remain on the neck till the skin grows a little reddish with small elevated points. After that we may leave the mustard seeds out, and continue with the emollient poultice, which is to be changed for a warmer one as often as it grows cold."—He also recommends to prepare a tea of elder-flowers, adding to it

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a little vinegar; and to dip a sponge into it, which is to be held under the nose or laid upon a napkin on the breast, so that the patient may inspire in the vapour of it.—Professor Bergius found the vapour of vinegar to have an excellent effect in this disease, and therefore caused the patient to smell to a napkin dipped in vinegar; besides which he orders the pillows and curtains of the bed to be sprinkled with vinegar.

Doctor Cullen \* is in the number of those who have considered this disease as an inflammatory affection of the mucous membrane of the larynx and trachea, producing an exudation analogous to that found on the surface of inflamed viscera, and appearing partly in a membranous crust and partly in a fluid resembling pus; but, he adds, “ though this disease consists in an inflammatory affection, it does not commonly end either in suppu-

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\* First lines of the practice of physic, chap. v. sect. 3.



ration or gangrene.—The troublesome circumstance of it seems to consist in a *spasm* of the muscles of the glottis, threatening suffocation.”—Concerning the cure, he says, “as we suppose the disease to be an inflammatory affection, so we attempt the cure of it by the usual remedies of inflammations, and which for the most part we have found effectual.—Bleeding, both general and topical, has often given immediate relief, and by being repeated has entirely cured the disease. Blistering also near the part affected has been found useful.—Upon the first attack of the disease, vomiting, immediately after bleeding, seems to be of considerable use, and sometimes suddenly removes the disease.—In every stage of the disease, the antiphlogistic regimen is necessary, and particularly the frequent use of laxative glysters.—Though we suppose that a spasm affecting the glottis is often fatal in this disease, we have not found antispasmodic medicines to be of any use.”



Dr. Millar\* very accurately describes this disease under the name of Acute Asthma.—It was peculiar to children from one to thirteen years old, prevailed most in spring and autumn, in moist seasons accompanied with east and north-east winds, and among the lower order of people.—“ Children at play were sometimes seized with it, but it generally came on at night. A child who went to bed in perfect health, waked an hour or two afterwards in a fright, with his face much flushed, sometimes of a livid colour, incapable of describing what he felt, breathing with much labour, and with a convulsive motion of the belly; the returns of inspiration and expiration succeeding each other in that particular sonorous manner which is often observed in hysteric paroxysms.—The child’s terror sometimes augmented the disorder, and if he was not speedily relieved by coughing, belching, sneezing, vomiting, or purging, the suffocation increased, and he died in the

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\* Observations on the asthma and on the whooping cough.—  
London, 1769.



paroxysm; but if any of these happened, the child slept well afterwards, and continued to breathe easily till the next evening, when, if not sooner, he suffered another paroxysm, more violent and of longer duration than the former.—The body was generally costive, and the stomach and bowels much inflated.—The patient was generally dull, timorous, and dejected.”

This is called the first stage of the disorder, and it was in this period alone that the cure could be attempted with much hope of success.—In the second stage the paroxysms returned with greater violence and at shorter intervals, till the difficulty of breathing became fixed and permanent, and the patient either gradually sunk under this accumulated distress, or violent convulsions put a speedier end to his sufferings.

The disease had been treated by copious bleeding and other evacuations, according to the antiphlogistic method, without success.



cesses.—Dr. Millar therefore pursued the following intentions;

1st. To remove the asthmatic paroxysm, by prescribing musk in large doses after a small quantity of blood had been previously taken; by promoting diaphoresis with small doses of sp. Mindereri frequently repeated, and simple oxymel or oxymel scilliticum to promote a discharge of phlegm.

2d. To prevent a return of the paroxysm, a blister was put between the shoulders, emollient fomentations to the stomach and belly, anodyne linements to these parts and to the throat, antispasmodic clysters, keeping the air pure and of a moderate temperature.

3d. To strengthen the bowels, brace the habit in general, and restore to the relaxed parts their usual tone.—For this purpose magnesia, rhubarb, species aromaticæ, and sal martis were used successfully.

This



This method was improved by after experience.—Bleeding was entirely laid aside, because “ under the appearance of mitigating the violence of the symptoms, it had upon the whole a tendency to aggravate the disease.

The coldness of the extremities suggested the application of acrid cataplasms to the feet, which brought on a brisker circulation, and promoted an universal warmth and agreeable moisture over the whole body.

