

A treatise on the disease commonly called angina pectoris.

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T R E A T I S E

ON THE

D I S E A S E

COMMONLY CALLED

A N G I N A P E C T O R I S.

BY WILLIAM BUTTER, M.D.

Fellow of the Royal College of Physicians and Member
of the Medical Society, both of *Edinburgh*.

Quod si jam incidat mali genus aliquod ignotum, non ideo tamen fore medico de rebus cogitandum obscuris: sed eum protinus visurum cui morbo id proximum sit, tentaturumque remedia similia illis quæ vicino malo sæpe succurrerint, et per ejus similitudinem opem reperturum. CELSUS.

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T H E
P R E F A C E.

TH E Author had seen more than one case, and had even determined the nature of the disorder which is the subject of the following discourse, before he knew that any other contemporary physician had met with it. His opportunities for observing it, which have not been few, he has employed with that unremitting earnestness which becomes a man who has the honour of his profession, and the good of mankind
at

at heart. He is happy that his labour hath not been in vain. The Diaphragmatick Gout, as to its scientifick history, is now complete, or nearly so: and it is fairly rescued, with the patient's leave, from the list of incurable diseases.

It is but just, at this distance of time, once for all to remark, that *Hemlock* continues to be used for the *Kinkcough*; and with so much success, that, when all its qualities as a most desirable and complete cure are considered*, it must be allowed to be the first in Physick.

LOWER GROSVENOR-STREET,

March 25th, 1791.

* See a Treatise on the Kinkcough, p. 182.

T H E
C O N T E N T S.

C H A P. I.

Of the definition; the description; and the prognostick of the Angina Pectoris.

C H A P. II.

Of the nature of the Disease.

C H A P. III.

Of the causes and seat of the Disease,

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*Of the cure of the Diaphragmatick Gout,
commonly called Angina Pectoris.*

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A
T R E A T I S E
ON THE
D I S E A S E
COMMONLY CALLED
A N G I N A P E C T O R I S.

C H A P. I.

*Of the definition; the description; and the
prognostick of the Angina Pectoris*.*

§ 1. *The Definition.*

THE Angina Pectoris may be defined
an internal sensation threatening im-
mediate death, most commonly induced by
walking, and removed by standing still.

* Medical Transactions, Vol. II. Art. vi.

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§ 2. *The*

§ 2. *The Description.*

The first attack of this disorder generally happens when the patient is walking. He is surpris'd with a fixed pain at the breast, which gradually, as he proceeds, increases, till at last he is obliged to stop lest he should die. On standing still this symptom abates, and is entirely gone in a few minutes, especially if he belch wind. This solitary pain is compared to a cramp. Most frequently, however, the fixed pain at the breast not only extends to other parts, but is also preceded and accompanied by other symptoms. It is sometimes called an aching, sometimes a smarting, and sometimes a sharp pungent pain. Some call it a violent pain that cannot be described; others call it a numb pain; and others, a numb pain accompanied with a sense either of heat or cold indiscriminately. It is generally pointed to as being in the Sternum,

num; or Breast-bone; and either in the hollow lower part, or in the most prominent middle part of it. In this last situation, it is exactly in the middle, or inclined to either side of that bone. The pain, at its commencement, commonly occupies a space as broad as the hand: but, as the pain increases, that space diminishes till at last it can be covered by the point of a finger. It must, however, be remarked, that the fit sometimes begins, and even completes its progress, without any pain.

The fixed pain, when in its lowest position, extends sometimes to the lower hollow part of the neck, producing there the stoppage; and sometimes to the most prominent part of the windpipe, with the like effect. It hath proceeded further in the throat, giving only a sensation as though a vapour were issuing out of the mouth; and to the ear, with the same sensation of an

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issuing

issuing vapour, accompanied with a humming noise. Oftener it extends to the head, inducing giddiness, and a suspense of thought. Sometimes it extends backward and upward as far as the head: and then none of the effects mentioned take place. It sometimes strikes round the ribs on each side, in a horizontal direction, and with a cutting sensation. It has likewise happened that this pain, instead of ascending, has descended to some part of the thigh; and then has gradually gone off, without producing any other effect.

The most common course of the pain, when seated in the prominent part of the sternum, is along the side of the neck between the windpipe and the sterno-mastoid muscle, all over the shoulder-blade, over the top of the shoulder, and down the arm to the wrist, but oftener to the finger-ends. Sometimes, however, this pain does not extend

tend beyond the sternum: and then none of the parts mentioned are affected in the fit.

