

An essay on the pestilential fever of Sydenham : commonly called the gaol, hospital, ship, and camp-fever / by William Grant.

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AN
ESSAY
ON THE
PESTILENTIAL FEVER
OF
SYDENHAM,
COMMONLY CALLED
The GAOL, HOSPITAL, SHIP, and
CAMP-FEVER.

By WILLIAM GRANT, M.D.
Author of the OBSERVATIONS on FEVERS.

LONDON:
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INTRODUCTION.

WHOEVER seriously applies himself to the study of diseases will find, that to investigate the nature of them requires the utmost exertion of his attention and understanding; and that to ascertain a certain method for the proper treatment of any disease, in all its various stages and circumstances, demands much sagacity and circumspection.

To cure diseases they must first be known; to be known they must be seen, carefully attended to, and considered in their approach, progress, height, declension and final termination; in this way alone their nature can be investigated, and each disease critically distinguished, by its characteristic symptoms, from all others.

This science is, indeed most difficult to attain; masters, books, or a knowledge of other sciences will avail little; these, it is

true, have their use, and may afford some assistance in the study of physic; but to become an able practitioner in the art of healing, demands a long and unremitting attendance at the beds of the sick; a sagacious, careful and patient observation, and I might add, a turn of mind peculiarly adapted to, and delighting in this particular science.

Hippocrates and Sydenham were possessed of all these requisites. They are universally allowed to have been most able practitioners, particularly in fevers, though it does not appear they had any extensive knowledge in other sciences; and it will be found that those who have closely followed their steps are the only physicians who have since their times improved medicine, and succeeded in the practice of it.

From a full persuasion of this truth, I have, for many years past, dedicated my whole time to the observation and contemplation of diseases, and particularly to fevers, the most common and most fatal of all others. This hath enabled me, together

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gether with the assistance of my friends at home and abroad, to make some discoveries in this useful branch of the Medical Art, which hath, I hope, not only tended to its improvement, but contributed somewhat to the successful practice of physic in general. I will now explain my method of proceeding in this arduous investigation.

To obtain a specific knowledge of fevers I found it necessary to divide them into certain classes, which distinguished them, as differing essentially from each other in the manner of approach, progress, and termination: these classes I arranged under particular denominations; and in order to proceed with all possible distinctness and perspicuity, I carefully collected and distinguished all the variety of fevers that ever had appeared, according to the descriptions given of them in the writings of those physicians who were the best and most accurate observers, as well as in the journals of my own practice.

My first general division of fevers was into common and uncommon; by the

common I mean such fevers as appear in the course of every year, and nearly in regular succession; insomuch that they seem to arise chiefly from the change of season and the sensible qualities of the air, added to some irregularity committed in the other common non-naturals; hence they may be considered as epidemic, but cannot be deemed contagious.

The uncommon fevers do not appear every year, are not peculiar to any one season, they break out suddenly, unexpectedly, and irregularly; are contagious, and may by that means become epidemic.

In considering all the common fevers, I discovered that one half of them partook of what we call inflammation, accompanied with fizy blood and elastic fibres; the other half was connected with what is usually called putridity, dissolved blood, and relaxed fibres: these are the two great *genera* of the common fevers. I also found that the inflammatory fevers were most frequent in winter and spring; the putrid fevers in summer and autumn.

But

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But this division being too general, I again subdivided each *Genus* into four *Species*: Those of winter and spring into the simple inflammatory, the catarrhus inflammatory, the humorrhal inflammatory, and the intermittent inflammatory: The fevers of summer and autumn into the simple putrid, the bilious putrid, the atrabilious putrid, and the intermittent putrid. Under one or other of these eight *Species* I will venture to say, any common fever, hitherto known, may be classed; and even all the other acute, or semiacute diseases, happening at the same season with them, although they may differ, in some symptoms, from the real fever which denominates the general constitution, seem nevertheless to originate from the same cause, inasmuch as they also yield to a similar treatment: hence I infer they are of the same nature, and to be considered only as varieties of the same *Species*.

Thus the dysentery and rheumatism, and other distempers of the catarrhus constitution, all yield to the same treatment, which is successful in the true catarrh;

with some little variations, necessary for allaying pressing symptoms, arising from the nature of the organ on which the fluxion is determined; no other method of cure succeeds so well in any of them. In like manner the colick, jaundice, and intermittent of the spring (notwithstanding the diversity of symptoms), yield to the same treatment that succeeds in the humoral fever, or epidemic of that constitution.

Of all these, and of the erysipelas, I have treated in the first part of my observations on fevers; not so largely as the subject admits of, but sufficient to point out their specific difference, and the special method of treating each of them.

I proceeded in the second part of my observations to inquire into the nature of the uncommon fevers, and found they were not generated in the body, like the common fevers; nor were the effect of errors in any of the non-naturals; but produced by real poison * taken into, and retained in the

* Of poisons there are a great variety, but the species I am now treating of is that morbid matter, the

the body. Of these fevers there are eight in number, essentially differing from each other, and requiring a distinct method of treatment peculiarly adapted to each; nor does the perfect knowledge of any one contribute so much to the perfect knowledge of any other of them, as one might at first imagine. They are therefore distinguished by their proper names, *viz.* the plague, the small-pox, the chicken-pox, the swine-pox, the measles, the whooping-cough, the *angina maligna*, and the pestilential fever of Sydenham.

I have also in the same work made some observations on these uncommon fevers, and treated at full length of the *Angina Maligna*: of the other seven, it appears to me, that the small-pox and measles are

the *effluvia* of which is infectious, and when it enters the human body, and is detained there a certain time, assimilates our juices to its own nature, and produces a fever, by which it is driven to some of the surfaces of the skin, lungs, or intestines, or is deposited on the lymphatic glands, and there remains excluded from the common course of circulation, 'till by the efforts of nature, or the force of medicine it is entirely evacuated.

now pretty well understood by the generality of practitioners; that the swine-pox, and chicken-pox, though the effects of real poison, are of so mild a nature, as seldom to require much medical assistance; and that the hooping-cough is not hitherto well understood; at least I am not satisfied with my own knowledge of it; for although many recover daily under my care, yet I have hitherto only moderated the pressing symptoms from time to time, by removing incumbrances, till it finally terminated spontaneously, and, as I may say, according to its own nature: so that my merit and success, in this distemper, have rather been the preventing mischief, than conquering the disease. I wish the hemlock may be found as a specific in this distemper; and we are much obliged to Doctor Butter for his candid communications.

The plague I have never seen, so can say nothing of that dreadful disease from my own knowledge: there remains then only that I should now consider the pestilential fever of Sydenham, which I often see in this city; and though so common
and

and fatal, appears not at present to be generally understood. It becomes therefore an important object of inquiry.

In treating this disease I have, for the sake of perspicuity, been obliged to make some repetitions, and transcribed a few long quotations from other writers, in order to throw into one view a more clear and complete display of the subject before the reader's mind, than he would receive if the chain of reasoning were interrupted by turning to preceding passages, or to the authors quoted.

It may be proper to add, that as *malignant* and *malignity* are terms I often use, I beg the reader to take the following explanation of them, according to the sense in which I would have them to be understood in the following sheets. When morbid matter of great virulence is so long retained in the body as to affect the vital functions, and occasion peculiar symptoms, which threaten immediate destruction, and are not to be removed by those means, which similar symptoms in common fevers usually yield to, these I call *malignant* symptoms, and their cause *malignity*.

and this appears not at present to be a
 matter unduly important. It is necessary, however,
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 sake of simplicity, been obliged to make
 some repetitions, and inserted a few long
 quotations from other writers, in order to
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 plete display of the subject, before the re-
 ader's mind, than he would receive if the
 chain of reasoning were interrupted by
 turning to preceding passages, or to the
 authors quoted.

It may be proper to add, that as many
 new and valuable observations have been
 made by the reader, in the following ex-
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 which I would have them to be under-
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 tained in the body, as to affect the vital
 functions, and occasional peculiar symptoms,
 which threaten immediate dissolution, and
 are not to be removed by those means which
 usually yield to them, I call malignant typhoid,
 and their cause malignity.

C H A P. I.

THE pestilential fever of Sydenham, although he treats of this and the true plague in the same chapter, probably because they raged at the same time in this city, yet he allows that they were distinct fevers; for the plague lasted only two years (1665 and 1666), whereas the pestilential fever had been frequent in London many years before and after, nay, indeed, ever since; but often passes unnoticed, because unknown.

I have seen the pestilential fever often; but I never saw the true plague, nor even carbuncles but once, (*vid. Observ. on Fevers*, vol. ii. p. 86.) and do not remember ever to have

have seen that Mark or Token left on the dead bodies, by which the searchers of London formerly distinguished the true plague, and thereupon made their report. This deserves attention, because some people, of great natural timidity, are apt to conclude over-hastily concerning the plague, whenever they happen to meet with untoward symptoms in fevers with which they are not acquainted. Swellings in both groins and parotides have been seen in the pestilential fever; but then they are not critical; nor do they terminate by such a real suppuration as the plague.

In my opinion the true plague cannot be produced in this country without importing the *seminium*; nor does our climate favour the spreading of it, otherwise it could not have been extinguished so perfectly in the space of two years; and our keeping free from it for 108 years together, confirms what Sydenham had said of it, in his 2d Cap. Art. 7. p. 77. where he gives his opinion in these words, “ I much doubt
“ if the disposition of the air, though it be
“ pestilential, is of itself able to produce
“ the

“ the plague; being always in some place
 “ or other, it is conveyed by pestiferous
 “ particles, or the coming of an infected
 “ person, from some place where it rages,
 “ into an uninfected place; and is not
 “ epidemic there, unless the constitution of
 “ the air favours it; otherwise I cannot
 “ conceive how it should happen, that
 “ when the plague rages violently in one
 “ town, in the same climate, a neighbour-
 “ ing one should totally escape it; by
 “ strictly forbidding all intercourse with
 “ the infected place: an instance of which
 “ we had some few years ago, when the
 “ plague raged with extreme violence in
 “ most parts of Italy, and yet the Grand
 “ Duke, by his vigilance and prudence
 “ entirely prevented its spreading, or pene-
 “ trating the borders of Tuscany.” See
 also Mead on the Plague, p. 66.

If it is true that Egypt first produced the
 small-pox, South America the *Lues*, Arabia
 the plague, and the Archipelago the *An-
 gina Maligna*, then it may be truly said,
 that we have imported four evils sufficient
 to counterbalance all the gratifications
 brought

brought hither from those countries. The pestilential fever however is of a very different sort, it is an indigenous plant, frequent in this city, and may be produced in any country, therefore it requires our most serious attention.

Although the pestilential fever differs essentially from the plague, yet there are some particulars in which these two fevers resemble each other: 1st, They are both contagious, or capable of producing their specific likeness in healthy persons. 2dly, The symptoms usual in fevers are common to them both. 3dly, The sudden prostration of strength, dejection of spirits, and timidity, peculiar to malignant fevers, are remarkably great in them both; as well as the character of fear or sorrow stamped on the countenance, in proportion to the degree of health, strength, and other circumstances of the sick at the time. 4thly, Early sweats give relief in both, and they are sometimes critically judged by an early sweat, long continued. 5thly, The *virus* producing each of these fevers must be highly offensive to the whole nervous system,

tem, as appears by the remarkable prostration and dejection ; it is also very subtile, else it could not be discharged, in a crude state, by a sweat in the very beginning of the attack. These are the five particulars in which the true plague and pestilential fever seem to resemble each other in the beginning ; but when they have lasted long enough to develope themselves, then we easily perceive their peculiar symptoms ; and that nature proceeds, in the expulsion of the poison, by a manner specifically adapted to each.

In considering the whole progress of these two fevers we find, that the *virus* producing the pestilential fever, although it has a power of assimilating our juices, and strongly resists the force of our concocting organs ; yet still it may be so altered as to pass out of the body, through the natural emunctories, at any period of the distemper : whereas the *virus* producing the true plague is of a more intractable nature ; and if not suddenly evacuated in the very beginning, it assimilates to its own nature a great quantity
of

of our juices; seizes on the whole lymphatic system; ulcerates and destroys some of these glands, to procure a new and unnatural outlet peculiar to itself; not unlike what happens in the *lues* and small-pox. And this seems to give rise to the buboes and parotides, which are real ulcerations of large lymphatic glands; nay carbuncles are of the same sort, being ulcerations of lymphatics; all these taken together constitute the pathognomonic symptoms of the plague in the living, as the Mark or Token does in the dead.

But to confine ourselves to the pestilential fever, and to investigate the nature of it, we must consider the causes which produce the original *seminium*; the effect, which experience shews us, a *seminium*, so produced, has on a person in perfect health. The effect of this *seminium* on a person deviated from the point of perfect health, whether by natural constitution, season of the year, or other circumstance; and the most rational, proper and effectual method of treating this fever, according to the specific nature of it,

it, and the particular circumstances of each individual, as far as experience hath hitherto informed mankind.

If any person will take the trouble to stand in the sun, and look at his own shadow on a white plaistered wall, he will easily perceive that his whole body is a smoking dunghill, with a vapour exhaling from every part of it: this vapour is subtle, acrid, and offensive to the smell; if retained in the body it becomes morbid; but if reabsorbed, highly deleterious.

If a number of people therefore are long confined in any close place, not properly ventilated, so as to inspire, and swallow with their spittle, the vapours of each other, they must soon feel the bad effects, particularly if any of them should be sickly; and still more so if there should be foul ulcers, carious bones, mercurial salivations, dysenteries, or putrid fevers among them; warm weather, bad provisions, nastiness, and gloomy thoughts will add to their misery, and soon breed the *seminium* of a pestilential fever, dangerous not

only to themselves, but also to every person who visits them, or even communicates with them at second hand. Hence it is so frequently bred in gaols, hospitals, ships, camps, and besieged towns.

Tainted provisions, bad water, the stench of dead bodies after battles, or of dead insects, when stagnant waters have been dried up by the heat of summer, have also been found to have the same effect. It has, however, been remarked that the vapour arising from cattle is not so pernicious; and that people sleep constantly in stables, cow-houses, and sheep-cots full of cattle, with impunity: it would seem therefore that human ordure, or the stench of carnivorous animals, are the most deleterious.

There is another manner of producing this *feminium*, which I have seen too often, *viz.* an improper method of treating the common fevers, by which they also are rendered malignant; and the vapour arising from them becomes contagious: a fever thus produced is of the same *genus* with

with the pestilential fever, and requires a treatment partly similar, though not quite the same, as we shall see afterwards.

A *feminiūm* once produced is easily spread by contagion, readily seizes people of a relaxed habit; or those whose blood is impoverished by bad living, long sickness, great evacuations, or heavy mental oppressions, and in such it makes rapid progress; but if complicated with any of the common fevers, discussed in the observations already published, then they unite, and together form a new fever of a compound nature, as we shall see in the sequel.

This contagion makes least progress in clean, healthy, spirited, active, regular, and temperate people; is resisted by the inflammatory constitution, and by clear, dry, frosty weather: yet it has been seen complicated with real inflammation; with the catarrh often, and very frequently with the humorrhal, or depuratory fever of Sydenham. But as the putrid and bilious fevers ill-treated are the most apt to produce this contagion, so the putrid and bilious epidemic constitutions always pro-

mote the spreading, and exasperate the violence of it.

In this particular it agrees with the small-pox and *angina maligna*, although none of them can originate in this country: it differs from them however in another very essential particular, it seems to spend its virulence gradually; so that the first who catches it, is the worst: it is more mild at second hand, and hardly gets beyond the third; thus it soon wears out, if no new supply is bred any where: that the action of our concocting powers should have so considerable an effect on the nature of this poison, as gradually to destroy the virulency of it, is a happy circumstance for this country, for nothing else could have prevented this fever from becoming general all over the kingdom, and permanent, like the small-pox and *angina maligna*; neither of which is at all diminished in virulence by the severity of our winters, which conquered the plague; only we treat them better than our predecessors, and therefore they are less formidable than they have been.

The

The season of the year, and the weather, render this fever more or less catching, nearly in proportion to the degree of cold, and drought which retard, or heat and damp which promote the infection. The effect of cold, dry weather in stopping the spreading of this fever, I think evident from what I saw, not long since, in Little Somerset-street, Goodman's-fields. A young man had spent some days with two of his friends, at that time confined in Newgate, and came home very ill of the true pestilential fever.

I first saw him on the seventh day; he was covered with small petechial spots, like pin heads; his skin felt damp, and was offensive to the smell; his stools came away insensibly, thin, crude, black, and very foetid; he had ferret-eyes and great *delirium*. In this state he lived three days; his wife and mother attended him constantly day and night, and endeavoured all they could to keep him clean; in these operations they were often assisted by his relations; yet all of them escaped the infection. I imputed this to the frosty

weather, which happened to come on at that time, and the keeping the whole apartment constantly sprinkled with vinegar; and directing the assistants to drink wine freely, and smell vinegar frequently: in some other cases where the same precautions had not been taken, and the weather was less favourable, the consequences were very different.

This fever commonly goes off by an universal warm sweat in the very beginning, or by a gentle diarrhœa of some days continuance; or by breathing sweats frequently repeated. The crisis by salivation is not frequent; yet I have seen it oftener than once; but critical buboes and carbuncles I never saw in this fever: if such cases have been, I suppose the *dia-thesis* has been highly inflammatory, and the seasonable bleedings neglected.

It would appear therefore that although our vital powers are not sufficient at all times to conquer this poison, yet they are able to expel it; nay some people have waded through it for a great length of time, and finally recovered without any
sensible

sensible evacuation, as if the natural strength of their constitution had fairly conquered the virulence of the contagion. But in this long conflict the nervous system has always suffered considerably, and the future health was injured.

Towards the conclusion of this fever the blood is always of a loose texture, and the contents of the bowels become foetid and acrid; hence it has been called the *putrid* and *malignant fever*, but improperly; for although the putrid fever of July and the dog-days, ill treated, is apt to produce it, and a putrid habit readily catches it and suffers much from it; yet we see thousands of putrid fevers yearly in this town without the peculiar symptoms of this malignity. A man quite exhausted by the sea-scurvy is in the most putrid state that life admits of; give him land air, good water, and fresh vegetables, you shall see him recover perfectly without having had the symptoms of this malignant fever.

Again, we have seen a man all over jaundiced, and the excretion of bile sup-

pressed for many months, but free from all malignant fever: so that this fever is not the inseparable concomitant of putridity or of bile, although it may be superadded to either. I have met with it sometimes during the inflammatory constitution, and with such indubitable symptoms of inflammation, as nothing but repeated bleeding could remove.

The real symptoms which distinguish this from common fevers in the beginning are nervous; it might therefore, with greater propriety, be called a nervous malignant fever; because these nervous symptoms are inseparable from it, and accompany it throughout, till the malignity is expelled. And indeed if we consider that this species of malignity is produced by exhalations from animal substances in a putrifying state, we must readily see that it must be of a volatile, subtile, acrid, alcalescent nature; that such a *virus* taken into the body, must have its first sensible effect on the nerves, the symptoms of which are not unlike those occasioned by some of the vegetable, narcotic, acrid drugs.

Thus

Thus when one, not accustomed to it, smokes tobacco, he is seized with a giddiness, and unusual feeling in his head; his eyes become heavy, his mouth clammy, his lips pale, his stomach sick, his extremities cold, his pulse soft, languid and unequal, and a cold clammy sweat breaks out on his face and hands; vomiting, or even reaching to vomit, a current of fresh air, and drinking cold water may relieve him; but a quiet sleep, and increased perspiration are necessary to restore him to perfect health.

If this paroxysm was to continue for some days, and prove more obstinate, it might give a pretty good idea of a pestilential contagion in a person otherwise in perfect health: nay, the symptoms in both cases will be nearly in proportion to the degree of health, and natural strength of the party affected: and yet this person, by degrees, will bring himself to the use of tobacco, so as to find no bad effect from the continual smoking of it.

The same is in some degree true of the *effluvia* of the pestilential fever, which has
very

very little effect on the nurses in the hospitals, who live continually in it, unless it should come to an unusual degree of virulence, and then it becomes new to the nurses also: nor have we a more certain rule to determine the increased virulence of the contagion, than that of finding the nurses infected by it.

Hence may be gathered one reason, why the medical gentlemen also escape infection so often; and why they, as well as the nurses, are found (*cæteris paribus*) to recover more readily than their patients: add to this their want of fear; for as this species of contagion readily goes off by a brisk perspiration, nothing can be more detrimental than fear, which suddenly and powerfully stops all secretion and excretion by the skin.

Symptoms similar to these are to be met with in all the eruptive fevers, except perhaps the measles. The swine-pox and chicken-pox have the fewest of them; the erysipelas and *febris anginosa* have more; the small-pox, *angina maligna*, and this pestilential fever have the most, except,

perhaps, the plague, which often kills weak people in the first attack: I have, however, seen some children and weak people escape very narrowly, even in the eruption of the distinct small-pox.

The great and principal concern in all fevers is to ascertain, with precision, the identity of the disease before us; and therefore the first question is to determine positively, whether it is a common, or an uncommon and malignant fever: if there are no symptoms of malignity soon after the attack, we are safe to conclude that it is a common fever only; and I do not find it difficult to determine, in a short time, the particular fever, to call it by its proper name, to pronounce whether it is single, or complicated with any other common fever, and what that other common fever is: thus *e. g.* I can readily know a catarrh, and pronounce whether it is complicated with much inflammation; after some days I can determine when the violence of the inflammation is subdued; and if the catarrh is then single, or complicated with a *synochus non putris*, or turgid matter in the bowels:

bowels: I can afterwards tell when the *synochus* is subfided, and if the catarrh is nearly exhausted, or if it is tending towards an hectic, or likely to terminate by an ague; and thus I can follow any common fever throughout, if no bad practice has intervened.