“ The disease was sometimes so violent at the first attack, and the transition to the second stage so rapid, that it required a medicine which should operate more immediately and powerfully than musk had usually done; for this purpose assafoetida was prescribed, and with so good effect, that in my later practice it has in a great measure superseded the use of musk.

“ An ounce of this gum has sometimes been taken by a child of eighteen months  
in



in the space of forty-eight hours, and almost as much at the same time injected in clysters; allowance being made for the residue of the gum which is lost in making the solution.\*

“ However nauseous it may seem to be, children seldom refuse it; and even when they have some aversion to it, if they are obliged to take it, they soon acquire a taste for it, and not only use it without reluctance but with pleasure.

“ But in order to guard against every accident, at the same time that it was prescribed internally an assafoetida clyster was

\* The following is the form in which assafoetida was commonly prescribed :

R. Gummi assafoetidæ drachmas duas,

Spiritus Mindereri unciam unam,

Aquæ pulegii uncias tres. Fiat solutio f. a.

“ A table spoonful of this mixture was given every half hour. If the child was very young or delicate, a smaller quantity was ordered; but if strong and of more years, two spoonfuls or even a larger quantity was given. But this dose was not persisted in, if it occasioned much vomiting or purging, and was always diminished when the most urgent symptoms were removed.”

ordered



ordered to be injected every eight hours, till the paroxysms became more moderate.\*

After procuring a remission, the Peruvian bark was found extremely useful.— A scruple of the powder was given, during the remission, once in two, three, or four hours according to the exigence of the case; and if a return of the asthmatic paroxysm was suspected, the solution of assafoetida was still continued occasionally.

Dr. Rush, of Philadelphia, in his letter to Dr. Millar on the spasmodic asthma of children, speaks of this disease as known to the inhabitants of North America by the name of Hives, and attended with exactly the same symptoms as the acute asthma of Dr. Millar.

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\* This was the usual form.

R. Gummi assafoetidae drachmas duas

Decocti communis pro clystere uncias tres,

Olei olivarum unciam unam. Fiat Enema s. a.

R

This



This author considers the præternatural quantity of phlegm in the trachea, and the membrane described by Dr. Home, as effects, not causes of the disease.

1st. Because many of the symptoms indicate it to be of the nervous and spasmodic rather than of the pituitous kind.

2d. On dissection of a child three years old, who died on the second day of this disease (though she had several ounces of blood taken away, was treated with antimonial emetics, squill mixtures, blisters, warm bath, &c.) no hardened mucus nor membrane were found.—On opening the thorax, a strong adhesion of the lungs to the left-side was observed, which appeared to be of long standing.—The lungs were quite sound without the least appearance of inflammation.—On opening the trachea, no signs of phlegm or hardened mucus were observed, but this and the bronchia appeared in a sound state.—Hence he concludes that the disease is occasioned by a  
spasm



spasm upon the extremities of the bronchia.—“ I am the more inclined, says he, to this opinion from one circumstance, that upon introducing a blow-pipe into the trachea, we found uncommon difficulty in inflating the lungs.”

In order to take off this spasm from the lungs, Dr. Rush recommends *Bleeding* as sometimes useful by removing the tension of the vessels, but he places his chief dependence upon *Antimonial Vomits* which may be given at all times of the disorder.—He saw two cases in which the warm-bath afforded immediate relief, and heard of several cases in which it had saved the lives of patients apparently in the agonies of death.—He also advises that *Blisters* should be applied directly to the breast rather than between the shoulders, and he gave *Affasætida* in one or two cases with advantage.

Dr. Haygarth in a letter subjoined to this dissertation gives the following account: “ I have seen three cases of the



croup in Chester, and one in Wales.—Two of the first had aphthæ on their tonsils; one of them spit up from the trachea four pieces of a white tough membrane, four inches long, and half an inch broad, and died.—The other came out of the country, and I don't know the event.

“ The third case I saw early in the disease, and attributed her recovery to *assafoetida*, which she took largely, and with good effect.

“ The case which I saw in Wales was in St. Asaph, thirty miles from Chester.—The child had been ill ten days and died the morning after I saw him.—The apothecary upon dissection found the pleura and trachea inflamed but no membrane.”

Mr. Bland also has given an account of a child who had laboured under a complaint similar to this from a fortnight to six months old, at which time “ the difficulty of breathing was such, that the  
child



child could not lie down, and after sleeping an hour or two, he always waked with a fit of coughing, and seemed expiring.—Two drachms of assafœtida were dissolved in four ounces of penny-royal water, and two spoonfuls of the solution directed to be given every three or four hours.—After taking only two or three doses, he vomited plentifully, the cough immediately abated, and the child breathed easily.—It was then directed to be taken three times a day, and every dose was followed with a discharge upwards or downwards, and with a very rapid amendment; and after using eight ounces of it, the cure was compleated.”