The pain of the breast, as hath been said, is often preceded by other symptoms. The common ones are, a heat in the part where the pain is to take place, and which gradually increases till the pain begins; also wind ascending from the intestines into the stomach, either in consequence of a general inflation of the bowels, or by a succession of balls formed in the guts, the lower one always dispersing as another above succeeds, until at last there is one high enough to empty itself into the stomach. All this is done without any noise. If at any time the ball or knot disperse with a noise, no succeeding one follows, nor any fit for that time. It is proper to remark here, that if an impending fit is by any means put off, the next that happens is the more severe.

This pain of the breast is also accompanied by particular symptoms. Those vary according to the situation of the pain. When the pain is in the hollow part of the sternum, the concomitant symptoms are, uncommon inflation of the breast, faintness, violent palpitations, great fulness and other uneasy sensations of the bowels, intolerable heat of the palms and soles, and often heat, weakness, and pain from the elbows, very rarely from the shoulders down, with sometimes a sense of discharging vapour at the finger-ends. When this pain extends round the ribs, it is usually accompanied with insensibility, which terminates in sickness and retching, and in the vomiting of phlegm, and indigested offensive stuff,

When the pain is at the prominent part of the sternum, it is accompanied with the same dreadful sense of fulness within the breast. When there is an affection of the arms,

arms, it generally varies according to the situation of the pain. If the pain be central, both arms are equally affected: but if it be inclined to one side, the arm of that side is affected; and the other, not at all or slightly so.

Sometimes the patient calls the sense of fulness within the breast a difficulty of breathing; but much oftener, a sensation totally different. It is oftener allowed to be a difficulty of breathing, when the stoppage takes place in the hollow part of the neck, or at the top of the windpipe. Sometimes both inflation and dyspnœa take place together, but much oftener in succession; the former, to wit, during the stoppage; and the latter, when that stoppage is going off. Sometimes a cough accompanies the fit, without troubling the patient at any other time. It even happens, though rarely, that neither inflation nor dyspnœa attend the

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fit;

fit; but then the latter takes place on the stoppage giving way. Sometimes a difficulty of breathing comes in the intervals of the fits, without any warning or known cause, continues a very few minutes, and strikes the patient with the same apprehension of danger as the stoppage.

As soon as the patient stands still, the fit begins to decline; especially if he can belch wind, which is generally, though not always, the case. All the symptoms gradually abate with the same kind of sensation as that with which they came on; and the more speedily, the more wind is discharged. Sometimes the pain goes off gradually with a creeping sensation, and leaving the patient disposed to sleep. Sometimes the parts affected remain afterward sore to the touch. This disorder generally terminates in ten or fifteen minutes after the patient has ceased from walking. Fits from walking come
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at shorter intervals, and last longer, provided that the stomach is full. It has however happened, that an empty, and not a full stomach, has proved the aggravating cause.

If the patient proceed in his walk before every symptom of the fit is gone, another will succeed the sooner. But if he keep quiet till it is entirely gone, he will be able to walk longer before another return. And, if he persevere in walking long enough, the fits will become gradually weaker, and will at last leave him, provided that he hath discharged wind copiously in each. In that case, he can walk as though nothing ailed him for the rest of the day, provided that he neither eats nor drinks. One man afflicted with this disorder felt himself in that happy situation, every day from eleven to one, even without the aid of walking. Those were the two hours immediately preceding his dinner.

At

At first, the fit is chiefly apt to come on when the patient walks fast, and up an ascent. He can still walk on level ground, and ride, and even gallop on horseback, without a fit succeeding. In time, his exercise becomes more and more limited, till at length he can only ride in a carriage, or on horseback, at a slow walking pace, without bringing on a fit. The very attempt to mount a horse, or even to get into a carriage, will then occasion a severe fit.

Not only walking, but passions of the mind, such as anger, will bring on a fit. It hath however happened, that neither mental emotion, nor walking, have had any such effect; and that nothing less than actual running, or hard labour, could bring on the fit.

This disorder very often attacks the patient when quiet, and at rest, especially on a full

a full stomach; and sometimes in his sleep, particularly in the early hours of the morning. Those attacks last longer than such as come from exercise. It has often happened that the fit has returned several times in the same night, and whether the patient was asleep or awake. In those cases, where attention has been given, the fit has been perceived to return at equal distances. Even where it has happened but once in a night, it has always been at the same hour, or nearly so.