But the case is very different when symptoms of malignity appear in the early part of a fever, which do not subside by the usual means, known to be sufficient for the purpose in common fevers; but, on the contrary, rather increase and accompany the fever throughout: then indeed there is reason to suspect malignity or contagion, and the question is to ascertain the identical contagion; because the whole success of our future operations will depend upon the early discovery of it. I often find myself in this situation, and my manner of proceeding is as follows:

I first inquire about the small-pox, whether the patient has had them or not: if he has not, I always suspect them; because a person in this situation is very apt to catch them in London: and for this reason,

by

by the bye, all people coming to London, who have not had the small-pox, ought to be inoculated before, or directly upon their coming hither: in this case I do not encourage sweating, unless it comes spontaneously, with evident and great relief; because I know that much sweating does not agree with any stage of the small-pox; although a kindly perspiration, in the usual hours of sleep, is not detrimental before the eruption.

But if the patient has had the small-pox, I next look for the *angina maligna*, and have frequently detected it by the pains on the sides of the neck, the livid swellings of the tonsils; the patient complaining of a feeling as of pepper in his throat, and the livid hue of all the fauces, even before the specks on the tonsils, or any swelling of the fingers, could be perceived.

If neither of these two fevers are properly notified, I then proceed to look for a rose, or erysipelas, very common both in spring and autumn, and always accompanied with many symptoms of true malignity, which induced Sydenham to compare the
the

the erysipelas to the pestilential fever ; but if this also cannot be seen, and the malignant symptoms are many, pressing, and obstinate, I begin to suspect the pestilential fever ; for I do not expect such a train of symptoms, as are here supposed, can originate from a common rash, chicken-pox, or swine pox : accordingly I inquire, where the patient has been for eight days before, what company he has kept, how he has lived, and all the questions I can think of, in order to clear up the doubt.

In the mean time, if there are signs of *plethora*, I order a moderate bleeding in bed ; if the tongue is much loaded, and the stomach affected, I order a gentle vomit to be given immediately after ; and if the bowels are uneasy and bulky, or if there is a frequent motion to stool, I order a bulky emollient clyster : but if there is pain or tension of the bowels, or a putrid diarrhœa, I order a soft purge to be given, instead of the clyster, in an hour after the operation of the vomit is over, and the stomach is settled. These operations, when required, always give relief, and never stop the kind-
ly

ly *diaphoresis*, if it should offer with advantage in any of the malignant fevers that are known to agree with transpiration, or eruption on the skin; and this I affirm from daily experience.

Very often these seasonable evacuations, properly instituted, will carry off the most pressing of the malignant symptoms, and remove all fear of contagion, in which event we know how to proceed; at any rate they are absolutely necessary, when indicated; and never can do mischief in such circumstances, provided only that they are conducted with propriety and moderation; for if we suppose the malignant *miasmata* mixt with the spittle, and so swallowed down into the stomach; or if we suppose them applied to the surface of the lungs or body, and there absorbed; and if we should farther allow that no other secretion but by the skin is able finally to carry them off; still the necessity of these evacuations remains the same in all cases, where they are strongly indicated, by certain signs of *plethora*, or of turgid matter in the first passages.

Every

Every one who has attended to the operations of Nature in fevers, must have observed, that none of the secretions are properly performed till the *plethora* is first removed; and that, in such circumstances, a seasonable bleeding promotes both secretion and excretion of every kind: when emetics are well timed, they not only clear the stomach, but often promote a sweat; and the most kind and effectual sweat is that which succeeds emptied bowels: but when these evacuations are not indicated, they ought not to be instituted, and of this no person can judge at a distance; it must for ever be left to the sagacity of the physician on the spot, who must judge of it according to the circumstances of the case and party.

The oppression being thus removed, by the seasonable and proper evacuations, Nature will resume her functions, and the fever will develop itself in the space of a few hours, during which time no medicine of power ought to be administered, lest the operation of it, being blended with the symptoms of the disease, should mislead the
judg-

judgment in forming diagnostics: a plentiful supply of warm, thin, nourishing, pleasant sippings, assiduously given, will be sufficient to support nature till the pathognomonic symptoms appear, by which alone the identity of the fever can be determined with precision. During this interval, the patients often long for cold water, or cold small-beer, and are greatly gratified and refreshed by them in common fevers; but in the malignant fevers the sick more frequently covet warm liquors. I have often been surprised to hear a person calling to warm his drink, when he was burning hot; and on being asked, answered, That he chose his drink pretty hot.

When a fever has been properly treated from the beginning, a good observer will, generally speaking, be able to determine whether it is common or uncommon, on or before the third day; that is, if the malignant symptoms should be quite gone off, or greatly relieved by the bleeding, vomiting, or purging, there is reason to hope that the disease is no more than one of the common fevers, and to be treated ac-

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cordingly : if the relief of the malignant symptoms should have arisen from a sweat, subsequent to the other evacuations, and in proportion to the degree of that sweat, then there still will remain some doubt, more time is required to clear it up, and in such cases a short delay does no mischief.

But if seasonable and proper evacuation has not abated the malignant symptoms, but has, on the contrary, rather increased them, then there is reason to suspect something more than a common fever ; and the next thing necessary is to discover the identity of the uncommon fever.

The greater number of malignant fevers are attended with an eruption, by which they are readily distinguished from each other, and from every other fever. Thus, for example, soon after one catches the measles, he perceives a little tickling and cough, then a sneezing, and fluxion of acrid *pituite* on the *membrana sneideri* and eye-lids ; after which a rigor comes on, which constitutes the beginning of the stated fever ; for all these other symptoms, preceding the rigor, are only to be accounted

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ed the *terrentia morbi*, and frequently precede the stated fever many days, as I have explained in the first part of my observations. Now I say, that on or before the third day of the stated fever, the measles may be distinguished from every other fever by the eruption peculiar to it; and although an experienced physician may form some judgment, from the *terrentia*, of the approaching measles, yet he will not pronounce with certainty and precision before he has seen the eruption.

In like manner the swine-pox, chicken-pox, and *angina maligna*, are all to be known on or before the third day. The erysipelas also, although it does not always settle in one place so early as the third day, yet it may be known on that day, by one who is well acquainted with all its varieties; which, by the bye, are not thoroughly discussed hitherto by any author I have met with.

If none of these appear, then we are to look for the small-pox, which do not always shew themselves so early as the third day, particularly the mild sorts; and yet

the eruption of them is often preceded by symptoms of great malignity : and indeed, when the patient has not had the small-pox, we have reason to suspect them, as the contagion of them is always in London ; so that another day may still be required before we can determine in people who have not had the small-pox.

I have already said, in my former observations, that a common fever, ill treated, may be attended with an eruption of *miliaria*, on or before the eleventh or fourteenth day ; and that such a fever is contagious, and may produce its likeness in an assistant, much exposed to the vapour arising from the sick. This fever resembles the pestilential fever so much, that they cannot be distinguished but by the eruption of the *miliaria*, which ought to appear on or before the fifth day of the stated fever ; and are partly critical, if there is no common fever complicated with them.

If any of these eruptions should appear, all doubt is solved, we know the identical fever at first sight, and consequently
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the special method of treating it: but if none of them should appear, and the symptoms of malignity should still increase, then we have good reason to look for the pestilential fever, putting the true plague quite out of the question, because it has never been in this country since the year 1666, and I hope never will: in this situation it becomes necessary to consider well the abode, manner of life, mental concerns, and other circumstances of the sick, which often throw much light upon the malignant and uncommon symptoms in fevers.

Any of the eight common fevers, treated of in the first part of my observations, may be attended with some malignant symptoms; but these soon subside by a seasonable use of the special method of cure there laid down for each of them: after which they get into a certain track, and therein spend themselves, if properly conducted. It is not so in the true pestilential fever; on the contrary the nervous and malignant symptoms increase, the countenance falls, and is more and more

impressed with the character of fear and sorrow; the spirits are more and more dejected; the stomach loaths the cooling and refreshing juleps; the pulse becomes smaller, quicker, and more irregular; the urine, the stools, and the heat of the skin vary at uncertain hours: nothing affords relief but perspiration.

In these situations I always have found great advantage in ordering the sippings to be made more cordial, and to prepare the way for that universal, warm sweat, which alone is effectual in dissipating this particular species of malignity, at all seasons of the year, and every period of the distemper, provided only that it can be procured with ease, afford relief, and may be prosecuted to the end without contra-indication. And this I affirm, not only from the authority of Sydenham, and the best observers, but from my own experience. Sydenham, however, is right when he says, "It is the operation of the sweat that dissipates the *seminium*, and not the specific quality of any alexipharmac given to bring out that sweat."

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If therefore I can procure a proper sweat by such diaphoretics as wine-whey and common oxymel, and if by such simple means I can support that salutary sweat, to that degree and length of time which we know, by experience, is necessary to dissipate the *virus*, I never can see the propriety of running headlong, and flying at once to Theriac, Mithridate and Philonium.

I do not, however, deny but the great Sydenham may have met with cases which required such hot medicines as he ordered with so great success; because the power of the alexipharmac must be proportioned to the resistance; and it is evident that the pestilential fever must have been both frequent and very virulent in London during the two years of the plague, and while the people were crowded together for some years after the fire; but the following decoction, assisted by the cordial and warm sippings formerly recommended in the *angina maligna*, has in general answered my purpose, and has been sufficient, not only to bring on the sweat,

but also to keep it up for forty-eight hours ; after which I have always found it expedient to order a purge ; but at the same time to continue the diaphoretic regimen for three days longer ; or till the malignant symptoms were subdued :

R Rad. Serpent. Virgin. 3vj

Angelic. 3ij.

Coque in Aquæ fontanæ lib. i. fs. ad lib. i. Sub
finem Coctionis adde

Cort. Cinamom. 3fs.

Colaturæ adde

Spir. Minder. 3ij

Sacchar. 3ij.

f. Mistura, cujus capiat Cochliaria duo majora
omni bihorio.

For some years past, I have used the saline draughts with *confec. cardiac* and contrayerva root with much the same effect ; only when the *nausea* has been considerable, and the stomach would not retain the medicine, I have ordered the powders in a bolus to be washed down with a saline draught in the act of fermentation.

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It is easy to know when the sweat is salutary by the quick relief it procures; the malignant symptoms abate, the patient finds himself stronger, easier, and more happy every hour: the stomach rejects nothing that is taken down, and the pulse soon becomes more large, soft, and even flow, notwithstanding the heat of the bed, drink and medicines; nay, the skin, although hot during the sweat, does not burn and bite the hand as in some putrid fevers. And this method will succeed in the beginning of a simple pestilential fever in a clean sound constitution; that is, the pestilential *miasmata*, when not complicated with *plethora*, turgid matter, or common fever, may and ought to be dissipated by sweat; the sooner this sweat can be procured with propriety, the better it will be for the patient: for we know, that if this poison is suffered to remain in the body for a great length of time, it will most certainly destroy the *crasis* of the blood, and greatly injure the nervous system. And thus far Sydenham is in the right; for, he says, the matter

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occasioning any common fever, except the variolous fever, (i. e. the *typhus*, or putrid fever of July) being diluted by our juices, and digested by a frequent circulation in our vessels, becomes gradually milder, and after coction is easily evacuated by our natural excretories; whereas the poison occasioning the pestilential fever acquires virulence by delay, and assimilates our juices to its own nature, instead of being altered by them.

If the pestilential fever was always single, it might be easily managed, as has been already said; but unhappily it is often superinduced on some of the common fevers, which greatly increases the difficulty and danger. Therefore to throw some light upon this subject, it is necessary it should be considered first as single; 2dly, complicated with inflammation; 3dly, complicated with putridity and bile; 4thly, complicated with a catarrh; and lastly, complicated with the *synochus non putris*: and in treating of each I shall avail myself of the observations of such writers as have obliged the world with the best remarks upon them.

C H A P. II.

ACcording to the method I have proposed, I shall first consider the pestilential fever as single, where the contagion has been caught by a person in perfect health; and I cannot better enter upon this part of my subject, than by reciting two cases which were among the first of this kind of fever that came under my own observation.

On my return to Holland from West-Friezland, I was informed that a pestilential fever had broke out at Rouen in Normandy; accordingly I went thither on purpose to see its progress, and was not disappointed. This fever was said to have taken its rise in the hospital, (at that time old, ruinous, and very nasty) and from thence spread itself over the town; nor was the neighbouring country altogether free from it. The first patient I saw was Mrs. Lecat, who was very ill of it at the time of my arrival in the heat of summer:

mer : by Mr. Lecat's account of the manner in which she had been treated, I could easily see that she had been too much and too often blooded ; that her diet had been low, and the whole method of cure too antiphlogistic for a woman of delicate nerves, at that season of the year, although the same method might have succeeded better in frosty weather.

I prevailed on her husband to mend her diet, and suffer her to have some burgundy wine in all her sippings and common drink : the nervous symptoms abated in two days ; a moderate perspiration soon followed, with great relief ; in a fortnight she was able to be removed into the country, to the house of Mr. Debeaugilbert, whither I followed her ; and by the continuation of the antiseptic regimen she recruited daily, but did not recover her usual *embonpoint* in less than six months from the beginning of the attack.

In considering this case I soon perceived that this was the pestilential fever of Sydenham in a clean healthy constitution ;

tution; that the antiphlogistic method would not succeed at that season of the year; and after much deliberation I resolved to try that method which had succeeded so well with Sydenham. My success with Mrs. Lecat occasioned my being consulted for several people in the place, and furnished me with an opportunity of comparing this method of cure with that of the hospital physicians at Rouen, which was, at that time, uniformly antiphlogistic in all cases.

Soon after I was the first physician called to see one of the hospital nuns, (who are an order of *religieuses* that take vows to dedicate the remainder of their lives to nursing the sick) a young healthy woman, very regular, active and temperate: she told me that in undressing one of the patients who had died of this fever, she smelt something that turned her heart (as she called it), but she did not give way to it, being deeply impressed with a sense of her duty.

In the afternoon, however, she was forced to lay down, unable to support herself
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any longer ; her eyes were swelled and watery ; her countenance fallen, and impressed with the character of grief and fear ; her voice trembling, and spirits quite sunk : she complained heavily of giddiness and pain in her head, particularly the hind part of it, with a shooting pain in the eye-balls. The weather was very hot, but she felt herself chilly ; her legs were cold and cramped, with some pain in the bone of the small of the back ; her pulse was small, quick and irregular, but her tongue was clean ; she had no thirst, sickness, nor pain in her bowels.

I looked on this case to be a single pestilential fever in a clean constitution, and trusting to Sydenham, I had her put into a warm bed ; put a warm flannel round her legs and feet ; covered her forehead with a piece of flannel, and gave her plenty of wine-whey acidulated with common oxymel : every four hours she took a scruple of contrayerva root in powder, and some additional coverings were laid over her in bed. At the end of eight hours, and when she had taken

one drachm of the contrayerva, I returned to see her; her natural heat was now returned, and the pulse was not quite so small, though very quick, but there was no moisture on the skin, owing, as I supposed, to her restlessness; to remove which I gave her fifteen drops of liquid laudanum, and ordered the other remedies to be continued.

After twelve hours I saw her again, and found her sweating, as I judged, too profusely, and although she was sensibly relieved, I ordered the flannel to be taken off her head and feet, to remove gradually the additional coverings; to discontinue the contrayerva, but to persist in the whey, and give a glass of plain wine in case of her becoming faint; for which, however, she had no occasion, for, as she continued sweating, the pulse became gradually more and more full, and slow, her usual spirits returned, and she felt herself happy: she continued to sweat all that day and the night following without intermission, and was damp all over on the third day, when I saw her for the fourth time.

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Her pulse was now perfectly good, and all the first symptoms were gone off; but her mouth was at the same time become foul, though moist, and her breath offensive; this brought to my mind Sydenham's maxim of purging after sweating, and accordingly I ordered his purging ptisan, which moved her thrice. On the fourth day she was taken out of bed, and on the fifth day the ptisan was repeated. She was so well on the seventh day that one could hardly have perceived that she had been ill of a fever; nor had she lost much flesh, and her colour was returned with her appetite.

In considering this case, and comparing it with what happened, some years ago, at the Old Bailey, it appears that the symptoms, peculiar to this fever, may come on soon after infection. 2dly, It confirms Sydenham's observation, "that the morbid *miasmata* may be dissipated by sweat in the very beginning." 3dly, That a sweat once brought on may be kept up, by plentiful diaphoretic antiseptic beverage, without continuing the sudorifics which

which were necessary at first ; for the contagious matter being acrid, volatile, subtile and alcalescent, must be of a diaphoretic nature, and will therefore assist in sweating, when properly diluted, and directed towards the skin. 4thly, The malignant symptoms subside as soon as *the rays of the distemper* (to use Sydenham's words) *are driven towards the circumference of the body.*

The rapid and perfect recovery of this young woman changed the idea of treating this fever ; insomuch, that the assistants in the hospital, as often as they were seized with the symptoms of this fever, betook themselves immediately to bed, and by drinking a large quantity of subacid, vinous beverage, endeavoured to procure a sweat, in which they frequently succeeded to their wish : but when the heat became excessive, and the sweat did not flow, then they were properly blooded, and the salutary sweat was the invincible consequence.

It must, however, be remembered, that these people, during that season of the
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year, lived chiefly on fruit, bread, and vegetables, and that their common drink was a small cyder; by which they were preserved from such collections of foul and bilious matter in the first and second passages, as are common, during the summer season with us in London, where we all debauch in gross animal food: this will occasion a good deal of difference in the method of cure, as we shall see afterwards; but still it serves to prove that, in a clean constitution, the *feminium* of this fever is dissipable by an early sweat in the very beginning; and the natural termination of it is by a sweat.

During the winter months this fever gave us very little trouble at Rouen; indeed we buried very few all the winter: but it returned again in spring, and was complicated with the depuratory fever of that season. It was, however, remarked by all the gentlemen of the faculty that the spring fevers were of shorter duration in the hospital, than among their patients in the other parts of the city; owing, as they supposed, to the simplicity of the regimen

gimen of the sick, who were also of the lower and more laborious people ; Le Cat, indeed, was of the same opinion. But I still imagine it was the effect of the hospital contagion, which brought the *synochus non putris* to a more speedy crisis, and produced that sweat on the ninth or eleventh day, which in the single *synochus non putris* does not happen before the fourteenth day, and sometimes much later. It was also remarkable, that there were hardly any true agues in the hospital during that whole spring, although there were many in different parts of the town ; I attended several of Holker's manufacturers, on the opposite side of the river, in regular tertians.

But when the contagion seizes a person of very acrid juices, or dissolved blood ; or when it is complicated with a *typhus*, then the case is very different ; as besides the symptoms of malignity, we must likewise expect to meet with all the symptoms mentioned in the chapter on the putrid fever, in the first part of my observations ; every one of which symptoms disagrees

with a heating *regimen*, and not one of them can be carried off by sweating, till the original cause of them is removed by the other remedies proper for that purpose: after which, indeed, the salutary sweat may issue with relief, or may even be brought on with propriety and advantage as shall be explained in its place.

C H A P. III.

HAVING considered the pestilential fever in a clean healthy subject, I now proceed to trace the effects of a pestilential *seminium* superinduced, on an inflammatory *diathesis*, or complicated with true inflammation : and to assist me in this inquiry, I will avail myself of the observations of Sydenham, whose veracity may ever be depended on ; and who is the first that demonstrated the propriety of an antiphlogistic treatment, in some cases, of the pestilential fever ; although others had found the advantage of it in the true plague.

Sydenham had formerly met with the pestilential fever, but it does not seem to have engrossed his attention before the month of May 1665, when he lost a young healthy woman in it. At that time the *synochus non putris* (his depuratory fever) had partly subsided, and the epidemic constitution was genuine inflamma-

tion ; nay, true pleurifies were more frequent than any other fevers ; which I have also seen here, when we have had a long continuation of dry northerly winds in that month.

At first he took this lady's fever to be a *synochus non putris* ; and accordingly ordered one bleeding, and a vomit soon after, to prevent that troublesome purging which he had so often observed towards the state of the *synochus non putris*, especially when attended with sickness in the beginning, and seasonable vomiting had been neglected. This lady had been seized two days before Sydenham attended her, so that she was not blooded, nor vomited before the third day. The bleeding, however, did not allay the heat, and set redness in the cheeks, the vomit did not prevent the purging, clysters repeated every other day did not moderate the symptoms, and strong alexipharmacs did not bring on the salutary *diaphoresis* after the eleventh day : hence he discovered, that it was not a common *synochus non putris* : in the mean time the irregularity of the symptoms increased every

every day, and she died on the 14th day from the time he first saw her.

The death of a person, so healthy and so young, readily convinced Sydenham that there was a defect in the manner in which this fever had been treated; to correct which, he knew it was necessary to investigate the particular nature of it. It happened at that season of the year, when he naturally expected a *synochus non putris*, which led him to treat it as such; but on reconsidering all the symptoms, and comparing these two fevers together, he readily perceived the difference between them. They were both of an inflammatory nature, and therefore equally required bleeding; but the vomit, and repeated clysters, which always bring the *synochus* to a regular remission, had no good effect on this lady's fever; and an early sweat gives no relief in the *synochus*; whereas it was the only evacuation that gave relief in this fever. In the *synochus non putris* it is not easy to procure a sweat at all times; but in this fever the patient was very apt to sweat, especially after each bleeding.