Dr. Chalmers\* has taken notice of this disease by the different titles of “ Suffocating Catarrhal Peripneumony, and Nervous Asthma, or Suffocatio Stridula.”—The first of these is evidently the angina

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\* Chalmers's account of the weather and diseases of South Carolina.—Vol. II. p. 69.—p. 76.



trachealis when it is caused by inflammation, and is exactly the same in all its appearances, as that disease which we have already seen described by Dr. Home, and those other authors who have considered the affection as inflammatory.

The nervous asthma is the same disorder when brought on by spasm, and is in all respects the same as the acute asthma of Dr. Millar.

This author directs us to cure the suffocating catarrhal peripneumony,

1st. By freeing the organs of respiration from the mucus which clogs them.

2d. Diverting the excessive flow of fluids, which at this time is made towards the lungs.

3d. Removing that spasm which acts on the external vessels, and may justly be called the remote cause of the whole disorder.

At



At the beginning some blood should be taken from the jugulars.—Blifters should be applied round the neck or between the shoulders.—In order to clear the lungs and to make a revulfion, one large spoonful of the under-mentioned solution\* is to be given every quarter of an hour till it vomits or purges.

The emetic must be occasionally repeated before the bronchia become overcharged, and larger doses of emetics and cathartics are necessary in this than in most other complaints.—The belly is to be kept moderately open by one tea spoonful of oxymel scilliticum, two tea spoonfuls of tinctura ipecacoanhæ, or forty drops of essence of antimony.—The two last remedies will increase perspiration, which is also to be promoted by placing the patient

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\* R. Mannæ unciam unam,  
 Salis cathartici drachmam unam,  
 Tartari emetici granum unum,  
 Aquæ fontanæ uncias quatuor.—Fiat Solutio.



in warm water as deep as the waste for a few minutes now and then, and by applying warm bricks to the ancles.—The patient should be kept in an half-sitting posture in a well aired room.

With respect to the cure of nervous asthma, Dr. Chalmers says,—“ I have attempted to remove this complaint by antispasmodics of different sorts, warm bathing and steaming the lungs, but hitherto with no great success.—The remedies which answer best are diaphoretics and opiates—loosening the belly—*tinctura cantharidum*—*vinum benedictum*—laying hot bricks at a convenient distance from the ancles—repeated injections of small quantities of warm water, in which a few grains of nitre were dissolved—holding a basin filled with decoction of poppy heads under the chin, that the vapours thereof may pass directly to the lungs by inspiration—opium and *vinum antimoniale* to be given in small doses now and then in such a manner that the latter  
may



may not stimulate so as to excite vomiting. Blisters have always had bad consequences wherever the nervous power was unnaturally determined to certain parts.—Larger doses of medicines are required on this than on many other occasions.—Four drops of laudanum, and as many of antimonial wine, may be given every half hour to a child of three or four years old.

Dr. Ritty \* takes notice of this disease, which raged much in Ireland through the autumn and winter of 1743.

“ It is probable that we had this disorder here, as early as we have any accounts of the Malignant Sore Throat in England, which though not in all respects like ours, yet the most probable method of cure seems in both to be the same, which method a correspondent of mine in the country, Dr. Molloy, had the sagacity to

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\* Ritty's chronological history of the weather, &c. p. 110.  
London, 1770.



strike out long before any accounts of their Malignant Sore Throat in England were published, which, together with his description of the disease, I shall here insert, viz.

“ It is peculiar to children, and those chiefly of from a month to three, four, five, six, eight, or nine years old. They commonly, for a day or two, or more, had a little hoarseness, sometimes a little cough; then in an instant they were seized with a great suffocation, lasting a minute or two, and their face became livid: they have frequent returns of these fits of suffocation like asthmatic persons. The said suffocation is ever followed by one symptom, which continues till they die, viz. a prodigious rattling in the upper part of the aspera arteria, resembling that sound which attends colds where there is phlegm that cannot be got up. It is scarce sensible when they are awake, but very great when they are asleep.

“ The



“ The chief feat of the disease seems to be in the glottis, not far in the aspera arteria. They have no difficulty of swallowing, nor does there appear the least swelling inwardly or outwardly, tho’ the uvula and parts about it are intensely red.