Sometimes the fit has returned as often as the patient has attempted to move himself in bed; and then the pain began at the part most exerted in those movements, as the elbow; thence diffusing itself so as to occasion the usual stoppage. Sometimes the pain has begun at the top of the head, descending commonly no farther than the region of the stomach, and with the usual effect;

effect; though sometimes it has struck down over the whole body to the toes, accompanied with a general sense of coldness and other miserable feelings that could not be described, and always with the stoppage, and the greatest pain at the usual place. On this last symptom declining, the cold has been succeeded by a general glow of heat, and by copious eructations of wind, when every symptom has gradually vanished.

The patient, upon the coming on of a fit, makes various instinctive exertions for relief. The loosening of the cloaths about the trunk of the body gives ease, particularly to women. Some are relieved by simply bending the body forward. More find relief by pressing the pained part strongly against some hard substance, such as the top of a chair-back, while at the same time the affected arm or arms are extended down towards the ground. Almost all feel as

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though

though the belching of wind would relieve them. Some effect this with little difficulty. Others are obliged to make various exertions to bring it about ; such as, stretching the head upward and backward, and advancing the shoulders alternately upward and forward, while, at the same time, they make the common effort to break wind.

Patients labouring under this disorder generally complain of loss of flesh and strength. They call the loss of strength, sometimes a general weakness, sometimes an internal weakness, and sometimes only a weakness of the parts affected by the fits, as of the breast, arms &c. The Larynx, or top of the windpipe, hath been weakened by those paroxysms so as very much to alter the voice. In other respects, they generally feel between the fits as though nothing ailed them ; except that they may be affected with a few symptoms of a weak digestion, such as flatulency,

tulency, drowfiness after meals, and the like. Sometimes, however, the patient is afflicted with colicks, which are removed by breaking wind, but oftener by the vomiting and purging of unnatural offensive stuff. Such an attack always renders the main disease both milder and less frequent for some time after.

The pulse, in the intervals of this disorder, is generally calm and regular, but of different degrees of strength. In some cases, it is quicker than natural, but regular. In others, it is irregular, being firm and slower than natural, and then quicker than natural and very low; and so on alternately. The appetite is generally keen. A loss of appetite is chiefly owing to indulgence. The digestion is always weak. Sometimes the urine is natural; oftener it is of a deep colour, which it in great measure loses on depositing a copious gross sediment.

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The belly is commonly costive : sometimes it is regular. The stools are always unnatural.

This disease terminates either favourably, ambiguously, or fatally.

When it terminates favourably, it is succeeded by a complete recovery, or, *probably*, by a regular fit of the gout. The complete recovery is either sudden and unexpected, or it is gradual, through a daily diminution of the fits both in force and frequency, till at last they cease entirely.

The ambiguous terminations cannot perhaps yet be limited. Such as I have seen were succeeded by mental derangement, or by a disorder of the throat resembling the common quinsy, or by a catarrh, or by external pains resembling the rheumatism.

It terminates fatally, either by sudden death, or by a consumption of the lungs, or by a suspension of the digestive power of the stomach, or by a dropfy.

§ 3. *The Prognostick.*

DOCTOR HARRIS imputes the chief difficulty in the cure of children's diseases to the conceit of nurses*. I can, with great truth, impute the chief, if not the sole difficulty of curing the disease under consideration, to the want of conformity in the patient himself, particularly with regard to diet. His habits, in that respect, are so strong that he can hardly ever restrain them, at least for any considerable time together. Even the fear of death is not able to prevail over those his unfortunate attachments. What this sensation on the palate is, no

* De morbis acutis infantum, p. 38.

man can ever say but for himself. It is certainly the most varied of all the sensations with which the human race is endowed; and produces, I believe, in many individuals, a propensity as keen as any other animal propensity whatever. Let no man, therefore, boast of his being able to resist the unreasonable gratification of this appetite on every occasion; for, most probably, he hath never felt, what some, even of the strongest minds, must have felt when they could not resist it.

C H A P. II.

Of the nature of the Disease.

THE most important part of the scientific history of this disease is now finished. It is defined, and described with as much accuracy as I am capable of. A prognostick is likewise delivered, which the future experience of physicians will vindicate. I am next to inquire into its nature. This I shall demonstrate by incontrovertible evidence drawn from the preceding description, as well as from other resources equally the result of my observation on the same disease.

First, then, it is observable that both men and women are liable to this disorder ; though it occur much oftener in men.

Secondly,

Secondly, as far as I have observed, it is not connected with any particular shape or size of body; for the tall, the short, and the middle-sized, the fat and the lean, the strongly made and the slender, are all equally subject to it.

Thirdly, though it chiefly prevail on the decline of life; yet it is sometimes observed both in the young and the middle-aged.