Upon a more careful review of all the circumstances attending this fever, he found that although it came on in May, yet the nature of that particular year was such, that the general epidemic constitution was highly inflammatory, and true pleurifies were very frequent; that all the blood taken from this lady in the course of the fever was fizy; the cheeks were red, some drops of blood came from the nose, and she had a cough, with a dull pain, or uneasiness about the vital parts. From all these particulars, duly considered, he concluded “ that this fever, though it had not the
 “ pathognomonic, or distinguishing signs
 “ of a pleurisy, or peripneumony, was
 “ symptomatic, and occasioned by an in-
 “ flammation lurking near the vital parts,
 “ though it was unaccompanied with pain
 “ in the side, or great difficulty of breath-
 “ ing. In short,” continued he, “ I came
 “ at length to this conclusion, that I ought
 “ to have followed the same method here,
 “ that I had frequently used in a pleurisy
 “ with good success. And indeed it after-
 “ wards fully answered my expectations;
 “ for

“ for being called some short time after
 “ this to a man affected exactly in the
 “ same manner, I began and finished the
 “ cure by repeated bleeding, after the me-
 “ thod already commended in the pleurisy;
 “ and about the end of May and begin-
 “ ning of June, this fever being then
 “ very epidemic, I recovered many by the
 “ same means.” Sydenh. cap. ii. f. 35.
 p. 90.

At this time Sydenham quitted London, and did not return for almost fifteen months, that is, till the plague was partly sub-
 sided, in the month of November 1666: but at his return he found the pestilential fever raging as much as ever, and it still agreed with the same antiphlogistic treatment (that is *plentiful bleeding*, the *ptisan*, and *cooling diet*) during the winter 1666, and part of the spring 1667; at which time it having failed in some cases, as appears by Sydenham's narrative, he then first adopted his sudorific method of cure, which he found complete and adequate ever after; and though so late taken up, yet it appears he always knew that the
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natural and effectual termination of the pestilential fever was by the skin, as may be seen by the following passage; Sydenham, cap. ii. f. 21. p. 83.

“ To consider therefore the first intention which tends to *assist Nature in expelling the morbid matter, agreeably to her own method of procedure*; it must be observed, that in the true plague, when Nature of herself commits no error, nor is forced out of her way by violent measures, she finishes the cure by an abscess in the emunctories, whence the matter is discharged: but in a pestilential fever the cure is performed by an universal sweat through the whole surface of the body, hence we may learn that the method of cure must be diversified, agreeable to the different procedure which Nature points out in both diseases. For if one was to endeavour to discharge the matter of the true plague by sweat, it would be opposing Nature, because she attempts to do it by imposthumes; and on the other hand, to endeavour to expel the matter of the pestilential fever, otherwise
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“ than by sweat, is to pursue a method
 “ directly contrary to the procedure and
 “ disposition of Nature.”

E P I C R I S I S.

By comparing Sydenham's account of this lady's case with the 36th sect. p. 90. it is evident that it was the true pestilential fever, the same which he had seen before and after the plague; and that Sydenham, mistaking it for a *synochus non putris*, had not endeavoured to procure nor even to promote a sweat, before the eleventh day, which is always dangerous in this malignant fever; the set redness in the cheeks, and the dropping some blood from the nose, only indicated the dissolution of the blood; which required cooling acids rather than healing cordials at that period of the disease. In this case the pestilential *feminium* was added to much inflammation, which required repeated bleedings in the beginning, according to the degree thereof; for although a mere *plethora*, or redundancy of good blood, may be removed by one proper bleeding; yet we know,

know, that a stated inflammation, with fizy blood and rigid fibres, requires repeated bleedings, before we can reduce the heat, and relax the fibres to the proper standard. In the case of this lady the stomach and bowels also seem to have suffered from the pestilential *miasmata*; the stomach indeed was relieved by a seasonable vomit after the first bleeding; but the clysters ordered were not sufficient to clear the bowels, so soon and effectually as the nature of this malignant fever requires; the acrid ferment, still remaining in them, supplied a continual morbid *fomes* to the blood, and kept up a constant irritation, purging, heat, and anxiety, by which the kindly salutary *diaphoresis* was retarded, or altogether prevented: nor could the stronger alexipharmacs, by any means, mend the matter in such circumstances, and so sanguine an habit: I should have expected much more relief from a proper dose of that purging ptisan, which Sydenham always recommends, after bleeding, to allay the violence of inflammatory fevers.

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If such a purge had been given immediately after the vomit, and the morbid matter in the bowels been expelled in the beginning of the disease, ease and rest might then have been procured; a quiet sleep would have followed, and a salutary restoration of the natural secretion by the skin; which might have been promoted in so vigorous a young person, without any other alexipharmac than a plentiful drinking of warm, vinous, subacid beverage, with the addition of very mild cordials, till the whole malignity was dissipated.

In young, plethoric, vigorous people, and when the inflammatory constitution is epidemic, we never can do good by an early use of acrid, stimulating, and heating medicines; in such circumstances the stronger alexipharmacs only serve to push the degree of heat beyond the sweating point, as has been explained in the first part of my observations; no secretion nor excretion can be properly performed till the too great fizziness of the blood, and
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too great rigidity of the solids have been removed.

Besides, it is not a violent pouring down sweat that gives relief, so much as a moderate, tepid, free transpiration. And I will submit to the experience of every careful observer, whether he hath not often remarked the eruption of the small-pox, and erysipelas, and the salutary sweat of the *angina maligna* and pestilential fever retarded by the excess of heat in some vigorous sanguine habits; and whether the moderating the violence of that ferment has not promoted the critical discharges? In thinking very seriously on this subject I have often imagined, that the violence of excessive heat and motion, served only to mix and blend the morbid matter more and more intimately with the blood, and rendered the future separation of them more difficult: whereas a certain degree of heat and motion, only something beyond the natural, healthy standard, gradually separated the morbid from the sound juices, and deposited the offending matter, by slow de-

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grees,

grees, upon the organ best adapted for its reception and final expulsion.

What confirms me in this opinion is what I have observed, or more properly do observe every day; when in the extreme heat and violence of a fever, a profuse, immoderate sweat breaks out suddenly, I do not find the sick sensibly relieved by it. This seems to be what is meant by a crude and symptomatic evacuation: but if I can moderate this excessive ferment, there succeeds a more kindly transpiration, which affords a sensible relief every hour; and properly conducted, often proves critical, for the most part salutary. The successful treatment of all the uncommon fevers, whether attended with eruption or not, in all sanguine habits, during the inflammatory constitution, depends so much on a perfect knowledge of this doctrine, that it deserves to be explained by an example.

Suppose upon the second day of an inflammatory fever, the small-pox should appear, in little clusters here and there upon the face, without that abatement of
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the symptoms which ought to accompany, or indeed precede the eruption; should that eruption be encouraged which brings no relief, and which ought not to have appeared before the third, or rather the fourth day? Has not the daily experience of all mankind taught us, that we ought rather to check that crude eruption which is not truly critical, nor sufficient to abate the fever; and that it is our business to moderate the violence of the heat and motion, as the only means in our power to prevent a confluent and dangerous small-pox, the eruption of which is not critical, nor sufficient to carry off the fever.

Again, suppose that the eruption should not appear till after the third day, with an abatement of all the symptoms, should we labour to force out all the small-pox on that day, which naturally and regularly is known to be the operation of three days and an half? or ought we not rather to conclude that Nature is doing her own work in due season, and only supply the sick with proper diluents? The vigorous, sanguine people, especially during

ring the inflammatory constitutions, never die of mere inanition, even in malignant fevers ; in these circumstances Nature will push out the small-pox in due season, without the aid of any alexipharmac more powerful than plenty of any proper beverage, although weak and exhausted patients may require cordials, in some particular cases, and circumstances of this disease.

In like manner the *angina maligna* and pestilential fever, which never are properly terminated but by perspiration ; yet if they are attended with much inflammation, they require an antiphlogistic treatment to a certain degree ; and in young, sanguine, vigorous habits, (especially during the inflammatory epidemic constitutions) you cannot procure a free, moderate, easy, breathing, effectual, critical sweat, without bleeding to a certain degree, at a proper period of the fever.

The best symptom therefore in pestilential fevers is a good full pulse ; because this indicates natural strength sufficient to propel the poison to its proper outlet,

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the skin, and the *sine qua non* is a warm, kindly, free breathing perspiration, not a pouring down, crude, colliquative sweat.

Thus far we are indebted to the great Sydenham; he was the first who taught the propriety of an antiphlogistic treatment of the pestilential fever, during the inflammatory constitution; and in vigorous sanguine habits of an inflammatory *dias-thesis*; the more you endeavour to heat such people, the more you dry their skin; but bleed them freely, and dilute plentifully, and you will open their skin; their own natural temperament being sufficient to propel the poison at the proper season; as soon as the excessive volume, heat, and motion of their blood are reduced to their proper standard; and as they do not require, so they do not agree with heating cordials, commonly called sudorifics; which, in them, only serve to increase their radical heat beyond the sweating point; or to force out a premature, crude sweat rather detrimental than salutary, even in pestilential fevers.

Doctor

Doctor Dan. Trillerus observed, that in all genuine inflammatory fevers there always was a great and natural propensity to sweat immediately after each bleeding; and that the effectual bleeding was invariably succeeded by an universal, critical sweat of forty or sixty hours continuance. Now if this be the case in genuine single inflammatory fevers, must it not *a fortiore* be so in inflammatory pestilential fevers, where the blood is loaded with an acrid, volatile ferment. I have seen this often in Normandy, where an inflammatory diathesis prevails; and have sometimes imagined that the whole fever was sooner brought to coction and crisis by the addition of the hospital malignity; and indeed if one considers, that this species of poison has a powerful effect in dissolving the fizy part of the blood, such a consequence might be reasonably expected from it. Be that as it may, I well remember that although the patients in the hospital at Rouen seemed at first pale and feeble by a large bleeding, yet after they were laid

in bed, well covered with clothes, and filled with warm liquors, an universal warm sweat commonly succeeded, with relief, and sometimes proved critical: three bleedings, however, is the most I ever saw necessary in this fever; and when they attempted to cure the whole fever, by bleedings oftener repeated, the blood became dissolved, and great weakness was the consequence.

I shall now conclude this chapter with a succinct account of that special method which I have found most successful in the treatment of the pestilential fever when complicated with inflammation; that is, when the patient is young, sanguine, and vigorous, the epidemic constitution inflammatory, the wind northerly, and the air dry or frosty. In these circumstances the first thing to be done is to put the patient into a warm bed, and try by gentle means to raise a sweat, in order to carry off the malignity by the first intention. But if the heat should increase, and the sweat not flow with ease, and relief of
symp-

symptoms, then take away ten ounces of blood in bed, and persevere in the mild diaphoretic regimen, to encourage that sweat which always follows bleeding in sanguine, vigorous people; and takes off the sickness at the stomach, or tumult in the bowels, if only symptomatic, and the effect of spasm or *ergasm*.

But if the stomach is sick, with a foul tongue, a gentle vomit ought to be given after the bleeding; or if the bowels are uneasy, and the mouth foul, the purging ptisan ought to be administered, as the operation of either, or both, when required, after bleeding, will never prevent the salutary sweat, in vigorous people.

If after one or more of these evacuations the symptoms of real inflammation should not abate at the end of twenty-four hours, a second bleeding is necessary, which will be followed by a second sweat, to be treated as the former, and promoted by warm, cordial, diaphoretic sippings for twenty-four hours longer: at this period of the disease one may form

a judgment of the effect of the second bleeding; and distinguish which are most prevalent, the symptoms of inflammation, or malignity: if the first, a third bleeding may be needful, and I never saw more required to reduce inflammation, complicated with the pestilential contagion, within proper bounds. In most cases one large, seasonable bleeding in bed, has been sufficient to prepare the way for the salutary sweat. An imprudent excess of these evacuations may sink the pulse too much; and then to bring on the salutary transpiration, we may be obliged to have recourse to more powerful alexipharmacs than would otherwise have been necessary; of these wine is the best, and it even may be expedient to apply blisters, which act not only as a stimulus, but also, after copious bleeding, as a solvent of fizy blood.

When the salutary sweat is once established, it ought to be kept up for forty-eight hours; then a purge becomes necessary; but the diaphoretic regimen ought to

to be persisted in to the end of all the malignant symptoms. Towards the conclusion, in cases of great weakness, after large evacuations, bark has an excellent effect, both as a restorative and stomachic.

C H A P. IV.

THE month of July makes an universal revolution in our temperaments, by which the inflammatory *lentor* is destroyed, and a new constitution substituted in the room of it, accompanied with relaxed solids, dissolved blood, and acrid juices, commonly called the putrid epidemic constitution. Now it is evident that an acrid, volatile ferment, such as the *feminium* of the pestilential fever, readily unites itself to such a constitution, and exasperates it.

I have often wished that Sydenham had seen this species of the pestilential fever; but he put this out of his own power, by leaving London in the month of June 1665, before the coming on of the putrid constitution; Sydenham wrote his chapter on the pestilential fever in 1667, the year after the plague ceased in this city; and it appears by his abridgment of the epidemic constitution of the years 1665
and

and 1666, sect. ii. cap. 1. p. 73. that in the month of March 1665, the *synochus non putris*, contrary to the common course in other years, disappeared, and gave place to real non-remitting inflammatory fevers; upon which the *seminium* of the pestilential fever being ingrafted, produced five new symptoms, different from what he had been accustomed to see in the single inflammatory fevers of the same season of the year: 1st, “ The pain in the head
 “ was more violent; (2.) the vomiting more
 “ copious; and (3.) the looseness, which
 “ was generally prevented in the former
 “ fevers by a vomit, was increased thereby
 “ in the present fever, and yet the vomit-
 “ ing continued. (4.) The external parts
 “ were dry, as in the fever of the pre-
 “ ceding constitution, (*the synochus non*
 “ *putris*) but, after bleeding especially, a
 “ sweat was easily produced, and being
 “ encouraged soon abated the symptoms;
 “ and this might be done at any time of the
 “ disease: whereas in those of the former
 “ constitution (*the synochus non putris*) it
 “ could not be safely attempted till the
 “ eleventh

“ eleventh or fourteenth day ; and was
 “ not easily raised then ; (*which proves*
 “ *the sudorific quality of the inhaled poison.*)
 “ (5) The blood taken away in this fever
 “ often resembled that of persons in pleu-
 “ retic and rheumatic fevers, but was less
 “ fizy, (*owing to the dissolving quality of*
 “ *the superadded poison.*”)

From this paragraph, and indeed from
 his whole chapter on this fever, it is evi-
 dent to me, that the pestilential fever of
 Sydenham arose from a pestilential *semi-*
nium or contagion superinduced on a ge-
 nuine inflammatory constitution ; a *syno-*
chus inflammatorius non remittens, malignus,
 differing from the *febris remittens, maligna,*
critica of Roupe, and still more so from
 the putrid and malignant fever of Hux-
 ham, or the *synochus putris malignus*, which
 is the subject of this chapter.

The true putrid fever did not come un-
 der the serious consideration of Sydenham
 before the month of July 1667, and
 therefore he calls it the epidemic of 1667,
 68 and 69 ; so that he did not publish his
 account of it before 1670 : nor does it
 appear that the pestilential fever came in
 his

his way during these years, nor ever after ; which might readily happen, if his practice was then confined to people of fashion only, who are not much exposed to this sort of infection.

I conclude therefore that Sydenham never saw the pestilential contagion super-added to a *synochus putris* ; but he saw the *virus* of the small-pox superinduced on the putrid constitution in the summer of the years 1674 and 75, cap. iv. and accordingly observed, That although the small-pox had been mild and regular during the spring, yet gradually as the putrid constitution advanced, the small-pox, by being united to the putrid fever, became putrid, anomalous, and malignant, and together they formed that complicated and dangerous small-pox. To this compound fever he applied his attention, and with his usual penetration investigated the nature of it : he soon saw the necessity of attending chiefly to the putrid fever, and ordering accordingly the most powerful antiseptic regimen, by which alone he was able to conquer this dreadful disease, till
that

that time reckoned incurable ; and by this masterly stroke, has laid a better foundation for the treatment of all malignant fevers complicated with a *synochus putris*, than most other authors who have written expressly on each of them.

My design is to explain, not a common putrid fever made malignant by wrong treatment, but the effects of a true pestilential contagion, carrying malignity in its essence, superadded to a putrid fever ; and producing symptoms which do not naturally belong to the simple putrid or bilious fevers, so long as they are properly treated, although it may be added to either of them, and thus produce a compound fever partaking of the nature of both.

“I am very sensible,” says Huxham, “the
 “word Malignity, as applied to fevers,
 “hath of late years fallen into very great
 “disrepute, and probably it hath been
 “often made use of to cover ignorance or
 “magnify a cure : but there is really a
 “foundation in nature for such an appella-
 “tion, at least for some word that may
 “distinguish

“ distinguish such a disease, as I now de-
 “ scribe, from a common inflammatory
 “ fever; indeed, the very term inflam-
 “ matory fever, supposes there are other
 “ kinds of fevers. It is perhaps indiffe-
 “ rent whether you call them malignant or
 “ pestilential; when petechiæ appear, every
 “ one calls them petechial, and if from
 “ contagion, contagious. I will contend
 “ with nobody about words, but it is ne-
 “ cessary we should have some to com-
 “ municate our ideas, and when they are
 “ well defined, no one hath great reason to
 “ quarrel with them.

“ I have the utmost honour for the me-
 “ mory of the great Sydenham; and yet
 “ I must say, had he not treated all fe-
 “ vers as merely inflammatory, even the
 “ plague itself, his practice had been more
 “ universally just and imitable, as being
 “ well adapted to those that depend on an
 “ inflammatory *lensor*. Honour to whom
 “ honour is due; Sydenham justly op-
 “ posed and exploded the hot, sweating,
 “ fiery regimen, which was then common-
 “ ly used in all kinds of fevers, and in-
 “ troduced

“ introduced proper evacuations, and the
 “ cooling, diluting, temperate regimen ;
 “ a method most certainly right in all
 “ kinds of inflammatory and ardent fe-
 “ vers : yet mere evacuations, and cold
 “ watery diluents, will not indifferently
 “ suit all sorts of constitutions and fevers.
 “ But opposition is often carried too far,
 “ and a favourite notion may sometimes
 “ lead one *to extinguish almost the vital*
 “ *flame*, and another to fire the fabric,
 “ lest the *deleterious miasmata* should make
 “ a lodgment in it. The same contagion
 “ may affect persons of all constitutions,
 “ and of course will produce a great diver-
 “ sity in the symptoms ; for as the received
 “ contagion acts merely in the same man-
 “ ner as acrimony, it will have very dif-
 “ ferent effects, when it invades a strong
 “ vigorous constitution, and a rich fizy
 “ blood, from what it will when it attacks
 “ a weak, lax habit, with poor thin blood,
 “ and a too loose *crasis* of its globules ;
 “ and from one and the other, when it
 “ falls in with a very acrimonious mass of
 “ humours (to which Huxham might have
 “ added

“ added a very *mobile genus nervosum*).

“ Without all doubt there are fevers that

“ require something more than the lancet,

“ small beer, and a purge.”

The reverence I have for Sydenham will not suffer me to pass over this passage of Huxham's without remarking the injustice and falsehood of his censure of that great physician. How can it, with the least shadow of truth, be said, that Sydenham has treated every fever indiscriminately as merely inflammatory; when he has so expressly recommended a diaphoretic treatment of the *synochus non putris* after the tenth day; and the antiseptic manner for the fever of July, which method he carried to the utmost, by giving mineral acid in all the common drink, when the same fever was complicated with the small-pox: And does he not use blisters from the very beginning of the *peripneumonia notha*? Was it not he that first taught us the power of bark and opium in large doses? Did not Sydenham cure the plague and pestilential fever by the most powerful sudorifics in the very beginning?

Indeed

Indeed it is much to be lamented that such an author as Sydenham should not be read with more attention, and better understood.

Though Huxham has mentioned the effect of the pestilential poison on persons of several different habits, yet he has not adverted to the alterations produced in those different habits by the change of seasons, which, as has been before frequently observed, produces a certain variety of fevers, in regular succession, peculiar to each season; which makes a considerable difference in the symptoms arising from the same species of contagion: of these various complications I have already explained the inflammatory, and now am considering the putrid and bilious constitutions united with contagion.

By the *pestilential putrid fever* I understand a compound fever, having two trains of symptoms naturally independent of each other, although they may sometimes meet together in the same subject, and one greatly exasperate the other; I call the first of these pestilential, because they arise from contagion

gion or malignant *miasmata* ; the other I call putrid ; they being the same with those of the *typhus* of Hippocrates, the variolous fever of Sydenham, or of that constitution of fevers commonly called putrid, regularly and yearly epidemic in this city, from the beginning of July to the end of September.

I will first enumerate the symptoms peculiar to each separately, and then shew them blended together ; by which I shall prevent confusion, and, I hope, give a more distinct idea of this matter than has been hitherto done. The appearances to be met with in this complicated fever having been confounded together, without marking the difference occasioned by the variety of temperaments, and opposite epidemic constitutions, with which it may be, and is frequently united. The separating and distinguishing them in the manner I propose, will enable the unexperienced practitioner, when he meets with this compound fever, to discern which predominates, the symptoms of putridity, or those of malignity and contagion ; upon which

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depends

depends the whole dexterity of treating this fever successfully. And for this end I would be as full and explicit as possible, though I should make many repetitions.