“ Every one that is able, at some time or other of the disease, but generally at the beginning, throws up, by a slight cough, some florid dilute blood. They have for the most part a disposition to vomit, which when they do, they throw up a vast quantity of extremely viscid matter.

“ They have no thirst, nor do I perceive any quickness in their pulse\*: also their urine and stools are in a natural way. They have generally a clammy sweat on them, and their breath is foetid.

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\* “ Short in his chronological history of the weather and seasons observes, in the Malignant Sore Throat at its first appearance in England, A. D. 1742, the pulse and urine to be as in health: but in 1744, 45, 46, it was attended with a putrid fever and petechiæ.”



“ Their death is generally sudden, and when least expected, the pulse being good a minute before. Many die in twenty-four hours, none live above five days. Some have tumours behind the ears, which mortify: many have a prodigious weeping behind the ears, which is very corrosive.

“ I have tried evacuations of all kinds: frequent bleeding and severe blistering were of no service.

“ A certain child recovered by a very profuse sweat, which came naturally and continued two days and nights. This put me upon the following experiments: I ordered that the children who took this disorder should be first put into the warm bath, and that a sweat should be forced by sack-whey, or a bolus of theriaca Andromachi and camphor. Those who sweated by this means recovered, but those that did not sweat, died.”

The same disease is described by Dr. Starr,\* under the name of Morbus Stran-

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\* Philosophical transactions, No. 495.

gulatorius.



gulatorius.—According to his account it reigned four years with great severity in several parts of Cornwall, and swept away whole families of children, in all of whom there were signs of a putrid disposition in the juices.—Bleeding, purging, and antiphlogistic medicines were found to be not serviceable, but prejudicial; on the contrary, the warm, cordial, and alexipharmic regimen and medicines, were attended with encouraging success.

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SECT. 2. *Diagnostics of inflammatory, spasmodic, and malignant Angina Trachealis.*

THE preceding section contains the opinions of all the most eminent writers upon the Angina Trachealis.—That some of them consider it merely as an inflammatory affection, and that others contend for its being either a spasmodic or a putrid complaint, is probably owing to the greater frequency of one or the other species in situations where these



these practitioners have happened to reside. Be this as it may, it is equally far from my purpose and inclination to enter into controversy with any of them.—Each opinion is supported by an accuracy of observation which will persuade every attentive reader that each is right; and the credit which is due to every one of these authors confirms the propriety of that division of the disease which is founded on the three causes of inflammation, spasm, and putrid acrimony.

The following symptoms will always inform us by which of these causes the disease is produced :

1st. Whenever there is great difficulty of breathing, attended with fever, and with heat or acute pain in the throat, together with other symptoms of an acute peripneumony, without any regular or compleat intermissions, without efflorescence on the skin, ulcers in the throat, or any other marks of Malignant Angina, in  
such



such cases inflammation is always to be suspected.

2d. When great difficulty of breathing comes on attended with a rattling noise in the throat, or stridulous voice, without fever, heat, or sloughs upon the tonsils, especially if it come on suddenly, intermit and return periodically, spasm is the cause of such symptoms.

3d. When ulcers in the throat, efflorescence on the skin, or any other of those symptoms which have been enumerated in the former part of this treatise, lead us to suspect putrescence, or point out its actual existence, then the disease is to be considered entirely as putrid, and treated accordingly.

### SECT. 3. *Enumeration of Remedies.*

**A**MONG the various remedies which have been recommended in the cure of the Angina Trachealis, the following are most worthy of notice.

*A. Bleeding.*



*A. Bleeding.*—After having so expressly condemned the use of this remedy in the Malignant Angina, it is almost unnecessary to repeat that in the putrid sort of Angina Trachealis, bleeding can have no better effect than to hasten its progress to a fatal termination.

In some of those cases which are owing to spasm, bleeding may be used with propriety, particularly when the difficulty of breathing is so great as to threaten immediate suffocation; yet even then it must be employed with caution, because too large an evacuation, though it may give temporary relief to an urgent symptom, will occasion the paroxysms to return with greater frequency and violence.

In the inflammatory kind of this complaint, bleeding is not only perfectly safe, but indispensably necessary.

*B. Emetics.*—As the subjects of this disease are generally so very young that they have



have no idea of expectoration, vomits may be used with peculiar propriety to discharge the mucus, prevent the formation of sloughs, or bring them up when they are formed.

C. *Steams*.—Of the humid and antiseptic kind are universally proper, particularly, pectoral decoction with sp. Mindereri, crude sal ammoniac and oxymel, or vinegar with myrrh and honey.