Fourthly, between the paroxysms the patient generally says that he is in good health; except that he is affected with a few symptoms of a bad digestion, and with a degree of weakness general or partial.

Fifthly, laxative, and cordial aromatick medicines, Buxton and Kedleston waters, the cold bath, change of air and moderate exercise are of service in this disease.

Sixthly, four vegetables, green tea, blood-letting, and purges, particularly the draftick, as well as fuch as are of the cooling kind, do harm.

Seventhly, during the paroxysm the patient is relieved by pressing the pained part against some hard substance; by loosening the cloaths about the trunk of the body; by standing still if walking; by standing up if sitting; by sitting up and bending forward if lying; by the belching of wind; by the vomiting of phlegm; by a draught of cold water; by spirit of lavender; and by opium: all which, together with many other facts already mentioned, evidently point out that this is a nervous spasmodick disease.

Eighthly, it is a periodical disease when not disturbed by adventitious causes, such as motion or emotion.

Ninthly,

Ninthly, patients afflicted with this disease, as far as I have seen, have almost ever been unconquerably luxurious or capricious in their diet; and have been particularly fond of the stronger malt liquors. I cannot say that I have once met with such a case, where the patient was strictly temperate. It is, therefore, connected with the way of life.

Tenthly, such patients, in general, have, a great part of their time, been valetudinary, having been troubled with symptoms of a weak digestion, and with gouty affections either in a perfect or imperfect form: and it hath uniformly happened that those gouty affections have terminated on the commencement of our disease; and they have often been observed to alternate. This disease is therefore connected with constitution,

Eleventhly, the fatal terminations of our disease are exactly the same with those of the gout.

Finally, from the whole of the preceding observations I am warranted to assert, that the disease under consideration is an irregular gout; and therefore that it is, like other affections of the same kind, either imperfect or retrocedent according to circumstances.

In the next chapter we shall treat of the causes and seat of this irregular gout.

C H A P. III.

Of the causes and seat of the Disease.

THE causes of a disease are reducible to two kinds; namely, to the remote or predisponent, and to the occasional or exciting causes. The former are inherent in the constitution; the latter either may, or may not exist in the body. Neither a predisponent nor an exciting cause can of itself produce a disease: but, when they are joined together, they form what is called the proximate cause. This proximate cause is the very essence of a disease; for, while it is present, the disease is present; and, when it is removed, the disease also is removed.

No physician, in my opinion, who strictly attends to what passes in the paroxysm of this disease, can fail of attaining the object

in view; that is, a true knowledge of its proximate cause. But in order that every reader, whether of the profession or not, may clearly understand this matter, it is necessary to premise a short account of respiration.

Respiration, or Breathing, consists of two actions; to wit, of Inspiration or drawing in the breath, and of Expiration or expelling it. Those two actions, which alternate as long as life exists, as they are very different in themselves, so they depend on very different causes. The first, or Inspiration, is owing to the capacity of the breast being enlarged in every direction by means of the intercostal muscles and diaphragm. The last, or Expiration, takes place through the relaxation of those muscles by the influence of the mind; when, of course, the cavity of the breast is diminished; as the ribs and diaphragm then resume their natural state through

through their own elasticity. Every man is able to judge, from what passes within himself, that any one of those actions being impeded will produce a stoppage, or difficulty of breathing; and that this affection can arise from no other cause.

Now, the patient, during the fit, generally complains of a dreadful fulness within his breast, and of a stoppage there, which, he insists, is very different from a difficulty of breathing. Indeed, as the breast is so much distended, the stoppage cannot arise from what is commonly called a difficulty of breathing, that is, a difficulty of inspiration; for there can be no desire for more air, as more than enough is already accumulated. The stoppage, therefore, must proceed from a difficulty of expiration: and this is evidently the case; for, if the patient had the power of expelling the air from his lungs, he would have no occasion to complain of such dreadful inflation.