The usual pathognomonic symptoms of a putrid fever in the month of July and the dog-days, according to Sydenham, are in number eight: 1st, "The patient was
" seized with a pain below the pit of the
" stomach, and such a soreness that he
" could not bear to have it touched; which
" symptom I do not remember to have
" observed in any other disease besides this
" fever.

" 2dly, A pain in the head, a heat of
" the whole body, and also *petechiæ*, were
" very visible in many cases.

" 3dly, Little thirst; 4thly, The tongue
" was like that of a healthy person at the
" very beginning, unless that it was some-
" times white, rarely dry, and never black;
" 5thly, Profuse, spontaneous sweats were
" common in the beginning, which afford-
" ed no relief, and, being promoted by
" hot regimen and medicines, soon en-
" dangered a *delirium*; augmented the
" number

“ number of the *petechiæ*, and rendered all
 “ the other symptoms more violent. 6thly,
 “ A laudable separation in the urine from
 “ the beginning of the illness, that gave
 “ hopes of recovery, but did not relieve
 “ the patient more than the above men-
 “ tioned sweat: *In many the urine is*
 “ *only jumentosa, but does not separate.*
 “ 7thly, This disease, by wrong manage-
 “ ment, generally proved very obstinate,
 “ neither terminating by way of *crisis*, nor
 “ spontaneously in the manner of other
 “ fevers ; but for six or eight weeks, ac-
 “ companied with violent symptoms, un-
 “ less death interposed, and put a stop to it
 “ sooner. 8thly, When no considerable
 “ seasonable evacuation had preceded, and
 “ the proper cooling juleps had been used
 “ throughout, a pretty plentiful salivation
 “ sometimes arose towards the decline,
 “ whereby the disease was carried off be-
 “ yond expectation, provided this discharge
 “ was not checked by evacuations, *now be-*
 “ *come improper* ; or the use of over-heat-
 “ ing medicines. But proper regimen, with
 “ seasonable evacuations from the begin-
 G 2 “ning,

“ning, soon removed the whole fever,
 “whether attended with a purging or not.
 “The *miliaria*, *petechiæ*, and *aphthæ*, are
 “for the most part consequences of im-
 “proper treatment.”

These are all the symptoms natural to the putrid fever, of which I have given two examples; one without much quickness of pulse, and the other with much heat, pulse, &c. Vide Observations on Fevers, vol. i. p. 274 and 275.

Let us next consider the genuine, common symptoms of the pestilential fever, in a clean, healthy constitution, and we shall find that they are such as might be expected from inhaling a poison, the nature of which is acrid, volatile, penetrating, alcalescent, and narcotic, capable of contaminating the humours of the body, dissolving the natural *crasis* of the blood, and irritating the whole nervous system: hence there must arise a considerable *derangement* of all the functions in proportion to the degree of its virulence, quantity, and time of abode in the body; the most vigorous and healthy must soon be sensible
 of

of its deleterious effects ; but if it should long remain in the course of circulation, or meet with acrid juices, it will assimilate a great part of our humours to its own nature : and if it should make a deposit on any weak organ, that organ is soon destroyed by its acrimony, without skilful and timely assistance.

The first symptoms, however, must be such as arise from irritation, and consequently are nervous; such as I have already ascribed to the smoking of tobacco, and were very visible in the case of the young hospital nun at Rouen. 1st, A sudden unaccountable dejection of spirits and prostration of strength; (2.) a falling of the countenance characterising fear or sorrow; with full watery eyes, pale lips and ears, a mixture of different colours in the complexion, and a trembling, weak, low voice; (3.) weight, giddiness and pain of the head, particularly the hind part of it; (4.) a shooting pain in the sockets and balls of the eyes; (5.) a considerable degree of chilliness, with sense of universal pain and weariness, particularly in the

loins, with a slight pain and cramp in the calf of the legs; (6.) The stomach is sometimes sick, and the bowels uneasy, without any foulness on the tongue, when the person was in good health at the time of infection; (7.) For the most part the patients complain of a bad taste and offensive smell, so that they often hawk, spit, reach, and blow the nose, as if they endeavoured, in vain, to discharge something highly offensive.

These are the first genuine, pathognomonic symptoms of this infection, taken from my own observation, and being added to the above eight or ten symptoms of the single putrid fever, make together all the genuine first symptoms of the true putrid and malignant fever conjoined; the great number of other symptoms, collected by Huxham and others, belong more properly to malignant inflammatory, malignant catarrhus, and malignant humorrhal fevers; or are that variety of symptoms as will occur in this, and all fevers, according to the treatment and duration of them.

It is, however, true, that the matter occasioning the putrid fever is of a nature so similar to the malignant *miasmata* of the pestilential fever, that they more readily unite in the same subject, and always exasperate each other the most; which is the reason that this fever is more common and dangerous in summer, during the putrid and bilious constitutions, than in the other seasons of the year: but still this very poison may, and is frequently super-added to other fevers, and may be distinguished by the symptoms peculiar to itself, which are not to be met with, in the same number and degree, in any common fever when single, and not complicated with this or some other poison.

The natural temperament of the sick makes another most considerable difference with regard to the number and violence of the symptoms. In the case of the young nun there was a clean habit, and natural strength of constitution, able to resist and expel the poison before much mischief could happen; but when it lays hold of weak, delicate, nervous habits, or of foul, bloated,

bloated, gross habits ; when the blood is acrid and dissolved, or the bowels loaded with impurities, then the symptoms will be greatly increased in number, violence, duration, and effect, as has been already observed.

To explain this matter, I will first give a case of the true, compound putrid and malignant fever in a person naturally healthy ; and then I will make some observations on the variety to be met with in this fever, and the method of treating it when under such circumstances.

About the end of July 1773, I was called to see a woman aged thirty years, naturally healthy, well coloured, inclining to be lusty, but very temperate : she had so many complaints, and such a degree of rigour and anxiety, that she could hardly tell me her case : (1.) The chilliness was like the cold fit of a quartan ague ; sometimes she complained of flushes of heat for a minute, but the skin never was even warm ; (2.) She had a violent pain at the pit of the stomach, which seemed puffed up, and so tender that she could not bear
the

the least pressure upon it; (3.) the abdomen was distended, and she had frequent, but ineffectual calls to stool; with shooting pains in the bowels; (4.) her tongue was yellow, foul, and moist; (5.) her stomach loathed every thing, even fruit and cold water; (6.) her urine was *jumentosa*, in small quantity, and offensive to the smell; (7) her pulse was small, quick, and soft; (8.) her countenance was dejected, her eyes were dull, full and watery, and her complexion fallow; (9.) her spirits were sunk, and strength gone; (10.) her voice trembling; (11.) she said she was sore all over, and had cramps or spasms in her legs; (12.) but the most considerable pain was in the hind part of the head, which shot through to the sockets of the eyes, and eye-balls.

So many symptoms coming together at once, and with such violence, surprised me; however I did not suspect any contagion, and taking it for a common putrid fever, at that time epidemic, I ordered a brisk vomit, and Sydenham's purging apozem to be taken soon after it, and repeated every hour

hour till real stools should be procured; directing at the same time to dilute plentifully with mild acid liquors, cold or warm as she should choose; but was much surprised to find that she preferred warm to cold beverage.

I returned early the following morning, and found that the vomit and purge had operated properly, and carried off a great deal of a lemon-coloured, offensive matter; the pain and sickness of the stomach were more moderate, but it still remained tender, and she could not bear it pressed upon: the purge had removed the tension of the belly, and frequent calls to stool; but now she complained very much of pain in the loins, and all the back and shoulders up to the old and first pain in the hind part of the head: the other symptoms remained as before.

I still concluded that it was a putrid fever only, and accordingly ordered the antiseptic liquors to be continued, and to repeat the purge at night, which again operated frequently before the morning, and during some part of the third day: on the
 morning

morning of the fourth day the tongue was pretty clean ; the stomach was free from pain, and rejected nothing ; the bowels were quite easy, and there remained no purging, nor call to stool, so that the pathognomonic symptoms of the putrid fever were removed ; but all the nervous symptoms were increased ; for the countenance was impressed with the character of fear and sorrow ; her eyes could not bear the light, and were in vast pain ; the dejection of spirits, and prostration of strength were very great ; the pain in the head, and all down the neck and shoulders, was increased, and the cramp in the legs was very troublesome ; the pulse was small, irregular, and 120 in a minute : she slumbered frequently, but was not refreshed.

These appearances convinced me of the latent malignity, and accordingly I ordered all things proper to bring on a sweat ; which indeed came on very kindly, after the second sudorific draught ; and was well encouraged by plenty of antiseptic, cordial, warm sippings : at the end of five hours the symptoms were much abated, and the
pulse

pulse came down to one hundred : the next morning the pulse was only eighty-six. In short, at the end of forty hours, from the first appearance of the sweat, the whole fever was judged ; she was then purged with cream of tartar and rhubarb, which was repeated on the seventh day going to bed at night : she then recovered so fast, that in the space of eight days more she looked as well, and was as free from complaint as ever.

E P I C R I S I S.

Here then was a complication ; one set of symptoms which could not be relieved but by vomits, purges, and acids ; and another that seemed to be exasperated by the evacuations, but readily yielded to one sweat, easily brought on, and encouraged properly for forty hours ; after which they never returned again, although the patient was purged twice. The first were the symptoms of the epidemic, putrid fever of the season, which, left to Nature, is always tedious, and often dangerous ; and, if ill treated, is always dangerous, and often

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ten fatal: yet if the cure is undertaken early, and properly conducted, there is no fever which we can remove with more ease, certainty, and dispatch. Hippocrates gave a description of this fever, but Sydenham first investigated the nature of it; he found that it never came to coction and crisis, like other fevers; that Nature was, for the most part, unable to subdue it without due and seasonable assistance: he also discovered that early sweats did mischief in this fever, which never went off kindly but by the bowels, where it always originates; and that one vomit, three or four purges, and plentiful dilution with acids, generally carried it off, provided the natural constitution of the patient was good, and the cure was begun early, which was the case of this gentlewoman.

The second train of symptoms I call malignant, because (1.) They did not subside, but rather increased after the gross matter had been purged off. (2.) They were all nervous, and the whole system of the nerves was stunned, and affected as if the patient had taken some acrid, subtil, narcotic

cotic poison. (3.) They all were soon relieved, and afterwards dissipated by a sweat of forty hours, during which the pulse became more and more slow.

These two fevers conjoined, constitute the true putrid and malignant fever; to treat which properly, the putrid fever must be subdued in the first place; which operation, however, must not be left to unassisted Nature, but proper and effectual remedies must be given early in the disease: after which, the malignant contagion may, with ease and propriety, be dissipated by sweat. In some sanguine vigorous habits, the salutary sweat will come spontaneously, as soon as Nature is relieved from the oppression occasioned by the putrid *colluvies*; but in all cases of languor, or where the patient has been weakened by much evacuation, a cordial and diaphoretic regimen becomes necessary. I see nothing to hinder a skilful man to determine with precision when the putrid fever is subdued; after which he ought immediately to proceed to bring about that salutary sweat, which alone can give effectual relief, by
dissipat-

dissipating the malignity: the means are neither dangerous nor difficult, and the degree of relief will readily direct and determine the proper degree and duration of the sweat; remembering always, that antiseptic, cordial, acid, nourishing sippings, do not retard the operation of the salutary sweat, till the symptoms of malignity are conquered; and that purging is always necessary after the intention of sweating has been answered.

This case is an example of what seasonable assistance will do in a putrid and malignant fever; but if the disease has been long neglected, or ill treated, then the difficulty is very great. The bad practice in this fever is of six sorts: (1.) The high antiphlogistic method in delicate, scorbutic, foul habits. (2.) Delaying the necessary vomits, purges, and antiseptic liquors in putrid constitutions and gross habits. (3.) Beginning the sudorifics before the removal of *plethora* in some, and putrid *colluvies* in others. (4.) Delaying the diaphoretic method too long after the common fever has been removed, and when nothing remains
6 but

but the single malignant fever only. (5.) By checking the salutary sweat, that comes with relief, before the *miasmata* are sufficiently dissipated; or pushing it too violently, or for too great a length of time, after the *feminium* has been dissipated. (6.) Neglecting to purge, and then to cool, with antiseptic, restorative diet, after the sweat has had its full effect: all these errors I have seen in the course of my own observation.

CHAP. V.

I Have hitherto considered the malignant fever complicated with the putrid, without those alterations in it, which may arise from bad treatment, or bad habit of body; I am now to consider it, with the several changes that may be, and are made in it by one or both of these, in which I shall avail myself of what is said by Huxham in his chapter on the putrid and malignant fever, as far as I find his observations well founded.

Huxham's situation at Plymouth, during the war before last, furnished him with the greatest opportunity of seeing the pestilential fever in every possible degree of it, in prodigious numbers, of both sexes, of all ages, constitutions, and situations; in gaols, hospitals, ships, town and country: his sagacity was great, his foundation in medical knowledge regular, his natural disposition led him to the relief of the sick; he was indefatigable in his profession,

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which

which he loved above every other study; his observations were solid, and his narration to be depended on; he had no particular theory to support, and therefore aimed at nothing but the investigation of truth: he saw this fever in all its appearances, and in every stage, as is evident from his list of symptoms; he also knew the nature of its cause, “ which, he says, “ is originated sometimes from mere antecedent acrimony agitated by the super- “ vening fever, but generally from contagion; now this contagion, or pestilential *miasmata*, are only highly volatilized “ and subtilized animal salts: the generation of pestilential fevers, by putrid ex- “ halations of dead bodies, after battles, “ sieges, &c. seems to shew this.”

Indeed Huxham's observations, both on the nature and treatment of this pestilential fever, coincide so well with what I have seen, that, had he divided the subject according to the variety of temperaments and epidemic constitutions, with which he must have seen it complicated, he would have left less room for addition to, or alteration

ration in what he has written. But endeavouring to comprehend the whole subject in one short chapter, he has given a list of symptoms not to be met with in any one season of the year, period of the disease, or united in the same person; although he was very sensible of the propriety of distinguishing how far the whole fever, arising from one and the same contagion, might be varied according to the variety of temperaments, as appears from the following caution, in page 117: “ But as persons of very different constitutions, both as to their solids and fluids, may be attacked by the same contagious diseases, very different methods of cure will be necessary in their respective cases, &c.”

Upon the whole, however, Huxham is the best author on the fever, under our present consideration: I will therefore give his list of symptoms, in his own words; and shall add some short explanations, and observations of my own, where I think them necessary; which I shall mix with his text, that I may preserve the subject un-

broken; these I shall distinguish by *Italics*.

The symptoms of the putrid and malignant fever, according to Huxham (page 93), are as follow: “ In general these
 “ fevers attack with much more violence
 “ than the slow nervous *; the rigors, if
 “ any, are greater (sometimes they are very
 “ great *in weak constitutions*), the heat
 “ much sharper, *mordax*, and permanent;
 “ yet, at first, sudden, transient, and remittent, *i. e. alternately mixt with frequent
 “ chilliness, and sense of cold for several
 “ hours, before the stated fever is developed*: the pulse more tense or hard, *i. e.*
 “ *the artery does not fall from the touch
 “ after every stroke of the pulse, but continues under it, more like a tense trembling
 “ cord, than a distinct pulse*; but commonly quick and small; though sometimes
 “ slow, and seemingly regular for a time,
 “ and then fluttering, unequal, and *soft*:
 “ the head-ach, giddiness, *nausea*, and vo-

* In the chapter on the *synochus non putris*, I have explained Huxham's slow nervous fever, and accounted for the nervous symptoms of it.

“ miting are much more considerable, even
 “ from the very beginning. Sometimes a
 “ severe fixt pain is felt in one or both
 “ temples, or over one or both eye-brows ;
 “ frequently in the bottom of the orbit and
 “ *eye-balls*.—The eyes always appear very
 “ full, heavy, yellowish, and very often a
 “ little inflamed ; *not like that inflammation*
 “ *which is seen in high inflammatory fevers,*
 “ *accompanied with a strong, full pulse, but*
 “ *what we call the ferret-eye, when the*
 “ *texture of the blood is broken, and there*
 “ *comes on a discolouring of the tunica adna-*
 “ *ta (ab errore loci, as the schools call it),*
 “ *by the red blood being so dissolved as to*
 “ *enter the serous vessels.*

“ The countenance seems bloated, and
 “ more dead coloured than usual ; com-
 “ monly the temporal arteries throb much,
 “ and a *tinnitus aurium* is very troublesome :
 “ a strong vibration also of the carotid ar-
 “ teries comes on frequently in the advance
 “ of the fever, though the pulse at the wrist
 “ may be small, nay even not very quick :
 “ this is a certain sign of an impending de-
 “ lirium, and generally proceeds from some

“ considerable obstruction in the brain ; in-
 “ deed the ferret-eyes, and tinnitus aurium
 “ are also of the same nature, and often
 “ accompany the throbbing of the caro-
 “ tids.”

Although these symptoms, mentioned by Huxham, are more frequent in pestilential, than in common fevers, yet they are not peculiar to them : when a fever, however, sets in with many such symptoms to a considerable degree of violence, we always have good reason to suspect a dangerous disease, but not at all sufficient evidence to warrant the administration of very heating medicines ; for although the rigor, and the smallness of the pulse may be considerable in the very beginning, yet in a few hours, perhaps, we shall find great heat, and a strong pulse succeed : we had better, therefore, wait a little patiently for the natural solution of the cold fit, than give such active medicines as may endanger increasing the succeeding heat and fever beyond our wish ; unless in cases where we can be certain that the violence of these symptoms arises from contagion only.

But to go on with Huxham: “ The
 “ prostration of spirits, weakness, and faint-
 “ nefs, says he, are very often surprisingly
 “ great and sudden, though no inordinate
 “ evacuation happens; and this too, some-
 “ times, when the pulse seems tolerably
 “ strong. The respiration is commonly
 “ laborious, and interrupted with a kind of
 “ sighing, or sobbing, and the breath is
 “ hot and offensive.”

These are the true symptoms of malignity in fevers, when the nervous system is violently attacked in the very beginning, and the animal and vital functions almost destroyed without an apparent cause; if such nervous symptoms should not arise from natural debility, from *plethora*, from turgid matter, or from putrid *colluvies*, then we may infer that there is some extraneous cause for them, of a deleterious quality: much of the same nature are unaccountable pains in the head, back, and loins, and universal soreness, with a small irregular pulse, and great anxiety.

The symptoms hitherto given from Huxham, are what commonly attend a pestilential

tial fever in general, and at all seasons of the year: he next proceeds to give an account of some symptoms, peculiar to the putrid fever only, and, when added to the others, denote the fever to be putrid, as well as malignant. His words are,

“ Sometimes a great heat, load, and pain
 “ affect the pit of the stomach, with perpetual vomiting of *porraceous* or *black*
 “ *choler*, and a most troublesome *singultus*;
 “ the matter discharged is frequently of a
 “ very nauseous smell; *sometimes a sharp*
 “ *pain, griping, and distention of the bowels,*
 “ *with a frequent ineffectual call to stool;*
 “ *at other times a purging of putrid slime,*
 “ *mixt with something like blood, disturbs*
 “ *the rest of the sick, and increases the dejection*
 “ *of their spirits, and prostration of*
 “ *their strength.*”

I must here observe, that whether these true symptoms of the putrid fever come on with, or without the addition of any species of contagion, they never can be conquered by opiates, cordials, or sudorifics; far less by alkaline salts and blisters: nothing can save the sick in such circumstances,

stances, but vomits, soft purges, and perpetual drinking of soft, nourishing, acid liquors, till the putrid part of the fever is quite removed. Sydenham did not begin the sudorific medicines till the vomiting ceased; to remove which he depended on warm liquors, the warmth of the bed, &c. See his chapter on the Plague and Pestilential Fever, p. 93. sect. 41. where he says,

“ But if there be a vomiting, as it frequently happens in the plague and pestilential fevers, I forbear sudorifics, till, by the weight of the clothes, and throwing part of the sheet over the face, now and then, to collect the steams, the sweat begins to appear. For it is well worth observing, that, as soon as the rays of the morbid matter get to the circumference of the body, the looseness and vomiting, occasioned by their being turned back on the internal parts, and lodging in the stomach and bowels, immediately cease spontaneously, so that how excessive a vomiting soever had preceded, the medicines afterwards taken were well retained,

“ tained, and succeeded to our wish in ex-
 “ citing sweat.”

The vomiting and purging here mentioned by Sydenham are no other than nervous symptoms, such as we see every day precede eruptions of all kinds, and are always relieved by the eruptions; but Huxham's vomiting and purging of putrid and turgid matter, or rank bile, with the pain at the pit of the stomach, and other symptoms of a putrid or bilious fever, are very different, and cannot be removed by a sweat; indeed the sweat does not give any relief if it should come on (as I have often seen) before the turgid matter is first evacuated; and then a sweat readily succeeds, which, properly supported, soon gives relief.

In the case stated by Huxham the tongue is foul, the urine high coloured, the breath rank, and the full, dead, watery eye is also yellow: but in the case, as described by Sydenham, the tongue is clean, the urine pale, and the full, dead, watery eye is not yellow. Indeed this passage and the whole
 of

of the chapter of Sydenham on the plague and pestilential fever convinces me, that he never saw, or did not attend to the pestilential fever complicated with the true putrid fever of July and the dog-days.