D. *Blisters*.—Applied to the neck or back, or both, ought never to be omitted, being well adapted either to abate inflammation, remove spasm, or to draw putrid virus from the trachea.

E. *Warm Bathing*.—Is a remedy of the clearest utility whenever this complaint is occasioned by spasm or inflammation, and even in the putrid kind it may have good effects; especially if antiseptic substances be united with the water which is to be used for this purpose.

T

F. *Assa-*



F. *Affasætida*.—Is antispasmodic, antiseptic, and diaphoretic, and is not injurious in inflammation, it is therefore one of the most promising remedies in the catalogue.—I have had occasion to try it in a few instances, in all of which it compleatly answered my expectations.

G. *Peruvian Bark*.—Is absolutely necessary in the putrid kind; it may also be given in the spasmodic with much advantage, after the paroxysms have been stopt by *affasætida*, in order to prevent their return, and to strengthen the system.

SECT. 4. *Specific treatment of Malignant Angina Trachealis.*

WHENEVER the larynx and trachea become the seat of Malignant Angina, the whole method of cure which has been directed for its more usual form must be applied with unremitting assiduity, though we are forbid to indulge the same pleasing hopes of success from its application.

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The air of the patient's chamber must be well impregnated with the steams of vinegar, myrrh, and honey, which ought to be incessantly rising at his bed-side, and he should be advised to hold his mouth directly over the vessel, or else the steams must be conveyed immediately into the mouth by means of a funnel.—These are the only methods of carrying antiseptic remedies to ulcers in the bronchia, and of promoting the secretion of mucus, which is principally to be depended upon for cleaning the ulcers there.

I have sometimes directed acetum scilliticum to be boiled for a steam instead of common vinegar, and have thought that expectoration was more effectually promoted by it; but I dare not be too confident in asserting this, as it does not appear by chemical and pharmaceutic experiments that the active powers of the squill are volatile.—We certainly hazard nothing by using it, and in desperate situations we must often catch at a slender twig.

Expec-



Expectoration is also to be promoted by all other probable means.—To vomit the patient now and then with oxymel of squills will answer this purpose and forward a separation of the sloughs.—Smaller doses of oxymel of squills with gum ammoniac or assafoetida may afterwards be used to keep up the same excretion.

Assafoetida is the remedy best adapted to the present case, and after a little use children will take it much better than gum ammoniac.—Whilst the patient therefore is taking the bark in the manner which has before been directed, a large spoonful or two of a strong solution\* of assafoetida must be given between the doses.—If the case is alarming, or the patient obstinately refuse to take it by the mouth, it may

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\* R. Assafoetidæ drachmas duas, solve in  
Aquæ fontanæ uncias tres,  
Spiritus Mindereri unciam unam,  
Oxymellis sciliciti,  
Sacchari limoniati ana semunciam. Fiat mistura  
ejus capiat cochlearia duo larga tertiâ vel quartâ quâque  
horâ.

then



then be given in a glyster† along with the bark.

In such cases, particularly with infant patients, when medicines are rejected, whilst the danger is extreme, *Antiseptic Baths* may be used with advantage.—These are easily to be prepared by boiling peruvian bark, chamomile flowers, or myrrh in a sufficient quantity of water, and by mixing with it a small proportion of vinegar.—If the patient should be too weak to bear bathing, the same things may be applied as fomentations.—Besides these a blister must be applied to the throat, back or neck, and a garlick poultice\* to

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† R. Assafoetidae drachmas duas, solve in  
Decocti albi uncias quatuor, et adde  
Pulveris corticis peruviani drachmam unam. Fiat  
enema.

\* R. Allii contusi partes duas,  
Farinae avenaceae partem unam,  
Aceti acerrimi, q. s. Fiant cataplasmata pedibus applicanda, et quotidie renovanda.

The bark may occasionally be added to a cataplasm of this kind.



the feet.—The garlic very quickly innuates itself into the system, it raises the pulse, renders the breathing easy and regular, and it acts powerfully as a general antiseptic, as well as atypical stimulant exciting inflammation in the part to which it is applied.

If notwithstanding all these attempts, the difficulty of breathing should increase when the throat is clear from sloughs, if the pulse be good, and the symptoms of debility not remarkable, as circumstances are sometimes apt to deceive us, inflammation may then be suspected, and bleeding may very properly be tried, for in this as in every other dangerous disease, *“ fatius est anceps auxilium experiri, quam nullum.”*

F I N I S.