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This impeded expiration must depend on the muscles subservient to inspiration continuing to act independent on mental influence; that is, it must be owing to a spasmodick affection of the intercostal muscles and diaphragm. It would seem that those fleshy portions which fill up the interstices of the ribs, and are called the intercostal muscles, only act from sympathy with the diaphragm; for the pain in the fit often describes the whole course of the diaphragm at its insertions; and, in general, the pain is limited to some small spot in the sternum; which would not be the case were the intercostal muscles principally affected, but may easily be explained from the vicinity of the diaphragm. This diaphragm, or midriff, is a thin broad substance, partly muscular or fleshy, and partly tendinous, which, in a transverse oblique direction, divides the breast from the belly. An elegant representation of this muscle, with its connections,

tions, may be seen in Baron Haller's anatomical tables, plate first.*

This last organ, therefore, being the part chiefly affected, the proximate cause must be situated here, either in whole, or in part. The whole is not situated here; for, in such a case, the disease could not have intervals, as the patient would certainly die of the first attack. The most rational predisponent cause of gout evidently presents itself as existing here, namely, a too great irritability or sensibility: for it is universally allowed that a muscle is endued with an excess of irritability when it is more than usually prone to action, and therefore not sufficiently subservient to the power of the Will. In the disease before us, the whole nervous system appears to be endued with too great sensibility; and, from what hath been just now said, the diaphragm is

* Icon. Anatom. Fascicul. I.

proportionally affected with a still greater degree of it than any other part of the body. This excess of irritability in the diaphragm beyond any other part of the body lays the foundation of the disease, which we may now venture to denominate the Diaphragmatick Gout.

Having thus established the remote cause of the Diaphragmatick Gout, we now proceed to investigate its occasional cause. For the better attaining of this end, we must again have recourse to what passes in the paroxysm. Here we find that flatulence is the most obvious and the most regular exciting cause. But wind in the stomach and guts is never more than an effect. It abounds, in the former, from a slow and weak digestion; and in the latter, from the same cause, but chiefly from feculent accumulations, the effect of languid intestines. That such accumulations often take place
is

is certain : and that they undergo fermentations, and consequently generate flatulence in the first passages, is evident, from their having been often brought away in a fermenting state. Those accumulations, after they have discharged all their air, and consequently have ceased to ferment, still continue by their acrimony to act as a ferment, or yeast, on the fresh matters that are pouring into the guts from the stomach : and so this process is constantly going on, with all the usual consequences of generating elastick air, and of adding to the morbid accumulation ; till such time as by its bulk and acrimony, assisted by phlegm and indigested stuff that may abound in the stomach, sickness, colick pains, and other symptoms are excited, which terminate in carrying off the offensive load by vomiting and purging. Upon such a commotion as this, as may naturally be expected, the fits are milder and less frequent for a considerable time after.

That

That intestinal accumulation takes place in the diaphragmatick gout seems proved by the inflation of the belly and other symptoms so often indicating wind in the guts. Those very symptoms, so generally also preceding a fit, together with the regular returns of all voluntary fits, sufficiently establish this accumulation as being the main exciting cause of the disease. It appears, however, a peculiar circumstance that intestinal flatulency should be discharged into the stomach. This perhaps never happens but on the approach of a fit; when the motion of the guts determines upward, on account of the more weak and solliciting irritable state of the stomach at that time. There is a similarity in this, and some of the other symptoms, to what we see in the hysterick fit. And it is more than probable that the deep distress at the beginning of this fit, and which brings on all the other symptoms, is owing to the alarming,

as being uncommon course of loathsome flatulency through the intestines into the stomach, which are the particularly irritable parts of the hysterical constitution.

Having thus discovered that feculent accumulations are the chief occasional cause of the diaphragmatick gout, we shall next shew how, upon this principle, the fit can be brought on by walking. Fermentation is always rendered brisker by agitation; and the more brisk the fermentation, the more copiously is the air generated. Now, when the patient walks, the accumulations in the first passages must be agitated, partly by the general motion of the body, and partly by the increased action of the abdominal and other adjacent muscles. Hence more air is extricated than when the patient is at rest. This air, instead of passing downward, as it does in a healthy state, passes upward for the reasons already given; and,

and, forcibly entering the stomach, distends it; and, from its disagreeable irritation, occasions a spasmodick and painful contraction of the upper orifice of that bowel, or of the gullet opposite to the middle, or rather higher than the top of the sternum; or still higher, to wit, on a level with the most prominent part of the windpipe. The diaphragm, partly from the delicacy of its own frame, and partly from the pressure of the stomach thus uncommonly distended, is brought into strong action; and not being able to contract fully, on account of the bulk of the stomach and general inflation of the bowels, it continues its exertions, according to the common laws of muscular action, aggravating the pain, and every other symptom, till such time as the resistance gives way. As soon, therefore, as the patient stands still, the air, instead of pushing into the stomach, is repelled into the intestines, partly

by the diaphragm, and partly by the contraction of the stomach, the resistance from above being now greater from the patient being at rest. Those same means, together with the patient's instinctive exertions, probably force open the constriction of the gullet wherever it may happen to be, when the air is discharged gradually and copiously by eruptions. As soon as this is the case, the stomach becomes less and less distended; and, of course, the diaphragm, after having overcome all resistance, and so having arrived at a complete contraction, returns with the intercostal muscles and ribs to a natural state: when the cavity of the breast being restored to its smallest capacity, the accumulated air is expelled, and so the fit is terminated.