But to return to Huxham; he next proceeds to give the appearance of the tongue and mouth, in which, however, he is not quite accurate; the true account of this matter is, that in the very beginning the tongue is often of a yellow colour, and frequently loaded, as if coloured with mustard; the first vomit takes off a good deal of the loose slough, and repeated purges take off the whole of it; leaving the tongue white, but not clean: it next begins to turn red at the point, and the redness proceeds gradually along the edges; but sometimes the middle remains a little furred near the root, after the fever is quite gone off; and this often happens when the disease has been properly treated from the beginning.

In some (particularly old people) I have often seen the tongue stained as with ink; and black matter was evacuated both by
vomit

vomit and stool; this symptom is common in the jaundice of old people, but not always fatal; as was the opinion of some of the ancients, in which many moderns have followed them. In the month of July 1773, I was called to see Mrs. Prior, then in the ninety-second year of her age, in this situation; and she recovered by perseverance in a deobstruent antiseptic course of medicine and diet: the same is true of black urine, as I have said in the case of H. J. Obser. on Fev. vol. i.

But if an opposite method of cure is adopted early, or before the putrid part of the distemper is conquered; then the tongue becomes dry and brown, or of a dark pomegranate colour, with a fur on the teeth and lips; nor is the *tinge* to be got off for several days, even after a favourable crisis; sometimes it peels off, and leaves the inside of the mouth all bare, like raw flesh; and then is generally succeeded by *aphthæ*; in which case the fever must be treated as has been said in the first and second parts of the Observations
on

on Fevers ; for there will be no other crisis, even in pestilential fevers ; and as this matter is of great importance I will explain it by a case.

In the month of August 1773, I was called to see a young man, Mr. Reybez, in St. Helens, who was taken with a bilious and malignant fever ; although he was naturally vigorous, his pulse was so small, and his spirits were so depressed, that the gentleman, who attended him before I was called in, did not venture to bleed him ; a vomit had been given, and then a purge, with saline draughts afterwards for several days ; but the symptoms of malignity continuing, the bark was given in substance and large quantities for four days. The consequence was a violent *delirium*, with ferret eyes, hard, quick, small pulse, dry mouth, and a white miliary eruption all over his body, which afforded no relief, and therefore was not to be encouraged.

In this state I saw him for the first time, which was on the eleventh day of the fever, and ordered him a dose of the purging ptisan, which operated much more than I intended ;

I intended ; however, the effect was very salutary, for the *delirium* abated, the eyes were better coloured, the pulse more soft, and beat only 110 in a minute. A dry cough came on, to relieve which he was ordered to dilute with pectoral decoction acidulated with common oxymel ; to take frequently of a linctus made of oil, honey, and currant jelly, with a little nitre, once in four hours, adding some wine and lemon to all his sippings.

In two days the *miliaria* disappeared, the cough became moist ; the tongue and inside of the mouth were like raw flesh : the same medicines and diet were continued, only instead of the nitre, he took draughts of the mucilage of quince seeds, sharpened with spirits of sea-salt. On the fifteenth day, after a plentiful sweat, a great crop of red *miliaria* came out with considerable relief ; and on the sixteenth I could see the *aphthæ* coming up upon the throat ; on the eighteenth day the *aphthæ* were much advanced ; and on the twentieth there were signs of turgid matter in the bowels ; for which he was purged with rhubarb.

On

On the twenty-first the *aphthæ* were still more advanced, and a salivation came on; the pulse came down to 95. He now seemed better in all respects, and I ventured to tell his friends that I believed the worst was over, but that this fever might last long. In the mean time I allowed him a little broth every day at noon, besides the nourishing subacid sippings before ordered. This fever, after going through all the varieties of aphthous fevers, ended on the 4th of October.

The next symptom in order, according to Huxham, is that of thirst: in the beginning while the stomach is loaded with a putrid *colluvies*, the mouth is foul and clammy, but there is no thirst; every thing is loathed, and indeed, in most cases, a sick stomach makes a watery mouth; but even after the stomach is cleared, or even after the putrid matter is absorbed, the thirst, or the degree of it, will still depend, in a great measure, on the method of treatment.

In general, however, the thirst ought to keep pace with the degree of heat and dryness;

dryness; when it does not there is reason to suspect a depravation of the taste, and oppression on the nerves, which endangers a phrenzy or *coma*, as Huxham observes: with regard to the *sordes* and furring on the teeth and lips, near the state of the fever, all these depend much on the treatment.

Huxham is more accurate in the following symptoms on the onset of the fever, he says, “ the urine is often crude, pale, “ and vapid; *that is, during the first rigour, but as soon as the first heat comes on, it becomes either jumentosa, or grows* “ higher coloured; and as the fever advances it frequently resembles a strong “ *lixivium*, or citrine urine tinged with a “ very small quantity of blood. *During* “ *the state of the fever* it is without the “ least sediment or even cloud, and so “ continues for many days together: by “ degrees it grows darker, like dead, strong, “ high coloured beer, and smells very rank “ and offensive. I have frequently seen “ the urine, in petechial fevers, almost “ black

“ black and very foetid, with a sediment as
 “ black as soot.”

This urine, however, is not peculiar to the pestilential fever, for I have seen it frequently in common putrid fevers, and also in the atrabilious fever; the two following paragraphs contain much more certain signs of malignity complicated with the putrid fever.

“ The stools, especially near the state,
 “ or in the decline of the fever, are for
 “ the most part intolerably stinking, green,
 “ livid, or black; frequently with severe
 “ gripes and blood; when they are more
 “ yellow or brown, the less danger; but
 “ the highest when they run off insensi-
 “ bly of whatever colour: *it is likewise* a
 “ very bad symptom when the belly con-
 “ tinues hard, swollen, and tense after pro-
 “ fuse stools; for this is generally the
 “ consequence of an inflammation or mor-
 “ tification of the intestines: a gentle di-
 “ arrhœa is often beneficial, and sometimes
 “ seems the only way Nature takes to
 “ carry off the morbid matter *in putrid*
 “ *and bilious habits.* When black, livid,
 I “ dun,

“ dun or greenish spots appear, no one
 “ doubts of the malignity ; the more florid,
 “ however, the spots are, the less is to be
 “ feared ; it is a good sign when the black
 “ or violet *petechiæ* become of a brighter
 “ colour ; the large black or livid spots are
 “ almost always attended with profuse he-
 “ morrhages ; the small brown spots, like
 “ *freckles*, are not much less dangerous than
 “ the livid and black, though fluxes of blood
 “ do seldom accompany them : excessively
 “ profuse, cold, clammy sweats are often
 “ concomitant, by which also they some-
 “ times vanish, though without any ad-
 “ vantage to the patient. The eruption
 “ of the *petechiæ* is uncertain, *because it*
 “ *depends on the method of treatment, and*
 “ *the habit of the sick* ; sometimes they
 “ appear the fourth or fifth day ; sometimes
 “ not till the eleventh, or even later. The
 “ *vibices*, or large livid, or dark greenish
 “ marks seldom appear till very near the
 “ fatal period. We frequently meet with
 “ an efflorescence also, like the measles, in
 “ malignant fevers, but of a more dull
 “ and lurid hue, in which the skin, espe-
 “ cially

“cially on the breast, appears as if it were
 “marbled, or variegated : this in general
 “is an ill symptom, and I have often seen
 “it attended with fatal consequences.”

These are the bad symptoms of a putrid fever, whether exasperated by ill management or malignant contagion, and indeed it is reasonable to expect the same effects from similar causes ; for when the body is loaded with putrid matter, and rank bile, much heat added to alkaline, volatile, and acrid regimen, will have just the same consequences as the malignant contagion of any pestilential fever.

In the paragraph of Huxham following that last quoted, the symptoms, except the *petechiæ*, belong more properly to the *synochus non putris* and bilious fever, ill-treated or exasperated by malignant contagion, than to the true putrid and malignant fever neglected or ill-treated ; his words are, “ Sometimes about the eleventh
 “ or fourteenth day, on the coming on of
 “ profuse sweats, the *petechiæ* disappear,
 “ and vast quantities of small white, mi-
 “ liary pustules break out : I have seldom

“ seen this of very considerable advan-
 “ tage ; but if an itching, smarting, miliary,
 “ *red rash*, it commonly greatly relieves the
 “ sick ; and so do the large fretting, wa-
 “ tery bladders which many times rise upon
 “ the back, breast, shoulders, &c. A scabby
 “ eruption likewise about the lips and nose
 “ is certainly one of the salutary systems ;
 “ and the more hot and angry it is, so
 “ much the better. But of much more
 “ uncertain and dangerous event are the
 “ brown dark coloured *aphthæ*, nor are
 “ those that are exceeding white and thick
 “ like lard, of a very promising aspect ;
 “ they are soon succeeded by great diffi-
 “ culty of swallowing, pain and ulceration
 “ of the fauces, œsophagus, &c. with an
 “ incessant *singultus* : the whole *primæ*
 “ *viæ* become at last affected, a bloody dy-
 “ sentery comes on followed by a sphace-
 “ lation of the intestines, as it is evident
 “ from the black, sanious, bloody stools,
 “ horribly fœtid, and extremely infec-
 “ tious.”

All these symptoms are to be met with
 in common fevers, if improperly treated ;
 but

but they are most frequent in malignant ones; in both, however, they arise from a similar cause, acrimony, and are therefore to be treated nearly after the manner already recommended in that common fever, which is conjoined with the malignity of whatever kind.

Huxham goes on as follows: "*Vibices*,
 " or large black and bluish marks, resem-
 " bling bruises, are frequently seen to-
 " wards the close of the fever, and when
 " attended with lividity, and coldness of
 " the extremities, are certain tokens of ap-
 " proaching death. I have seen the black-
 " nefs reach almost to the very elbows, and
 " the hands dead cold for a day or two be-
 " fore the death of the patient, &c."

This is a sure sign of the universal dissolution of the blood, and an extravasation of an acrimonious humour, which must soon acquire a caustic quality by stagnation, and produce a gangrene *ab interna causa* altogether incurable.

Having thus given the symptoms of this fever which have been seen by Huxham, or in the course of my own practice, I now

proceed to the method of cure, in which I shall also follow Huxham as before, with additions and alterations as I find them necessary. Upon this part of the subject he begins as follows :

“ But let us finish this chapter with a
 “ few words on the curative intentions
 “ proper in the fevers which it particularly
 “ treats of; and here first let me note,
 “ that though malignant and pestilential
 “ fevers, at the very onset greatly sink the
 “ spirits, and cause surprising and sudden
 “ weakness, especially when from conta-
 “ gion; yet bleeding in some degree is
 “ most commonly requisite (nay necessary
 “ in the strong and plethoric) not only to
 “ lessen the *moles movenda*, and give a
 “ freer play to the oscillating vessels, but
 “ also to prevent any inflammatory ob-
 “ structions which may form in the very
 “ beginning; and likewise to moderate the
 “ friction and heat, which are often very
 “ considerable for the first days of the dis-
 “ order; and which more and more exalt
 “ the salts and sulphurs of the blood, in-
 “ crease the acrimony and putrescent state
 “ of

“ of the humours, and greatly favour the
 “ action of the morbid matter. This
 “ therefore when indicated should be done
 “ as early as possible; a quick, tense pulse,
 “ sharp heat, great difficulty of breathing,
 “ palpitation of the heart, and violent pain
 “ of the head and back evidently demand
 “ it. But it should be duly observed, that
 “ though a rigor precede the heat, and
 “ the oppression on the *præcordia* be very
 “ considerable, yet much less blood should
 “ be taken off than in a true peripneumony,
 “ which oftentimes makes its attack much
 “ in the same manner: but the sudden
 “ weakness and great dejection of spirits,
 “ the trembling of the hands, the paleness
 “ and crudity of the urine, together with
 “ the absence of a cough, and heat of the
 “ breath, which attend true peripneumo-
 “ nic fevers, distinguish the one from the
 “ other: besides this affair is less liable to
 “ be mistaken when pestilential fevers are
 “ common, and the constitution of the air
 “ disposes to them; or the patient has been
 “ exposed to the infection: whatever be
 “ the case, the blood drawn will soon shew

“ the difference, which though it may ap-
 “ pear very florid is of a much more loose
 “ contexture and softer consistence in *sim-*
 “ *ple* malignant fevers, than that of *single*
 “ pleuretics or peripneumonics. *But when*
 “ *the malignity is complicated with inflamma-*
 “ *tion, in that case the bleeding is equally*
 “ *indicated, and the appearance of the blood*
 “ *taken in the beginning is similar to that of*
 “ *simple inflammatory fevers, as Sydenham*
 “ *found it in the case of the young lady al-*
 “ *ready mentioned: and in these cases the*
 “ *bleeding should be performed in bed, to*
 “ *prevent the deliquium, and encourage the*
 “ *salutary diaphoresis that readily follows*
 “ *a proper bleeding. But when you find it*
 “ *quite otherwise, i. e. when you perceive the*
 “ *blood to be rather dissolved than sisy, be*
 “ *not too prodigal of the vital fluid, by tak-*
 “ *ing away too much blood, or repeating it*
 “ *too often.*

“ Now though it may be necessary to bleed
 “ the strong and robust at the very begin-
 “ ning of contagious fevers, yet we should
 “ have a very careful regard to the nature
 “ of the fever, as arising from contagion,
 “ which

“ which seems to affect, not only the blood,
 “ but primarily also the animal spirits;
 “ I think the sudden damp, weakness,
 “ tremblings, and great dejection of spi-
 “ rits, at the very attack, evidently shew
 “ it; in some plagues persons have been
 “ struck dead as with a blast of lightning
 “ without any precedent fever, or even in-
 “ disposition.

“ From the peculiar disposition of the
 “ nervous filaments, and that of the most
 “ subtile and exalted part of the animal
 “ fluids (which so greatly differ in diffe-
 “ rent persons) arises that astonishing di-
 “ versity of affections, even from the very
 “ same cause; the smell of an herb that
 “ refreshes thousands, makes some particu-
 “ lar people faint; probably not only from
 “ the different crasis of the animal spirits,
 “ but also from the different tension,
 “ strength, &c. of the nervous *fibrillæ*.
 “ It may perhaps in part be owing to the
 “ peculiar disposition of the nerves and
 “ animal spirits, that some are readily in-
 “ fected, and some never, although multi-
 “ tudes suffer around them.

“But

“ But be this as it will, the contagion
 “ certainly weakens the force of the solids,
 “ and tends to dissolve the blood; so that
 “ when we have a suspicion that a fever
 “ arises from contagion, we should proceed
 “ with caution in letting blood, even though
 “ the symptoms run pretty high at the be-
 “ ginning, and seem to demand the taking
 “ off a pretty large quantity. In the ma-
 “ lignant peripneumonies and pleuro-pe-
 “ ripneumonies of the years 1740, 41, and
 “ 45, I have too often seen, and been sorry
 “ for very untoward mistakes in this mat-
 “ ter; and therefore, though the first bleed-
 “ ing may be very proper, the subsequent
 “ may not be so, nay pernicious.

“ The first blood frequently appears flo-
 “ rid; what is drawn twenty-four hours
 “ after is commonly livid, black and too
 “ thin; a third quantity livid, dissolved,
 “ and sanious: this is frequently the case
 “ in malignant petechial fevers; I have
 “ sometimes observed the crasis of the blood
 “ so broken as to deposit a black powder
 “ like foot at the bottom; the superior
 “ part being either a livid gore, or a kind
 “ of

“ of dark green, and exceedingly soft jelly.
 “ *The same may be seen in common putrid fe-*
 “ *vers, but more remarkably in putrid and*
 “ *malignant fevers, when the antiseptic re-*
 “ *gimen has been neglected.*

“ Besides, the pulse in these cases sinks
 “ oftentimes surprisngly after a second
 “ bleeding, nay, sometimes after the first:
 “ and this I have more than once no-
 “ ted to my great concern and astonish-
 “ ment; and that even where I thought I
 “ had sufficient indications, from the pulse,
 “ &c. to draw blood a second time. So
 “ necessary is it therefore to have a due
 “ regard to the peculiar nature of an epide-
 “ mic fever.”

In my opinion the season of the year,
 and the nature of the constitution of that
 season, and which is, generally speaking,
 complicated with the contagion of what-
 ever kind it be, will assist very much in
 determining the quantity of blood to be
 drawn, and the repetition of it: *cæteris pa-*
ribus, however, the common fever com-
 plicated with the pestilential contagion will
 require less bleeding than when it is single.

Now

Now we know that the single putrid fever, if properly treated from the beginning, does not require bleeding once in ten cases; not a summer passes in which I do not cure many putrid fevers by vomiting, purging, and acids, without bleeding at any period of the fever: sometimes, however, the fulness of the vessels is so considerable, that I order a moderate bleeding immediately before the first vomit, merely to render the operation of the vomit more easy and effectual; but a second bleeding is rarely necessary: for the purge, which ought to be given soon after the vomit, always reduces the hardness of the pulse; and the frequent purges which should follow, added to the cooling antiseptic diet, gradually reduce the violence of the heat, and quickness of the pulse, without further bleeding: many gross corpulent people strain very hard in vomiting if they are not first bled, but after the loss of ten ounces of blood they vomit very easily, and with great and good effect; yet these very people do not bear large and frequent

frequent bleeding so well as some thinner habits.

“ The reason, says Huxham, we have to
 “ bleed in contagious fevers is to prevent the
 “ fever from running too high, and pro-
 “ ducing inflammations of the brain, lungs,
 “ and other vital parts; which a great
 “ fulness of rich, dense blood, violently
 “ moved and heated, is very apt to do.
 “ *But when the blood is not rich, dense or*
 “ *redundant; when there is no seated pain,*
 “ *nor hardness of pulse, bleeding is neither*
 “ *indicated, nor advantageous.* In truth
 “ bleeding in a contagious disease, as ari-
 “ sing merely from contagion, seems not
 “ indicated; because the contagion is inti-
 “ mately mixed with the humours, and by
 “ drawing off a small part of the blood you
 “ very little lessen the whole contagion,
 “ which will have its effect more or less
 “ whether you bleed or bleed not; and I
 “ have seen as numerous and as bad a
 “ kind of small-pox after profuse bleeding,
 “ as ever I did when it had been omitted:
 “ however, as bleeding may lessen the
 “ fewel, though it doth not extinguish the
 “ conta-

“ contagious fire, it is highly proper where
 “ there is a redundancy of blood.”

There are two species of contagion which increase inflammation, viz. the measles and hooping-cough; in both these diseases the second and third blood taken away is more fizy than the first. There is one *species* of contagion, about the effects of which upon the blood, I am in doubt, *i. e.* the small-pox; for although I have seen them complicated with a putrid diathesis, and consequently accompanied with *petechiæ*, and the other symptoms of dissolved blood peculiar to putrid fevers; yet I have also seen certain signs of inflammation attend them, and true phlegmons, with fizy blood follow immediately after the small-pox both distinct and confluent; so that I can hardly believe the poison of the small-pox acts as a powerful, specific dissolvent of fizy blood.

Some few cases, which I have read, of the true plague, seemed to convey the same idea; the disease was judged by real, inflammatory phlegmons, and the sick recovered

covered flesh and colour immediately afterwards. But the *angina maligna* and pestilential fever, when much blood has been taken away, never terminate so; the patients remain pale and wan for some time; and I know several who were formerly subject to inflammatory diseases, whose constitutions seem altered by having laboured under these fevers for some length of time.

It is therefore probable that the special method of cure which we know to agree with the measles might, in some measure, agree with the whooping-cough: that the special method of cure which we know to agree with the small-pox, might also agree with the true plague: and I have found that the same method of cure which agrees with the *angina maligna*, will also agree with the pestilential fever of Sydenham arising from contagion. But I can affirm from my own observation, that the measles require a special method of cure quite different from the small-pox, except where the latter is complicated with an highly inflammatory *diathesis*; and that the *angina maligna*

maligna requires a special method of cure very different from both.

Having thus discussed, in general, the propriety and impropriety of bleeding in the pestilential fevers, Huxham next proceeds to consider the necessity of clearing the first passages; in which he expresses my opinion so nearly, that I will use his own words.

“ Scarce any infectious fever makes an
 “ attack on any person without bringing
 “ on a sickness at stomach and vomiting.
 “ As the morbid effluvia are swallowed
 “ with the saliva, &c. may they not, in
 “ part at least, be washed off and rejected
 “ by co-operating with Nature in promot-
 “ ing the vomiting? by which also any
 “ bilious, acrid, putrid *colluvies* that may
 “ lie in the stomach is carried off, which
 “ otherwise by growing more and more
 “ corrupt, will produce a variety of ill
 “ symptoms, and greatly increase the ori-
 “ ginal disease. Besides, Nature strives many
 “ times in vain, to discharge by vomit
 “ without the assistance of art, and yet as
 “ violently

“ violently as when a proper emetic and
 “ a proper wash are made use of: nay,
 “ drinking something to promote the vo-
 “ miting makes it easier and much more
 “ effectual, and by carrying off the irri-
 “ tating matter, tends greatly to stop the
 “ vomiting. But then I would have this
 “ done always by very gentle means, such
 “ as infusion of ipecacuanha, oxymel scylli-
 “ ticum, with a light infusion of chamo-
 “ mile flowers, or the like. The method
 “ of vomiting by mere warm water I do
 “ not approve of, as you are often obliged
 “ to swallow down immense quantities before
 “ you can raise the vomiting, which some-
 “ times overloads the stomach to such a
 “ degree, that its force is not sufficient for
 “ the weight laid on it, and cannot reject it;
 “ so that the more you drink, the less ca-
 “ pable it is of doing its office; and thus
 “ being over-distended, it becomes quite
 “ unactive, whence dreadful effects may
 “ follow.