It is observed in the description, that if the patient proceed in his walk before every symptom of the fit is gone, another

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will

will succeed the sooner. This may easily be conceived; because, in such a case, this remaining part of a fit may be considered just the same as another actually begun.

A perseverance in walking argues a perseverance in fasting. In that case, every fit must become weaker and less frequent; as the flatulency becomes more and more exhausted, till at last little or none is left, from there being no supply of fresh matter to keep up the fermentation, and from the air being drawn off, by those repeated paroxysms, faster than the accumulation can supply it. That this is a just explanation of the fact is evident, because there are no more fits while the patient abstains from food; but, as soon as he begins to eat and to drink, the disorder returns in the same manner as before.

It is mentioned of one person, that he could walk about, as though he were in perfect

perfect health, every day, during the two hours immediately preceding his dinner. In this case, the occasional cause seemed to arise from the digestive process; for he had none of those symptoms which point out the ascent of flatulency from the intestines. Now, to understand this matter aright, it is necessary to observe, that such patients, in general, like their dinner better than any other meal, and are most indifferent about a breakfast. In those cases where it happens that little or no breakfast has been taken, there has been abundant time for the stomach to empty itself of all fermenting contents; which will, of course, according to our doctrine, leave the patient in the happy situation described.

It is observed that mental emotion, such as anger, will bring on a fit. The irritability of the body, both general and particular, is thereby increased for the time.

It is also certain, that from such a cause, and in such a habit, both the stomach and guts will be immediately distended with wind. It is easily conceived, therefore, that a fit must be the consequence of such concurring circumstances.

The fit is apt to come after a full meal; because, the stomach being now distended by the food, and that distension being still further increased by the air extricated in the digestive process, the diaphragm will be brought into violent and involuntary action, which constitutes the paroxysm. If, in such a case, the patient should walk; two causes, any one of which is sufficient by itself to bring on a fit, will necessarily, when concurring, render the fits both stronger, and more frequent.

Voluntary fits last longer than such as come from exercise; because an immediate
stop

stop can be put to the motion, which necessarily shortens the fit; but we cannot operate so suddenly upon an internal exciting cause, especially when it is so strong as to be of itself equal to the bringing on of a fit.

Though the diaphragm characterize the disease, yet, the stomach, as hath been said, contributes considerably toward forming the paroxysm. The following symptoms, most of which so generally attend the fit, and are peculiar to the stomach, give undoubted proof of this; namely, faintness, fulness, pain, sickness, vomiting, and heat of the palms and soles. Heat of the palms and soles is a symptom of imperfect digestion. Unnatural heat may, perhaps, be incipient pain: and those symptoms, heat and pain, may extend so as to affect the arms in the same manner. But it will be more scientific to receive

those, and some other symptoms in the preceding description as facts, than to attempt an explanation of them: because every attempt of this kind must be conjectural, and of course unsatisfactory, till such time as we are better acquainted with the minute structure of the nerves, and with that principle which renders them the medium of sense and motion.

The diaphragm may be convulsed in sympathy with a cramp in the stomach; and may be productive of such violent and sudden pain, as to obliterate, at the time, all perception of every other symptom in the patient's mind. Thus the solitary pain mentioned in the description may be accounted for; though its being brought on by walking, and also its being relieved by breaking wind, shew that the fit is not so simple as the patient would represent it.

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The stomach, however, is not equally affected in every fit. Symptoms of a disordered stomach chiefly prevail when the pain takes place at the lower hollow part of the sternum. As a further proof, this pain takes a course, which we know to be peculiar to that bowel, extending to the throat and head. Whereas, when the pain begins at the prominent part of the sternum, it arises from an affection of the gullet which seems to have little or no connection with the stomach, but depends on a direct sympathy with the diaphragm. The course of this pain along the neck and shoulders and down the arms, arising from the near connection that subsists between the diaphragmatick and brachial nerves, confirms my opinion.

The heart is liable to be affected, as appears from the palpitations so often attending the fit. When the diaphragm and

stomach, therefore, are in the state just now described, the spasm may be communicated to the heart itself. Sudden death probably happens in this way: and it would happen much oftener, were it not that the patient is frequently rescued from his danger by those automatick efforts of nature, sickness and vomiting. The patient, when thus brought to himself, says, that he was seized with violent pain across his stomach and ribs, and at last became insensible; which circumstances render our explanation very probable.

The lungs are always affected: but that is, in general, a passive affection; though they sometimes take an active part, as when a cough and dyspnœa are among the concomitant symptoms of a fit; and likewise when an alarming dyspnœa comes in the intervals. This last affection may be considered as a variety of the fit wherein the lungs alone are concerned.

Thus,

Thus, though we have seen that the diaphragm characterizes the disease, and, in general, constitutes its chief danger; yet, like a true gout, the severity of its attack varies, falling sometimes on the stomach, sometimes on the heart, and sometimes, though more rarely, on the lungs.

Having, at length, fully established the occasional cause of the Diaphragmatick Gout, it will be proper to remark here that this same cause, in general, gives origin to the predisposition; unless when it hath been coeval with the constitution, and, even then, it very much increases it. Such accumulations must disturb, and weaken the digestive power of the stomach; and so, beside imperfect chyle, acrid matters will find their way from the intestines into the blood. The blood being thus impoverished, and loaded with acrimony, the daily waste of the body will be imperfectly supplied; and,

and, of course, the constitution will become weaker, and more irritable. For those reasons, the present disease, and perhaps all gouty affections whatever may justly be said to have their seat in the intestines.

I conclude this chapter with observing, that, if the gout be found to reside in the first passages, one may be led to believe that it is at length deprived of its sting; and that the adage, so opprobrious to our art, may now be reversed with great propriety. Be that as it may, every symptom of gout, whether regular or irregular, perfect or imperfect, can be explained, by this doctrine, more rationally, and more consistently, than by any other yet given to the Publick.

We now proceed to the method of cure.

C H A P. IV.

*Of the cure of the Diaphragmatick Gout,
commonly called Angina Pectoris.*

WE are at length come to the cure of a disease singular in its aspect, and terrible from its tendencies. When viewed as a whole, it strikes with astonishment, and leaves us at a loss. But, when each component part is examined by itself, the whole structure becomes obvious to a plain understanding: and then, the only wonder is, that such a disorder should be deemed incurable.

The diaphragmatick gout is cured by a laxative medicine duly persisted in, and by a proper diet.

Take of Socotorine Aloes and hard Sope, each two drams : beat them together into an uniform mass with a sufficient quantity of honey ; and divide this mass into forty-eight equal pills.

Two of those pills, more or less, are to be taken every night, so as to promote two or three stools daily, till they shall have put on, for some time, a natural appearance. This will be the case when the intestinal accumulation is removed.

The patient, at the same time, should live on a diluting diet, which neither heats nor cools ; such as weak broth, of the older meats, beef or mutton, also gruel and barley-water. Those should be taken in turn and plentifully, without regarding set meals. Bohea tea is not improper at the usual times.

No solid food, whether animal or vegetable, not even bread, should be used.

Fermented or spirituous liquors are not necessary.—Malt liquors are justly forbid.

It is a gross error, which however generally prevails, that all sudden changes in living are dangerous. Indeed a sudden change from temperance to free living is very hazardous; but the contrary is far from being so. I know, from repeated experience, that even the most habitual drunkards may abstain from all fermented and spirituous liquors entirely, even without gradual diminution; and not only with safety, but with the greatest advantage.

The method here recommended will have an immediate effect in rendering the fits milder and less frequent; and will, by degrees, remove them altogether. It acts
by

by preventing the ascent of flatulency; as the peristaltick motion of the guts is strengthened; and, at the same time, is kept uniformly tending downward. Besides, the accumulation is daily diminishing through the laxative which sends it off, and through the thin diet which prepares it for expulsion by previous dilution. I must likewise add, that less feculence is supplied, from the digestion being more complete, and from the food, by its own nature, affording less. As ultimate consequences of all this, the morbid accumulation is removed; the digestive power of the stomach is renewed; the blood is purified and enriched; nutrition is properly performed; the whole constitution is strengthened; the irritable system is restored to its natural standard; and so the disease is completely eradicated.