“ *The best medicine for this purpose, in*
 “ *most cases, is the emetico-catharticum of*
 “ *Tissot, i. e. a grain or two of emetic tartar,*

“ and an ounce of *mana*, dissolved in a pint
 “ of boiling water; of which a quarter
 “ part taken every half hour will clear the
 “ stomach, and frequently produce one or
 “ two stools soon after. If the vomiting
 “ continues after the stomach is washed
 “ out, give a little theriac out of a stoma-
 “ chic mixture, as a saline draught, with
 “ mint water, &c. and apply an aromatic
 “ cataplasm of *species aromaticæ* with the-
 “ riac, which most times succeeds when
 “ every thing else fails. *When the vomit-*
 “ *ing continues after the stomach is washed*
 “ *out, there is reason to believe, in all con-*
 “ *tagious fevers, that it does not proceed*
 “ *from offending, or turgid matter, so much*
 “ *as from the orgasm. In plethoric habits*
 “ *it is relieved by bleeding in bed; after*
 “ *which the warmth of the bed, breathing*
 “ *under the bed-clothes, and plenty of warm*
 “ *sippings, divert the offending matter to*
 “ *the skin, which always stops the vomit-*
 “ *ing from this cause, as has been observed*
 “ *elsewhere. Not only the stomach, says*
 “ *Huxham, but the whole intestinal canal*
 “ should be unloaded at the beginning of
 “ these

“ these fevers ; but I am sure reason and ex-
 “ perience shew the necessity of doing it by
 “ very gentle methods; clysters of milk,
 “ sugar, and salt; laxatives of mana,
 “ cream of tartar, purging salts, tama-
 “ rinds, and rhubarb, are what I would
 “ chiefly, if not only advise.—I have too
 “ often seen the extreme ill effects of acrid
 “ and stronger purgatives. Hoffman cau-
 “ tions even against senna: the above soft,
 “ easy emetics, and eccoprotics, have this
 “ further advantage, that they may be re-
 “ peated and given, from time to time, as
 “ the putrid, bilious *colluvies* drains into
 “ the first passages.

“ By such means I never fear to puke,
 “ or promote a stool or two, when indi-
 “ cated, at any time of the fever, by a nau-
 “ seous bitter taste in the mouth, sickness
 “ at stomach, nidorous and foetid eructa-
 “ tions, or by too great costiveness, tumid
 “ abdomen, borborigmi, griping pains, or
 “ frequent ineffectual calls to stool, &c.
 “ Though Hippocrates advises in general
 “ against purging off the crude humours in
 “ the beginning of diseases, before they

“ are concocted; yet he allows we may
 “ purge in the beginning, when there is a
 “ turgescence of the humours, and they
 “ make an effort to be discharged: thus a
 “ *cholera morbus* is an effort of Nature to
 “ throw off a superabundant acrid bile.
 “ When putrid, malignant, autumnal fe-
 “ vers, arise from a redundant, putrescent
 “ *adust choler*, as the ancients called it, in
 “ the region of the liver, stomach, &c. which
 “ is very often the case after hot summers
 “ have greatly increased and exalted the bile,
 “ (*humor biliaris*) animal salts and oils;
 “ we should certainly begin with such gen-
 “ tle emetics and cathartics as I have men-
 “ tioned.

“ Unquestionably the bilious principle is
 “ too greatly predominant in all putrid,
 “ petechial, and malignant fevers. The
 “ gall-bladder, and biliary ducts, are al-
 “ ways found full of black, or green bile,
 “ in those that die of pestilential diseases;
 “ and so is the stomach, duodenum, &c.
 “ Now if this putrid bile is not carried off,
 “ it grows more and more corrupt, and
 “ causes vast anxiety, sickness at stomach,
 “ pain,

“ pain, &c. and being reabforbed into the
 “ blood, creates infinite evils, greatly irri-
 “ tates the *genus nervosum*, destroys the
 “ *crasis* of the blood, and turns the lymph
 “ into a corrosive *ichor*.—Where therefore
 “ there are signs of its being redundant, it
 “ should be forthwith discharged by vomit
 “ or stool, as Nature points out. I have
 “ many times, with the greatest pleasure,
 “ in these putrid fevers, seen an amazing
 “ change for the better, immediately suc-
 “ ceed a fit of vomiting, and a stool or
 “ two; where an inexpressible anxiety,
 “ load on the *præcordia*, perpetual sickness,
 “ eructation, and *singultus* had preceded.—
 “ Surely if a poison of any kind was lodged
 “ in the stomach or bowels, we should not
 “ hesitate about the necessity of carrying it
 “ off as soon as possible; and truly putrid
 “ bile is little less pernicious than an actual
 “ poison. Commonly about the state of
 “ these fevers, or between the seventh or
 “ fourteenth day, Nature, of her own ac-
 “ cord, endeavours to relieve herself from
 “ the putrid, bilious *colluvies*, by vomit,
 “ or loose stools more frequently; *especially*
 “ when

“ *when these operations have unhappily been*
 “ *neglected, although indicated in the begin-*
 “ *ning: her regular operations should always*
 “ *be favoured by art; and accordingly I ge-*
 “ *nerally give a gentle laxative the eighth or*
 “ *ninth day, unless I find some eruption*
 “ *appearing, or a kindly sweat forbid it.*
 “ *In this case the purge ought to be deferred*
 “ *till the sweat has had its effect, i. e. as*
 “ *long as it affords great relief.*

“ Till this time I seldom use any kind of
 “ purgative, except a little mana, or cream
 “ of tartar (especially when I have reason to
 “ think the disease arises more from conta-
 “ gion than a putrid *saburra*), ordering,
 “ however, an emollient, laxative clyster
 “ every second or third day, as there may
 “ be occasion.—This laxative I repeat from
 “ time to time, as symptoms indicate, and,
 “ during the operation, carefully support
 “ my patient with proper cordial diet,
 “ drink, and medicine.—By these means I
 “ not only prevent the congestion and in-
 “ creasing corruption of this putrid, bilious
 “ matter in the first passages, but also its
 “ reabsorption into the blood; and likewise
 “ solicit

“ solicit a further discharge of the morbid
 “ humours into the intestinal canal, and
 “ thence out of the body. This gentle
 “ method of purging, about this time, in
 “ these fevers, I have for many years found
 “ of very great advantage; but I protest
 “ against the *aloetic scammoniat colocintida*
 “ purges; which in such a putrid, dis-
 “ solved, acrimonious state of the blood, are
 “ poisons, not medicines.

“ Nature, indeed, without such powerful
 “ stimulants, too frequently overacts her part,
 “ and runs into a profuse diarrhœa, or dys-
 “ sentery, soon fatal, if not restrained, *that*
 “ *is, well treated*; but this most commonly
 “ happens from suffering the corrupt bili-
 “ ous matter to lodge and putrify too long
 “ in the bowels; the best way to prevent
 “ it, is to dislodge it at proper seasons and
 “ due intervals.—When we are threatened
 “ with such an immoderate discharge, we
 “ must have recourse to proper astringent
 “ alexipharmacs, theriac, confect. fracastr.
 “ tincture of roses, red wine mulled up
 “ with cinnamon, &c. but, above all, if
 “ the case is very urgent, to an astringent

“ clyster of confect. fracaft. or theriac, with
 “ a fmall quantity of decoction of tormen-
 “ til, red rofes, or Japan earth; but no
 “ fmall degree of prudence is neceffary in
 “ the ufe of it; for it is always of danger-
 “ ous confequence to fuppreff a critical
 “ diarrhœa prematurely; and I think it
 “ fhould never be done without premifing
 “ a fmall dofe or two of rhubarb. Before I
 “ conclude this paragraph, I cannot but
 “ take notice, that though I have very of-
 “ ten feen a diarrhœa critical and falutary at
 “ the ftate, or decline of thefe fevers, I
 “ generally find it prejudicial at the very
 “ beginning; efpecially if very thin, ferous,
 “ and profufe. Nothing more certainly
 “ fhews a diarrhœa to be ufeful, than when
 “ a gentle breathing fweat, or warm mois-
 “ ture of the fkin, accompanies it.”

This purging, which comes on about
 the ftate of fevers, is very common; be-
 caufe vomiting and purging, fo neceffary at
 the beginning of fevers, are frequently ne-
 glected: this fymptom is often very per-
 plexing; for, if left to Nature, it will
 gradually deftroy the patient; and if fud-
 denly,

denly, or indeed if too soon stopt, the belly begins to swell, the mouth becomes foul, the head is affected, and the patient suffers a violent death.

I have attended much to this matter for many years, and have not seen this symptomatic purging properly treated once in ten times. The method here proposed by Huxham, of giving one or two small doses of rhubarb, and then flying to the most violent astringents, and heating opiates, will not succeed often: I am sure I have reason to say so; and yet the substituting a better method in its stead is known to but very few. To explain this symptomatic purging, requires a minute discussion, and therefore I shall consider it first in common fevers, without any contagion, or other malignity, than such as may arise from their own nature, when neglected or ill-treated; and then the effects of a contagion superadded, will be more easily understood; supposing only that we are acquainted with the nature of that contagion, its effects on the constitution, and usual mode of termination.

There

There are three common fevers, in each of which a symptomatic purging is frequent at, or towards the state, the *synochus non putris*, the *synochus putris*, and the bilious fever: now the symptom is the same in all of them, that is, an almost perpetual inclination for stool, without affording real relief, or reducing the degree of fever; but the same method of cure will not agree equally in all; because these three fevers are different in their beginning, progress, and termination. I must therefore consider each separately, attended with a symptomatic purging at, or near the state.

In the first part of my observations, I have said that the *synochus non putris* (or depuratory spring fever of Sydenham) arises, in a great measure, from a collection of tough, glary, vitrous *pituite* in the stomach and bowels; not acrid in the very beginning, but being changed by the heat of a fever, and by long detention in the bowels, it acquires a caustic quality, and vellicates the tender coats of the intestines very much: hence the continual inclination to stool; which never happens when
the

the fever has been properly treated from the beginning by seasonable vomits and purges.

In this situation, if you endeavour to allay the *tenesmus* by opiates, you only increase the mischief; for the offending matter becomes more and more acrid, so as to excoriate the intestines; accordingly, one of two evils must happen; either the purging must return with redoubled violence, or the acrid and attenuated matter will be absorbed, and mixed with the humours, and occasion a malignant fever; hence miliary eruptions are so frequent in this fever.

A symptomatic purging, therefore, coming on about the state of the fever called *synochus non putris*, indicates, that we should evacuate all the offending matter, by the same vomit and purge which ought to have been given at the beginning of the disease: the purge ought to be repeated till the frequent inclination to stool is abated, and then the tender bowels are to be cooled and refreshed with soft emulsions and clysters of new milk, or starch jellies: and
these,

these, or such like, must be persisted in till the end is obtained, that is, till the pain and tension of the bowels are removed.

But still we must not lose sight of some particulars peculiar to this fever, for being much of the same nature with the spring intermittent, it naturally terminates finally by the skin; and we must also consider that the critical diaphoresis ought to come on or before the fourteenth day of the fever; for this reason we ought to encourage it by the warmth of the bed, and allow a more nourishing diet, even broths of meat, and some wine during the days of purging; after which we may procure quiet nights by mild opiates, to promote the natural, nocturnal perspiration, always salutary after the state; for this fever being a kind of middle degree between the high inflammations of spring, and the high putridity of the Dog-days, we do not fear the degree of inflammation after the fourteenth day on the one hand, nor of the putridity on the other; unless the fever should be drawn out to a great length of time, or the season alter suddenly to a damp warmth; as was
the

the case of Master B. junior, given in the chapter on the *synochus non putris*, in the first part of my Observations; in which case recourse must be had to mineral acids, as we shall see presently in what will be said on the putrid dysentery.

As soon as the morbid *colluvies* is removed, the tongue becomes more moist and clean, the belly flat and soft, the pulse soft and large; and if there is natural strength remaining, the skin becomes more soft and moist, and then the fever gets into its natural track, and gradually terminates by breathing sweats; although much later than it might have done, had not this unseasonable purging retarded the coction and natural crisis.

Sometimes, however, notwithstanding the repeated vomits and purges, the continual inclination to stool will remain; the stools are crude, slimy, and streaked with blood; with a grinding pain in the bowels, which is not eased by soft purges or clysters; the rest is continually disturbed, the appetite for food goes off, the skin becomes dry and harsh, the pulse flags, the strength
fails,

fails, and the anxiety increases: then I conclude that one of two things has taken place; either the bowels are excoriated, or Nature intends to evacuate the whole morbid matter, as yet in a crude state, by the bowels, which is of bad consequence, and contrary to the common course of this particular remitting fever, whose natural crisis is finally by the skin.

Here then I find myself under the disagreeable necessity of interposing, and taking the cure of the disease out of the hands of Nature: I order starch-powder, made without blue*, to be put into every mess of victuals and drink; a mild opiate to be given after each purging stool, a large blister to be applied to the back, and to drink decoctions of bread or rice with wine, and to inject the following clyster frequently:

* I prefer simple starch, made without blue, to any absorbent, for the purpose of blunting acrimony in the bowels; it makes a softer jelly, and never forms hard pellets, as chalk and *pulvis echelis* are apt to do: I believe it to be more soluble in the stomach, and that it may afford some nourishment.

R. The

R Theriac, ℥ss

Terebinth. ʒij.

Vitell. ov. No. i.

Solve simul & adde

Lactis recent. ℥v.

M. f. Enema bis, ter vel quater de die infundendum.

Care must be taken not to begin this method till we are certain that the original morbid *colluvies* has been removed, and that Nature requires such powerful assistance; the consequence also must be well attended to; which will inform us how far we may proceed with this treatment; for if on stopping the purging the belly does not swell, and the pulse rises without becoming hard, and the hands and feet become hotter, with a soft and moist skin, and without any attack on the head, we may persevere a little longer, and not be anxious to procure stools, unless there should be evident signs of turgid matter in the bowels; and in this case a dose of rhubarb may be interposed occasionally, without stopping the diaphoretic course.

But if, on the contrary, the belly should swell in proportion as the purging abates,
if

if the head is much affected, the pulse become hard, the mouth foul, the skin dry, and the stomach sick, then you may conclude that opiates and astringents will not succeed; and in this case the patient must be supported with vinous sippings, and Nature must be left with these to take her own course, which she will sometimes do with success beyond our expectation.

These are the methods, by which I have often succeeded, when called in after the state of spring fevers which had been neglected, or improperly treated in the beginning, whereby unseasonable, symptomatic dysenteries have been produced. Whether the fevers have been remittent or intermittent, they always disagreed with bark, till the purging was entirely gone off: I have also seen the bad effect of James's Powder in the like situation, although that or such antimonial preparations might have agreed in the more early part of this fever. But in all the spring fevers, properly treated from the beginning, we never meet with a dysentery at the state.

If the poison of the pestilential fever be superadded to the *synochus non putris*, it will probably moderate the purging, as soon as the acrid *colluvies* is carried out of the bowels, and rest is procured in the warm bed ; for this poison, being of a diaphoretic nature, will assist in bringing on a sweat, without any sudorific more powerful than warm vinous beverages ; and a sweat, at this period of the fever, is always very salutary, especially after the first passages have been sufficiently cleared.

In a true putrid non-remitting fever, a purging, at any period of the disease, has an effect different from what it might have at some periods of the *synochus non putris* : in the putrid fever the contents of the bowels are acrid from the very beginning, and its natural termination is by purging ; it is frequently accompanied with a purging throughout the whole fever, as has been explained in the dysenteric fever : (See Observations, Part the First.) In all cases of a single putrid fever, a constant inclination to purge, indicates only the redundancy, or great acrimony of the mor-

bid matter, and of course the necessity of carrying it off speedily : indeed if Nature should not bring on this salutary discharge, daily experience shews us the necessity of soliciting it in all stages of the fever, nor can we conquer putrid fevers, whether single or malignant, without it.

Experience, however, has also taught us, that this species of morbid matter is thin as well as acrid, and therefore easily moved. In single putrid fevers, the patients are more apt to sweat at the beginning, than towards the conclusion ; but still that sweat brings no relief, it is therefore unseasonable, and not to be encouraged : the same will be found true, even when the putrid fever is complicated with the malignant contagion ; the salutary diaphoresis will be that only which succeeds the other evacuations ; and in cases of contagion, it will come on towards the conclusion, notwithstanding the antiseptic method of cure instituted in the beginning and increase of the fever ; for the acrimony of the poison will promote the sweating, as has been said, so soon as the habit is freed from the oppression occasioned by the putrid

trid *colluvies*. The natural heat of the weather will also assist, during the season of the *synochus putris*, to draw the offending matter towards the skin; insomuch that heating medicines are hardly ever necessary to stop a putrid dysentery at that season of the year in which it is most frequent.

Where contagion is superadded, the patient's strength may still be preserved by acids and proper nourishment, which will also prevent the dissolution of the blood, for a few days, till the putrid matter can be evacuated, according to its own peculiar and natural course, by purging; and then the salutary, critical diaphoresis will probably succeed with relief and effect, to carry off the virulent contagion according to its particular nature also: then indeed, and not till then, the sweat may be encouraged, and even procured; which will soon stop the purging; but the antiseptic acids must be persisted in to the end, and this is one of the cases in which wine is specific.

I frequently meet with this error concerning acids, that they are all purgative; the reverse, however, is true: all the rough acids are highly astringent, and naturally coagulate our humours; in dysenteries I never venture to give a stronger acid than lemon juice, till the tension of the belly is removed, and the tongue begins to be clean; then, indeed, if the case should so require, I give mineral acids diluted in all the drink, gradually increasing the quantity according to the symptoms; nor am I afraid of wine (claret or hock) nor even brandy where heating cordials are necessary, in some weak constitutions, at the conclusion of putrid dysenteries. In short, proper acids not only correct putrid and bilious humours, but powerfully resist the virulence of all poisons that tend to dissolve the blood; nor do they, when properly diluted in warm, vinous liquors, destroy the diaphoretic quality of the medicines intended to promote salutary sweats in pestilential fevers.

This matter is of such importance that it deserves all possible attention, therefore

fore to illustrate it, I will give one remarkable case, out of many that have come under my observation. On the 9th day of July 1774, Mrs. Bland, wife to a tallow-chandler in Rosemary-lane, was taken with a putrid fever, for which she was bled, but the vomiting and proper purging were neglected. Upon the 19th day of July I first saw her, the weather being at that time very hot, and the *typhus* epidemic.

Mrs. Bland was thirty-seven years of age, and had born several children; she was upon the whole healthy and active, although sometimes subject to bowel complaints: I was informed that on the seventh day of the fever, a putrid dysentery came on, which could not be restrained by *diascordium*, *mithridat.* and absorbents given in all forms: both *faeces* and urine came away insensibly, and almost continually, the stench of which was intolerably offensive: all her senses were lost; when drink was put to her mouth, she swallowed some of it greedily, but never called for any thing; indeed she hardly uttered any articulate words; she was in con-

tinual agitation ; her face, and all her skin was much flushed, burning, hot, and dry ; but there was no eruption of any kind : the whites of the eyes were yellowish, not red, nor the ferret-eye, and the pupils were not violently dilated : her lips and teeth were covered with a brown fur, but the tongue was not dry, although very foul : the pulse was small, hard, and too quick to be counted distinctly : her belly was not puffed up nor hard ; and she moved herself in bed with considerable strength.

I ordered a brisk vomit to be given directly ; and at the end of six hours a purging draught ; and after this that they should get down all they could of a decoction of bread made pleasant with sugar, wine, and lemon juice. 20th July I returned, and was informed, that the vomit had puked her thrice, and also procured three large stools ; that the purge had moved her thrice, after which she had remained quiet, and free from purging for five hours ; during which time she had got down a good deal of her drink. I desired the light should be suffered

ferred to shine full on her face, and observed that she shut her eyes against it; her countenance was more composed, and she did not toss so violently in bed as she had done the former day. I ordered the nurse to scower her lips and teeth with a rag dipped in vinegar, which operation she resisted with both hands; the face remained much flushed, and all the skin burning hot and dry: the pulse, however, was come down to 126, and I could reckon it very distinctly: her belly felt soft, but not emptied by the operation of the vomit and purge: she rambled and muttered a great many incoherent words, or rather inarticulate sounds, and held fast by my hand, repeating the word *cool*: upon which I called for a glass of cold water, and put to her mouth; she drank half of it, and said it was good, but would drink no more of it. I then sent for fruit of different kinds; she eat three Kentish cherries, said they were good, but would eat no more; I then tried her with red currants, she said they were very good, and eat a small handful of them. They in-

formed me, that what she said on these occasions, were the first sensible words she had spoken for forty hours.

The burning dry heat, and great redness of the skin, made me suspect a colliquation of the blood, with petechial spots; but of these I could see none any where: I ordered an ounce of manna and half an ounce of soluble tartar, dissolved in half a pint of common emulsion, to be given directly; also to give two ounces of the tincture of roses every three hours, and all the cooling, acid, vinous sippings as before, with plenty of fruit; to take off some of the bed coverings, and to suffer a current of free air to pass through her chamber night and day.

21st July, The purging emulsion of yesterday operated briskly, and brought away a considerable quantity of rank cadaverous *faeces*; after which she seemed to rest quietly; she got down, in the course of the day and night, near a pint of the tincture of roses, two quarts of the decoction of bread, and almost a quart of emulsion acidulated with lemon juice, besides some fruit of different

ferent kinds, her mouth was more clean, her skin less burning, and her pulse 116 only. I then ordered her to continue the tincture of roses, and the same diet, but at night to take of rhubarb and cream of tartar each half a drachm.

22d July, The purge operated five times; she was better in all respects, and slept a good deal in the night: I ordered the diet to be continued, and thirty drops of Huxham's tincture of bark to be added to each draught of the tincture of roses; but a purge of *sal polychrest* and rhubarb to be given at night, and thus I proceeded in purging every morning, and supporting and cooling all day and night, till the 27th day of July, when the whole fever finally terminated, without any remission or exacerbation, not by any critical evacuation, or eruption, but was gradually brought down from a great height, by mere purging every morning, and cooling and correcting every day for seven days together. Then she began to call for victuals, something solid; she said she longed for solids.

EPICRISIS.

E P I C R I S I S.

When I first saw this fever, and smelled the stench of the tallow and nastiness, I suspected that there was real contagion added to the putrid fever, but there evidently was none; for all the symptoms of malignity yielded easily to the purging and antiseptics; and the whole fever terminated kindly, and according to its own nature, without any sweat, or critical discharge, which hardly ever happens when contagion is superadded.

I also call this a true putrid, not a bilious fever, because there were no remissions, as in the bilious fever, but the whole increased gradually from bad to worse for nine days, then subsided as gradually, and grew every day better and better for the succeeding eight days; whereof during the first seven a purge was given every night, which operated the next morning; and the antiseptic diet was constantly persisted in, till the fever terminated; and Nature demanded a more solid support.

I also

I also say that this fever terminated kindly, and according to its own nature, because it left the patient in perfect health, and with a good appetite; and she soon recovered her former strength, without any other assistance than proper diet. By the like treatment I always succeed in putrid dysenteries, except in old drunkards, or in people whose bowels are scirrhous or decayed.

I now come to consider the pestilential contagion superadded to a bilious fever, when accompanied with the particular circumstance of an unseasonable purging at the state, or that stage of the fever in which a critical sweat might be expected; and I shall mark the difference between this and the malignant putrid fever attended with the same circumstance: for here, although the contagion still remains the same, yet the common fever, on which it is superinduced, alters the nature and treatment of the compound fever and its symptoms; and although a putrid *colluvies* is nearly of the same nature with the bilious morbid matter, both requiring evacuation
by

by stool; yet the fever occasioned by bilious matter in the harvest season, being partly also of the nature of the intermittent of that season, does not agree so well with purging every day, as the putrid fever of summer does; the bilious fever seems to require longer intervals, or a longer time for coction between the purges, that the bilious matter may have time to ooze gradually out of the general mass of humours, and become turgid in the bowels; without which the purge is not so effectual: besides, the blood is not so much dissolved in the bilious as in the putrid fever, consequently acids less rough are found to be sufficient.

It was for these reasons that Sydenham, who purged every day in the putrid fever, found the propriety of purging every second day only, in bilious fevers; and often gave an opiate at night, after the operation of the purge, to secure a coction of twenty-four hours, without stools, before the next purge was given, nor is the soluble tartar and manna sufficient here, though it is in the *synochus putris*; a
brisker

brisker purge is necessary, such as the purging apozem : for the same reason we find tartar emetic, and other preparations of antimony, more serviceable in the true bilious fever, single, or complicated with contagion, than in the true *synochus putris*.

The unseasonable purging coming on after the fourteenth day, in the pestilential bilious fever, will require a treatment nearly similar to that already recommended in the *synochus non putris* complicated with pestilential contagion, only the diet must be more acid, and the patient must indulge in the fruits of the season ; nor does he so much require animal food toward the conclusion.

To conclude, there is no *genus*, or species of fever, except the plague, in which I have not seen a purging salutary in some constitutions, and the effects always shew the nature of it ; for a salutary purging does not fatigue the sick, so much as might be expected from the number and quantity of stools ; nor take away the desire of food ; it empties the belly, relieves the symptoms, particularly of the head, and
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the mouth becomes moist and pleasant ; the pulse more slow, soft and large ; it promotes coction, and even the nocturnal perspiration. It is a good sign when the purging is attended with thick urine, a moist tongue, and soft skin ; for critical evacuations, of well concocted matter, come together, and rather promote than retard each other.

On the contrary, the unseasonable purging, or that which continues long, after the bowels are properly cleansed, and the patient is put on a proper diet, lowers the pulse so fast, and dries up the other excretions so much, that the mischief can easily be perceived even in common fevers, and still more in malignant ones ; the peculiar symptoms of which increase after every stool, and indicate the necessity of moderating the frequency and violence of the purging. This symptom, which occurs often, and is seldom well treated, requires great attention : when the tongue resembles raw flesh, and the patient complains of sickness at the stomach, and pain in the throat, it is frequently relieved by a thrush ;

thrush ; in which case it must be treated according to the directions given in the *aphthæ* and *angina maligna*. See my Observations on Fevers, Part 1st and 2d.

But to return to Huxham, who further says of this fever ; “ Though Nature frequently affects to discharge the morbid matter, in putrid malignant fevers, by vomit and stool, yet her more constant and grand effort is through the pores of the skin. I solemnly assert, I never saw one of these fevers completely judged, or carried off, till more or less of a sweat issued. If it proves moderate, warm, and equally diffused over the whole body, such as we call a breathing sweat ; if it comes on about the state of the disease, and the pulse grows more open, soft, and calm a little before, and during its continuance, it is always salutary ; but if very profuse, cold, clammy, or partial, about the head and breast only, we have much more reason to fear than to hope from it : if profuse sweats break forth at the beginning,
“ they

“ they are generally pernicious, especially
 “ if a *rigor* supervenes.”

Every malignant, contagious fever, has a peculiar termination, by some particular, critical discharge uniformly ; thus that of the plague is by boils, of the small-pox by pustules, and of the pestilential fever by an universal, warm, breathing sweat : this, I believe, cannot be disputed by any one, who has ever attended carefully to the termination of this fever, arising from contagion only ; but as in the eruption of the small-pox, so in the sweat of the pestilential fever, that sweat alone will be found truly salutary and critical, which breaks forth at the proper season, in due quantity, and continues the proper time. The propriety of the season depends partly on the natural constitution of the sick, and partly on the kind of common fever complicated with the malignant one ; carefully distinguishing whether the malignant symptoms arise from real contagion, or from unskilful treatment of the common fever : I am now speaking of that which
 arises

arises from contagion only, and from no other cause.

The proper season for the sweat to come on, varies according to the following circumstances : thus, first, if the patient was in perfect health at the time of infection, then, if no essential circumstance in the case forbids it, the sooner the sweat can be brought on the better ; of this I have given one instance, (out of many which I have seen) in the case of the hospital nun, and the other assistants in the *Hotel Dieu* at Rouen. Where I also observed, secondly, that if the warmth of the bed, and plenty of warm liquors, did not bring on the desired perspiration, then some blood being taken away in bed, the sweat followed after the operation : for the *plethora* being thus removed, the vessels recovered their natural power, and free secretion and perspiration were the consequences : and this will always be the case, when a simple *plethora* is the only deviation from perfect health, at the time of infection, and the only obstacle to a free, easy, salutary sweat.

Sydenham's great success in the cure of this fever, (he having recovered every one from the time he first adopted this method) does not surprise me, because I know it is agreeable to the nature of the single pestilential fever, arising from mere contagion: but when the malignity arises from neglect, or bad treatment, in common fevers, or when the contagion is superadded to a putrid, or bilious fever, this method will not succeed, as hath been before often said.

3dly, True inflammation, however, differs from simple *plethora*; a mere redundancy of good blood is removed at once by one seasonable and proper bleeding; but fizy blood, and rigid fibres, require more time, and repeated bleeding, to dissolve and evacuate the inflammatory *lensor*; and to relax the rigid fibres: in this case, if the contagion of the pestilential fever was superadded to much inflammation, I have observed, that the first bleeding was succeeded by a degree of perspiration, which gave relief; but after some hours, the skin again became hot and dry; and a

second bleeding became necessary; after which a second perspiration came on, also with relief; lasted longer than the first, and generally proved critical: but sometimes this likewise went off before the crisis; nor could it be easily kept up, nor recalled, till a third bleeding was instituted, and then the real and critical sweat followed freely, moderately, and effectually: nor did the soft purges procure so much relief, as they commonly do, after bleeding, in simple inflammations, till this third sweat had lasted a certain number of hours; after which a purge was always of great service. I never saw more than three bleedings necessary in a pestilential fever.

In the three foregoing cases the sweat ought to be brought on, by these means, on or before the seventh day of the fever; and as much sooner as may be done with propriety; for I have always found, that the malignant miasm, of this particular fever, is a poison which assimilates the humours to its own nature, and the longer it remains mixed with the blood, the more it contaminates it: nay, if a fever arising

from, or accompanied with a virulent contagion of this sort, went on nine days with a dry skin, I have found it commonly fatal, even to the young and vigorous; the accumulated poison, not finding in that time the proper vent, by perspiration, had so dissolved, or curdled the blood, in some, and so destroyed the nerves in others, that it became difficult to save them by any remedy. An instance of the first kind I have given in the case of the young man, in Little Somerset-street, Goodman's-fields; and I shall now give an instance of the second kind, where the nerves were destroyed, in the case of a young man, a carpenter in Fetter-lane, whom I lately attended; who had been infected with the Newgate fever, and is a striking instance of the deleterious effect of this poison on the nerves.

He was naturally very strong, and went about with the fever upon him for seven days: he was then obliged to take to his bed, and a skilful man, who first saw him, found his pulse so small, that he did not venture to bleed him: but suspecting the cause of the surprising prostration of strength, and dejection of spirits, to arise from

from a *colluvies* in the first passages, gave him the *emetico-catharticum* of Tiffot. This puked him twice, and then purged him very briskly; the next day, although he said he was relieved, yet the malignant symptoms were not at all abated; for when I first saw him on the eleventh day, the pulse was so small that I could hardly feel it, and so quick that I could not count it; the eyes were dead, swelled, watery, and discoloured; and he rambled in his talk: his breath was offensive, and he complained of a bad taste and smell, but his tongue was not foul, nor dry; nor did his skin burn much, although there was a sort of miliary eruption, like freckles, on his breast, arms, and shoulders.

I was of opinion, that a moderate perspiration was the only remaining chance for him, and accordingly directed wine-whey, much acidulated with orange juice, for his common drink, and a draught of *spiritus mindererii* with camphor julep, &c. to bring on a sweat; these had the desired effect, and the next morning I found him

much relieved : the warm, breathing sweat still continued ; the pulse was distinct, and I could count 140 strokes in a minute ; the *miliaria* were all gone off, but the eyes trembled, and the head was still confused, and the dejection of spirits was excessive. The perspiration had now lasted about twelve hours ; I ordered the same *regimen* to be continued, adding a little broth between whiles ; and at the end of twelve hours to give a dose of rhubarb and cream of tartar, sufficient to procure a proper passage.

In the evening, however, a *rigor* came on, and was soon succeeded by a locked jaw : I called the following morning, and found that in the middle of the night a blister had been applied between the shoulders, and he lay senseless and motionless. I ordered his head to be shaved, and frequently bathed with camphorated vinegar ; a clyster also was injected, which procured a plentiful discharge, once and again ; he was laid high up in the bed ; the spasm of the jaw went off after ten hours, and some sippings were poured down,

down, but the pulse quite sunk, and he died ; after having remained without sense, motion, or pulse for twenty-four hours before his death.

On a strict inquiry into this man's natural state of health, and usual manner of living ; I made out an account of the whole progress, from the day of infection to the day I first saw him ; and upon the whole, I am satisfied that it was, originally, a single pestilential fever, in one of an healthy constitution ; which might have been cured radically, by a timely sweat in the beginning, according to Sydenham's method : but his getting up every morning early to business, and going abroad every day, prevented the salutary perspiration ; and thus the poison was so long retained in the blood, that it assimilated so much of the natural humours to its own nature, and destroyed the animal functions to such a degree, as rendered his recovery impossible.

In such cases therefore, I do not approve of postponing the sweat for nine, or eleven days, in hopes of a natural coc-

tion and crisis, as happens in the common fevers of spring and harvest; for this poison being of an unconquerable nature and gathering strength by time, ought to be evacuated by sweat, as soon as the circumstances of the case will admit, this being the only excretion by which it can be dissipated.

When Huxham talks of a critical sweat coming on at the state, he cannot mean this in a putrid, or a single pestilential fever; neither of which (like the common fevers of spring and autumn) hath coction and crisis at stated periods; for both these, whether single or united, go on daily increasing, without evident remission, till reduced by the proper evacuations, and then they subside as gradually till conquered; which, when the proper evacuations have been instituted in due season, is for the most part soon effected: but when these evacuations have been neglected beyond the proper time, it is always very long before this end is obtained, and there is great hazard of its proving fatal, as in the case just recited.

Huxham's

Huxham's meaning therefore must be (when he speaks of the critical sweat on the eleventh day) what happens always in the *synochus non putris*, and sometimes in the bilious fever also, when complicated with pestilential contagion; the progress of which, in all cases, where nature conquers, is nearly as follows: In a person, ill of the *synochus non putris*, who happens to catch the contagion of the pestilential fever, the symptoms may still indicate the necessity of bleeding to some degree, and less or more sweat is usually the consequence in all sanguine habits, with relief of some symptoms; after which the signs of turgid matter in the stomach or bowels will point out the propriety of a vomit, or purge, or both, according to the seat thereof; and these are generally more effectual after bleeding, in sanguine habits, especially in spring fevers, whether single or compound: but where the habit is not sanguine, and the patient is rather weak and exhausted, and without symptoms of inflammation, then there being no other pressing symptoms, but such as arise from

turgid

turgid matter in the first passages, we may, without bleeding, immediately have recourse to the vomiting and purging, regulating them as the circumstances may require.

If after these evacuations, however, symptoms of inflammation should appear, bleeding will then become necessary; and if the symptoms of turgid matter should still remain, or return, the other evacuations must be repeated according to the seat thereof. This method persisted in, as symptoms may indicate, will bring the fever, in the course of a few days, into its natural track of regular remission and exacerbation, every twenty-four hours, (as has been shewn in the chapter on the *synochus non putris*, in the first part of my Observations) notwithstanding the contagion is superadded.

When a common *synochus non putris* once comes to regular remission and exacerbation, the remissions become daily longer and longer, without any other assistance than a proper diet, and keeping the body regularly open, by a clyster every second day.

About

About the eleventh day the remissions are accompanied with a gentle perspiration, which daily increases to the fourteenth day; when a sweat comes on, and gradually carries off the whole fever by the seventeenth, or turns it into an intermittent.

But when the pestilential contagion is superadded to this *synochus*, and with it forms a compound fever, (*i. e.* a malignant *synochus non putris*) the progress is very different from the above: for although the compound fever also remits, in the early part of it, yet the opening medicines given every second day, shorten the remissions, and render them daily less and less distinct; till they are quite lost by the eleventh day, when new bad symptoms appear, the fever becoming anomalous, and exceedingly tedious, if death should not interpose.

Now to prevent this mischief, I have found the following method successful. As soon as the regular remission comes on, I forbear bleeding, vomiting, and purging, even if some symptoms should seem to warrant such evacuations: and I order to
give

give a large quantity of subacid, vinous beverage, on purpose to invite a free perspiration, to accompany the next remission; as soon as the perspiration comes on, I encourage it by the warmth of the bed and drink; and even add a mild sudorific medicine, to bring on a sweat: if this sweat affords relief, as commonly is the case, I keep it up for forty hours; after which, and not sooner, I order a gentle purge, but continue the diaphoretic, nourishing sippings. By these means I generally succeed after the second real remission, and carry off the whole *synochus non putris malignus* on or before the ninth day; that is, many days sooner than the common *synochus non putris* requires, when no contagion is superinduced upon it.

Nay, I am apt to imagine, that the fever which the ancients called *synochus simplex*, (or a *synochus non putris* terminating on or before the seventh day) was of this mixed kind; because the true *synochus non putris*, when single, always lasts eleven, and for the most part, full fourteen days, before the crisis begins; nor is the fever quite

quite judged before the seventeenth day, and sometimes the twenty-first. In some quarters of this city, particularly in and about Duke's-place, Spital-fields, the east side of Moorfields, and all about Long-lane, where the people are much crowded together, and cleanliness neglected, I have frequently met with a fever of this nature: in the beginning there were many untoward symptoms, with great dejection of spirits, and prostration of strength; after one bleeding, a vomit was given, and, very unexpectedly, an early sweat has spontaneously come on, with great relief, and gradually carried off the whole fever.

The method which I have here proposed, for treating the malignant *synochus non putris*, has also succeeded in malignant, bilious, remitting fevers; only the beverage was more acid; and after the critical sweat had had its full effect, purges were more frequently repeated; the bilious matter was also corrected by the fruits of the season, and the habit was strengthened by moderate quantities of good wine, to which bark was added in some cases.

The

The critical sweat I have mentioned, differs very much from the profuse sweats in the very beginning, previous to every other evacuation: these last afford no relief, but are pernicious, even in the spring fevers; and still more so in putrid and bilious fevers, although in them most frequent; particularly in the putrid fever, single as well as complicated with malignity. Nothing checks these pernicious sweats so well as moderate bleeding, when indicated, and clearing the first passages effectually; sipping refreshing acid liquors assiduously, taking the patient out of bed, and allowing a constant succession of fresh air in his apartment.

Sweating does not always relieve common fevers, made malignant by bad treatment; although such as are rendered malignant by pestilential contagion, are always relieved by seasonable sweats; and a dry, harsh skin in these, is a very bad omen: for by the contagion superinduced, a new fever, (or *tertium quid*) is produced, partly of the nature of the original common fever, and also partaking of the peculiar

culiar nature of the absorbed poison; consequently requiring a special method of cure, adapted to the particular nature of the compound fever; and this is the reason that we more frequently meet with contraindications, in the course of compound, than of simple, common fevers; by which they are rendered by far more difficult to treat properly, and therefore so much the more dangerous.

But I shall now go on with Huxham.
 “ As these sweats are always most favour-
 “ able, when they are more the work of
 “ nature than art; they should never be
 “ too soon, or too forcibly driven out by
 “ violent hot medicines, regimen, &c.
 “ it is sufficient to promote and support
 “ them by plentiful, subacid diluents, and
 “ gentle, cordial diaphoretics; such as may
 “ dilute and wash off the salts, contempe-
 “ rate the acrimony, and prevent the fur-
 “ ther increase of the putrescence and dis-
 “ solution of the blood, and preserve and
 “ strengthen the tone of the solids.

“ But as persons of very different con-
 “ stitutions, both as to their solids and
 “ fluids,

“ fluids, may be attacked by contagious
 “ diseases, very different methods of cure
 “ will be necessary in their respective cases ;
 “ those of strong fibres, and a rich dense
 “ blood, do not require such warm medi-
 “ cines as are necessary to support the feeble
 “ and phlegmatic. It should be observed in
 “ general, however, that as the blood and
 “ humours in pestilential and petechial fe-
 “ vers, tend to dissolution, stagnation, and
 “ putrefaction ; such methods as will pre-
 “ serve the contractile force of the vessels,
 “ and prevent the advance of putrefaction,
 “ are necessary. The vegetable, and even
 “ properly diluted mineral acids, are highly
 “ serviceable in the latter intention ; and
 “ the subastringent alexipharmacs are very
 “ useful in the former.

“ But I am very certain, that the use of
 “ volatile, alcalious salts and spirits is very
 “ hurtful ; as they, without all doubt,
 “ augment the putrescent state of the hu-
 “ mours, and act as so many spurrers-on
 “ to swifter destruction : a very large use
 “ of them, without the aid of contagion,
 “ being found to bring on a corruption
 “ and

“ and dissolution of the blood, and such
 “ kind of fevers, even in the most healthy :
 “ perhaps the pestilential *miasmata* them-
 “ selves are only highly volatilised and
 “ subtilised animal salts; the generation of
 “ pestilential fevers, by the putrid exhalations of dead bodies after battles, sieges,
 “ &c. seems to shew this.

“ What I have said of volatile alcalious
 “ salts, leads me to a reflection on the pro-
 “ miscuous use of blisters in these fe-
 “ vers; which by some are deemed the
 “ only *anchor of hope* in such dangerous
 “ cases; but I think they are many times
 “ too hastily and improperly applied, espe-
 “ cially in the beginning, when the fever
 “ runs high, and doth not demand a fur-
 “ ther stimulant: for the action of the
 “ cantharides is not merely on the skin,
 “ but affects the whole nervous and vas-
 “ cular system: now when the irritations
 “ and vibrations are already too great, as
 “ frequently happens in the beginning of
 “ such fevers, they are very injudiciously
 “ applied. Besides, the salts of these fluids
 “ operate much in the same manner as the

“ volatile alcali falts, and certainly tend to
 “ promote the diffolution, and consequently
 “ putrefaction, of the blood.

“ It is true, indeed, nature may some-
 “ times want a spur, nay, often does so,
 “ particularly towards the decline of these
 “ fevers; when the folids grow torpid, the
 “ circulation languid, the fpirits effœte,
 “ and the fick comatose: here blifters must
 “ be applied, and are of exceeding great
 “ ufe, at whatever time of the fever fuch
 “ a train of fymptoms comes on; but in
 “ the above circumftances, I have very
 “ many times feen very pernicious effects
 “ attend their too early application; as ob-
 “ ftinate pervigilium, delirium, fuppreffion
 “ of urine, tremors, fubfultus, &c. Let
 “ me further add, that where feveral blif-
 “ ters are laid on in any acute difeafe, the
 “ patient fhould drink freely of whey,
 “ emulfion, or fome other fubacid and de-
 “ mulcent liquor, otherwife he may fuffer
 “ almoft as much from the remedy as the
 “ difeafe.”