Though this method be sufficient of itself to produce all the good effects mentioned;

tioned; yet, during the progress of the cure, it will, sometimes, be proper, for the more immediate comfort of the patient, to obviate or relieve disagreeable sensations in the stomach or intestines; such as, sickness, faintness, heat, pain &c. Means adapted to this purpose will likewise contribute to forward the cure by strengthening those first passages, and particularly the stomach, which is a principal agent in determining the peristaltick motion downward. With those views, I have employed different medicines at different times, and all of them with good effects; such as, the Tincture of Guajacum, the Peruvian Bark, and Aromatics, in different forms, the Extract of Hemlock &c. &c. But I have sometimes experienced the best effects from a powder consisting of Ground Liverwort and Black Pepper, given from two scruples to a dram twice a day. I am sorry to have occasion to remark here, that

that this excellent medicine * has undergone the fate which the Extract of Hemlock was threatened with a good many years ago: It is totally laid aside as being good for nothing—because, forsooth, it cannot cure an incurable disease.

For relief in the fit, the patient may take a glass of cold water, either with, or without a teaspoonful of Spirit of Lavender. The simple element is, in my opinion, the best; as it is of itself commonly sufficient to take off the stricture of the gullet, wherever it may happen to be.

In the year seventy, my residence being then in *Derby*, I was called, on the twenty-first of April, to Mr. *John Bancroft*, of *Barrow upon Trent*, who for

* The powder called *Antilyffus* of former Dispensatories.

Some time had been afflicted with the Diaphragmatick Gout. I found him sitting up in bed. He told me that he had hardly lain down, and that he had scarce had any sleep for the last thirty hours, on account of violent pain of his breast, and great inflation of the trunk of his body, accompanied with almost constant eructations of wind; which eructations produced little other effect beside that of saving him from suffocation. I gave him immediately ten drops of laudanum; and staid till he had taken three more such doses, with the interval of a quarter of an hour between each. He then became easier, was soon able to lie down, and had a pretty good night. Though, upon such great emergencies, we must be glad to have recourse to opium; yet, in all ordinary cases, it will be more advisable to refrain from this medicine; as it uniformly hurts digestion, and likewise retards the course of the belly; on

both which accounts it impedes the most effectual means of recovery.

This cure, as all cures ought, comes within the reach of every individual; and will prove effectual even to the most sedentary. The patient who can not very strictly submit to rules, may, while he is observing them as well as he can, amuse himself (and with advantage at a proper season of the year) by making a long journey, consisting of but few and short stages in the day. He can also go to either of the mineral waters recommended: though that of Buxton, in particular, is better calculated to prevent a relapse than to effect a cure. The cold bath is a remedy of the same kind. A person of a full habit should bathe every morning; one who is thin, every other morning, or but twice a week.

But

But a patient, once restored to perfect health, will find the best preventive in a due observance of the rules of temperance.

He should eat meat at no time but at dinner.—He may have plain broth, milk, or gruel, with bread, for supper.

The same liquid diet will be a fit substitute for fruits, roots, or greens.

He may use small beer for his common drink: but he should abstain from all other malt liquors.

He should be moderate in the use of wine or spirits. Often, none would be best.

He should live within his appetite; that his stomach may have no more to do than it can completely perform.

He should persevere in the use of his laxative; so as to have a stool every day, and one extraordinary every second or third day.

Those rules, even at first, will be no great hardship to him who hath been able to follow out the method of cure: but, if persisted in, they will be less and less so; and will at length become a pleasure.

I shall conclude with making a few remarks on issues; as they have been recommended in this disease, and on the best foundation, as far as a single instance can go, that of experience*.

Issues are commonly supposed to be an artificial excretion, which clears the consti-

* Medical Observations, Vol. vi. Art. 2.

tution from morbid humours that can not be carried off by any of the natural emunctories. They were ordered, on this principle, in the case alluded to. This doctrine, however, is merely speculative; for it is not supported by any one fact that is not controvertible.

Iffues are found not only to facilitate the cure, but likewise to contribute in preventing a relapse of chronick ophthalmies and catarrhs, also of gouty and many other disorders. In all cases where they have been found thus useful, the utility, in my opinion, is to be attributed to them merely as constituting the weakest parts of the body: and, of course, accidental causes, such as cold, errors in diet &c. instead of exerting their effects upon the parts weakened by the disease, exert them upon the iffues as being still weaker parts. As a proof of this, such patients, for example,

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when

when under the influence of a cold, always find that their issues are painful, inflamed, and almost dry; while, at the same time, they are generally preserved from the usual bad effects for which the issues were intended.

Finally, after what hath been said, it will hardly be credited that an issue, by itself, can ever cure the Diaphragmatick Gout. And it is a pleasure to find that there is a cure for this disease independent of an auxiliary both painful and inconvenient. Though, where resolution is wanting to go through with the method of cure, recourse must be had to issues, and to every other palliative, that life, while it lasts, may be rendered as tolerable as the habits of the patient will permit.

F I N I S.