The caufe of fuch various opinions con-
 cerning the operation of alcali falts and
 blifters,

blisters, is owing to the inaccuracy with which they are often administered, and want of a proper knowledge of the constitution of the patient, of the disease, and the period of it, of the nature of the symptoms at and after the time of administering them; of the other remedies given before and at the same time with them, and also of the regimen throughout the distemper: indeed the knowledge of all these particulars is necessary to ascertain the real effect of any prescription whatever.

Of all this Huxham was well apprised, and therefore his observations deserve due attention; what he has said of alcalies and blisters, agrees nearly with what I have often observed: I have certainly seen them of very considerable service in the *peripneumonia notha*, before the expectoration was established: in genuine inflammations, after the pulse had been reduced by copious bleeding, cooling purges, and plentiful dilution; in obstinate rheumatisms, after frequent bleeding, and purging had preceded: after one vomit and purge, I

have seen them agree with hysteric women and children, who abounded with glairy pituite; and in one sort of obstruction, arising from viscid phlegm in the liver and kidneys. But I never saw them of real service in bilious, and still less in putrid cases; nor can I easily comprehend their utility in malignant cases; unless when a brisk stimulus is necessary. Huxham next proceeds to consider camphor in this fever, as follows:

“ It may be expected I should mention
 “ camphor, as the greatest corrector of
 “ the acrimony of cantharides; and in this
 “ view I frequently use it, well knowing
 “ that nothing more effectually blunts the
 “ *spiculæ* of salts than this exceeding fine,
 “ volatile, vegetable sulphur, even those
 “ of mercurial preparations are greatly
 “ softened by it. But I think, in these pu-
 “ trid pestilential fevers, it answers a much
 “ more important end, by promoting a
 “ *diaphoresis*, or easy sweat, which is uni-
 “ versally allowed in such cases of the
 “ highest service: but nothing more cer-
 “ tainly doth this than camphor, with
 “ this

“ this further advantage, that it by no
 “ means heats so much as volatile alca-
 “ lious salts, and ardent spirits. Besides,
 “ its anodyne demulcent quality makes it
 “ vastly serviceable in quieting the *ere-*
 “ *thism*, and bringing on composure of
 “ spirits and easy sleep, when opiates fail,
 “ nay, augment the tumult and hurry.
 “ Indeed, when joined with an opiate, it is
 “ the most certain sudorific in nature; and
 “ the *elixir paregoricum* is not only in
 “ this respect, but in many others, a most
 “ noble medicine. But whenever opiates are
 “ given in these fevers, it should be only in
 “ small quantities at a dose, which may be
 “ repeated, as indicated; *theriaca andro-*
 “ *machi*, mithridate, diascordium, and elixir
 “ paregoricum are without doubt much the
 “ best.—*I have reason to believe that*
 “ *camphor reduces the quickness of the pulse*
 “ *in some cases.*

“ Camphor, however, hath this fault,
 “ that it is very disagreeable to the sto-
 “ mach, but when dissolved in, or rather
 “ intimately mixed with, hot vinegar, af-
 “ ter the manner of the *julep. e camphora*

“ *cum aceto*, it fits much easier, and is a
 “ medicine excellently well adapted to pu-
 “ trid malignant fevers, and even the
 “ plague itself; for both camphor and vi-
 “ negar are highly recommended by all
 “ physicians, in pestilential diseases. The
 “ French physicians made great use of
 “ both, with success, in the late plague of
 “ Marseilles, &c. and Heinisius had a sta-
 “ tue erected to his memory, for the ser-
 “ vice he did in the plague at Verona, by
 “ a medicine, the basis of which was cam-
 “ phor.

“ Now as we are obliged to give acids
 “ and subastringents in putrid, malignant,
 “ and petechial fevers, to preserve the
 “ *crasis* of the blood, and the tone of the
 “ vessels, and prevent the further putref-
 “ cence of the humours; diaphoretics (the
 “ chief of which is camphor) should be
 “ joined with them, to keep up a free per-
 “ spiration, or gentle sweat, which the
 “ former are apt to retard: this is quite
 “ conformable to the practice of the an-
 “ cients, who mixed astringents with alexi-
 “ pharmacs, in the composition of their
 “ *antidota*,

“ *andidota*, as may be seen in *theriaca*, &c.
 “ I am persuaded they are the better for
 “ it. These have stood the test of ages,
 “ and are unquestionably excellent medi-
 “ cines (*when well used*) though there
 “ may be several things in them trifling
 “ both as to quantity and quality. I very
 “ well know allum and nutmeg may be
 “ given with advantage in other fevers
 “ besides intermittents, especially when a
 “ little camphor and saffron are joined with
 “ them.”

By some strictures which I have seen
 and heard upon the preceding paragraph,
 I am convinced that Huxham's meaning
 has been misunderstood: he never intended
 that diaphoretics, and warm opiates, should
 be given in compound malignant fevers,
 until the common fever had first been, in
 a great measure, conquered. If there is
 inflammation, let it be subdued by proper
 bleeding, and an antiphlogistic regimen;
 if there are symptoms of putridity, let
 them be removed by proper vomiting,
 purging, and antiseptic regimen; these
 operations being persisted in, as long as
 N 4 indicated,

indicated, then, and not till then, let the salutary *diaphoresis* be gradually brought on; for which purpose camphor may be used preferable to alkaline salts, blisters, and ardent spirits; not in a solid bolus of a scruple, (the bad effect of which practice Alexander of Edinburgh experienced upon his own person) but dissolved with sugar (gum arabic, or blanchéd almonds) then loaded with vinegar, or common oxymel, and well diluted with some of the simple waters. This is an excellent, mild, anodyne diaphoretic, to which small doses of a warm opiate may be added occasionally, or some drops of a cordial tincture of bark, when indicated; such as Huxham prescribes in the following paragraph, and introduces thus:

“ Here I beg leave to insert the following preparation of the bark, which I have used for many years with success, not only in intermittent and slow nervous fevers, but also in the putrid pestilential, and petechial, especially in the decline; and that too many times, though the remissions have been very obscure,

“ and yet with a very good effect : but if
 “ the patient is costive, or hath a tense
 “ and tumid abdomen, I always premise a
 “ a dose of rhubarb, manna, or the like.”

R Cort. Peruv. optim. pulver. ℥ij.

Flav. Aurant. Hispan. ℥iss

Rad. Serpent. Virgin. ℥iij.

Croc. Anglican. ℥ iv.

Coccinel. ℥ij.

Spir. Vin. gallic. ℥xx.

f. Infusio clausa per dies quatuor, dein coletur.

“ Of this I give from a drachm to half an
 “ ounce every four, six or eight hours,
 “ with ten, fifteen or twenty drops of
 “ *elix. vitr. acid.* out of any appropri-
 “ ated draught, or diluted wine. The
 “ above composition tends to strengthen
 “ the solids, to prevent the further disso-
 “ lution and corruption of the blood, and
 “ in the event to restore its *crasis*. And
 “ this it doth without shutting up the
 “ pores of the skin too much, which the
 “ bark in substance too frequently does: for
 “ it should be noted, that though very
 “ profuse sweats, in these, (*and most other*)
 “ fevers,

“ fevers, I think, prejudicial ; yet gentle,
 “ eafy, moderate fweats are always to be
 “ encouraged, particularly about the ftate,
 “ and decline, by proper, plentiful dilu-
 “ ents, liquid aliment, &c. Indeed, as
 “ thefe fevers often run out to a great
 “ length of time, fupporting drinks and
 “ diet are neceffary, without which the pa-
 “ tients certainly fink under them.”

I believe there is no man of experience
 will deny the wonderful power of good
 bark, in reftoring the tone of the folids,
 and preventing the diffolution of the blood ;
 hence it may be called an excellent anti-
 feptic. But bark will not correct the mor-
 bid *colluvies* in the firft paffages, during
 a putrid fever ; nor cure an hectic fever
 from abforbed *pus* ; nor deftroy, by any
 fpecific quality, the *virus* of a contagious
 difeafe.

The proper treatment of a peftilential
 fever as hath been faid, is firft to remove
plethora and inflammation, if any ; second-
 ly, to clear the firft paffages, if neceffary ;
 thirdly, to bring on a fweat ; and laftly,
 to keep up that fweat moderately for forty-
 eight

eight hours, or so long as may be found necessary to dissipate the whole, or the greatest part of the contagion. But in some constitutions this sweat continues for a great length of time, and even in a great degree, without procuring that relief of the symptoms which might have been expected : in such cases we shall find, that the colliquative and ineffectual sweat proceeds from one or more of the four following causes ; foul bowels ; formation of pus ; a common fever with which the contagion is complicated ; or a decay of the natural strength of the solids, and *crasis* of the blood. Each of these requires a peculiar treatment, as pointed out by the cause ; which may be investigated by its own specific symptoms ; and the cure prosecuted according to the indications. In any of the first three, the bark is seldom serviceable ; but in the last, which is my present object, nothing can be more proper than the method proposed by Huxham ; that is, after a gentle dose of rhubarb, to begin a slight preparation of bark, with restorative diet, and mineral acids properly

properly diluted, increasng or diminishing the quantity, according to the circumstances and effect; to which wine, cyder, or good beer, may be added with great advantage: Sydenham used beer on such occasions, and even strong beer for people accustomed to it: Huxham preferred wine and cyder, as appears in the following paragraph:

“ In this view and those abovemention-
 “ ed, I cannot but recommend a generous
 “ red wine, as a most noble, natural sub-
 “ astringent cordial, and perhaps art can
 “ scarce supply a better. Of this I am
 “ confident, that sometimes at the state,
 “ and more frequently in the decline, of
 “ putrid malignant fevers, it is of the
 “ highest service; especially when acidu-
 “ lated with juice of Seville orange, or
 “ lemon. It may be also impregnated
 “ with some aromatics, as cinnamon, Se-
 “ ville-orange rind, red roses, or the like,
 “ as may be indicated; and a few drops of
 “ *elixir vitrioli* may be added. I will not
 “ say in the rant of Asclepiades, *utilitatem*
 “ *vini equari vix decorum potentia*; but it
 “ is

“ is undoubtedly of admirable use, not
 “ only in common life, but as a medicine :
 “ rhenish and French white wines diluted
 “ make a most salutary drink in several
 “ kinds of fevers, and generous cyder is
 “ little inferior to either. And as I said
 “ before, sound, old, red wine is a fine
 “ subastringent cordial julep.

“ The Asiatics, and other nations, where
 “ *putrid* and pestilential disorders are much
 “ more rife than with us, lay more stress
 “ on the juice of lemons in these fevers
 “ than on the most celebrated alexiphar-
 “ macs. It is not as to these only, but in
 “ many other things, that we seek from
 “ Art, what all bountiful Nature most rea-
 “ dily, and as effectually, offers us, had
 “ we diligence and sagacity enough to ob-
 “ serve, and make use of them. And I
 “ cannot but here take notice, that I think
 “ that the dietetic part of medicine is
 “ not so much studied as it deserves ; I
 “ am sure it is the more natural way of
 “ cure, though less pompous indeed than
 “ alexipharmac bolus, febrifuge draught,
 “ and cordial julep.”

Having

Having thus given my thoughts of the origin and nature of the pestilential poison, and the best manner of expelling it, when it produces a fever in a person otherwise in good health; or when it is added to a *plethora*, or inflammation, or the putrid, or the bilious fever. What I proposed to add on this contagion superinduced on a catarrh, and *synochus non putris*, must be deferred for the present, and may be the subject for some future, leisure hours: Hasenorle has given the best account of a catarrh single, and then complicated with an hospital malignity: and Roupe has, with great judgment and accuracy, treated the *synochus non putris* first single, and then complicated with a ship malignity; I recommend the study of these authors to every one, who means to make himself well acquainted with this subject.

RECAPITULATION.

THE only symptoms in fevers of every kind that can truly and properly be called malignant, arise from poison, and are not the symptoms usual in common fevers increased to an extraordinary height: but as these malignant symptoms do not always issue from the same cause, the cure depends upon a knowledge of that cause, from which the untoward appearance springs, as far as the subtle nature of it will admit.

Common fevers neglected; and, above all, when ill treated, will soon assume the appearance of malignity, and will be attended with many of the symptoms of real poison: in all such cases no method will be found successful but that which is adapted to the original fever; the cause of which being removed, the fever itself, with all its common and uncommon symptoms, will of course subside, unless some

real contagion, or poison, should be complicated with the common fever; in which case the malignity will then, and not till then, shew evidently itself, so as not to be mistaken by those who are well acquainted with the real symptoms of that poison. *Vid.* Observ. on Fevers, vol. ii. p. 89, &c.

Animal substances, in a state verging towards putrefaction, exhale a vapour truly poisonous, and capable of producing a pestilential fever, *sui generis*, malignant and contagious. If a person in good health is suddenly smitten with the contagion of this pestilential fever, it then becomes necessary to bring on an early sweat, by all proper means, and to keep up that sweat till the whole pestilential *miasmata* are dissipated. This method will succeed better than waiting (as Sydenham calls it) for a tedious and uncertain coction in so dangerous a fever; and although this may not agree with the ideas of some able practitioners, yet the fact is established by repeated experience.

Perfect health, however is not common; many people, seemingly well, are plethoric; others have foul bowels; neither of which will agree with sweating nor with the medicines usually employed to raise a sweat; indeed, in such people a sweat is not easily raised, and with still greater difficulty kept up for the necessary time. Here then, in order to get rid of these impediments in the first place, let the *plethora* be removed by bleeding, the stomach cleansed by a vomit, or the bowels by a purge, as found necessary; and then the sweat will come on, or may be easily brought on, and kept up, with propriety and advantage, till the desired end is obtained.

The salutary sweat is easily known, it soon procures relief from some of the malignant symptoms, and the patient bears it, for the most part, with some degree of pleasure; the pulse becomes more soft, more large, and even more slow, notwithstanding the heat of the bed and medicines: the strength also becomes more steady, the mouth more moist, and the skin,

though hot, does not burn the hand, or feel so much like heated metal, as it did before the breaking out of the sweat.

On the contrary, the pernicious sweat increases the malignant symptoms every hour ; the patient, if sensible, soon perceives it : but if he should be prejudiced in favour of sweating, as is frequently the case, still you may discover it by the pulse and other symptoms ; and will therefore not encourage it, nor depend upon it, for the present at least, as a salutary crisis ; but endeavour to remove the obstacles ; and wait with patience for the proper season, which nature generally indicates, by a propensity to sweat during the usual hours of sleep : when the sweat is truly indicated, all other evacuations sink the pulse, and increase the symptoms of malignity.

The most difficult species of malignant fever is that which arises from a pestilential contagion superadded to any of the common fevers ; but to treat this difficult subject with precision, each common fever, so circumstanced, must be considered separately.

1. When

1. When contagion is added to an inflammatory fever, sweat must not be forced before the inflammation is conquered; indeed it can hardly be accomplished; for the more you increase the heat, the more you increase the dryness of the skin, and all the other symptoms rise higher: or if you should bring on a fume of sweat, it soon vanishes, and leaves the patient worse than he was before. But if you proceed properly, in the antiphlogistic treatment, till the symptoms of inflammation are subdued, the salutary sweat breaks out spontaneously, and is easily kept up, by simply supporting the *vis vitæ* with warm, cordial, diluent sippings.

I have seen this often, and have sometimes imagined that the whole fever was rather shortened by the addition of the contagion: and indeed if it is considered, that this species of contagion has a powerful effect in dissolving fizy blood, such a consequence may be, in some degree, expected from it. Be that as it may, the fact is, that after a large bleeding, the patient at first seemed pale and feeble; but on

being laid in bed, well covered with clothes, and filled with warm liquors, a kindly, universal sweat has come on, which gave immediate relief; and the whole fever has in a short time gradually subsided. This is exactly agreeable to Sydenham's original idea; and is confirmed by Dr. Dan. Wilh. Trillerus, who has written expressly on the subject of genuine inflammatory fevers; he always observed, that the bleeding, which was effectual, was invariably followed by an universal warm sweat of long duration; and the same is true of all critical hæmorrhages,

2. When a catarrhus fever is complicated with a pestilential contagion, the sweat will not procure the desired relief, before the inflammatory part of the disease is, in a great measure, conquered: I cannot say much on this head from my own experience; in this city I have never met with the pestilential fever complicated with the catarrh; and I am of opinion, that the severe frost, which commonly sets in here during the beginning of the catarrhus constitution, checks the
pestilential

pestilential contagion for some months; that is, to the end of the catarrhus constitution. But as far as I can judge, from what Hasenorle has expressly said on this subject; he always found it necessary to attend chiefly to the catarrhus part of the compound fever.

3. During the winter season, and indeed from November to March, the hospital fever gave us little trouble at Rouen; in March, however, it revived, and was mixed with single inflammations, and the *synochus non putris* of that season. In the genuine inflammatory cases, after large bleedings salutary sweats frequently followed, and soon put all right again, without any other assistance than plentiful dilution: But the *synochus non putris*, being of the intermittent kind, did not agree with such very large and frequent bleeding, as was the most common practice there at that time. The vomit also, so indispensably necessary in the *synochus non putris*, was often neglected, or too long deferred, and the consequence was a malignant dysentery, which proved generally fatal:

indeed few recovered who were thus affected. But I have reason to believe that seasonable vomits, and proper purges, might have prevented this dangerous symptom.

When this compound fever, however, was properly treated from the beginning, *i. e.* when the *synochus non putris* was treated according to the rules laid down in the chapter on that subject, and no regard was paid to the contagion in the beginning, then the salutary sweats often came on spontaneously, attended with great and immediate relief, directly after the operation of the first, or second purge was quite over; that is, as soon as the *synochus non putris* had got into its natural track of regular remission and exacerbation: when these salutary sweats were properly supported for a due length of time, they frequently were critical, so that the whole fever was rather shortened than lengthened by the addition of the contagion.

And this is the only reason I can assign for a fact, which may be sometimes observed here, as well as it was there, *viz.*
at

at the same time that the *synochus non putris* was epidemic, and consequently very frequent all over the town and country ; in private families it was commonly a fever of, at least, fourteen days, as usual ; but in the hospital it was often terminated in five, seven or nine days, when attended with symptoms of true malignity throughout. Spring intermittents, well formed and regular, were also more frequent out of the hospital ; perhaps for the same reason : but this is only conjecture.

4. After the true putrid constitution sets in, and a malignant contagion is super-added to it ; these two morbid matters being partly of the same nature, both tending to dissolve the blood and destroy the nervous system, a compound fever is brought on of the very worst sort. Here bleeding is seldom necessary ; large, and above all frequent bleeding is hurtful : the true method of cure is to clear the stomach and bowels with all speed ; to load the diet with acid, so as to preserve the texture of the blood, and partly to correct the double acrimony. Considering the
nature

nature of the *feminium* of the pestilential fever, and how much it may be said to resemble the matter occasioning the common putrid fever, one should be apt to conclude, that it might be completely evacuated by vomiting and purging, as the common putrid fever most certainly is; but experience has taught me the contrary; for as soon as the putrid *colluvies* is evacuated, vomiting, or purging, agrees no longer with the compound fever; then, and not till then, a sweat becomes necessary; and no other evacuation can be substituted instead thereof, to dissipate the pestilential *miasmata* according to its own particular nature.

If this sweating method is attempted in the beginning of this putrid and malignant fever, it will not succeed; the putrid *colluvies* must first be discharged, and then the salutary sweat may easily be brought on directly afterwards: but if the physician is called in too late in the distemper, the symptoms will be so many, so various, and so dangerous that no general rule can be pointed out. The best
method

method is to investigate, by the history of the disease, and symptoms, which of the two fevers, the pestilential or putrid, predominates, and direct the method of cure accordingly.

5. The bilious fever, simple or compound, is easily distinguished from the putrid fever; by the evident remissions and exacerbations that succeeded the first evacuations, in the early part of the fever: the bilious malignant fever must be treated, in the beginning, exactly like the common bilious fever; and the salutary sweats will insensibly follow the periodical exacerbations, perhaps every morning, or every second morning, according to the nature of the latent intermittent with which it is, for the most part, complicated, although not always discoverable by common observers: so that this fever often subsides gradually, and terminates kindly, without shewing palpably the contagion with which it is sometimes complicated. But if it is ill treated, or driven out of its natural track, it soon becomes as deleterious as
the

the putrid malignant fever, and as difficult to cure; nay, it resembles the putrid and malignant fever in all respects, and requires nearly the same treatment: for in such case the remission is lost, and it becomes a true malignant, putrid, non-remitting fever.

To conclude; I am still of the opinion I have often mentioned on former occasions, that in all cases, where infection is added to a common fever, we must always attend to the common fever in the first place, and treat the patient according to the special method proper in that common fever: by which means either the malignity is at once carried off with the common fever; or at least the body is brought into a state that prepares, and makes way for the expulsion of the poison by the means proper for that purpose: nor is any alexipharmac, hitherto discovered, proper or effectual, in compound fevers, till the common fever is first nearly subdued; after which the poison is easily expelled by those who are well acquainted with the
nature

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nature of it, and who know the peculiar excretion, by which each particular poison most easily passes out of the human body.

Lime-street,
Jan. 1775.

F I N I S.

Page 59. l. 8. for *Ergasm* read *Orgasm*.
Page 167. l. 2. from the bottom, for *fluids* read *flies*.

(103)

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